

maximo enterprise suite

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Reconciliation Module Implementation Guide

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About This Guide

This guide explains how to use the Maximo® Reconciliation module to reconcile the two types of information Maximo maintains about information technology (IT) assets: IT asset data and deployed asset data. The guide includes an overview of the Reconciliation module applications, information about setting up reconciliation tasks and scheduling reconciliations, and sample reconciliation scenarios.

Why Read This Guide?

Read this guide to obtain information about how to use the applications in Maximo's Reconciliation module. The guide provides information to assist you in setting up reconciliation tasks; defining task filters, link rules, and comparison rules for a reconciliation task; viewing the results of a reconciliation; and coordinating the reconciliation process with other activities such as importing data into Maximo with Maximo Fusion.

Who Should Read This Guide?

This guide is written for IT asset managers, system administrators, and other personnel responsible for reconciling IT asset data in Maximo against deployed asset data collected by an asset discovery tool. The Reconciliation module applications are administrative applications.

How to Use This Guide

Each application in the Reconciliation module contains Help that provides detailed instructions on using the application. Use this guide together with Help to learn how to use the Maximo Reconciliation module.

Notation Conventions

This guide uses the following typographical conventions:

Bold type indicates the following elements of the user interface:

- ▼ Buttons
- ▼ Check boxes
- ▼ Field names
- ▼ Select Action menu options

Italic type indicates a documentation title, and is used for emphasis.

NOTE A note provides related information, reminders, recommendations, and strong suggestions.

CAUTION A caution means that taking or avoiding a specific action could cause you to lose data.

Chapter Contents

The following table briefly describes each chapter in this document.

Chapter Name	Chapter Contents
Chapter 1: Reconciliation Module Overview	Provides an overview of the Reconciliation module and information about reconciliation processes.
Chapter 2: Setting Up a Reconciliation	Describes the Reconciliation Module applications you use to set up reconciliation tasks—Task Filters, Link Rules, Comparison Rules, and Reconciliation Tasks.
Chapter 3: Viewing Results of a Reconciliation	Describes the applications you use to view reconciliation results—Link Results and Reconciliation Results.
Chapter 4: Scheduling Reconciliations	Discusses the issues involved in scheduling reconciliation tasks and provides instructions for setting up a cron task for the reconciliation process.
Chapter 5: Sample Reconciliation Scenarios	Provides sample scenarios that demonstrate how to set up and execute a reconciliation task.

Related Documentation

Online Help

The Help system in Maximo is the primary source of information for using the Maximo applications. Maximo includes online help for each application in the Reconciliation module. For each application, the Help includes a series of “How Do I ...” topics that address many of the questions users may have.

Documentation

The *Reconciliation Module Implementation Guide* is part of the Maximo documentation set, which you receive on the Maximo Documentation CD. The documents are in Adobe® Systems’ Portable Document Format (PDF). This implementation guide expands on the Help system, providing overviews, additional information on Help topics, and information on subjects not addressed in Help.

You can find more information regarding the Reconciliation Module applications in the documents listed in the following table.

Document	Description
<i>Maximo Enterprise Suite User's Guide</i>	Describes how to use the applications in Maximo.
<i>Maximo Enterprise Suite System Administrator's Guide</i>	Contains information for configuring Maximo.

Support

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Reconciliation Module Overview

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The Reconciliation module applications let you compare two kinds of information technology (IT) asset data stored in the Maximo database. Maximo maintains two distinct sets of information technology asset data in two different Maximo modules, the Assets module and the Deployed Assets module.

Assets Module

- ▼ Assets Module — Maximo maintains asset records for purchased or leased IT assets in the Assets application. You create these records in the Assets application or when you use the Receive Rotating Items action in the Receiving application. An IT asset is an asset with a class structure identifier that belongs to the top-level IT classification used in your enterprise.

Deployed Assets Module

- ▼ Deployed Assets Module — In addition to asset information in the Assets applications, Maximo's Deployed Assets module applications maintain data collected directly from assets actually installed in your enterprise. To gather this data, asset discovery tools (Maximo® Discovery, or another tool, such as Microsoft® SMS or Tivoli® Configuration Manager) scan computers, network devices, and network printers deployed in your enterprise and record information about the hardware and software installed on those assets. Maximo® Fusion, an integration tool for aggregating IT asset data, imports the collected data into Maximo. You view this data in the Deployed Assets module applications—Computers, Network Devices, and Network Printers.

NOTE In this guide, the term **IT asset** refers to information technology assets maintained in the Assets application. The term **deployed asset** refers to asset data maintained in the Deployed Assets module applications.

Reconciliation Module

The Reconciliation module applications let you configure a behind-the-scenes process that reconciles the IT asset information maintained in the Assets module applications against the **deployed** asset data maintained in the Deployed Assets module applications.

The reconciliation process identifies successful matches between IT assets and deployed assets as well as discrepancies and variances between the two. Your enterprise can use this reconciliation to determine whether the IT assets actually deployed comply with corporate plans and whether the changes over an asset's life cycle are in compliance with corporate policies. Discrepancies might be caused by a variety of factors, including:

- ▼ incorrect data entry
- ▼ reconfigured equipment
- ▼ retired equipment

- ▼ theft
- ▼ unauthorized use of hardware and software in the enterprise

Reconciliation Module Applications

The Reconciliation module includes six applications that let you perform the following tasks:

- ▼ Configure a behind-the-scenes reconciliation process to reconcile the IT asset information maintained in the Assets module applications against the deployed asset data maintained in the Deployed Assets module applications.
- ▼ View the results of the reconciliation.

Reconciliation Tasks

To define the parameters for a reconciliation, you create a reconciliation task in the Reconciliation Tasks application. The reconciliation task includes one or more link rules that determine which IT asset to compare with a deployed asset. You can limit the scope of a reconciliation task by including a task filter that specifies a subset of either assets or deployed assets to reconcile. You also have the option to further refine your reconciliation by defining one or more comparison rules that identify specific objects or attributes of an IT asset to compare with objects or attributes of a deployed asset.

Reconciliation Results

After you define a reconciliation task, you use the Cron Task Setup application in the Configuration module to schedule execution of the task. After Maximo executes the reconciliation task, it displays the results in the Reconciliation module's Link Results and Reconciliation Results applications. Maximo also displays reconciliation results when you select Asset Details from the Select Action menu on the Asset tab in the Assets application. In addition, Maximo also uses reconciliation result information in reports.

Reconciliation Applications

The Reconciliation module includes the following six applications:

- ▼ **Reconciliation Tasks** – This application combines one or more link rules and, if necessary, a task filter and one or more comparison rules into a reconciliation task. If you do not define a task filter for a reconciliation task, Maximo compares all top-level IT assets with all deployed assets when it processes the reconciliation task. This application also lets you specify how Maximo reports results for comparison rule evaluations—all results, failed reconciliations, or successful reconciliations.
- ▼ **Task Filters** – This application defines a subset of either assets or deployed assets to reconcile.
- ▼ **Link Rules** – This application defines a link between a top-level IT asset and a computer, network printer, or network device in deployed assets. The link rule establishes the basis of the comparison by identifying the object and attribute in IT assets to link to a specific attribute in deployed assets.
- ▼ **Comparison Rules** – This application identifies objects or attributes of a child or parent IT asset to compare with objects or attributes of a child or parent deployed asset when Maximo executes a reconciliation task.

- ▼ **Link Results** – This application lists successful one-to-one links between a top-level IT asset and a computer, network printer, or network device in deployed assets.
- ▼ **Reconciliation Results** – This application lists results of comparison rule evaluations. When you create a reconciliation task, you specify what results to report here for comparison rule evaluations—all results, failed reconciliations, or successful reconciliations. In addition, the Reconciliation Results application lists link failures that occur when Maximo does not find a successful one-to-one link between an IT asset and a deployed asset specified in a link rule; failures occur when the reconciliation process finds no link or finds multiple links.

Understanding Maximo Classifications

To fully understand the reconciliation process, it is important to understand the asset structure and classification hierarchy used for IT assets in Maximo and to understand how those structures differ from the structure for deployed assets.

IT Asset Structure and Classification

In Maximo, IT assets (that is, assets maintained in the Assets application, not deployed assets) participate in two separate structural hierarchies—the asset hierarchy and the classification hierarchy.

Asset Hierarchy

In Maximo, parent and child assets are organized into a logical hierarchy or tree. Any asset for which a parent attribute exists is a child asset. The top-level asset of the tree is called the ancestor and is available through the Ancestor attribute of the Asset object. The site of a child IT asset is always the same as the site of the top-level parent asset.

Classification Hierarchy

To distinguish IT assets from other types of assets for purposes of reconciliation, administrators set up a classification hierarchy in addition to the asset hierarchy. To classify IT assets, when configuring Maximo, administrators modify the database directly by setting a Maximo variable (MAXVAR), ITASSET, equal to the class structure identifier (CLASSSTRUCTUREID) of the top-level IT classification. Any asset that belongs to the hierarchy of the top-level IT class structure identifier is an IT asset for purposes of reconciliation. The default root IT asset classification is “IT(UNSPEC).”

When evaluating reconciliation tasks, Maximo processes only assets that belong to the IT asset classification hierarchy. In some cases children of a top-level IT asset might not belong to the IT asset **classification** hierarchy and consequently will not be included in IT assets when Maximo executes a reconciliation task.

Moved Assets

Reconciliation processes only assets where the moved flag is set to false. If the moved flag for an IT asset is set to true, Maximo does not include it in reconciliation results.

Deployed Asset Structure

Deployed assets have a well-defined hierarchical object structure. The top-level deployed asset is always one of the following three types: computer, network printer, or network device. There are 14 types of objects that are children of a computer. A computer can exist without any instances of children. A computer can have multiple child instances. There is one type of child object that can be associated with a network device, but a network device can exist without any child instances. Network printers do not have child objects.

Understanding the Reconciliation Process

The reconciliation process is controlled by a reconciliation task set up in the Reconciliation Tasks application. A reconciliation task record combines a task filter (optional), one or more link rules, and one or more comparison rules (optional) into a specific job task that Maximo executes using the Cron Task Setup application.

Link Rules

When you set up a reconciliation task, you define one or more link rules that establish the basis of a reconciliation by identifying the object and attribute of a top-level IT asset to reconcile with a specific attribute of a deployed asset. Link rules are generally based on a serial number and/or asset tag. When Maximo executes the reconciliation task, a link rule might successfully identify a relation between an IT asset and a deployed asset, or it might not be able to identify a successful link.

Comparison Rules

If Maximo establishes a successful link, it processes any comparison rules in the reconciliation task, applying the comparison rules one by one to each linked pair of IT asset and deployed asset objects. A comparison rule compares either instances of the top-level objects and their children (a matches found comparison) or attributes of the top-level objects and their children (an attributes equality comparison). For example, you can determine whether a computer in deployed assets has word processing software that matches the word processing software recorded for that computer in the IT asset data.

The reconciliation process includes the following steps:

- 1 Initialization Phase – Determine which set of assets to evaluate.
- 2 Link Phase – Determine whether there is a link or match between an item in IT assets and an item in deployed assets and create result records for both successful and failed links.
- 3 Comparison Phase – If a successful link occurs and the reconciliation task includes one or more comparison rules, compare the IT asset with the deployed asset and create comparison result records based on parameters defined in the comparison rule.

Initialization Phase

The purpose of the reconciliation process is to compare IT assets with deployed assets. When setting up a reconciliation task, it is important to consider which of the two sets of assets, IT assets or deployed assets, is the

basis or leading set for comparison. When Maximo performs a reconciliation, it takes the first asset in the leading set and compares it with all assets in the subordinate set one at a time.

You use a task filter to specify a subset of either IT assets or deployed assets to evaluate. Maximo determines the leading set based on the type of the task filter specified in the reconciliation task. If you specify a task filter with the type Asset, IT assets are the leading set; if you specify a task filter with the type Deployed Asset, deployed assets are the leading set. By default, if a reconciliation task has no task filter, Maximo selects all IT assets for the leading set. If you want to use deployed assets as the basis of a reconciliation, you must use a deployed asset task filter.

In the initialization phase of the reconciliation process, the reconciliation engine reads in reconciliation task information and determines whether or not there is a task filter. If there is a task filter, the engine creates a subset of the assets (either IT assets or deployed assets) specified in the task filter and selects **all** of the assets in the subordinate set.

For example, if you want to produce a report of all IT assets that do not have corresponding deployed assets, define an IT asset filter so that Maximo uses IT assets as the leading set. Conversely, if you want to produce a report of all deployed assets that do not have corresponding IT assets, define a deployed asset filter so that Maximo uses deployed assets as the leading set.

Link Phase

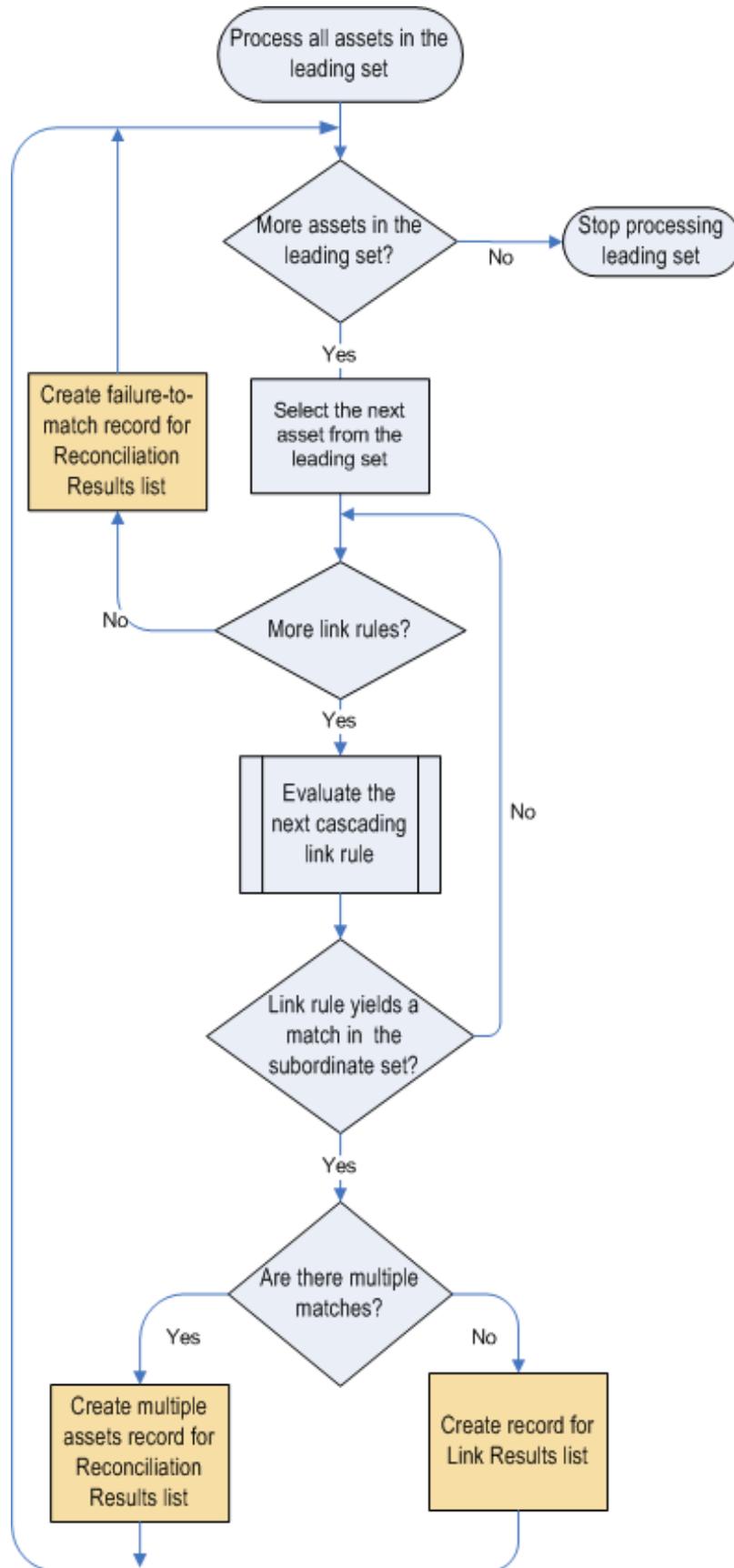
In the link phase, Maximo attempts to find a match or link between each asset in the leading set and an asset in the subordinate set. Maximo compares assets in the leading set to the whole subordinate set in the following manner.

Maximo selects the first asset in the leading set and looks for a match in the subordinate set using the first link rule in the reconciliation task.

- ▼ If Maximo finds a match for the asset in the leading set, it checks the subordinate set for additional matches.
 - If Maximo finds any additional matches, it generates a multiple match exception record for the Reconciliation Results application.
 - If Maximo does not find additional matches, it generates a record for the Link Results application.
- ▼ If evaluation of the link rule does not yield a match to an asset in the subordinate set, Maximo processes the next link rule. Maximo processes cascading link rules in order until the first match or until the end of the cascading rule list.
- ▼ If Maximo processes all link rules and finds no match, it creates an exception record for the Reconciliation Results list.
- ▼ It is possible for two different leading assets to link to one subordinate asset. If that happens, Maximo creates an exception record.

The following diagram illustrates how Maximo processes the leading set using link rules:

Processing the Leading Set



Comparison Phase

If Maximo finds a successful match between the asset in the leading set and the asset in the subordinate set, it processes any comparison rules included in the reconciliation task.

Setting Up a Reconciliation

Maximo reconciles IT assets and deployed assets by performing a rule-based compare operation defined by a system administrator. Administrators use Reconciliation module applications to define a reconciliation task and then use the Cron Task Setup application in the Configuration module to set up a cron task to execute the reconciliation task. After the cron task executes the reconciliation task, authorized Maximo users can view results of the reconciliation in the Link Results and Reconciliation Results applications in the Reconciliation module.

You use the following steps to set up and execute a reconciliation:

- 1 Set up a task filter. A task filter is optional.
- 2 Define link rule(s).
- 3 Define comparison rule(s). Comparison rules are optional.
- 4 Set up a reconciliation task.
- 5 Create a cron task to execute the reconciliation.
- 6 View results of the reconciliation.

Scheduling the Reconciliation Process

Because reconciliation tasks process data imported into Maximo from external sources, you must exercise caution when scheduling reconciliation tasks. Scheduling is an important consideration because it affects the reliability of the data and the allocation of computer resources. For more information about scheduling reconciliations, see Chapter 4, "Scheduling Reconciliations," on page 4-1.

Setting Up a Reconciliation

2

This chapter provides an overview of the steps required to set up a reconciliation. It discusses setting up task filters, link rules, comparison rules, and reconciliation tasks. For detailed, step-by-step instructions for each procedure, refer to online help for the Task Filters, Link Rules, Comparison Rules and Reconciliation Tasks applications in Maximo.

Setting Up Task Filters

A task filter record specifies a subset of either IT assets or deployed assets that you want to evaluate when you execute a reconciliation task. A task filter is an optional component of a reconciliation task that you can use to limit the scope of a reconciliation task. You use the Task Filters application to set up task filters.

Examples

You can set up a **deployed asset task filter** based on a specific site such as Boston. In this case the reconciliation task evaluates all top-level IT assets but evaluates deployed assets only at the Boston site.

You can set up an **asset task filter** (asset filters apply to IT assets maintained in the Assets application) based on a specific site such as Boston. In this case the reconciliation task evaluates top-level IT assets only at the Boston site but evaluates all deployed assets.

Once you create a task filter, you use the Reconciliation Tasks application to associate the filter with a specific reconciliation task, and Maximo applies the task filter each time the reconciliation task is executed. Setting up a task filter for a reconciliation task is optional. If you do not define a task filter for a reconciliation task, Maximo compares all top-level IT assets with deployed assets.

You use the Task Filters application to perform the following actions:

- ▼ Create a new task filter.
- ▼ Delete a task filter.
- ▼ Duplicate a task filter.
- ▼ Modify an existing task filter.

The Task Filters application has the following tabs:

- ▼ List – to search Maximo for task filters.
- ▼ Task Filter – to define new task filters and view, edit, and delete existing task filters.

Task Filter Components

A task filter includes the following components:

- ▼ Filter name – a unique name (specified in the **Filter** field) that identifies the task filter.
- ▼ Description (optional) – a brief description of the task filter.
- ▼ Filter type – type (specified in the **Filter Type** field) of task filter. The type selected determines whether a filter selects IT assets or deployed assets. A task filter can apply to either one, but not both.
- ▼ Filter clause(s) – In the Task Filter Clauses table window, you must define at least one clause that specifies an attribute and a value for the task filter. You can create multiple attribute clauses for a task filter.

If you create multiple clauses that specify different attributes, Maximo processes the clauses using logical AND between the clauses. For example, if you set up a task filter for deployed assets based on the Site and Role attributes, Maximo selects only assets at the specified site with the specified role; both criteria must be met.

If you create multiple clauses for the same attribute, Maximo processes the clauses using logical OR between clauses. For example, if you create a task filter for assets with two filter clauses for Site, one for Boston and one for New York, Maximo selects records that have either Boston or New York as a site.

To specify an attribute, you select from a pre-defined value list. The values in the list depend on whether you select Asset or Deployed Asset in the **Filter Type** field. For Asset, the following attributes are available:

- Asset Class Structure
- Custodian
- GL Account
- Organization
- Site
- Status
- Usage

For Deployed Asset, the following attributes are available:

- Asset Class
- Organization
- Site
- System Role

Setting Up Link Rules

A link rule is a required component of a reconciliation task. Link rules establish the basis for reconciliation by identifying which top-level IT asset to reconcile with a computer, network printer, or network device in deployed assets. A link rule is generally based on serial number and/or asset tag. For example, you can define a link rule to link the serial number of a computer in deployed assets with a serial number on a computer in IT assets.

Once you create a link rule, you use the Reconciliation Tasks application to associate the link rule with a specific reconciliation task, and Maximo applies the link rule each time it executes the reconciliation task. When Maximo executes the reconciliation task, it evaluates each link rule on the task and attempts to match the IT asset object and attribute defined in the rule with the deployed asset attribute defined in the rule.

Maximo evaluates link rules in a reconciliation task in a cascading sequence, based on the sequence numbers, until it finds a match or until it reaches the end of the cascading rule list. If Maximo finds a match, it displays the link result in the Link Results application. If Maximo does not find a match or finds multiple matches, it displays discrepancies in the Reconciliation Results application.

You use the Link Rules application to perform the following actions:

- ▼ Create a new link rule.
- ▼ Delete a link rule.
- ▼ Duplicate a link rule.
- ▼ Modify an existing link rule.

The Link Rules application has the following tabs:

- ▼ List – to search Maximo for link rules.
- ▼ Link Rule – to define new link rules and view, edit, duplicate, and delete existing link rules.

Link Rule Components

A link rule consists of the following elements:

- ▼ Link name – a unique name (specified in the **Link** field) that identifies the link rule.
- ▼ Description (optional) – a brief description of the link rule.
- ▼ Link clause(s) – In the Link Clauses table window, you must define at least one clause that defines a relation (or link) between a top-level IT asset and a computer, network printer, or network device in deployed assets. Each link clause identifies an object and attribute in IT assets to link to a specific attribute in deployed assets when Maximo executes a reconciliation task.

NOTE The Link Clauses table window displays selected fields for each clause. To view all fields for a clause, select a row and click **View Details** ▶.

The following table describes the elements of a link clause.

Link Clauses

Field	Function	Rules/Requirements
Sequence	Number that specifies the order in which to process the clause.	<ul style="list-style-type: none"> ▼ Mandatory. ▼ The number must be unique. ▼ The number must be greater than 0. ▼ The default is increments of ten in ascending order.
Open Parenthesis (...)	Marks the beginning of an expression. Parenthesis marks group expressions to control the order of operations when you use multiple clauses joined by a logical operator (AND or OR).	Optional. However, for each open parenthesis, there must be a corresponding close parenthesis.
Asset Object	Identifies the target object in IT assets.	<ul style="list-style-type: none"> ▼ Mandatory. ▼ Selected from a value list that includes two possible values: <ul style="list-style-type: none"> ■ ASSET (Asset) ■ ASSETSPEC (Asset Specification)
Asset Class Structure	When you select ASSETSPEC (Asset Specification) as the asset object, this field identifies a specific asset class structure for reconciliation.	<ul style="list-style-type: none"> ▼ Mandatory if ASSETSPEC is selected for the asset object. ▼ Selected from a value list. Values in the list are asset class structure identifiers for the top-level IT asset objects.
Asset Class Structure Description	Brief description for Asset Class Structure.	Read-only field.
Asset Classification	Displays the classification for the selected asset class structure.	Read-only field.
Asset Attribute	Identifies the specific attribute of the asset object to reconcile.	<ul style="list-style-type: none"> ▼ Mandatory. ▼ Selected from a value list. Values in the value list are determined by the asset object selected.
Asset Attribute Title	Title of the asset attribute.	Read-only field.
Operator	Identifies the type of link between asset and deployed asset.	The equals (=) operator is read-only; it cannot be changed.
Deployed Asset Object	Identifies the target object DEPLOYEDASSET.	The DEPLOYEDASSET value in this field is read-only; it cannot be changed.

Field	Function	Rules/Requirements
Deployed Asset Attribute	Identifies the specific attribute in DEPLOYEDASSET to reconcile.	<ul style="list-style-type: none"> ▼ Mandatory. ▼ Selected from a value list. Values in the list depend on DEPLOYEDASSET.
Close Parenthesis ...)	Marks the end of an expression. Parenthesis marks group expressions to control the order of operations when you use multiple clauses joined by a logical operator (AND or OR).	Optional. However, for each close parenthesis, there must be a corresponding open parenthesis.
Sequence Operator	When more than one link clause exists, this operator prescribes how the current clause relates to the next clause in the sequence.	<ul style="list-style-type: none"> ▼ Required if a link rule consists of more than one clause. ▼ Must be empty for the last row in the sequence (that is, the row with the highest sequence number). ▼ Selected from a value list that includes the following values: <ul style="list-style-type: none"> ■ AND ■ OR

Creating Link Rules

You can create link rule records from the List tab or from the Link Rule tab in the Link Rules application.

Before you can save a link rule, you must satisfy the following requirements:

- ▼ The link rule name must be unique.
- ▼ You must create at least one link rule clause.
- ▼ Clauses must be valid expressions. When you save a comparison rule, Maximo uses the following rules to determine whether clauses are valid expressions. If Maximo determines a clause is not valid, it displays an error message and does not save the comparison rule.

- Each open parenthesis must have a corresponding close parenthesis.
- The number in the **Sequence** field must be unique.

NOTE If you enter sequence numbers in random order, Maximo sorts the clauses and displays them in ascending numerical order when you save the record.

- All rows except the row with the highest sequence number must have a value specified in the **Sequence Operator** field.
- The row with the highest sequence number must **not** have a sequence operator (After Maximo sorts the clauses, this is the last row in the table window.).

Modifying Link Rules

You use the Link Rule tab in the Link Rules application to modify an existing link rule. You can change the data in the description field or in existing fields in link clauses. You cannot change the name of the link rule in the **Link** field.

When you save a modified link clause, Maximo evaluates the link rule to determine whether the clauses are valid expressions; if a clause is not valid, Maximo displays an error message and does not save the link rule.

Duplicating Link Rules

You select **Duplicate Link Rule** from the Select Action menu on the Link Rule tab in the Link Rules application to duplicate an existing link rule. You can use this procedure to create a new link rule based on an existing one. Once you duplicate the link rule, Maximo clears the **Link** field, and you must enter a new name for the duplicated link rule.

Deleting Link Rules

You select **Delete Link Rule** from the Select Action menu on the Link Rule tab in the Link Rules application to delete a link rule. Use this procedure if you no longer want to use the link rule defined in the link rule record.

You cannot delete a link rule if it is associated with a task defined in the Reconciliation Tasks application. If you attempt to delete a link rule associated with a task, Maximo displays an error message.

Setting Up Comparison Rules

A comparison rule identifies object(s) or attribute(s) of child or parent IT assets to compare with object(s) or attribute(s) of child or parent deployed assets when Maximo executes a reconciliation task. For example, you can set up a comparison rule to compare software on computers in IT assets with software on computers in deployed assets. You can set up the following types of comparison rules:

- ▼ **Attributes equality** – specifies which attribute or attributes of a child or parent IT asset to compare with a specific attribute or attributes of a child or parent deployed asset. For example, you can compare the disk size of an IT asset to the disk size of a deployed asset's hard disk.
- ▼ **Matches found** – specifies the ratio of IT asset object instances to deployed asset object instances to look for in the comparison. A matches found comparison does not match specific attributes; it checks for the presence of selected objects in both IT assets and deployed assets.

To create a comparison rule, you must specify either a matches found clause or an attributes equality clause, but not both. You can also define an asset filter or a deployed asset filter that limits your comparison to a subset of assets or deployed assets. A matches found clause requires an asset filter or a deployed asset filter or both.

Once you create a comparison rule, you use the Reconciliation Tasks application to associate the rule with a specific reconciliation task, and Maximo includes the comparison rule each time it executes the reconciliation task. A comparison rule is an optional component of a reconciliation task, and a task can include more than one comparison rule. When Maximo executes the reconciliation, it does not apply comparison rules unless a link rule defined in the task establishes a successful link between a top-level IT asset and a computer, network printer, or network device in deployed assets.

You can view results of comparison rule evaluations in the Reconciliation Results application. When setting up a reconciliation task in the Reconciliation Tasks application, you can choose one of the following options for comparison results:

- ▼ all results, both successful and failed matches
- ▼ instances where the IT asset failed to reconcile against the deployed asset
- ▼ instances where the IT asset successfully matched the deployed asset

You use the Comparison Rules application to perform the following actions:

- ▼ Create a new comparison rule.
- ▼ Delete a comparison rule.
- ▼ Duplicate a comparison rule.
- ▼ Modify an existing comparison rule.

Comparison Rule Tabs

The Comparison Rules application has the following tabs:

- ▼ List – to search Maximo for comparison rules.
- ▼ Comparison Rule – to define new comparison rules and to view, edit, and delete existing comparison rules. The comparison rule tab includes the following subtabs:
 - Asset Filter Subtab – to define one or more asset filter clauses that specify a subset of IT assets to reconcile against deployed assets when you use a comparison rule.
 - Deployed Asset Filter Subtab – to define one or more deployed asset filter clauses that specify a subset of deployed assets to reconcile against IT assets when you use a comparison rule.
 - Matches Found Subtab – to define one or more matches found clauses that specify the ratio of asset object instances to deployed asset object instances in the comparison.
 - Attributes Equality Subtab – to define one or more attributes equality clauses that identify the specific attribute or attributes of a child or parent IT asset to compare with a specific attribute or attributes of a child or parent deployed asset.

Comparison Rules Components

A comparison rule includes the following components:

- ▼ Comparison name – a unique name (specified in the **Comparison** field) that identifies the comparison rule.
- ▼ Description (optional) – a brief description of the comparison rule.
- ▼ Asset filter clause(s) – an asset filter is optional; however, if you include matches found clauses, you must have an asset filter, a deployed asset filter, or both.
- ▼ Deployed asset filter clause(s) – a deployed asset filter is optional; however, if you include matches found clauses, you must have an asset filter, a deployed asset filter, or both.
- ▼ One of the following definitions:
 - Matches found – to specify the ratio of asset object instances to deployed asset object instances in the comparison.
 - Attributes equality – to define clauses to identify the specific attribute or attributes of a child or parent IT asset to compare with a specific attribute or attributes of a child or parent deployed asset.

Asset Filter Clauses

An asset filter is a component of a comparison rule defined in the Comparison Rules application. You use the Asset Filter subtab on the Comparison Rule tab in the application to create asset filters. On the Asset Filter subtab, you define asset filter clauses that specify a subset of IT assets to reconcile against deployed assets when you use a comparison rule. Each clause identifies an object and/or attribute in IT assets to evaluate when Maximo processes a comparison rule.

When working with comparison rules, it is important to understand that all filtering and comparisons work on sets of objects and to be aware of the way expressions operate with sets in reconciliation comparison. To designate which output objects to select, an asset filter clause defines one of the following conditions:

- ▼ Select an asset if the selected attribute matches a specified value based on the operator selected. Using the operator specified in the clause, Maximo evaluates the top-level IT asset and all its IT asset children and selects any assets that match the value specified.

Example

Select assets manufactured by Dell.

Manufacturer Asset Filter Example

Asset Object *	ASSET
Asset Class Structure	
Asset Class Structure Description	
Asset Classification	
Asset Attribute	MANUFACTURER
Asset Attribute Title	Manufacturer
Operator *	=
Value *	Dell

NOTE The filter selects any IT asset from the hierarchy with the manufacturer Dell.

- ▼ Select an asset if the selected attribute of a class specification matches a specified value. Using the operator specified in the clause, Maximo evaluates the top-level IT asset and all its IT asset children and selects any assets that belong to the class specified in the clause. Any asset that has a different class is skipped. Then the filter uses the operator to evaluate the attribute value and selects all assets that match the value specified.

Example

Select desktops with less than 256 Mb of RAM

Desktop Asset Filter Example

Asset Object *	ASSETSPEC
Asset Class Structure *	1223
Asset Class Structure Description	Desktop
Asset Classification	43210507
Asset Attribute	RAMSIZE
Asset Attribute Title	MEMORY SIZE
Operator *	<
Value *	256

- ▼ Select an asset if the specified classification exists. Maximo evaluates the top-level IT asset and all its IT asset children and selects all instances that have the specified class.

Example

Select assets if Office Suite exists.

Office Suite Asset Filter Example

The screenshot shows a form with the following fields and values:

- Asset Object ***: ASSETSPEC
- Asset Class Structure ***: 1231
- Asset Class Structure Description**: Office Suite
- Asset Classification**: 43231513
- Asset Attribute**: (empty)
- Asset Attribute Title**: (empty)
- Operator**: (empty)
- Value**: (empty)

The following table describes the elements of an asset filter clause.

Asset Filter Clauses

Field	Function	Rules/Requirements
Sequence	Number that specifies the order in which to process the clause.	<ul style="list-style-type: none"> ▼ Mandatory. ▼ The number must be unique. ▼ The number must be greater than 0. ▼ The field cannot be blank.
Open Parenthesis (...)	Marks the beginning of an expression. Parenthesis marks group expressions to control the order of operations when you use multiple clauses joined by a logical operator (AND or OR).	Optional. However, for each open parenthesis, there must be a corresponding close parenthesis.
Asset Object	Identifies the target object in the IT assets.	<ul style="list-style-type: none"> ▼ Mandatory. ▼ Selected from a value list that includes two possible values: <ul style="list-style-type: none"> ■ ASSET ■ ASSETSPEC
Asset Class Structure	When you select ASSETSPEC (Asset Specification) as the asset object, this field identifies a specific asset class structure for the asset filter.	<ul style="list-style-type: none"> ▼ Mandatory if you select ASSETSPEC for the asset object. ▼ Selected from a value list. Values in the list are asset class structure identifiers for the assets that belong to the top-level IT asset objects.
Asset Class Structure Description	Displays a description of the selected asset class structure.	Read-only field.
Asset Classification	Displays the classification for the selected asset class structure.	Read-only field.

Field	Function	Rules/Requirements
Asset Attribute	Identifies the specific attribute of the asset object or asset class structure to use for the asset filter.	<ul style="list-style-type: none"> ▼ Optional. ▼ Selected from a value list. The asset object selected determines which values Maximo displays in the value list.
Asset Attribute Title	Displays the title of the asset attribute selected.	Read-only field.
Operator	Identifies the operator for the asset attribute specification.	Mandatory if you select an asset attribute. Otherwise the field is read-only. For more information about available operators, see "Attribute Definition Operators" on page 2-12.
Value	Specifies a value for the asset attribute selected.	<ul style="list-style-type: none"> ▼ If you do not select an asset attribute, the field is read-only. ▼ If you select an asset attribute, the field is mandatory unless you select NOTEMPTY or NOTNULL as an operator. If you select NOTEMPTY or NOTNULL, the field is read-only.
Close Parenthesis ...)	Marks the end of an expression. Parenthesis marks group expressions to control the order of operations when you use multiple clauses joined by a logical operator (AND or OR).	Optional. However, for each close parenthesis, there must be a corresponding open parenthesis.
Sequence Operator	When more than one clause exists, this operator prescribes how the current clause relates to the next clause in the sequence.	<ul style="list-style-type: none"> ▼ Required if an asset filter consists of more than one clause. ▼ Must be empty for the last row in the sequence (that is the row with the highest sequence number). ▼ Selected from a value list that includes the following values: <ul style="list-style-type: none"> ■ AND ■ OR

Attribute Definition Operators

Operator	Description	Example
=	Select the attribute if its value is equal to the value specified.	Attribute: SITEID Operator: = Value: Bedford
<	Select the attribute if its value is less than the value specified.	
<=	Select the attribute if its value is less than or equal to the value specified.	
>	Select the attribute if its value is greater than the value specified.	
=>	Select the attribute if its value is greater than or equal to the value specified.	
<>	Select the attribute if its value is not equal to the value specified (that is, any value that is greater than or less than the value specified).	
LIKE	Select the attribute if it matches a sample specified as value.	LIKE Maximo Enterprise Suite
NOTEMPTY	Select the attribute if its value is not null and it is not empty.	
NOTLIKE	Select the attribute if it is any value other than the value specified.	
NOTNULL	Select the attribute if any value exists at all.	

Wildcard Use

You can use a “wildcard” character or characters with letters or numbers to indicate you want to find records that begin with, end with, or contain those letters/numbers. The Reconciliation module applications use standard Maximo wildcard rules. The following table describes the four wildcard characters available in Maximo.

Wildcard Characters

Character	Description	Usage
*	asterisk	Stands for any number of characters (zero, one, or multiple) in the specified position.
%	percent sign	Stands for any number of characters (zero, one, or multiple) in the specified position.
_	underscore	Stands for a single character in the specified position.
?	question mark	Stands for a single character in the specified position.

Wildcard Character Examples

Enter ...	to find ...
123* or 123%	records that start with 123, such as 123, 12345, 123ABC, etc.
*123 or %123	records that end in 123, such as 123, 5123, or PUMP123.
123 or %123%	records that contain 123, such as 123, 1234, PUMP123, or XX12300Valve.
Elec* or Elec%	records that contain words that start with "Elec," such as electric, electromagnetic, or electrode.
123? or 123_	any four-character records that start with 123, such as 1234, 1230, 123g, etc.
_18 or ?18	any three-character records that end with 18, such as 418 or J18.

There should be no space between the wildcard character and the other characters.

If the specified value contains no wildcard characters, it is compared as %<value>%. For example, %3% returns all records with the number three anywhere in the string.

To look for the *, %, _, or ? as characters without using them as wildcard characters, duplicate the character. For example, DAY__THREE finds the match DAY_THREE value but not DAY12THREE.

Logical AND/OR

An asset filter can be a logical expression made of multiple clauses using the logical operators AND and OR. Operations on clauses are binary; that is, two values are considered at a time. Clauses are evaluated from left to right. You can use parentheses to alter the order of operations. By default, AND has a higher priority than OR; consequently, if no parentheses are present, operands joined by AND are processed first.

Example

ClauseA AND ClauseB AND ClauseC

is evaluated as

(ClauseA AND ClauseB) AND ClauseC

Result AND Clause C

Example

ClauseA OR Clause B AND ClauseC AND ClauseD OR ClauseE

is evaluated as

(ClauseA OR ((Clause B AND ClauseC) AND ClauseD)) OR ClauseE

(ClauseA OR (*Result* AND ClauseD)) OR ClauseE

(ClauseA OR *Result*) OR ClauseE

Result OR Clause E

When Maximo processes two clauses joined with the logical operator OR, it selects an object for the output set if it meets the criteria of either of the two clauses. If the object matches one of the specified criteria, Maximo selects it.

When Maximo processes two clauses joined with the logical operator AND, it selects an object for the output set only if it meets the criteria of both clauses.

When evaluating a filter's clause(s), in order to ensure that the correct set of output objects is created for the comparison rule, Maximo always fully evaluates all clauses; that is, Maximo does not apply any shortcuts to the logical expression even if it becomes obvious before all clauses are evaluated that the expression will succeed or fail.

Deployed Asset Filter Clauses

A deployed asset filter is a component of a comparison rule defined in the Comparison Rules application. You use the Deployed Asset Filter subtab on the Comparison Rule tab in the application to create deployed asset filters. On the Deployed Asset Filter subtab, you define deployed asset filter clauses that specify a subset of deployed assets to reconcile against IT assets when you use a comparison rule. Each clause identifies an object and/or attribute in deployed assets to evaluate when Maximo processes a comparison rule.

When working with comparison rules, it is important to understand that all filtering and comparisons work on sets of objects and to be aware of the way expressions operate with sets in reconciliation comparison. To designate which output objects to select, a deployed asset filter clause defines one of the following conditions:

- ▼ A specified attribute of the deployed asset object selected corresponds to a specific value based on the operator selected, for example a software suite has a suite name like Microsoft Office:

Office Suite Deployed Asset Filter Example

Deployed Asset Object *	DPACSWSUITE
Deployed Asset Attribute	SUITENAME
Deployed Asset Attribute Title	Suite
Operator *	=
Value *	MSOFFICE

- ▼ An instance of a selected deployed asset object exists.

Operating System Deployed Asset Filter Example

Deployed Asset Object *	DPACOS
Deployed Asset Attribute	
Deployed Asset Attribute Title	
Operator	
Value	

The following table describes the elements of a deployed asset filter clause.

Deployed Asset Filter Clauses

Field	Function	Rules/Requirements
Sequence	Number that specifies the order in which to process the clause.	<ul style="list-style-type: none"> ▼ Mandatory. ▼ The number must be unique. ▼ The number must be greater than 0. ▼ The field cannot be blank.
Open Parenthesis (...)	Marks the beginning of an expression. Parenthesis marks group expressions to control the order of operations when you use multiple clauses joined by a logical operator (AND or OR).	Optional. However, for each open parenthesis, there must be a corresponding close parenthesis.
Deployed Asset Object	Identifies the target object in the deployed assets.	<ul style="list-style-type: none"> ▼ Mandatory. ▼ Selected from a value list.
Deployed Asset Attribute	Identifies the specific attribute of the deployed asset object to reconcile.	<ul style="list-style-type: none"> ▼ Optional. ▼ Selected from a value list. Values in the value list are determined by the deployed asset object selected.
Deployed Asset Attribute Title	Displays the title of the deployed asset attribute.	Read-only field.
Operator	Identifies the operator for the deployed asset attribute specification.	Mandatory if you select an asset attribute. Otherwise the field is read-only. For more information about available operators, see "Attribute Definition Operators" on page 2-12.
Value	Specifies a value for the deployed asset attribute selected.	<ul style="list-style-type: none"> ▼ If you do not select a deployed asset attribute, the field is read-only. ▼ If you select a deployed asset attribute, the field is mandatory unless you select NOTEMPTY or NOTNULL as an operator. If you select NOTEMPTY or NOTNULL, the field is read-only.
Close Parenthesis ...)	Marks the end of an expression. Parenthesis marks group expressions to control the order of operations when you use multiple clauses joined by a logical operator (AND or OR).	Optional. However, for each close parenthesis, there must be a corresponding open parenthesis.
Sequence Operator	When more than one clause exists, this operator prescribes how the current clause relates to the next clause in the sequence.	<ul style="list-style-type: none"> ▼ Required if a deployed asset filter consists of more than one clause. ▼ Must be empty for the last row in the sequence (that is the row with the highest sequence number). ▼ Selected from a value list that includes the following values: <ul style="list-style-type: none"> ■ AND ■ OR

A deployed asset filter can be a logical expression made of multiple clauses using the logical operators AND and OR. Operations on expressions are binary; that is, two values are considered at a time. Expressions are evaluated from left to right. You can use parentheses to alter the order of operations. By default, AND has a higher priority than OR; consequently, if no parentheses are present, operands joined by AND are processed first.

Example

ClauseA AND ClauseB AND ClauseC

is evaluated as

(ClauseA AND ClauseB) AND ClauseC

Result AND Clause C

Example

ClauseA OR Clause B AND ClauseC AND ClauseD OR ClauseE

is evaluated as

(ClauseA OR ((Clause B AND ClauseC) AND ClauseD)) OR ClauseE

 (ClauseA OR (*Result* AND ClauseD)) OR ClauseE

 (ClauseA OR *Result*) OR ClauseE

Result OR Clause E

Logical OR

When Maximo processes two clauses joined with the logical operator OR, it selects an object for the output set if it meets the criteria of either of the two clauses. If the object matches one of the specified criteria, Maximo selects it.

Logical AND

When evaluating two clauses joined with the logical operator AND, Maximo first checks the type of objects specified (for example, processor, computer system, operating system) in the two clauses. If both clauses specify objects of the same type, Maximo selects only objects that are specified in both clauses. This means that only the objects that are specified in both clauses joined by the AND operator go to the output set.

When one of the clauses joined by the logical operator AND yields an empty set, Maximo does not select any objects for the output set.

When the clauses do not yield an empty set and specify objects of *different* types (for example, computer system and processor), Maximo selects an object if it meets the criteria of either of the two clauses, the same way it would select objects if using the logical operator OR.

This behavior of the logical AND for deployed assets might seem counterintuitive at first, but consider the case when the filter is designed to select all Dell systems with CPUs that have a speed less than 1 GHz. A filter for this situation must have at least two clauses—one that selects computer

systems with the manufacturer Dell and another that selects CPUs with speeds less than 1 GHz. These two clauses are joined with a logical AND, but they contain different types of objects. The comparison rule will yield a successful result if both the clauses produce a non-empty set **and** Maximo finds objects that match either the computer system (COMPUTERSYSTEM) or processor (DPACCPU) values specified in the filter.

Example 1A

You can specify processors with speed less than 1GHz in the following way:

```
(DPACCPU.MAXSPEED<1 AND DPACCPU.SPEEDUNIT='GHERTZ')
```

In this case, the output set will contain only objects of type Processor that have the speed unit GHz and at the same time a numerical value less than 1.

Example 1B

You can also specify processors with speed less than 1GHz in the following way:

```
(DPACCPU.MAXSPEED <1000 AND DPACCPU.SPEEDUNIT='MHERTZ')
```

In this case, the output set will contain only objects of type Processor that have the speed unit MHz and at the same time a numerical value less than 1,000.

Example 2

To specify all processors with speed less than 1GHz, you can use the following expression:

```
(DPACCPU.MAXSPEED <1 AND DPACCPU.SPEEDUNIT='GHERTZ')
```

OR

```
(DPACCPU.MAXSPEED <1000 AND DPACCPU.SPEEDUNIT='MHERTZ')
```

The output set will contain only objects of type Processor that have a speed less than 1GHz, whether the unit of speed is expressed in GHz or MHz.

Example 3

To specify all processors with speed less than 1GHz not made by Intel, you can use the following expression:

```
((DPACCPU.MAXSPEED <1 AND DPACCPU.SPEEDUNIT='GHERTZ') OR  
(DPACCPU.MAXSPEED <1000 AND DPACCPU.SPEEDUNIT='MHERTZ'))
```

AND

```
DPACCPU.CMANUFACTURER NOT LIKE Intel
```

The output set will contain only objects of type Processor with a speed less 1MGz (whether the speed unit is MHz or GHz), and with a converted manufacturer name that does not contain the literal "Intel".

Example 4

To specify all computers manufactured by Dell with processors not made by Intel that have a speed less than 1GHz, you can use the following expression:

```
COMPUTERSYSTEM.CMANUFACTURER=Dell
```

AND

```
((DPACCPU.MAXSPEED <1 AND DPACCPU.SPEEDUNIT='GHERTZ') OR  
(DPACCPU.MAXSPEED <1000 AND DPACCPU.SPEEDUNIT='MHERTZ'))
```

AND

```
DPACCPU.CMANUFACTURER NOT LIKE Intel)
```

The output set will contain entries only if Maximo finds objects that separately meet both of the following criteria:

- ▼ An object of the type Computer System with a converted manufacturer name equal to Dell.

and

- ▼ An object of type Processor, which has a speed less than 1 MHz (without regard to the unit of measurement for the speed) and which also has a converted manufacturer name that does not contain the literal “Intel”.

NOTE In all examples where literals are compared, case sensitivity of the reconciliation task is a factor.

When evaluating a filter, in order to ensure that the correct set of output objects is created for the comparison rule, Maximo always fully evaluates all clauses; that is, Maximo does not apply any shortcuts to the logical expression even if it becomes obvious before all clauses are evaluated that the expression will succeed or fail.

Matches Found Clauses

A matches found definition is a component of a comparison rule defined in the Comparison Rules application. You use the Matches Found subtab on the Comparison Rule tab in the application to create matches found clauses. A matches found clause specifies the acceptable ratio of asset object instances to deployed asset object instances in the comparison after Maximo applies the asset and/or deployed asset filter.

Each clause identifies an object in IT assets and an object in deployed assets to evaluate; the clause also includes an operator that specifies the number of instances of the asset object and the number of instances of the deployed asset object.

The following table describes the elements of a matches found clause.

Matches Found Clauses

Field	Function	Rules/Requirements
Sequence	Number that specifies the order in which to process the clause.	<ul style="list-style-type: none"> ▼ Mandatory. ▼ The number must be unique. ▼ The number must be greater than 0. ▼ The field cannot be blank.
Open Parenthesis (...)	Marks the beginning of an expression. Parenthesis marks group expressions to control the order of operations when you use multiple clauses joined by a logical operator (AND or OR).	Optional. However, for each open parenthesis, there must be a corresponding close parenthesis.
Asset Object	Identifies the target object in the IT assets.	<ul style="list-style-type: none"> ▼ Mandatory. ▼ Selected from a value list that includes two possible values: <ul style="list-style-type: none"> ■ ASSET ■ ASSETSPEC
Asset Class Structure	When you select ASSETSPEC (Asset Specification) as the asset object, this field identifies a specific asset class structure for the asset filter.	<ul style="list-style-type: none"> ▼ Mandatory if you select ASSETSPEC for the asset object. ▼ Selected from a value list. Values in the list are asset class structure identifiers for the assets that belong to the top-level IT asset objects.
Asset Class Structure Description	Displays a description of the selected asset class structure.	Read-only field.
Asset Classification	Displays the classification for the selected asset class structure.	Read-only field.
Operator	Identifies the number of instances allowed for the asset and deployed asset in the comparison rule.	<ul style="list-style-type: none"> ▼ Mandatory. ▼ Selected from a value list that includes the following operators: <ul style="list-style-type: none"> ■ At least 1 to at least 1 ■ At least 1 to exactly 1 ■ Exactly 1 to at least 1 ■ Exactly 1 to exactly 1 ■ Exactly N to exactly N
Deployed Asset Object	Specifies the deployed asset object for reconciliation.	<ul style="list-style-type: none"> ▼ Mandatory. ▼ Selected from a value list.
Close Parenthesis ...)	Marks the end of an expression. Parenthesis marks group expressions to control the order of operations when you use multiple clauses joined by a logical operator (AND or OR).	Optional. However, for each close parenthesis, there must be a corresponding open parenthesis.

Field	Function	Rules/Requirements
Sequence Operator	When more than one clause exists, this operator prescribes how the current clause relates to the next clause in the sequence.	<ul style="list-style-type: none"> ▼ Required if an asset filter consists of more than one clause. ▼ Must be empty for the last row in the sequence (that is the row with the highest sequence number). ▼ Selected from a value list that includes the following values: <ul style="list-style-type: none"> ■ AND ■ OR

The following table describes the operators you can use to define the ratio between asset object instances and deployed asset object instances:

Matches Found Operators

Operator	Description
At least 1 to at least 1	At least one asset exists, but you can have more than one; and at least one deployed asset exists, but you can have more than one.
At least 1 to exactly 1	At least one asset exists, but you can have more than one; and only one deployed asset exists.
Exactly 1 to at least 1	Only one asset exists; and at least one deployed asset exists, but you can have more than one.
Exactly 1 to exactly 1	Only one asset exists; and only one deployed asset exists.
Exactly N to exactly N	N assets exist; and N deployed assets exist, where N is the same number for each.

Attributes Equality Clauses

An attributes equality definition is a component of a comparison rule defined in the Comparison Rules application. You use the Attributes Equality subtab on the Comparison Rule tab in the application to create attributes equality clauses that identify the specific attribute or attributes of a child or parent IT asset to compare with a specific attribute or attributes of a child or parent deployed asset when Maximo processes a comparison rule.

The following table describes the elements of an attributes equality clause.

Attributes Equality Clauses

Field	Function	Rules/Requirements
Sequence	Number that specifies the order in which to process the clause.	<ul style="list-style-type: none"> ▼ Mandatory. ▼ The number must be unique. ▼ The number must be greater than 0. ▼ The field cannot be blank.
Open Parenthesis (...)	Marks the beginning of an expression. Parenthesis marks group expressions to control the order of operations when you use multiple clauses joined by a logical operator (AND or OR).	Optional. However, for each open parenthesis, there must be a corresponding close parenthesis.
Asset Object	Specifies the asset object for reconciliation.	<ul style="list-style-type: none"> ▼ Mandatory. ▼ Selected from a value list that includes two possible values: <ul style="list-style-type: none"> ■ ASSET ■ ASSETSPEC
Asset Class Structure	When you select ASSETSPEC (Asset Specification) as the asset object, this field identifies a specific asset class structure for the asset in the attributes equality clause.	<ul style="list-style-type: none"> ▼ Mandatory if you select ASSETSPEC for the asset object. ▼ Selected from a value list. Values in the list are asset class structure identifiers for the assets that belong to the top-level IT asset objects.
Asset Class Structure Description	Displays a description of the selected asset class structure.	Read-only field.
Asset Classification	Displays the classification for the selected asset class structure.	Read-only field.
Asset Attribute	Identifies the specific attribute of the asset object or asset class structure to use for the asset in the attributes equality clause.	<ul style="list-style-type: none"> ▼ Mandatory. ▼ Selected from a value list. The asset object selected determines which values Maximo displays in the value list.
Asset Attribute Title	Displays the title of the asset attribute selected.	Read-only field.

Field	Function	Rules/Requirements
Operator	Identifies the operator for the reconciliation.	Mandatory. The equals (=) operator is read-only; it cannot be changed.
Deployed Asset Object	Specifies the deployed asset object for reconciliation.	<ul style="list-style-type: none"> ▼ Mandatory. ▼ Selected from a value list.
Deployed Asset Attribute	Identifies the specific attribute of the deployed asset object to reconcile.	<ul style="list-style-type: none"> ▼ Mandatory. ▼ Selected from a value list. The deployed asset object selected determines which values Maximo displays in the value list.
Deployed Asset Attribute Title	Displays the title of the deployed asset attribute selected.	Read-only field.
Deployed Asset Unit of Measure Attribute	Identifies the unit of measurement attribute when the asset attribute selected requires a unit of measurement, such as megabytes or kilobytes.	<ul style="list-style-type: none"> ▼ Optional. ▼ Available only if the asset object is ASSETSPEC.
Deployed Asset Unit of Measure Attribute Title	Displays the title of the deployed asset unit of measure attribute.	Read-only field.
Close Parenthesis ...)	Marks the end of an expression. Parenthesis marks group expressions to control the order of operations when you use multiple clauses joined by a logical operator (AND or OR).	Optional. However, for each close parenthesis, there must be a corresponding open parenthesis.
Sequence Operator	When more than one clause exists, this operator prescribes how the current clause relates to the next clause in the sequence.	<ul style="list-style-type: none"> ▼ Required if an asset filter consists of more than one clause. ▼ Must be empty for the last row in the sequence (that is the row with the highest sequence number). ▼ Selected from a value list that includes the following values: <ul style="list-style-type: none"> ■ AND ■ OR

NOTE Sometimes you might want to compare attributes with a unit of measurement attribute. For example, if you are trying to determine whether the amount of RAM on a notebook in IT assets matches the amount of RAM on a notebook in deployed assets, you select RAMSIZE for an attribute. When you specify the parameters for the deployed asset in the comparison, you can specify RAMUNIT as a unit of measurement attribute. Maximo successfully matches the IT asset to the deployed asset only if the value and measurement unit of the IT asset is equal to the value and measurement of deployed asset. 1 GBYTE matches to 1 GBYTE; it does not match to 1GB.

Creating Comparison Rules

You use the Comparison Rules application to create comparison rules you can add to a reconciliation task. You can create comparison rule records from the List tab or from the Comparison Rule tab in the application.

Before you can save a comparison rule, you must satisfy the following requirements:

- ▼ The comparison rule name must be unique.
- ▼ You must create either a matches found clause or an attributes equality clause, but not both.
- ▼ If you create a matches found clause, you must have an asset filter or a deployed asset filter or both.
- ▼ Clauses must be valid expressions. When you save a comparison rule, Maximo uses the following rules to determine whether clauses are valid expressions. If Maximo determines a clause is not valid, it displays an error message and does not save the comparison rule.

- Each open parenthesis must have a corresponding close parenthesis.
- The number in the **Sequence** field must be unique.

NOTE You can enter sequence numbers in random order; when you save a record, Maximo sorts the clauses and displays them in ascending numerical order.

- All rows except the row with the highest sequence number must have a value specified in the **Sequence Operator** field.
- The row with the highest sequence number must **not** have a sequence operator (After Maximo sorts the clauses, this is the last row in the table window.).

Modifying Comparison Rules

You use the Comparison Rule tab in the Comparison Rules application to modify an existing comparison rule. You can perform any of the following modifications:

- ▼ Change the data in the description field or in existing fields in asset filter clauses, deployed asset filter clauses, matches found clauses, or attributes equality clauses. You cannot modify the name in the **Comparison** field.
- ▼ Add new asset filter, deployed asset filter, matches found, or attributes equality clauses.
- ▼ Delete existing asset filter, deployed asset filter, matches found, or attributes equality clauses.

NOTE If the comparison rule has a matches found clause, you must have at least one asset filter or deployed asset filter clause. If you attempt to delete the last filter clause on a comparison rule that

has a matches found clause, Maximo displays an error message and does not delete the clause.

Duplicating Comparison Rules

On the Comparison Rule tab, you can select **Duplicate Comparison Rule** from the Select Action menu to duplicate existing comparison rules. You can use this procedure to create a new comparison rule based on an existing one. Once you duplicate the comparison rule, Maximo clears the **Comparison** field, and you must enter a new name for the duplicated comparison rule.

Deleting Comparison Rules

You can select **Delete Comparison Rule** from the Select Action menu on the Comparison Rule tab to delete comparison rules. You delete comparison rules if you no longer want to use the rule defined in the comparison rule record. When you delete a comparison rule, Maximo deletes all asset filter, deployed asset filter, matches found, and attributes equality clauses associated with the rule.

You cannot delete a comparison rule if it is associated with a reconciliation task defined in the Reconciliation Tasks application. If you attempt to delete a comparison rule associated with a reconciliation task, Maximo displays an error message.

Setting Up Reconciliation Tasks

Before you can execute a reconciliation to compare IT assets with deployed assets, you must set up a reconciliation task. A reconciliation task record combines a task filter (optional), one or more link rules, and one or more comparison rules (optional) into a specific job task that Maximo executes using the Cron Task Setup application.

You use the Reconciliation Tasks application to perform the following actions:

- ▼ Create a new reconciliation task.
- ▼ Delete a reconciliation task.
- ▼ Duplicate a reconciliation task.
- ▼ Modify an existing reconciliation task.

The Reconciliation Tasks application has the following tabs:

- ▼ List – to search Maximo for tasks.
- ▼ Reconciliation Task – to define new tasks and to view, edit, duplicate, and delete existing tasks.

A reconciliation task consists of three primary components—task filter, link rule (required), and comparison rule:

Task Filter (optional)

A task filter specifies a subset of either IT assets or deployed assets to evaluate when Maximo executes a reconciliation task. You can apply only one task filter to a reconciliation task. If you do not define a task filter, Maximo

evaluates all top-level IT assets against deployed assets. Task filters apply only to link rules, not comparison rules.

Link Rule (required)

A reconciliation task must include one or more link rules. A link rule establishes the basis for reconciliation by identifying which top-level IT asset to match with a computer, network printer, or network device in deployed assets. If you add multiple link rules, you must assign a sequence number to each rule to specify the order in which to process the rule. Sequence numbers and link rule names must be unique for each rule. When Maximo executes the reconciliation task, it evaluates each link rule and attempts to match the IT asset object and attribute specified in the rule with the deployed asset attribute specified in the rule.

Maximo evaluates link rules in a cascading sequence, based on the sequence numbers, until it finds a match or until it reaches the end of the cascading rule list. When Maximo finds a match for an asset (or deployed asset if you use a deployed asset task filter), it adds the link found to the link results list and does not process any more link rules for that asset (or deployed asset). Maximo then attempts to find a match for the next asset (or deployed asset). If Maximo does not identify a successful link, it lists link failures in the Reconciliation Results application. Link failures occur when the reconciliation process finds no link or finds multiple links.

Comparison Rule (optional)

A comparison rule is an optional component that identifies object(s) or attribute(s) of a child or parent IT asset to compare with objects or attribute(s) of a child or parent deployed asset when Maximo executes a reconciliation task. You can add one or more comparison rules to a reconciliation task. If you add a comparison rule, you must select a value in the **Comparison Results** field on the Reconciliation Task tab to specify what kind of comparison results to display in the Reconciliation Results application. Maximo processes comparison rules only if it makes a successful link between a top-level IT asset and deployed asset

Scheduling Tasks

When you schedule a reconciliation task in the Cron Task Setup application, you must use the name specified in the **Reconciliation Task** field in the Reconciliation Tasks application to set up the cron task. Maximo lets you schedule cron tasks for multiple reconciliation tasks. You cannot delete reconciliation task records that are associated with a cron task.

When Maximo executes a reconciliation task, it lists results in the Link Results application and in the Reconciliation Results application. For more information about viewing link results and reconciliation results, see Chapter 3, "Viewing Results of a Reconciliation," on page 3-1.

Reconciliation Task Components

A reconciliation task includes the following components:

- ▼ Reconciliation task name – a unique name (specified in the **Reconciliation Task** field) that identifies the reconciliation task.
- ▼ Description – a brief description of the reconciliation.
- ▼ Task filter (optional) – You specify a task filter for the reconciliation task by selecting a task filter in the **Task Filter** field. When you select a task filter, Maximo displays the type for the selected filter in the **Filter Type** field.
- ▼ Filter type – type of task filter associated with the reconciliation task, either asset or deployed asset
- ▼ Case sensitivity specification – The **Is Case Sensitive?** check box specifies whether or not the reconciliation task is case sensitive. Selecting the check box makes all elements of the reconciliation task case sensitive, including the task filter and any link rules and comparison rules associated with the task.
- ▼ Comparison results specification – The **Comparison Results** field specifies what kind of result records to add when a comparison rule is included in the reconciliation task. This field is not active unless you define a comparison rule.
- ▼ Link Rule(s) – In the Link Rules table window, you specify one or more link rules for the reconciliation task. The Link Rules table window on the Reconciliation Task tab displays the following information about the link rules used in the reconciliation task:
 - **Sequence** – sequence number to specify the order in which to process the link rule when multiple link rules exist
 - **Link** – unique name to identify the link rule
 - **Description** – link rule description
- ▼ Comparison Rule(s) (optional) – In the Comparison Rules table window, you specify one or more comparison rules for the reconciliation task. The Comparison Rules table window on the Reconciliation Task tab displays the following information about the comparison rules used in the reconciliation task:
 - **Comparison** – unique name to identify the comparison rule
 - **Description** – comparison rule description

Creating Reconciliation Tasks

You use the Reconciliation Tasks application to create reconciliation tasks that you can schedule for execution using the Cron Task application. You can create reconciliation task records from the List tab or from the Reconciliation Task tab in the application.

From the Reconciliation Task tab, you can click **Detail Menu** icon  next to the **Task Filter**, **Link**, and **Comparison** fields to select one of the following options:

- ▼ Open a **Select Value** dialog box to choose from a set of existing task filters, link rules, or comparison rules.
- ▼ Go to the selected application. Once you are in the application, you can create a new task filter, link rule, or comparison rule; or you can select an existing record and modify it. You can return the value to the Reconciliation Tasks application. You can also return to the Reconciliation Tasks application without selecting a value.

Modifying Reconciliation Tasks

You use the Reconciliation Task tab in the Reconciliation Tasks application to modify an existing reconciliation task. On this tab, you can change the following reconciliation task fields:

- ▼ **Description** field
- ▼ **Is Case Sensitive?** check box

You cannot change the name of the reconciliation task in the **Reconciliation Task** field.

You can also modify the components of the reconciliation task—task filter, comparison rule(s), or link rule(s).

Modifying the Task Filter

You can select a different task filter or you can delete a task filter. You can also go to the Task Filters application and create a new task filter or modify the values in an existing task filter and return the new or modified task filter to the Reconciliation Tasks application.

Modifying Link Rules

You use the Link Rules table window on the Reconciliation Task tab in the Reconciliation Tasks application to modify existing link rules on a reconciliation task. You can add a new link rule to a task or delete an existing link rule from a task. You cannot change the name of an existing link rule.

Modifying Comparison Rules

You use the Comparison Rules table window on the Reconciliation Task tab in the Reconciliation Tasks application to modify comparison rules on an existing task. You can add a new comparison rule to a task or delete an existing comparison rule from a task. You cannot change the name of an existing comparison rule.

Duplicating Reconciliation Tasks

You select **Duplicate Reconciliation Task** from the Select Action menu on the Reconciliation Task tab in the Reconciliation Tasks application to duplicate an existing task. You can use this procedure to create a new reconciliation task based on an existing one. Once you duplicate the reconciliation task, Maximo clears the **Reconciliation Task** field, and you must enter a new name for the duplicated reconciliation task.

Deleting Reconciliation Tasks

You select **Delete Reconciliation Task** from the Select Action menu on the Reconciliation Task tab in the Reconciliation Tasks application to delete an existing reconciliation task. You cannot delete a reconciliation task if it is associated with any cron task.

Viewing Results of a Reconciliation

3

This chapter discusses how to view results created in the Link Results and Reconciliation Results applications when a reconciliation task is executed.

Results of the Reconciliation Process

When Maximo processes a reconciliation task, it produces results from link rule evaluations and, if the task included one or more comparison rules, comparison rule evaluations. Maximo displays successful link results in the Link Results application; it displays link failures in the Reconciliation Results application. Maximo displays results from comparison rule evaluations in the Reconciliation Results application.

Link Results

You use the Link Results application to view all successful one-to-one links between a top-level IT asset and a computer, network printer, or network device in deployed assets. A successful link means that a link rule in a reconciliation task matched a top-level IT asset with a computer, network printer, or network device in deployed assets.

Reconciliation Results

You use the Reconciliation Results application to view the following types of results:

- ▼ **Link Failures** – A link failure occurs when Maximo does not find a successful one-to-one link between the top-level IT asset and a deployed computer, network device or network printer specified in a link rule. Link failures occur when the reconciliation process finds no links or finds multiple links.
- ▼ **Comparison Rule Results** – Authorized users can view results from comparison rule evaluations. The results Maximo provides in the Reconciliation Results application depend on the value you select in the **Comparison Results** field when you set up a reconciliation task in the Reconciliation Tasks application. Based on parameters set up in the Reconciliation Tasks application, Maximo provides one of the following result sets:
 - all results, both successful and failed
 - instances where the IT asset failed to reconcile against the deployed asset
 - instances where the IT asset successfully matched the deployed asset

Link Results Application

You use the Link Results application to view and delete link results produced when Maximo executes a reconciliation task and successfully links an IT asset to a deployed asset. Records in the Link Results application are read-only; you cannot edit the records.

When you set up a reconciliation task, you define one or more link rules that establish the basis of a reconciliation by identifying the attribute of a top-level IT asset to compare with a specific attribute of a deployed asset. Link rules are generally based on a serial number and/or asset tag. When the reconciliation task is executed, a link rule might successfully identify a relation between IT assets and deployed assets, or it might not be able to identify a successful link.

The Link Results application displays a single page that lists the successful one-to-one links between IT assets and deployed assets. A successful link means that a link rule in a reconciliation task identified a match between a top-level IT asset and a computer, network printer, or network device in deployed assets. For each asset in the list, Maximo displays the most recent link result.

You use the Link Results application to perform the following actions:

- ▼ View link results.
- ▼ Delete link results.

Viewing Link Results

To view link result records, open the Link Results application in the Reconciliation module. Maximo lists the successful one-to-one links that occur when a link rule in a reconciliation task identifies a relation between a top-level IT asset and a computer, network printer, or network device in deployed assets. For each asset in the list, Maximo displays the following information about the most recent link:

- ▼ site at which the asset is located
- ▼ name of the link rule used to link the asset to the deployed asset
- ▼ date and time the link result record was created
- ▼ Asset – unique identifier for the linked IT asset
- ▼ Deployed Asset – unique identifier for the linked deployed asset

Deleting Link Results

You use the Link Results application in the Reconciliation module to delete link results. You can delete selected link results or all link results displayed in the table window. If appropriate, you can apply a filter to retrieve selected link results and then delete all link results displayed in the Link Results table window.

Actions taken in Maximo outside of the Link Results application can also delete link results. If you move an asset from one site to another or if you delete an asset, Maximo deletes link results for the asset. If you use the Computers, Network Printers, or Network Devices application to delete a computer, network printer, or network device record associated with a record in the Link Results application, Maximo also deletes the results record from Link Results.

To delete a link result, use the following procedure:

- 1 Open the Link Results application in the Reconciliation module.
- 2 In the Link Results table window, select one of the following options:
 - ▼ To delete all link results retrieved in the table window, use the following procedure:
 - a From the Select Action menu, select **Delete Link Result(s)**. Maximo displays a confirmation dialog box asking you to confirm that you want to delete all rows.
 - b On the Maximo deletion confirmation dialog box, click **Yes**. Maximo deletes the all link results displayed in the table window.
 - ▼ To delete selected link results, use the following procedure:
 - a In the Link Results table window, click the record selection check box for each record you want to delete.
 - b After you have selected the check box for each record you want to delete, select **Delete Link Result(s)** from the Select Action menu. Maximo displays a confirmation dialog box asking you to confirm that you want to delete selected rows.
 - c On the Maximo deletion confirmation dialog box, click **Yes**. Maximo deletes the selected link results.

Reconciliation Results Application

You use the Reconciliation Results application to view results generated when Maximo executes a reconciliation task. Maximo displays the following reconciliation results in the Reconciliation Results application:

- ▼ Data that results from execution of a comparison rule. The specific kind of comparison rule data depends on a parameter set in the Reconciliation Tasks application, which allows you to select one of the following options for comparison results when you set up a reconciliation task:
 - all results, both successful and failed matches
 - instances where the IT asset failed to reconcile against the deployed asset
 - instances where the IT asset successfully matched the deployed asset

- ▼ Link failures that occur when Maximo executes a reconciliation task but finds no link or finds multiple links between a top-level IT asset and a computer, network printer, or network device in deployed assets.

If you want to view only link rule failure or comparison rule results, you can use Maximo's advanced search feature to set up a filter that selects either link rule results or comparison rule results.

You use the Reconciliation Results application to perform the following actions:

- ▼ View reconciliation results.
- ▼ Delete reconciliation results.

The Reconciliation Results application has the following tabs:

- List – to search Maximo for reconciliation results.
- Reconciliation Result – to view and delete reconciliation results.

Viewing Reconciliation Results

You use the Reconciliation Result tab in the Reconciliation Results application to view reconciliation results. Each record displayed on this tab is the result of a comparison between a top-level IT asset and a computer, network printer, or network device in deployed assets. Maximo displays the following information for each reconciliation result record:

- ▼ **Rule** – name of the link rule or comparison rule that generated the entry. If multiple link rules exist and Maximo found no matches for any of the cascading link rules, it displays the name of the reconciliation task.
- ▼ **Message** – message that describes the result of the reconciliation.
- ▼ **Created Date** – date and time the reconciliation result record was created.
- ▼ **Top-Level Asset** – the top-level IT asset that Maximo compared to the deployed asset.
- ▼ **Deployed Asset** – unique database identifier of the deployed asset. All components of a deployed asset have the same identifier; for example, hard drives and software on a computer have the same identifier as the computer.

For comparison results, Maximo also displays the following information:

- ▼ The Asset Information table window displays the following information about the IT asset evaluated:
 - **Asset Object** – asset object or the class identifier if the attribute specified is a class attribute
 - **Asset Attribute** – attribute of the asset object or of its class
 - **Asset Value** – value for the asset attribute

- **Asset Unit of Measure** – unit of measurement for the asset attribute
 - **Top Level Site** – site of the top-level IT asset evaluated
 - **Asset** – asset number of the IT asset evaluated
- ▼ The Deployed Asset Information table window displays the following information about the deployed asset evaluated:
- **Deployed Asset Object** – deployed asset object
 - **Deployed Asset Attribute** – deployed asset attribute
 - **Deployed Asset Value** – value for the deployed asset attribute
 - **Deployed Asset Unit of Measure** – unit of measurement for the deployed asset attribute
 - **Deployed Asset Key Field** – key field for the deployed asset
 - **Deployed Asset Key Value** – value for the key field of the deployed asset

In some cases fields displayed on the Reconciliation Result tab are empty. For example, Maximo might not be able to determine a value based on the rule definition. In some cases, multiple operations performed on different objects fail to produce results. Maximo displays the maximum amount of unambiguous information available.

To view reconciliation results, in the Reconciliation Results application, on the List tab, click the reconciliation result record you want to view. Maximo displays the selected reconciliation result record on the Reconciliation Result tab.

If you want to view only link rule failure or comparison rule results, you can use Maximo's advanced search feature to set up a filter that selects either link rule results or comparison rule results. The following sections of this chapter explain how to set up a filter to select comparison rule results or link failure results.

Viewing Comparison Rule Results

The Reconciliation Results application displays both comparison results and link rule failure results. If you want to view only comparison rule results, you can use Maximo's advanced search feature to set up a filter that selects only comparison rule results. To set up a filter for comparison rule results, you search for all records that have a **C** as the first character in the **Message Key** field in the More Search Fields dialog box. To open this dialog box, you select **More Search Fields** from the Advanced Search menu.

NOTE The results Maximo displays in the Reconciliation Results application depend on the parameter you select in the **Comparison Results** field when you set up a reconciliation task in the Reconciliation Tasks application, where you can choose either all results, successful comparison results, or failed comparison results.

To view comparison rule results, use the following procedure:

- 1** On the List tab in the Reconciliation Results application, click **Advanced Search**. Maximo displays the Advanced Search menu.
- 2** On the Advanced Search menu, select **More Search Fields**. Maximo displays the More Search Fields dialog box.
- 3** In the **Message Key** field, enter a **C** and click **Find**. Maximo displays comparison rule results in the table window on the List tab.
- 4** To open a record, click the underlined record identifier in the Rule column. Maximo displays the result record on the Reconciliation Result tab.

The following table describes the result messages Maximo displays for comparison rules in the Reconciliation Results application.

Comparison Rule Result Messages

Message Key	Message	Comment
C1 ^a	No IT assets were retrieved by the comparison filter.	The comparison rule has an IT asset filter, and Maximo did not retrieve any IT assets when applying this filter.
C2 ^a	No deployed assets were retrieved by the comparison filter.	The comparison rule has a deployed asset filter, and Maximo did not retrieve any deployed assets when applying this filter.
C3	Matches found comparison has succeeded.	<p>The number of IT asset objects and the number of deployed asset objects (after Maximo applied any applicable filter(s)) matched the ratio specified in the rule.</p> <p>If you specify ASSET for Asset Object:</p> <ul style="list-style-type: none"> ▼ Maximo counts the top-level IT asset and all children of that asset. or ▼ If you specify an asset filter, Maximo counts the IT assets selected by the filter. <p>If you specify ASSETSPEC for Asset Object:</p> <ul style="list-style-type: none"> ▼ Maximo counts assets with the class identifier specified. or ▼ If you specify an asset filter, Maximo counts all IT assets with the specified class identifier selected by the filter. <p>Maximo always lists the deployed asset object.</p>
C4 ^b	Attribute equality comparison has succeeded.	The attributes for the IT asset and the deployed asset (and, if applicable, their measurement units) match exactly.
C5	Matches found comparison has failed.	The number of IT asset objects and the number of deployed asset objects (after Maximo applied any applicable filter(s)) did not match the ratio specified in the rule.
C6 ^b	Attribute equality comparison has failed.	The attributes for the IT asset and the deployed asset (or, if applicable, their measurement units) did not match exactly.
C7	No authorized asset object for attribute equality comparison.	This result message occurs only when ASSETSPEC is selected for Asset Object . The message indicates that Maximo did not find any IT asset with the class specified.
C8	No deployed asset object for attribute equality comparison.	Maximo did not find any of the deployed asset objects specified by the comparison rule.
C9	No authorized and deployed asset object for attribute equality comparison.	Maximo did not find any IT asset object or deployed asset object specified in the comparison rule.

^aIf a comparison rule has both an asset filter and a deployed asset filter and neither filter returns any records, Maximo might display both C1 and C2 messages for the same assets.

^bThe number of attribute equality comparisons processed by an attributes equality comparison rule is equal to the number of the objects in the leading set (The leading set is determined by the type of task filter in the reconciliation task. For more information about task filters and leading sets, see "Initialization Phase," on page 1-4.) For every comparison, the result is either a success or failure. Maximo writes these

Reconciliation Results Application

results to the Reconciliation Results application based on the parameter you set for **Comparison Results** in the Reconciliation Tasks application. In that application, you specify whether you want all results, only successful results, or only failed comparison results.

Messages C3 and C4 indicate that Maximo successfully matched the IT asset and deployed asset when the comparison rule was processed. All other messages indicate that Maximo did not successfully match an IT asset to a deployed asset.

Viewing Link Rule Failure Results

If you want to view only link rule failure results, you can use Maximo's advanced search feature to set up a filter that selects only link rule results. To set up a filter for link rule failures, you search for all records that have an L as the first character in the **Message Key** field in the More Search Fields dialog box. To open this dialog box, you select **More Search Fields** from the Advanced Search menu.

To view link rule failure results, use the following procedure:

- 1 On the List tab in the Reconciliation Results application, click **Advanced Search**. Maximo displays the Advanced Search menu.
- 2 On the Advanced Search menu, select **More Search Fields**. Maximo displays the More Search Fields dialog box.
- 3 In the **Message Key** field, enter an **L** and click **Find**. Maximo displays link rule failure results in the table window on the List tab.
- 4 To open a record, click the underlined record identifier in the Rule column. Maximo displays the result record on the Reconciliation Result tab.

The following table describes the link failure messages Maximo might display.

Link Failure Messages

Message Key	Message	Comment
L01	No authorized IT assets were retrieved in task TASK_NAME.	Leading Set in the Reconciliation Task: Assets Reason for Link Failure: When Maximo processed the specified reconciliation task (that is, <TASK_NAME>), it did not retrieve IT assets from the database.
L02	No deployed assets were retrieved in task TASK_NAME.	Leading Set in the Reconciliation Task: Deployed Assets Reason for Link Failure: When Maximo processed the specified reconciliation task (that is, <TASK_NAME>), it did not retrieve deployed assets from the database.

Message Key	Message	Comment
L03	This IT asset has no matching deployed asset.	<p>Leading Set in the Reconciliation Task: Assets</p> <p>Reason for Link Failure: Maximo did not find a deployed asset that matched the IT asset in the leading set.</p> <p>In the Rule field:</p> <ul style="list-style-type: none"> ▼ If one link rule exists, Maximo displays the link rule name. ▼ If multiple link rules exist, Maximo displays the reconciliation task name. <p>The Deployed Asset field is empty.</p> <p>The Top Level Site and Asset field in the Asset Information table window display IT asset data.</p>
L04	This deployed asset has no matching IT asset.	<p>Leading Set in the Reconciliation Task: Deployed Assets</p> <p>Reason for Link Failure: Maximo did not find an IT asset that matched the deployed asset in the leading set.</p> <p>In the Rule field:</p> <ul style="list-style-type: none"> ▼ If one link rule exists, Maximo displays the link rule name. ▼ If multiple link rules exist, Maximo displays the reconciliation task name. <p>The Deployed Asset field displays deployed asset data.</p> <p>The Top Level Site and Asset fields in the Asset Information table window are empty.</p>
L05	This IT asset links to more than one deployed asset.	<p>Leading Set in the Reconciliation Task: Assets</p> <p>Reason for Link Failure: When Maximo processed the reconciliation task, the link rule specified in the Rule field found more than one deployed asset that matched the IT asset in the leading set.</p>
L06	This deployed asset links to more than one IT asset.	<p>Leading Set in the Reconciliation Task: Deployed Assets</p> <p>Reason for Link Failure: When Maximo processed the reconciliation task, the link rule specified in the Rule field found more than one IT asset that matched the deployed asset in the leading set.</p>
L07	This IT asset links to more than one deployed asset due to different cascading rules.	<p>Leading Set in the Reconciliation Task: Assets</p> <p>Reason for Link Failure: When Maximo processed the reconciliation task specified in the Rule field, cascading link rules found more than one deployed asset that matched the IT asset in the leading set.</p>
L08	This deployed asset links to more than one IT asset due to different cascading rules.	<p>Leading Set in the Reconciliation Task: Deployed Assets</p> <p>Reason for Link Failure: When Maximo processed the reconciliation task specified in the Rule field, cascading link rules found more than one IT asset that matched the deployed asset in the leading set.</p>

Message Key	Message	Comment
L09	More than one deployed asset links to this IT asset.	<p>Leading Set in the Reconciliation Task: Assets</p> <p>Reason for Link Failure: When Maximo processed the reconciliation task, the link rule specified in the Rule field found more than one deployed asset that matched the IT asset in the leading set.</p>
L10	More than one IT asset links to this deployed asset.	<p>Leading Set in the Reconciliation Task: Deployed Assets</p> <p>Reason for Link Failure: When Maximo processed the reconciliation task, the link rule specified in the Rule field found more than one IT asset that matched the deployed asset in the leading set.</p>
L11	More than one deployed asset links to this IT asset due to different cascading rules.	<p>Leading Set in the Reconciliation Task: Assets</p> <p>Reason for Link Failure: When Maximo processed the reconciliation task specified in the Rule field, cascading link rules found more than one deployed asset that matched the IT asset in the leading set.</p>
L12	More than one IT asset links to this deployed asset due to different cascading rules.	<p>Leading Set in the Reconciliation Task: Deployed Assets</p> <p>Reason for Link Failure: When Maximo processed the reconciliation task specified in the Rule field, cascading link rules found more than IT asset that matched the deployed asset in the leading set.</p>

Maximo generates the following messages when there is no task filter or when the task filter has the type Asset: L01, L03, L05, L07.

Maximo generates the following messages when the task filter has the type Deployed Asset: L02, L04, L06, L08.

Deleting Reconciliation Results

You use the Reconciliation Results application to delete reconciliation results. On the List tab you can delete selected reconciliation results or all reconciliation results in the table window. You can also select a reconciliation result record, view it on the Reconciliation Result tab, and delete the selected record from the Reconciliation Result tab.

The Reconciliation Results application displays both comparison results and link rule failure results. If you want to delete only link rule failure results or comparison rule results or a subset of these, you can use Maximo's advanced search feature to set up a filter that selects a specific set of results to display in the table window on the List tab. You can then delete all results in the table window or select specific results and delete them.

Filtering Reconciliation Results

To set up a filter before deleting reconciliation results, use the following procedure:

- 1** On the List tab in the Reconciliation Results application, click **Advanced Search**. Maximo displays the Advanced Search menu.
- 2** On the Advanced Search menu, select **More Search Fields**. Maximo displays the More Search Fields dialog box.
- 3** If appropriate, in the **Message Key** field, select one of the following options:
 - ▼ Enter a **C** and click **Find**. Maximo displays comparison rule results in the table window on the List tab.
 - ▼ Enter an **L** and click **Find**. Maximo displays link rule failure results in the table window on the List tab.

Deleting from the List Tab

To delete reconciliation results from the List tab, use the following procedure:

In the Reconciliation Results application, on the List tab, select one of the following options:

- ▼ To delete all reconciliation results retrieved in the table window:
 - 1** From the Select Action menu, select **Delete Reconciliation Result(s)**. Maximo displays a confirmation dialog box asking you to confirm that you want to delete all rows.
 - 2** On the Maximo deletion confirmation dialog box, click **Yes**. Maximo deletes the all reconciliation results displayed in the table window.
- ▼ To delete selected reconciliation results:
 - 1** To select specific reconciliation result records, on the List tab, select the **Select Records** check box at the bottom of the List tab table window. Maximo displays a Select Row check box next to each row in the table window.
 - 2** In the List table window, click the Select Row check box for each record you want to delete.
 - 3** After you have selected the check box for each record you want to delete, select **Delete Reconciliation Result(s)** from the Select Action menu. Maximo displays a confirmation dialog box asking you to confirm that you want to delete selected rows.
 - 4** On the Maximo deletion confirmation dialog box, click **Yes**. Maximo deletes the selected reconciliation results.

Deleting from the Reconciliation Result Tab

To delete reconciliation results from the Reconciliation Result tab, use the following procedure:

- 1** In the Reconciliation Results application, on the List tab, click the reconciliation result you want to delete. Maximo displays the selected reconciliation result record on the Reconciliation Result tab.

- 2 From the Select Action menu, select **Delete Reconciliation Result(s)**. Maximo displays a confirmation dialog box asking you to confirm that you want to delete the record.
- 3 On the Maximo deletion confirmation dialog box, click **Yes**. Maximo deletes the reconciliation result record.

Scheduling Reconciliations

4

Because reconciliation tasks process data imported into Maximo from external sources, you must exercise caution when scheduling reconciliation tasks. This chapter discusses how to schedule reconciliations and effectively integrate the reconciliation process with data imports from Maximo Fusion. The timing of deployed asset data migration must be carefully coordinated with the reconciliation process; for example, you should not attempt to reconcile deployed assets against IT assets if you have not yet imported deployed asset data into Maximo. Scheduling is an important consideration because it affects the reliability of the data and the allocation of computer resources.

Data Reliability

Data might be unreliable if any of the following conditions exist:

- ▼ Maximo executes a reconciliation task before Maximo Fusion imports deployed asset data.

To collect deployed asset data, an asset discovery tool, such as Maximo Discovery or another third-party tool (for example, SMS or Tivoli Inventory) scans computers, network devices, and network printers deployed in your enterprise and records information about the hardware and software installed on those assets. Maximo Fusion processes the collected data and imports it into Maximo. To ensure that Maximo compares IT asset data with the most current deployed asset information, you should schedule reconciliations to occur **after** Maximo Fusion imports deployed asset data.

- ▼ Maximo Fusion imports data and Maximo processes a reconciliation task simultaneously.

Flawed data might result if a Maximo Fusion migration and a reconciliation task occur simultaneously. The two processes must never overlap, and you must schedule migrations and reconciliation tasks so that Maximo does not execute the two processes at the same time.

- ▼ Maximo executes a reconciliation task before executing the software suites cron task.

If your company uses Maximo's Software Suite Setup application to define software suites, to ensure that software suites are properly identified, you should execute the cron task that processes software suites before you execute reconciliation cron tasks.

- ▼ Maximo processes multiple reconciliation tasks that include overlapping data.

Administrators can set up multiple cron task instances to run reconciliation tasks. If different reconciliation tasks are set up to process overlapping sets of IT assets and/or deployed assets, the results are unpredictable.

Recommended Sequence of Operations

To ensure data reliability, use the following sequence of events:

- 1 Collect data about deployed assets using an asset discovery tool, such as Maximo Discovery.
- 2 Use Maximo Fusion to import deployed asset data into Maximo. For more information about importing data with Maximo Fusion, refer to the *Maximo Fusion System Administrator's Guide* and/or Maximo Fusion Help.
- 3 If you use the Deployed Assets Administration module applications to standardize naming conventions, set up software suites, or define software usage display options, you should make any changes necessary in those applications. For more information about these applications, refer to online help for the Adapter Conversion, Manufacturer Conversion, Operating System Conversion, Processor Conversion, Software Conversion, Software Suite Setup, and Software Usage Setup applications. You can also find information about these applications in the *Maximo Enterprise Suite System Administrator's Guide* and *Maximo Enterprise Suite User's Guide*.
- 4 Execute the cron task that identifies software suites.
- 5 Execute the cron task that processes reconciliation tasks.

Resource Allocation

The reconciliation process demands a large amount of server resources. MRO Software recommends you run reconciliation at a time when the server is least busy, such as late evening.

Setting Up a Reconciliation Cron Task

You define reconciliation tasks in the Reconciliation Module applications, but you set up the schedule that actually executes the task in the Cron Task Setup application. A reconciliation task record combines a task filter (optional), one or more link rules, and one or more comparison rules (optional) into a specific job task that Maximo executes using the Cron Task Setup application. Before you can run the reconciliation process, you must define a cron task to set up a schedule for executing the process. The name you enter in the Reconciliation Task field for the reconciliation task is the parameter in the cron task that identifies which reconciliation task to process.

Defining a Cron Task

The cron task must point to the following class:

```
psdi.app.recontask.engine.ReconCronTask
```

The following example illustrates a cron task that schedules a reconciliation to determine whether the RAM on servers in deployed assets is in compliance with corporate requirements.

Cron Task Example

The screenshot displays the 'Cron Task' configuration window. At the top, the 'Cron Task' field is set to 'econRAMComp' and the 'Class' field is set to 'psdi.app.recontask.engine.ReconCronTask', with a red arrow pointing to the class name. The 'Access Level' is set to 'FULL'. Below this is a table of 'Cron Task Instances' with one instance named 'RAMcompliance' having a schedule of '1w,0,0,1,*,*,1,*'. A 'Details' section for this instance shows the 'Cron Task Instance Name' as 'RAMcompliance', the 'Schedule' as '1w,0,0,1,*,*,1,*', and the 'Run as User' as 'MAXADMIN'. At the bottom, the 'Cron Task Parameters' table has one parameter: 'RECONTASKNAME' with a value of 'RAMcompliant' and a description 'The name of the reconciliation task that will be', with a red arrow pointing to the value.

Cron Task Instance Name	Schedule	Run as User	Active?
RAMcompliance	1w,0,0,1,*,*,1,*	MAXADMIN	<input type="checkbox"/>

Parameter	Value	Description
RECONTASKNAME	RAMcompliant	The name of the reconciliation task that will be

Note that the **Class** field contains the class file for the reconciliation process. The **Value** field for the parameter RECONTASKNAME in the Cron Task Parameters table window contains the reconciliation task name entered in the **Reconciliation Task** field in the Reconciliation Tasks application.

Scheduling Cron Tasks

CAUTION Maximo lets you schedule cron tasks for multiple reconciliation tasks. If different reconciliation tasks are set up to process overlapping sets of IT assets and/or deployed assets, the results are unpredictable. MRO Software recommends that you do not set up multiple reconciliation tasks with overlapping schedules.

In addition, you should schedule cron tasks for reconciliation so that Maximo Fusion imports data into Maximo before Maximo processes reconciliation tasks. You should also schedule reconciliation cron tasks so that Maximo will not process Maximo Fusion imports and reconciliation cron tasks simultaneously.

Sample Reconciliation Scenarios

5

This chapter provides sample reconciliation scenarios to illustrate how to use the Reconciliation module applications. It includes an example of a matches found reconciliation as well as an example of an attributes equality reconciliation.

The examples illustrate how to set up task filters, link rules, and comparison rules.

Software Suite Compliance (Matches Found Example)

In this sample scenario, Maximo reconciles IT asset records for computers at the McLean site with deployed asset records to determine whether the Microsoft Office suite is installed as expected on computers in deployed assets. In other words, the records in the Assets application indicate that you have Microsoft Office installed on certain computers; does your asset discovery tool report instances of Microsoft Office on the corresponding computers in deployed assets?

To process this reconciliation, you define a reconciliation task that selects IT asset records at the McLean site for evaluation. For this subset of records, Maximo then uses a link rule based on serial number to search for a match between a computer in IT assets and a computer in deployed assets. If Maximo succeeds in matching an IT asset to a deployed asset, it processes the comparison rule on the reconciliation task, which evaluates software suites on the deployed asset to determine if there is at least one instance of Microsoft Office for each instance of Microsoft Office in IT assets. Note that if Maximo does not succeed in establishing a link between the IT asset and a deployed asset, Maximo reports link failure results that you can view in the Reconciliation Results application.

CAUTION It is extremely important in the case of software suite reconciliations to coordinate Maximo Fusion's deployed asset data migrations, software suite setup using the Software Suite Conversion application in Maximo, scheduling a cron task for software suite setup, and scheduling the cron task for reconciliation. For more information about integrating these operations, see "Scheduling Software Suite Reconciliations" on page 5-8.

Setting Up the Reconciliation Task

Because the Reconciliation Tasks application lets you go to the Task Filters, Link Rules, and Comparison Rules applications to retrieve existing values or create new records, you can set up most parameters from the Reconciliation Tasks application. The following steps describe the task filter, link rule, and comparison rule to set up. You can find step-by-step instructions for creating these components of the reconciliation task in the online help provided for each application in Maximo.

For this reconciliation task, you create the following components:

- ▼ asset task filter for McLean IT assets
- ▼ link rule that matches serial number in IT assets with the corresponding serial number in deployed assets
- ▼ comparison rule that looks for instances of the Microsoft Office suite in IT assets and deployed assets.

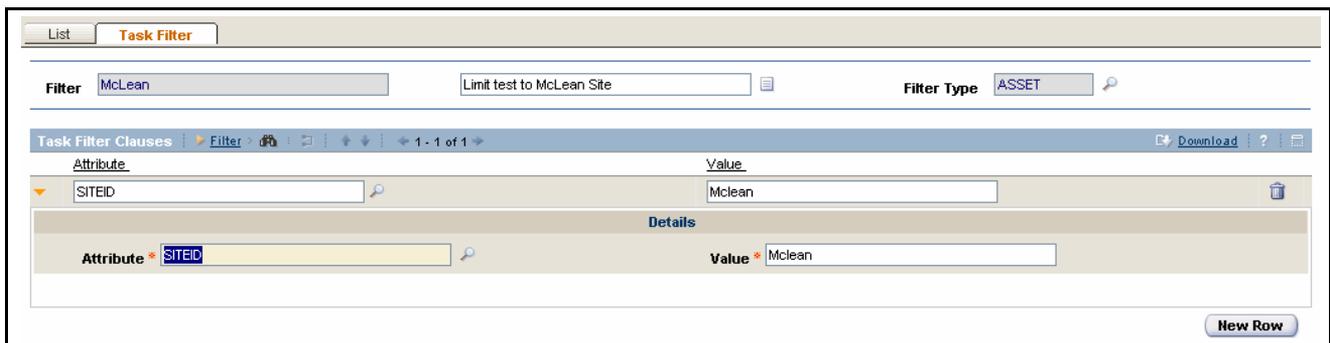
To set up the reconciliation task, use the following steps:

- 1 Define a task filter to select only IT assets at the McLean site, To do this you specify the following parameters:

Filter Type	ASSET
Attribute	SITEID
Value	McLean

When you use this task filter (shown in the following example), Maximo selects IT assets at the McLean site for the leading set in the reconciliation.

Example of a Task Filter for the Software Compliance Scenario



- Define a link rule (shown in the following example) that searches deployed assets for a match to serial numbers in IT assets. To define this link rule, you set up the following parameters:

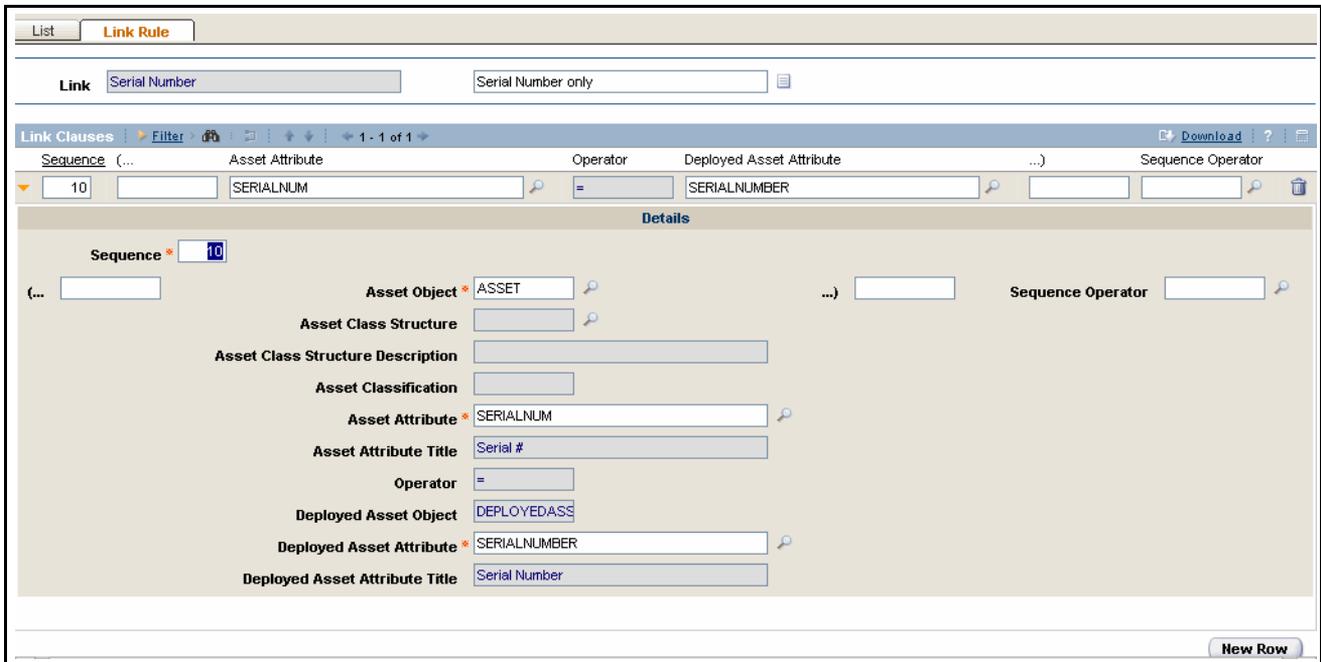
- ▼ To specify the IT Asset:

Asset Object	ASSET
Asset Attribute	SERIALNUM

- ▼ To specify the deployed asset:

Deployed Asset Object	DEPLOYEDASSET
Deployed Asset Attribute	SERIALNUMBER

Example of a Link Rule for the Software Compliance Scenario



- Define a deployed asset filter for the comparison rule (shown in the following example) that selects deployed assets that have the Microsoft Office software suite. To set up the deployed asset filter, you select the following parameters:

Deployed Asset Object	DPACSWSUITE
Deployed Asset Attribute	SUITENAME
Operator	LIKE
Value	MSOFFICE

Example of a Deployed Asset Filter for the Comparison Rule for Software Compliance

The screenshot shows a web-based configuration interface for a comparison rule. At the top, there are tabs for 'List' and 'Comparison Rule'. Below this is a help message: 'To create a comparison rule, you must specify at least one Matches Found or one Attributes Equality, but not both. A comparison rule identifies attribute(s) of child or parent IT assets to compare with attribute(s) of child or parent deployed assets when a reconciliation task is executed. Use the Asset Filter and Deployed Asset Filter to limit or focus your comparison.' The 'Comparison' field is set to 'SWsuiteUnauthorized' and the text 'Check for Office SW not officially deployed' is visible. Below this are tabs for 'Asset Filter', 'Deployed Asset Filter', 'Matches Found', and 'Attributes Equality'. The 'Deployed Asset Filter' tab is active, showing a table of clauses. The table has columns for 'Sequence', 'Deployed Asset Attribute', 'Operator', 'Value', and 'Sequence Operator'. One clause is shown: Sequence 10, SUITENAME, LIKE, MSOFFICE. Below the table is a 'Details' section for the selected clause, showing fields for 'Deployed Asset Object' (DPACSWSUITE), 'Deployed Asset Attribute' (SUITENAME), 'Deployed Asset Attribute Title' (Suite), 'Operator' (LIKE), and 'Value' (MSOFFICE). A 'New Row' button is at the bottom right.

In this case, Maximo will select software suites with a suite name like MSOFFICE and apply the comparison rule to those deployed assets.

- 4 In addition, you add a matches found clause (shown in the following example) to the comparison rule that specifies you want to find at least 1 instance of the deployed asset object for each instance of the IT asset. To define the matches found clause, you set up the following parameters:

- ▼ To specify the IT asset:

Asset Object	ASSETSPEC
Asset Class Structure	1231 (which is Office Suite as shown in the Asset Class Structure Description field)

- ▼ The **Operator** for the comparison is AtLeast1toAtLeast1.

- ▼ To specify the deployed asset:

Deployed Asset Object	DPACSWSUITE
------------------------------	-------------

Example of a Matches Found Clause for the Comparison Rule for Software Compliance

The screenshot shows the 'Comparison Rule' configuration interface. At the top, there is a 'List' tab and a 'Comparison Rule' tab. Below this, a help message states: 'To create a comparison rule, you must specify at least one Matches Found or one Attributes Equality, but not both. A comparison rule identifies attribute(s) of child or parent IT assets to compare with attribute(s) of child or parent deployed assets when a reconciliation task is executed. Use the Asset Filter and Deployed Asset Filter to limit or focus your comparison.'

The 'Comparison' section shows 'SWSuiteUnauthorized' and 'Check for Office SW not officially deployed'. Below this are tabs for 'Asset Filter', 'Deployed Asset Filter', 'Matches Found', and 'Attributes Equality'. The 'Matches Found' tab is active, showing a table with one clause:

Sequence	Asset Object	Asset Class Structure	Operator	Deployed Asset Object	Sequence Operator
10	ASSETSPEC	1231	AtLeast1toAtLe	DPACSWSUITE	

Below the table is a 'Details' section for the selected clause (Sequence 10):

- Sequence: 10
- Asset Object: ASSETSPEC
- Asset Class Structure: 1231
- Asset Class Structure Description: Office Suite
- Asset Classification: 43231513
- Operator: AtLeast1toAtLe
- Deployed Asset Object: DPACSWSUITE

In this case, for each instance of Office Suite in IT assets, the reconciliation process determines whether there is also an instance in deployed assets.

- Set up a reconciliation task (shown in the following example) that combines the following components into a reconciliation task that you can schedule in the Cron Task Setup application:
 - asset task filter for McLean IT assets
 - link rule that matches serial number in IT assets with the corresponding serial number in deployed assets
 - comparison rule that looks for instances of the Microsoft Office suite in IT assets and deployed assets.

Example of a Reconciliation Task for Software Compliance Scenario

To create a reconciliation task, select a task filter and one or more link rules. The task filter identifies a subset of assets (IT or deployed) for Maximo to link and compare. You can apply a filter based on IT assets or deployed assets, but not both. For IT assets, you can apply filters based on asset class, custodian, GL account, organization, site, status, or usage. For deployed assets, you can apply filters based on asset class, organization, site, or system role. After the reconciliation task is defined, you must use the Cron Task Setup application to schedule the reconciliation task.

Reconciliation Task SWcomplianceOffice **Check unauthorized pool "Office" software** **Filter Type** ASSET
Task Filter McLean **Is Case Sensitive?**
Comparison Results * All

Link Rules Filter 1 - 1 of 1 Download ?

A link rule identifies the attributes used to associate, or link, IT assets to deployed assets when a reconciliation task is executed. Each reconciliation task must have at least one link rule. For multiple links, enter a sequence number to specify the order in which to apply each rule. Links are processed in a cascading sequence. If IT assets or deployed assets do not match a link, Maximo evaluates the next link in the sequence to determine whether there is a match.

Sequence	Link	Description
10	Serial Number	Serial Number only

Comparison Rules Filter 1 - 1 of 1 Download ?

A comparison rule identifies the specific attributes of child or parent IT assets to compare with child or parent deployed assets when a reconciliation task is executed. Comparison rules are optional, and a reconciliation task can include more than one comparison rule.

Comparison	Description
SWsuiteUnauthorized	Check for Office SW not officially deplo...

Note that the **Comparison Results** field for this reconciliation task specifies All results. Consequently, Maximo reports both successful comparison results and failed comparison results for this task.

Note also that the **Is Case Sensitive?** check box is empty. Consequently, no components of the reconciliation are case sensitive.

- In the Cron Task Setup application, define a cron task to schedule execution of the software compliance reconciliation task. Because software suite data is affected by Maximo Fusion data migration schedules and by parameters set in other Maximo applications, you should exercise caution when scheduling reconciliations involving software suites. For more information about scheduling considerations, see "Scheduling Software Suite Reconciliations" on page 5-8.

Viewing Reconciliation Results

You can view reconciliation results in the Link Results application and in the Reconciliation Results application.

Link Results Application

In the Link Results application, you can view the successful links established between an IT asset and a deployed asset. In the following example, Maximo displays link results for the McLean site. Each row indicates a link between a computer in IT assets and a computer in deployed assets. For example, there is a match between IT asset 1,453 and deployed asset 85.

Link Results for Software Compliance Scenario

Site	Rule Name	Link Date	Asset	Deployed Asset
McLean				
MCLEAN	Serial Number	2/11/05 6:18 PM	1,463	85
MCLEAN	Serial Number	2/11/05 6:18 PM	1,480	57
MCLEAN	Serial Number	2/11/05 6:18 PM	1,458	1
MCLEAN	Serial Number	2/11/05 6:18 PM	1,476	61

Reconciliation Results Application

In the Reconciliation Results application, on the List tab, you can view reconciliation results for the comparison rule that evaluated software suites. On the List tab, you can see the result found for each link between an IT asset and a deployed asset. In the following example, Microsoft Office suite was located on both top-level IT asset 19998 and deployed asset 85.

Reconciliation Results List Tab for Software Compliance Scenario

Rule	Message	Top Level Asset	Asset	Deployed Asset	Created Date
SWsuiteUnauthorized	Matches found comparison has succe...	19998		85	2/11/05 1:16 PM
SWsuiteUnauthorized	No deployed assets were retrieved by the c...			57	2/11/05 1:16 PM
SWsuiteUnauthorized	No deployed assets were retrieved by the c...			1	2/11/05 1:16 PM
SWsuiteUnauthorized	No deployed assets were retrieved by the c...			61	2/11/05 1:16 PM

If you click that row in the table window, Maximo displays details on the Reconciliation Result tab, as shown in the following example.

Reconciliation Results Reconciliation Result Tab for Software Compliance Scenario

Rule	SWsuiteUnauthorized	Top Level Asset	19998
Message	Matches found comparison has succeeded.	Deployed Asset	85
Created Date	2/11/05 1:16 PM		

Asset Information		Deployed Asset Information	
Asset Object	1231	Deployed Asset Object	DPACSWSUITE
Asset Attribute		Deployed Asset Attribute	
Asset Value		Deployed Asset Value	
Asset Unit of Measure		Deployed Asset Unit of Measure	
Top Level Site	MCLEAN	Deployed Asset Key Field	
Asset		Deployed Asset Key Value	

Scheduling Software Suite Reconciliations

When you reconcile software suites, MRO Software recommends that you execute the following steps in the order given to ensure that Maximo uses the most current software suite data for reconciliation:

- 1 Use Maximo Fusion to import deployed asset data into Maximo. For more information about importing data with Maximo Fusion, refer to the *Maximo Fusion System Administrator's Guide* and/or Maximo Fusion Help.
- 2 Use the Manufacturer Conversion, Software Conversion, and Software Suite Setup applications in the Deployed Assets Administration module applications to set up software suite data.

Manufacturer Conversion Application

Manufacturer conversions are necessary because the asset discovery tools that collect data for the Deployed Assets applications do not use consistent naming conventions, and you might have various names assigned to the same manufacturer. For example, discovery tools often include variations such as **MRO Software, Inc.** and **MRO Software Incorporated** in the manufacturer name. Your enterprise might want to use only the name **MRO Software**. You can use the Manufacturer Conversion application to translate variations in a manufacturer's name to a standard naming convention and control how Maximo displays the imported data.

Software Conversion Application

Software conversions are necessary because the asset discovery tools that collect software data do not use consistent hardware and software naming conventions, and you might have various names assigned to the same software application. For example, when describing software applications, discovery tools often include version and release numbers in the software application name, such as **Maximo 4.1** or **Maximo 5.2**. Your enterprise might want to track only instances of **Maximo** without specifying a version number. You can use the Software Conversion application to control how Maximo displays the imported data.

Software Suite Setup Application

Software suite definitions are necessary because the asset discovery tools used to collect data about deployed software applications typically collect information only about individual software applications, not software suites. You use the Software Suite Setup application to specify which software applications belong to a software suite.

You cannot add an application as a component to a software suite record unless the software application exists as a software conversion record.

- 3 Create a cron task for software suite setup.

Software suite identification is a background process, and you must set up a cron task in Maximo's Cron Task Setup application to schedule the software suite identification process. When the cron task is run, Maximo uses the suite definitions in the Software Suite Setup application to identify software suites and update software suite information. Additions, changes, and deletions made to software suite setup records do not affect software suite data displayed in Maximo until the cron task is executed. For more information about setting up cron tasks, see Chapter 4, "Scheduling Reconciliations," on page 4-1.

- 4 Set up a reconciliation task for software suite reconciliation.
- 5 Create a cron task to schedule execution of the software suite reconciliation task.

RAM Compliance (Attributes Equality Example)

In this sample scenario, Maximo evaluates IT asset records for notebooks at the McLean site to determine whether the RAM on the notebooks in IT assets matches the RAM actually installed on notebooks in deployed assets. In other words, the records in the Assets application indicate that I have a specific amount of RAM on a notebook; does my asset discovery tool report the same amount of RAM on the corresponding notebook in deployed assets?

To process this reconciliation, you define a reconciliation task that selects IT asset records at the McLean site for evaluation. For this subset of records, Maximo then uses a link rule based on serial number to search for a match between an IT asset and a deployed asset. If Maximo succeeds in matching an IT asset to a deployed asset, it processes the comparison rule on the reconciliation task, which compares the RAM on the notebooks in IT assets to the RAM on the computers in deployed assets to determine if the amounts match.

Setting Up the Reconciliation Task

For this reconciliation task, you create the following components:

- ▼ asset task filter to select notebooks at McLean from IT assets
- ▼ link rule that matches serial number in IT assets with the corresponding serial number in deployed assets
- ▼ comparison rule that compares RAM on notebooks in IT assets to RAM on computers in deployed assets at the McLean site.

To set up the reconciliation task, use the following steps:

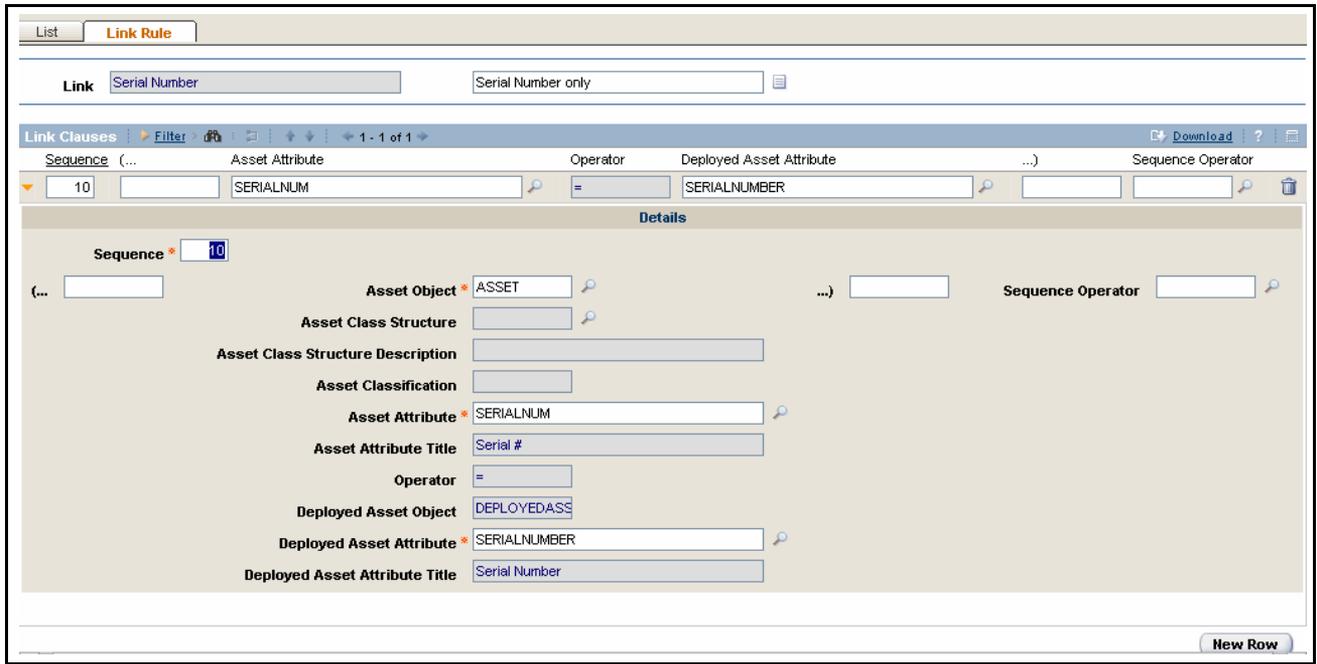
- 1 In the Task Filters application, you define a task filter to select notebooks at the McLean site, as shown in the following example.

Example of a Task Filter for Attributes Equality Scenario

The screenshot shows the 'Task Filter' configuration page. At the top, there are tabs for 'List' and 'Task Filter'. Below the tabs, the 'Filter' field contains 'McLean' and the 'Filter Type' is set to 'ASSET'. A 'Limit test to McLean Site' checkbox is visible. The main area is titled 'Task Filter Clauses' and shows a single clause with the attribute 'SITED' and the value 'Mclean'. A 'Details' section below the clause shows the attribute 'SITED' and the value 'Mclean'.

- 2 In the Link Rules application, you define a link rule that searches deployed assets for a match to serial numbers in IT assets, as shown in the following example.

Example of a Link Rule for Attributes Equality Scenario



- 3 In the Comparison Rules application, define a deployed asset filter that selects only computers at the McLean site, as shown in the following

example. To set up the deployed asset filter, you select the following parameters:

Deployed Asset Object	COMPUTERSYSTEM
Deployed Asset Attribute	SITEID
Operator	=
Value	McLean

Example of a Deployed Asset Filter in a Comparison Rule for Attributes Equality Scenario

The screenshot shows the 'Comparison Rule' configuration interface. At the top, there is a 'Comparison' field with the value 'Ram Compliance'. Below this, there are tabs for 'Asset Filter', 'Deployed Asset Filter', 'Matches Found', and 'Attributes Equality'. The 'Deployed Asset Filter' tab is active, showing a table of 'Deployed Asset Filter Clauses'. The table has columns for 'Sequence', 'Deployed Asset Attribute', 'Operator', 'Value', and 'Sequence Operator'. A single row is visible with the following values: Sequence: 10, Deployed Asset Attribute: SITEID, Operator: =, Value: McLean, Sequence Operator: (empty). Below the table, there is a 'Details' section for the selected row (Sequence 10). The details include: Deployed Asset Object: COMPUTERSYS, Deployed Asset Attribute: SITEID, Deployed Asset Attribute Title: Site, Operator: =, and Value: McLean. A 'New Row' button is located at the bottom right of the interface.

- 4 In the Comparison Rules application, you also define a comparison rule (shown in the following example) with an attributes equality clause that specifies an object and attribute in IT assets to compare with an object and attribute in deployed assets. To define the attributes equality clause, you set up the following parameters:

- ▼ To specify the IT asset:

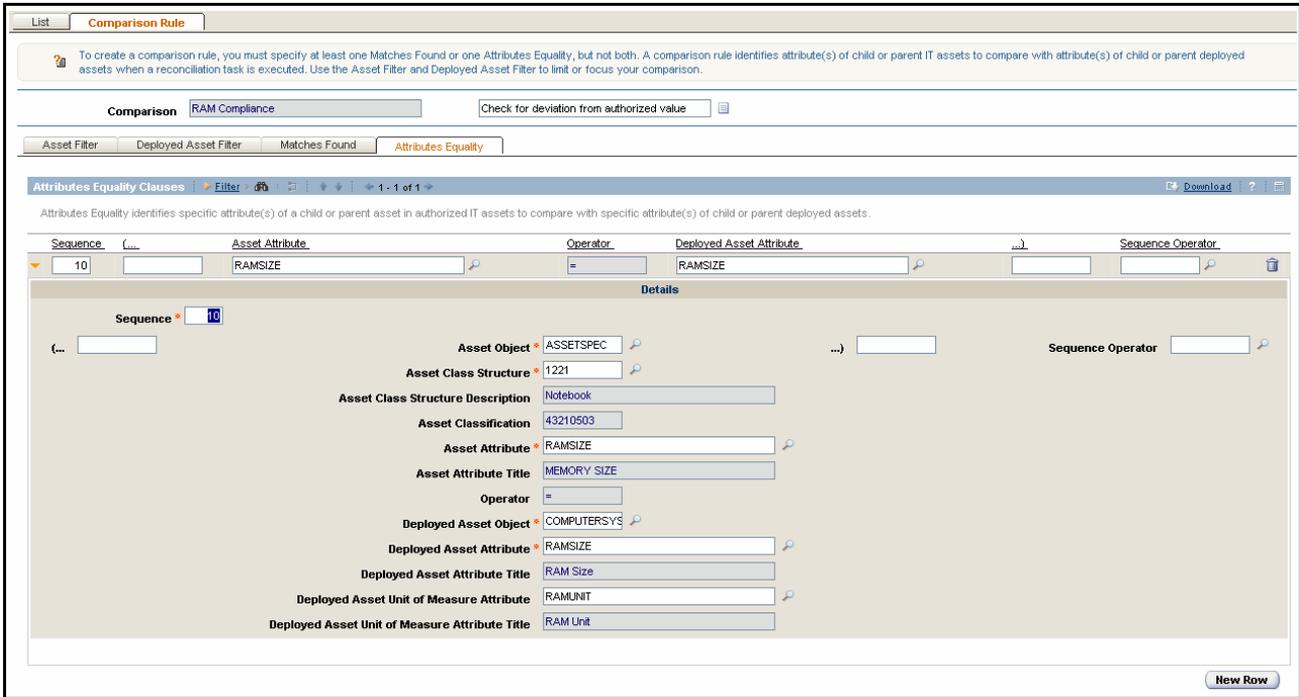
Asset Object	ASSETSPEC
Asset Class Structure	1221 (which is notebook as shown in the Asset Class Structure Description field)
Asset Attribute	RAMSIZE

- ▼ The **Operator** for the comparison is =.

- ▼ To specify the deployed asset:

Deployed Asset Object COMPUTERSYSTEM
Deployed Asset Attribute RAMSIZE
Deployed Asset Unit of Measure Attribute RAMUNIT

Example of Attributes Equality Clause in a Comparison Rule for Attributes Equality Scenario



5 In the Reconciliation Tasks application, set up a reconciliation task (shown in the following example) that combines the following components into a reconciliation task that you can schedule in the Cron Task Setup application:

- ▼ asset task filter for McLean IT assets
- ▼ link rule that matches serial number in IT assets with the corresponding serial number in deployed assets
- ▼ comparison rule that compares RAM on notebooks in IT assets to RAM on computers in deployed assets.

Example of a Reconciliation Task for Attributes Equality Scenario

Reconciliation Task RAMcompliant Serial number link with RAM compliance test (N) Filter Type ASSET

Task Filter McLean Is Case Sensitive?

Comparison Results All

Link Rules Filter Download

A link rule identifies the attributes used to associate, or link, IT assets to deployed assets when a reconciliation task is executed. Each reconciliation task must have at least one link rule. For multiple links, enter a sequence number to specify the order in which to apply each rule. Links are processed in a cascading sequence. If IT assets or deployed assets do not match a link, Maximo evaluates the next link in the sequence to determine whether there is a match.

Sequence	Link	Description
10	Serial Number	Serial Number only

Comparison Rules Filter Download

A comparison rule identifies the specific attributes of child or parent IT assets to compare with child or parent deployed assets when a reconciliation task is executed. Comparison rules are optional, and a reconciliation task can include more than one comparison rule.

Comparison	Description
RAM Compliance	Check for deviation from authorized va...

Note that in the **Comparison Results** field for this reconciliation task specifies All results. Consequently Maximo will report both successful comparison results and failed comparison results for this task.

Viewing Reconciliation Results

In the Reconciliation Results application, on the List tab, you can view reconciliation results for the comparison rule that evaluated RAM compliance.

Reconciliation Results List Tab for Attributes Equality Scenario

Rule	Message	Top Level Asset	Asset	Deployed Asset	Created Date
RAM Compliance	Attribute equality comparison has succeeded.	19998	19998	85	2/6/05 1:05 PM
RAM Compliance	Attribute equality comparison has failed.	20000	20000	1	2/6/05 1:59 PM
RAM Compliance	Attribute equality comparison has failed.	20000	20000	1	2/6/05 2:04 PM
DiveSize25	Matches found comparison has succeeded.	20000		1	2/10/05 7:18 PM

Maximo displays the results for failed comparisons as shown in the following example. Note that the value in the **Asset Value** field does not match the value in the **Deployed Asset Value** field.

Failed Comparison Result for the Attributes Equality Scenario

List		Reconciliation Result	
Rule	RAM Compliance	Top Level Asset	20000
Message	Attribute equality comparison has failed.	Deployed Asset	1
Created Date	2/6/05 1:59 PM		
Asset Information		Deployed Asset Information	
Asset Object	1221	Deployed Asset Object	COMPUTERSYS
Asset Attribute	RAMSIZE	Deployed Asset Attribute	RAMSIZE
Asset Value	96.00	Deployed Asset Value	64
Asset Unit of Measure	MBYTE	Deployed Asset Unit of Measure	MBYTE
Top Level Site	MCLEAN	Deployed Asset Key Field	NODEID
Asset	20000	Deployed Asset Key Value	1

Maximo displays the results for successful comparisons as shown in the following example. Note that the value in the **Asset Value** field matches the value in the **Deployed Asset Value** field.

Successful Comparison Result for the Attributes Equality Scenario

List		Reconciliation Result	
Rule	RAM Compliance	Top Level Asset	19998
Message	Attribute equality comparison has succeeded.	Deployed Asset	85
Created Date	2/6/05 1:05 PM		
Asset Information		Deployed Asset Information	
Asset Object	1221	Deployed Asset Object	COMPUTERSYS
Asset Attribute	RAMSIZE	Deployed Asset Attribute	RAMSIZE
Asset Value	64.00	Deployed Asset Value	64
Asset Unit of Measure	MBYTE	Deployed Asset Unit of Measure	MBYTE
Top Level Site	MCLEAN	Deployed Asset Key Field	NODEID
Asset	19998	Deployed Asset Key Value	85

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2	June 2005	6.0

maximo enterprise suite

Release 6.0
June 2005

Technical Reference Guide

mro software
make it *all* count

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CHAPTER 1

MAXIMODIRECTORY STRUCTURE

This chapter lists the Directory structure as it will look after running the default MAXIMO 6.0 Application Installation programs plus any product updates you may have applied. You can use this information to verify folder locations and to plan custom installations.

The Directory structure may differ from the one specified here, depending on whether or not you chose the default folders on installation.

The date and time stamps indicate the date and time you install the software.

MAXIMO 6.0 APPLICATION FOLDER

Directory of C:\Maximo

06/09/2005	10:03a	<DIR>	applications
06/09/2005	09:56a	<DIR>	appserver
06/09/2005	10:24a	<DIR>	deployment
06/09/2005	10:59a	<DIR>	PowerUpdateClient
06/09/2005	10:24a	<DIR>	resources
06/09/2005	10:24a	<DIR>	tools
06/09/2005	10:59a	<DIR>	UninstallerData
06/09/2005	10:59a	<DIR>	UninstallerSAPadapter
	0 File(s)		0 bytes

Directory of C:\Maximo\applications

06/09/2005	09:56a	<DIR>	activeportal
06/09/2005	09:58a	<DIR>	maximo
06/09/2005	09:58a	<DIR>	maximohelp
06/09/2005	10:03a	<DIR>	UninstallerJre
	0 File(s)		0 bytes

Directory of C:\Maximo\applications\activeportal

06/09/2005	09:56a	<DIR>	analytics
06/09/2005	09:56a	<DIR>	channels
06/09/2005	09:56a	<DIR>	common

06/09/2005	09:56a	<DIR>	css
06/09/2005	09:56a	<DIR>	dtd
06/09/2005	09:56a	<DIR>	eanalysis
06/09/2005	09:56a	<DIR>	errors
06/09/2005	09:56a	<DIR>	filesfolders
06/09/2005	09:56a	<DIR>	help
06/09/2005	09:56a	<DIR>	images
06/09/2005	09:56a	<DIR>	js
06/09/2005	09:56a	<DIR>	logs
06/09/2005	09:56a	<DIR>	META-INF
06/09/2005	09:56a	<DIR>	newrequest
06/09/2005	09:56a	<DIR>	options
06/09/2005	09:56a	<DIR>	portlets
06/09/2005	09:56a	<DIR>	private
06/09/2005	09:56a	<DIR>	requests
06/09/2005	09:56a	<DIR>	viewer
06/09/2005	09:56a	<DIR>	WEB-INF
	0 File(s)		0 bytes

Directory of C:\Maximo\applications\activeportal\analytics

06/09/2005	09:56a	<DIR>	help
	0 File(s)		0 bytes

Directory of C:\Maximo\applications\activeportal\analytics\help

06/09/2005	09:56a	<DIR>	analytics
	0 File(s)		0 bytes

Directory of C:\Maximo\applications\activeportal\analytics\help\analytics

06/09/2005	09:56a	<DIR>	images
06/09/2005	09:56a	<DIR>	scripts
06/09/2005	09:56a	<DIR>	wwhdata
06/09/2005	09:56a	<DIR>	wwhelp
	0 File(s)		0 bytes

Directory of C:\Maximo\applications\activeportal\analytics\help\analytics\wwhdata

06/09/2005	09:56a	<DIR>	common
06/09/2005	09:56a	<DIR>	java
06/09/2005	09:56a	<DIR>	js
	0 File(s)		0 bytes

Directory of C:\Maximo\applications\activeportal\analytics\help\analytics\wwhdata\js

```
06/09/2005 09:56a <DIR> search
0 File(s) 0 bytes
```

Directory of C:\Maximo\applications\activeportal\analytics\help\analytics\wwhelp

```
06/09/2005 09:56a <DIR> images
06/09/2005 09:56a <DIR> wwimpl
0 File(s) 0 bytes
```

Directory of

C:\Maximo\applications\activeportal\analytics\help\analytics\wwhelp\wwimpl

```
06/09/2005 09:56a <DIR> common
06/09/2005 09:56a <DIR> java
06/09/2005 09:56a <DIR> js
0 File(s) 0 bytes
```

Directory of

C:\Maximo\applications\activeportal\analytics\help\analytics\wwhelp\wwimpl\common

```
06/09/2005 09:56a <DIR> html
06/09/2005 09:56a <DIR> images
06/09/2005 09:56a <DIR> private
06/09/2005 09:56a <DIR> scripts
0 File(s) 0 bytes
```

Directory of

C:\Maximo\applications\activeportal\analytics\help\analytics\wwhelp\wwimpl\java

```
06/09/2005 09:56a <DIR> html
06/09/2005 09:56a <DIR> private
06/09/2005 09:56a <DIR> scripts
0 File(s) 0 bytes
```

Directory of

C:\Maximo\applications\activeportal\analytics\help\analytics\wwhelp\wwimpl\js

```
06/09/2005 09:56a <DIR> html
06/09/2005 09:56a <DIR> images
06/09/2005 09:56a <DIR> private
06/09/2005 09:56a <DIR> scripts
0 File(s) 0 bytes
```

Directory of C:\Maximo\applications\activeportal\eanalysis

```
06/09/2005 09:56a <DIR> help
                0 File(s)      0 bytes
```

Directory of C:\Maximo\applications\activeportal\eanalysis\help

```
06/09/2005 09:56a <DIR> analysis
                0 File(s)      0 bytes
```

Directory of C:\Maximo\applications\activeportal\eanalysis\help\analysis

```
06/09/2005 09:56a <DIR> images
06/09/2005 09:56a <DIR> scripts
06/09/2005 09:56a <DIR> wwldata
06/09/2005 09:56a <DIR> wwhelp
                0 File(s)      0 bytes
```

Directory of C:\Maximo\applications\activeportal\eanalysis\help\analysis\wwldata

```
06/09/2005 09:56a <DIR> common
06/09/2005 09:56a <DIR> java
06/09/2005 09:56a <DIR> js
                0 File(s)      0 bytes
```

Directory of C:\Maximo\applications\activeportal\eanalysis\help\analysis\wwldata\js

```
06/09/2005 09:56a <DIR> search
                0 File(s)      0 bytes
```

Directory of C:\Maximo\applications\activeportal\eanalysis\help\analysis\wwhelp

```
06/09/2005 09:56a <DIR> images
06/09/2005 09:56a <DIR> wwimpl
                0 File(s)      0 bytes
```

Directory of

C:\Maximo\applications\activeportal\eanalysis\help\analysis\wwhelp\wwimpl

```
06/09/2005 09:56a <DIR> common
06/09/2005 09:56a <DIR> java
06/09/2005 09:56a <DIR> js
                0 File(s)      0 bytes
```

Directory of

C:\Maximo\applications\activeportal\eanalysis\help\analysis\wwhelp\wwimpl\common

```

06/09/2005 09:56a <DIR>    html
06/09/2005 09:56a <DIR>    images
06/09/2005 09:56a <DIR>    private
06/09/2005 09:56a <DIR>    scripts
                0 File(s)      0 bytes

```

Directory of

C:\Maximo\applications\activeportal\eanalysis\help\analysis\wwhelp\wwhimpl\java

```

06/09/2005 09:56a <DIR>    html
06/09/2005 09:56a <DIR>    private
06/09/2005 09:56a <DIR>    scripts
                0 File(s)      0 bytes

```

Directory of

C:\Maximo\applications\activeportal\eanalysis\help\analysis\wwhelp\wwhimpl\js

```

06/09/2005 09:56a <DIR>    html
06/09/2005 09:56a <DIR>    images
06/09/2005 09:56a <DIR>    private
06/09/2005 09:56a <DIR>    scripts
                0 File(s)      0 bytes

```

Directory of C:\Maximo\applications\activeportal\help

```

06/09/2005 09:56a <DIR>    api
06/09/2005 09:56a <DIR>    customizing-ap
06/09/2005 09:56a <DIR>    using-ap
06/09/2005 09:56a <DIR>    ViewingReports
06/09/2005 09:56a <DIR>    wwhelp
                0 File(s)      0 bytes

```

Directory of C:\Maximo\applications\activeportal\help\api

```

06/09/2005 09:56a <DIR>    com
                0 File(s)      0 bytes

```

Directory of C:\Maximo\applications\activeportal\help\api\com

```

06/09/2005 09:56a <DIR>    actuate
                0 File(s)      0 bytes

```

Directory of C:\Maximo\applications\activeportal\help\api\com\actuate

```

06/09/2005 09:56a <DIR>    activeportal
06/09/2005 09:56a <DIR>    schemas

```

0 File(s) 0 bytes

Directory of C:\Maximo\applications\activeportal\help\api\com\actuate\activeportal

06/09/2005 09:56a <DIR> beans
06/09/2005 09:56a <DIR> forms
06/09/2005 09:56a <DIR> list
0 File(s) 0 bytes

Directory of C:\Maximo\applications\activeportal\help\customizing-ap

06/09/2005 09:56a <DIR> images
06/09/2005 09:56a <DIR> scripts
06/09/2005 09:56a <DIR> wwldata
0 File(s) 0 bytes

Directory of C:\Maximo\applications\activeportal\help\customizing-ap\wwldata

06/09/2005 09:56a <DIR> common
06/09/2005 09:56a <DIR> java
06/09/2005 09:56a <DIR> js
0 File(s) 0 bytes

Directory of C:\Maximo\applications\activeportal\help\customizing-ap\wwldata\js

06/09/2005 09:56a <DIR> search
0 File(s) 0 bytes

Directory of C:\Maximo\applications\activeportal\help\using-ap

06/09/2005 09:56a <DIR> images
06/09/2005 09:56a <DIR> scripts
06/09/2005 09:56a <DIR> wwldata
0 File(s) 0 bytes

Directory of C:\Maximo\applications\activeportal\help\using-ap\images

06/09/2005 09:56a <DIR> .
06/09/2005 09:56a <DIR> ..
0 File(s) 0 bytes

Directory of C:\Maximo\applications\activeportal\help\using-ap\wwldata

06/09/2005 09:56a <DIR> common
06/09/2005 09:56a <DIR> java
06/09/2005 09:56a <DIR> js

0 File(s) 0 bytes

Directory of C:\Maximo\applications\activeportal\help\using-ap\wwhdata\js

06/09/2005 09:56a <DIR> search
0 File(s) 0 bytes

Directory of C:\Maximo\applications\activeportal\help\ViewingReports

06/09/2005 09:56a <DIR> images
06/09/2005 09:56a <DIR> scripts
06/09/2005 09:56a <DIR> wwhdata
0 File(s) 0 bytes

Directory of C:\Maximo\applications\activeportal\help\ViewingReports\wwhdata

06/09/2005 09:56a <DIR> common
06/09/2005 09:56a <DIR> java
06/09/2005 09:56a <DIR> js
0 File(s) 0 bytes

Directory of C:\Maximo\applications\activeportal\help\ViewingReports\wwhdata\js

06/09/2005 09:56a <DIR> search
0 File(s) 0 bytes

Directory of C:\Maximo\applications\activeportal\help\wwhelp

06/09/2005 09:56a <DIR> images
06/09/2005 09:56a <DIR> wwimpl
0 File(s) 0 bytes

Directory of C:\Maximo\applications\activeportal\help\wwhelp\wwimpl

06/09/2005 09:56a <DIR> common
06/09/2005 09:56a <DIR> java
06/09/2005 09:56a <DIR> js
0 File(s) 0 bytes

Directory of C:\Maximo\applications\activeportal\help\wwhelp\wwimpl\common

06/09/2005 09:56a <DIR> html
06/09/2005 09:56a <DIR> images
06/09/2005 09:56a <DIR> private
06/09/2005 09:56a <DIR> scripts
0 File(s) 0 bytes

Directory of C:\Maximo\applications\activeportal\help\wwhelp\wwhimpl\java

06/09/2005	09:56a	<DIR>	html
06/09/2005	09:56a	<DIR>	private
06/09/2005	09:56a	<DIR>	scripts
	0 File(s)		0 bytes

Directory of C:\Maximo\applications\activeportal\help\wwhelp\wwhimpl\js

06/09/2005	09:56a	<DIR>	html
06/09/2005	09:56a	<DIR>	images
06/09/2005	09:56a	<DIR>	private
06/09/2005	09:56a	<DIR>	scripts
	0 File(s)		0 bytes

Directory of C:\Maximo\applications\activeportal\images

06/09/2005	09:56a	<DIR>	channels
06/09/2005	09:56a	<DIR>	filetypes
06/09/2005	09:56a	<DIR>	treebrowser
06/09/2005	09:56a	<DIR>	viewer
	0 File(s)		0 bytes

Directory of C:\Maximo\applications\activeportal\portlets

06/09/2005	09:56a	<DIR>	websphereportalserver
	0 File(s)		0 bytes

Directory of C:\Maximo\applications\activeportal\private

06/09/2005	09:56a	<DIR>	channels
06/09/2005	09:56a	<DIR>	common
06/09/2005	09:56a	<DIR>	cubeviewer
06/09/2005	09:56a	<DIR>	customization
06/09/2005	09:56a	<DIR>	diagnosis
06/09/2005	09:56a	<DIR>	filesfolders
06/09/2005	09:56a	<DIR>	jobs
06/09/2005	09:56a	<DIR>	newrequest
06/09/2005	09:56a	<DIR>	options
06/09/2005	09:56a	<DIR>	parameters
06/09/2005	09:56a	<DIR>	query
06/09/2005	09:56a	<DIR>	sample
06/09/2005	09:56a	<DIR>	skins
06/09/2005	09:56a	<DIR>	templates
	0 File(s)		0 bytes

Directory of C:\Maximo\applications\activeportal\private\common

06/09/2005 09:56a <DIR> errors
 0 File(s) 0 bytes

Directory of C:\Maximo\applications\activeportal\private\filesfolders

06/09/2005 09:56a <DIR> search
 06/09/2005 09:56a <DIR> views
 0 File(s) 0 bytes

Directory of C:\Maximo\applications\activeportal\private\parameters

06/09/2005 09:56a <DIR> table
 0 File(s) 0 bytes

Directory of C:\Maximo\applications\activeportal\private\skins

06/09/2005 09:56a <DIR> classic
 06/09/2005 09:56a <DIR> MaximoClassic
 06/09/2005 09:56a <DIR> tabbed
 06/09/2005 09:56a <DIR> treeview
 0 File(s) 0 bytes

Directory of C:\Maximo\applications\activeportal\private\skins\classic

06/09/2005 09:56a <DIR> common
 06/09/2005 09:56a <DIR> css
 06/09/2005 09:56a <DIR> images
 06/09/2005 09:56a <DIR> query
 06/09/2005 09:56a <DIR> templates
 0 File(s) 0 bytes

Directory of C:\Maximo\applications\activeportal\private\skins\MaximoClassic

06/09/2005 09:56a <DIR> common
 06/09/2005 09:56a <DIR> css
 06/09/2005 09:56a <DIR> images
 06/09/2005 09:56a <DIR> query
 06/09/2005 09:56a <DIR> templates
 0 File(s) 0 bytes

Directory of C:\Maximo\applications\activeportal\private\skins\tabbed

```
06/09/2005 09:56a <DIR> common
06/09/2005 09:56a <DIR> css
06/09/2005 09:56a <DIR> images
06/09/2005 09:56a <DIR> query
06/09/2005 09:56a <DIR> templates
0 File(s) 0 bytes
```

Directory of C:\Maximo\applications\activeportal\private\skins\treeview

```
06/09/2005 09:56a <DIR> common
06/09/2005 09:56a <DIR> css
06/09/2005 09:56a <DIR> images
06/09/2005 09:56a <DIR> query
06/09/2005 09:56a <DIR> templates
0 File(s) 0 bytes
```

Directory of C:\Mximo\applications\activeportal\private\skins\treeview\images

```
06/09/2005 09:56a <DIR> treebrowser
0 File(s) 0 bytes
```

Directory of C:\Maximo\applications\activeportal\viewer

```
06/09/2005 09:56a <DIR> css
06/09/2005 09:56a <DIR> images
06/09/2005 09:56a <DIR> javascript
06/09/2005 09:56a <DIR> _notes
0 File(s) 0 bytes
```

Directory of C:\Maximo\applications\activeportal\WEB-INF

```
06/09/2005 09:56a <DIR> classes
06/09/2005 09:56a <DIR> lib
0 File(s) 0 bytes
```

Directory of C:\Maximo\applications\activeportal\WEB-INF\classes

```
06/09/2005 09:56a <DIR> com
0 File(s) 0 bytes
```

Directory of C:\Maximo\applications\activeportal\WEB-INF\classes\com

```
06/09/2005 09:56a <DIR> actuate
0 File(s) 0 bytes
```

Directory of C:\Maximo\applications\activeportal\WEB-INF\classes\com\actuate

```
06/09/2005 09:56a <DIR> activeportal
06/09/2005 09:56a <DIR> ExternalText
0 File(s) 0 bytes
```

Directory of C:\Maximo\applications\activeportal\WEB-INF\classes\com\actuate\activeportal

```
06/09/2005 09:56a <DIR> resources
0 File(s) 0 bytes
```

Directory of C:\Maximo\applications\maximo

```
06/09/2005 09:56a <DIR> businessobjects
06/09/2005 09:57a <DIR> lib
06/09/2005 09:57a <DIR> maximouiweb
06/09/2005 09:58a <DIR> mboejb
06/09/2005 09:58a <DIR> mbojava
06/09/2005 09:58a <DIR> mboweb
06/09/2005 09:58a <DIR> meajmsejb
06/09/2005 09:58a <DIR> meaweb
06/09/2005 09:58a <DIR> META-INF
06/09/2005 09:58a <DIR> properties
06/09/2005 09:58a <DIR> resources
0 File(s) 0 bytes
```

Directory of C:\Maximo\applications\maximo\businessobjects

```
06/09/2005 09:56a <DIR> classes
06/09/2005 09:57a <DIR> src
0 File(s) 0 bytes
```

Directory of C:\Maximo\applications\maximo\businessobjects\classes

```
06/09/2005 09:57a <DIR> psdi
0 File(s) 0 bytes
```

Directory of C:\Maximo\applications\maximo\businessobjects\classes\psdi

```
06/09/2005 09:57a <DIR> app
06/09/2005 09:57a <DIR> common
06/09/2005 09:57a <DIR> configure
06/09/2005 09:57a <DIR> iface
06/09/2005 09:57a <DIR> mbo
06/09/2005 09:57a <DIR> mnet
```

```

06/09/2005 09:57a <DIR> security
06/09/2005 09:57a <DIR> server
06/09/2005 09:57a <DIR> txn
06/09/2005 09:57a <DIR> util
06/09/2005 09:57a <DIR> workflow
          0 File(s)          0 bytes

```

Directory of C:\Maximo\applications\maximo\businessobjects\classes\psdi\app

```

06/09/2005 09:57a <DIR> actionscfg
06/09/2005 09:57a <DIR> appsetup
06/09/2005 09:57a <DIR> asset
06/09/2005 09:57a <DIR> assetcatalog
06/09/2005 09:57a <DIR> budget
06/09/2005 09:57a <DIR> bulletinboard
06/09/2005 09:57a <DIR> calendar
06/09/2005 09:57a <DIR> common
06/09/2005 09:57a <DIR> company
06/09/2005 09:57a <DIR> compmaster
06/09/2005 09:57a <DIR> configure
06/09/2005 09:57a <DIR> contract
06/09/2005 09:57a <DIR> craft
06/09/2005 09:57a <DIR> crewtype
06/09/2005 09:57a <DIR> currency
06/09/2005 09:57a <DIR> designer
06/09/2005 09:57a <DIR> doclink
06/09/2005 09:57a <DIR> dpamadpt
06/09/2005 09:57a <DIR> dpammanu
06/09/2005 09:57a <DIR> dpamos
06/09/2005 09:57a <DIR> dpamproc
06/09/2005 09:57a <DIR> dpamsw
06/09/2005 09:57a <DIR> dpamsws
06/09/2005 09:57a <DIR> dpamswusg
06/09/2005 09:57a <DIR> dpldataset
06/09/2005 09:57a <DIR> escalation
06/09/2005 09:57a <DIR> eventresponse
06/09/2005 09:57a <DIR> faconfig
06/09/2005 09:57a <DIR> failure
06/09/2005 09:57a <DIR> financial
06/09/2005 09:57a <DIR> fusion
06/09/2005 09:56a <DIR> inbxconfig
06/09/2005 09:56a <DIR> integration
06/09/2005 09:57a <DIR> inventory
06/09/2005 09:57a <DIR> invoice
06/09/2005 09:57a <DIR> ipc
06/09/2005 09:57a <DIR> item

```

06/09/2005 09:57a	<DIR>	jobplan
06/09/2005 09:57a	<DIR>	knowledgebase
06/09/2005 09:57a	<DIR>	kpi
06/09/2005 09:57a	<DIR>	kpigconfig
06/09/2005 09:57a	<DIR>	kpilconfig
06/09/2005 09:57a	<DIR>	labor
06/09/2005 09:57a	<DIR>	location
06/09/2005 09:57a	<DIR>	masterpm
06/09/2005 09:57a	<DIR>	measurement
06/09/2005 09:57a	<DIR>	meter
06/09/2005 09:56a	<DIR>	mr
06/09/2005 09:56a	<DIR>	ndasset
06/09/2005 09:56a	<DIR>	npasset
06/09/2005 09:56a	<DIR>	person
06/09/2005 09:56a	<DIR>	persongroup
06/09/2005 09:56a	<DIR>	pm
06/09/2005 09:56a	<DIR>	po
06/09/2005 09:56a	<DIR>	pr
06/09/2005 09:56a	<DIR>	qual
06/09/2005 09:56a	<DIR>	rcncmprule
06/09/2005 09:56a	<DIR>	rcnlkrule
06/09/2005 09:56a	<DIR>	rcnresult
06/09/2005 09:56a	<DIR>	rcntskfltr
06/09/2005 09:56a	<DIR>	reconlink
06/09/2005 09:56a	<DIR>	recontask
06/09/2005 09:56a	<DIR>	report
06/09/2005 09:57a	<DIR>	rfq
06/09/2005 09:57a	<DIR>	route
06/09/2005 09:57a	<DIR>	rsconfig
06/09/2005 09:57a	<DIR>	safety
06/09/2005 09:57a	<DIR>	scconfig
06/09/2005 09:57a	<DIR>	servicecontract
06/09/2005 09:57a	<DIR>	serviceitem
06/09/2005 09:57a	<DIR>	sets
06/09/2005 09:57a	<DIR>	signature
06/09/2005 09:57a	<DIR>	site
06/09/2005 09:57a	<DIR>	sla
06/09/2005 09:57a	<DIR>	solution
06/09/2005 09:57a	<DIR>	system
06/09/2005 09:57a	<DIR>	ticket
06/09/2005 09:57a	<DIR>	tool
06/09/2005 09:57a	<DIR>	workorder
0 File(s)	0 bytes	

Directory of C:\Maximo\applications\maximo\businessobjects\classes\psdi\app\asset

06/09/2005 09:57a <DIR> virtual
0 File(s) 0 bytes

Directory of
C:\Maximo\applications\maximo\businessobjects\classes\psdi\app\assetcatalog

06/09/2005 09:57a <DIR> virtual
0 File(s) 0 bytes

Directory of C:\Maximo\applications\maximo\businessobjects\classes\psdi\app\calendar

06/09/2005 09:57a <DIR> virtual
0 File(s) 0 bytes

Directory of C:\Maximo\applications\maximo\businessobjects\classes\psdi\app\common

06/09/2005 09:57a <DIR> purchasing
06/09/2005 09:57a <DIR> receipt
06/09/2005 09:57a <DIR> virtual
0 File(s) 0 bytes

Directory of
C:\Maximo\applications\maximo\businessobjects\classes\psdi\app\common\purchasing

06/09/2005 09:57a <DIR> ecomm
0 File(s) 0 bytes

Directory of
C:\Maximo\applications\maximo\businessobjects\classes\psdi\app\common\virtual

06/09/2005 09:57a <DIR> financial
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Directory of C:\Maximo\applications\maximo\businessobjects\classes\psdi\app\configure

06/09/2005 09:57a <DIR> virtual
0 File(s) 0 bytes

Directory of C:\Maximo\applications\maximo\businessobjects\classes\psdi\app\contract

06/09/2005 09:57a <DIR> common
06/09/2005 09:57a <DIR> labor
06/09/2005 09:57a <DIR> lease
06/09/2005 09:57a <DIR> master
06/09/2005 09:57a <DIR> purch
06/09/2005 09:57a <DIR> schedule

06/09/2005 09:57a <DIR> software
 06/09/2005 09:57a <DIR> virtual
 06/09/2005 09:57a <DIR> warranty
 0 File(s) 0 bytes

Directory of C:\Maximo\applications\maximo\businessobjects\classes\psdi\app\crewtype

06/09/2005 09:57a <DIR> virtual
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Directory of C:\Maximo\applications\maximo\businessobjects\classes\psdi\app\designer

06/09/2005 09:57a <DIR> virtual
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Directory of C:\Maximo\applications\maximo\businessobjects\classes\psdi\app\doclink

06/09/2005 09:57a <DIR> virtual
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Directory of C:\Maximo\applications\maximo\businessobjects\classes\psdi\app\dpamadpt

06/09/2005 09:57a <DIR> virtual
 0 File(s) 0 bytes

Directory of

C:\Maximo\applications\maximo\businessobjects\classes\psdi\app\dpammanu

06/09/2005 09:57a <DIR> virtual
 0 File(s) 0 bytes

Directory of C:\Maximo\applications\maximo\businessobjects\classes\psdi\app\dpamos

06/09/2005 09:57a <DIR> virtual
 0 File(s) 0 bytes

Directory of C:\Maximo\applications\maximo\businessobjects\classes\psdi\app\dpamproc

06/09/2005 09:57a <DIR> virtual
 0 File(s) 0 bytes

Directory of C:\Maximo\applications\maximo\businessobjects\classes\psdi\app\dpamsw

06/09/2005 09:57a <DIR> virtual
 0 File(s) 0 bytes

Directory of C:\Maximo\applications\maximo\businessobjects\classes\psdi\app\dpldataset

06/09/2005 09:57a <DIR> virtual
0 File(s) 0 bytes

Directory of C:\Maximo\applications\maximo\businessobjects\classes\psdi\app\escalation

06/09/2005 09:57a <DIR> action
06/09/2005 09:57a <DIR> engine
0 File(s) 0 bytes

Directory of C:\Maximo\applications\maximo\businessobjects\classes\psdi\app\failure

06/09/2005 09:57a <DIR> virtual
0 File(s) 0 bytes

Directory of C:\Maximo\applications\maximo\businessobjects\classes\psdi\app\financial

06/09/2005 09:57a <DIR> virtual
0 File(s) 0 bytes

Directory of C:\Maximo\applications\maximo\businessobjects\classes\psdi\app\inventory

06/09/2005 09:57a <DIR> virtual
0 File(s) 0 bytes

Directory of C:\Maximo\applications\maximo\businessobjects\classes\psdi\app\invoice

06/09/2005 09:57a <DIR> virtual
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Directory of C:\Maximo\applications\maximo\businessobjects\classes\psdi\app\ipc

06/09/2005 09:57a <DIR> virtual
0 File(s) 0 bytes

Directory of C:\Maximo\applications\maximo\businessobjects\classes\psdi\app\item

06/09/2005 09:57a <DIR> virtual
0 File(s) 0 bytes

Directory of C:\Maximo\applications\maximo\businessobjects\classes\psdi\app\jobplan

06/09/2005 09:57a <DIR> virtual
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Directory of C:\Maximo\applications\maximo\businessobjects\classes\psdi\app\labor

06/09/2005 09:57a <DIR> virtual
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Directory of C:\Maximo\applications\maximo\businessobjects\classes\psdi\app\location

06/09/2005 09:57a <DIR> virtual
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Directory of C:\Maximo\applications\maximo\businessobjects\classes\psdi\app\masterpm

06/09/2005 09:57a <DIR> virtual
0 File(s) 0 bytes

Directory of

C:\Maximo\applications\maximo\businessobjects\classes\psdi\app\measurement

06/09/2005 09:57a <DIR> virtual
0 File(s) 0 bytes

Directory of C:\Maximo\applications\maximo\businessobjects\classes\psdi\app\mr

06/09/2005 09:56a <DIR> virtual
0 File(s) 0 bytes

Directory of C:\Maximo\applications\maximo\businessobjects\classes\psdi\app\person

06/09/2005 09:56a <DIR> virtual
0 File(s) 0 bytes

Directory of C:\Maximo\applications\maximo\businessobjects\classes\psdi\app\pm

06/09/2005 09:56a <DIR> virtual
0 File(s) 0 bytes

Directory of C:\Maximo\applications\maximo\businessobjects\classes\psdi\app\po

06/09/2005 09:56a <DIR> virtual
0 File(s) 0 bytes

Directory of C:\Maximo\applications\maximo\businessobjects\classes\psdi\app\pr

06/09/2005 09:56a <DIR> virtual
0 File(s) 0 bytes

Directory of C:\Maximo\applications\maximo\businessobjects\classes\psdi\app\qual

06/09/2005 09:56a <DIR> virtual
0 File(s) 0 bytes

Directory of C:\Maximo\applications\maximo\businessobjects\classes\psdi\app\rcntskfltr

06/09/2005 09:56a <DIR> virtual
0 File(s) 0 bytes

Directory of C:\Maximo\applications\maximo\businessobjects\classes\psdi\app\reontask

06/09/2005 09:56a <DIR> engine
0 File(s) 0 bytes

Directory of C:\Maximo\applications\maximo\businessobjects\classes\psdi\app\report

06/09/2005 09:56a <DIR> virtual
0 File(s) 0 bytes

Directory of C:\Maximo\applications\maximo\businessobjects\classes\psdi\app\rfq

06/09/2005 09:57a <DIR> virtual
0 File(s) 0 bytes

Directory of C:\Maximo\applications\maximo\businessobjects\classes\psdi\app\sconfig

06/09/2005 09:57a <DIR> virtual
0 File(s) 0 bytes

Directory of C:\Maximo\applications\maximo\businessobjects\classes\psdi\app\signature

06/09/2005 09:57a <DIR> apps
06/09/2005 09:57a <DIR> virtual
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Directory of C:\Maximo\applications\maximo\businessobjects\classes\psdi\app\sla

06/09/2005 09:57a <DIR> virtual
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Directory of C:\Maximo\applications\maximo\businessobjects\classes\psdi\app\solution

06/09/2005 09:57a <DIR> virtual

0 File(s) 0 bytes

Directory of C:\Maximo\applications\maximo\businessobjects\classes\psdi\app\system

06/09/2005 09:57a <DIR> virtual
0 File(s) 0 bytes

Directory of C:\Maximo\applications\maximo\businessobjects\classes\psdi\app\ticket

06/09/2005 09:57a <DIR> virtual
0 File(s) 0 bytes

Directory of

C:\Maximo\applications\maximo\businessobjects\classes\psdi\app\workorder

06/09/2005 09:57a <DIR> virtual
0 File(s) 0 bytes

Directory of C:\Maximo\applications\maximo\businessobjects\classes\psdi\common

06/09/2005 09:57a <DIR> action
06/09/2005 09:57a <DIR> commlog
06/09/2005 09:57a <DIR> commtmplt
06/09/2005 09:57a <DIR> dateselector
06/09/2005 09:57a <DIR> emailstner
06/09/2005 09:57a <DIR> expbuilder
06/09/2005 09:57a <DIR> parse
06/09/2005 09:57a <DIR> role
06/09/2005 09:57a <DIR> treecontrol
0 File(s) 0 bytes

Directory of

C:\Maximo\applications\maximo\businessobjects\classes\psdi\common\commtmplt

06/09/2005 09:57a <DIR> virtual
0 File(s) 0 bytes

Directory of

C:\Maximo\applications\maximo\businessobjects\classes\psdi\common\dateselector

06/09/2005 09:57a <DIR> virtual
0 File(s) 0 bytes

Directory of C:\Maximo\applications\maximo\businessobjects\classes\psdi\iface

06/09/2005 09:57a <DIR> app

```

06/09/2005 09:57a <DIR> gateway
06/09/2005 09:57a <DIR> install
06/09/2005 09:57a <DIR> internal
06/09/2005 09:57a <DIR> intertables
06/09/2005 09:57a <DIR> jms
06/09/2005 09:57a <DIR> load
06/09/2005 09:57a <DIR> mic
06/09/2005 09:57a <DIR> migexits
06/09/2005 09:57a <DIR> proc
06/09/2005 09:57a <DIR> query
06/09/2005 09:57a <DIR> router
06/09/2005 09:57a <DIR> samples
06/09/2005 09:57a <DIR> sap47
06/09/2005 09:57a <DIR> sax
06/09/2005 09:57a <DIR> util
06/09/2005 09:57a <DIR> webservices
06/09/2005 09:57a <DIR> xsl
      0 File(s)          0 bytes

```

Directory of C:\Maximo\applications\maximo\businessobjects\classes\psdi\iface\app

```

06/09/2005 09:57a <DIR> ap
06/09/2005 09:57a <DIR> asset
06/09/2005 09:57a <DIR> coa
06/09/2005 09:57a <DIR> common
06/09/2005 09:57a <DIR> company
06/09/2005 09:57a <DIR> configure
06/09/2005 09:57a <DIR> control
06/09/2005 09:57a <DIR> empact
06/09/2005 09:57a <DIR> extsystem
06/09/2005 09:57a <DIR> gl
06/09/2005 09:57a <DIR> ifaceproc
06/09/2005 09:57a <DIR> intoobject
06/09/2005 09:57a <DIR> intpoint
06/09/2005 09:57a <DIR> intrface
06/09/2005 09:57a <DIR> invbalances
06/09/2005 09:57a <DIR> inventory
06/09/2005 09:57a <DIR> invvendor
06/09/2005 09:57a <DIR> isu
06/09/2005 09:57a <DIR> item
06/09/2005 09:57a <DIR> labor
06/09/2005 09:57a <DIR> location
06/09/2005 09:57a <DIR> pc
06/09/2005 09:57a <DIR> person
06/09/2005 09:57a <DIR> po
06/09/2005 09:57a <DIR> pr

```

```

06/09/2005 09:57a <DIR> rcv
06/09/2005 09:57a <DIR> wf
06/09/2005 09:57a <DIR> wo
          0 File(s)          0 bytes

```

Directory of C:\Maximo\applications\maximo\businessobjects\classes\psdi\iface\internal

```

06/09/2005 09:57a <DIR> tools
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```

Directory of C:\Maximo\applications\maximo\businessobjects\classes\psdi\iface\sap47

```

06/09/2005 09:57a <DIR> install
          0 File(s)          0 bytes

```

Directory of

C:\Maximo\applications\maximo\businessobjects\classes\psdi\iface\sap47\install

```

06/09/2005 09:57a <DIR> de
06/09/2005 09:57a <DIR> en
06/09/2005 09:57a <DIR> es
06/09/2005 09:57a <DIR> fr
06/09/2005 09:57a <DIR> it
06/09/2005 09:57a <DIR> ja
06/09/2005 09:57a <DIR> ko
06/09/2005 09:57a <DIR> nl
06/09/2005 09:57a <DIR> pt
06/09/2005 09:57a <DIR> sv
06/09/2005 09:57a <DIR> zh
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```

Directory of C:\Maximo\applications\maximo\businessobjects\classes\psdi\mbo

```

06/09/2005 09:57a <DIR> custapp
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```

Directory of C:\Maximo\applications\maximo\businessobjects\classes\psdi\security

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06/09/2005 09:57a <DIR> ldap
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```

Directory of C:\Maximo\applications\maximo\businessobjects\classes\psdi\security\ldap

```

06/09/2005 09:57a <DIR> ads
06/09/2005 09:57a <DIR> nds
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```

Directory of C:\Maximo\applications\maximo\businessobjects\classes\psdi\server

06/09/2005 09:57a <DIR> event
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Directory of C:\Maximo\applications\maximo\businessobjects\classes\psdi\util

06/09/2005 09:57a <DIR> logging
0 File(s) 0 bytes

Directory of C:\Maximo\applications\maximo\businessobjects\classes\psdi\workflow

06/09/2005 09:57a <DIR> diagram
06/09/2005 09:57a <DIR> resources
06/09/2005 09:57a <DIR> util
06/09/2005 09:57a <DIR> virtual
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Directory of C:\Maximo\applications\maximo\businessobjects\src

06/09/2005 09:57a <DIR> psdi
0 File(s) 0 bytes

Directory of C:\Maximo\applications\maximo\businessobjects\src\psdi

06/09/2005 09:57a <DIR> iface
0 File(s) 0 bytes

Directory of C:\Maximo\applications\maximo\businessobjects\src\psdi\iface

06/09/2005 09:57a <DIR> samples
0 File(s) 0 bytes

Directory of C:\Maximo\applications\maximo\maximouiweb

06/09/2005 09:57a <DIR> webmodule
0 File(s) 0 bytes

Directory of C:\Maximo\applications\maximo\maximouiweb\webmodule

06/09/2005 09:57a <DIR> META-INF
06/09/2005 09:57a <DIR> WEB-INF
06/09/2005 09:58a <DIR> webclient
0 File(s) 0 bytes

Directory of C:\Maximo\applications\maximo\maximouiweb\webmodule\WEB-INF

```

06/09/2005 09:57a <DIR> classes
06/09/2005 09:57a <DIR> lib
06/09/2005 09:57a <DIR> taglibs
          0 File(s)          0 bytes

```

Directory of C:\Maximo\applications\maximo\maximouiweb\webmodule\WEB-INF\classes

```

06/09/2005 09:57a <DIR> psdi
          0 File(s)          0 bytes

```

Directory of C:\Maximo\applications\maximo\maximouiweb\webmodule\WEB-INF\classes\psdi

```

06/09/2005 09:57a <DIR> webclient
          0 File(s)          0 bytes

```

Directory of C:\Maximo\applications\maximo\maximouiweb\webmodule\WEB-INF\classes\psdi\webclient

```

06/09/2005 09:57a <DIR> applet
06/09/2005 09:57a <DIR> beans
06/09/2005 09:57a <DIR> servlet
06/09/2005 09:57a <DIR> system
          0 File(s)          0 bytes

```

Directory of C:\Maximo\applications\maximo\maximouiweb\webmodule\WEB-INF\classes\psdi\webclient\applet

```

06/09/2005 09:57a <DIR> wfcanvas
          0 File(s)          0 bytes

```

Directory of C:\Maximo\applications\maximo\maximouiweb\webmodule\WEB-INF\classes\psdi\webclient\applet\wfcanvas

```

06/09/2005 09:57a <DIR> applet
06/09/2005 09:57a <DIR> diagram
06/09/2005 09:57a <DIR> editor
06/09/2005 09:57a <DIR> util
          0 File(s)          0 bytes

```

Directory of C:\Maximo\applications\maximo\maximouiweb\webmodule\WEB-INF\classes\psdi\webclient\applet\wfcanvas\diagram

```

06/09/2005 09:57a <DIR> dnd
06/09/2005 09:57a <DIR> editable
0 File(s) 0 bytes

```

Directory of C:\Maximo\applications\maximo\maximouiweb\webmodule\WEB-INF\classes\psdi\webclient\beans

```

06/09/2005 09:57a <DIR> action
06/09/2005 09:57a <DIR> actionscfg
06/09/2005 09:57a <DIR> asset
06/09/2005 09:57a <DIR> assetcat
06/09/2005 09:57a <DIR> bboard
06/09/2005 09:57a <DIR> calendar
06/09/2005 09:57a <DIR> chrtacct
06/09/2005 09:57a <DIR> common
06/09/2005 09:57a <DIR> commtmplt
06/09/2005 09:57a <DIR> company
06/09/2005 09:57a <DIR> compmaster
06/09/2005 09:57a <DIR> condcode
06/09/2005 09:57a <DIR> configur
06/09/2005 09:57a <DIR> contlabor
06/09/2005 09:57a <DIR> contlease
06/09/2005 09:57a <DIR> contmaster
06/09/2005 09:57a <DIR> contpurch
06/09/2005 09:57a <DIR> contwarranty
06/09/2005 09:57a <DIR> craft
06/09/2005 09:57a <DIR> crontask
06/09/2005 09:57a <DIR> designer
06/09/2005 09:57a <DIR> desktopreq
06/09/2005 09:57a <DIR> doclinks
06/09/2005 09:57a <DIR> domain
06/09/2005 09:57a <DIR> ecommadapt
06/09/2005 09:57a <DIR> emailstner
06/09/2005 09:57a <DIR> escalation
06/09/2005 09:57a <DIR> exchange
06/09/2005 09:57a <DIR> extsystem
06/09/2005 09:57a <DIR> faconfig
06/09/2005 09:57a <DIR> failure
06/09/2005 09:57a <DIR> fincntrl
06/09/2005 09:57a <DIR> inbxconfig
06/09/2005 09:57a <DIR> intobject
06/09/2005 09:57a <DIR> intrface
06/09/2005 09:57a <DIR> inventory
06/09/2005 09:57a <DIR> invissue
06/09/2005 09:57a <DIR> invoice
06/09/2005 09:57a <DIR> item

```

06/09/2005	09:57a	<DIR>	jobplan
06/09/2005	09:57a	<DIR>	kpi
06/09/2005	09:57a	<DIR>	kpigconfig
06/09/2005	09:57a	<DIR>	kpilconfig
06/09/2005	09:57a	<DIR>	labor
06/09/2005	09:57a	<DIR>	labrep
06/09/2005	09:57a	<DIR>	location
06/09/2005	09:57a	<DIR>	masterpm
06/09/2005	09:57a	<DIR>	meter
06/09/2005	09:57a	<DIR>	multisite
06/09/2005	09:57a	<DIR>	person
06/09/2005	09:57a	<DIR>	pm
06/09/2005	09:57a	<DIR>	po
06/09/2005	09:57a	<DIR>	pr
06/09/2005	09:57a	<DIR>	qual
06/09/2005	09:57a	<DIR>	receipts
06/09/2005	09:57a	<DIR>	reconlink
06/09/2005	09:57a	<DIR>	report
06/09/2005	09:57a	<DIR>	rfq
06/09/2005	09:57a	<DIR>	role
06/09/2005	09:57a	<DIR>	rsconfig
06/09/2005	09:57a	<DIR>	safeplan
06/09/2005	09:57a	<DIR>	scconfig
06/09/2005	09:57a	<DIR>	securgroup
06/09/2005	09:57a	<DIR>	servicedesk
06/09/2005	09:57a	<DIR>	signature
06/09/2005	09:57a	<DIR>	sla
06/09/2005	09:57a	<DIR>	srvcommod
06/09/2005	09:57a	<DIR>	srvitem
06/09/2005	09:57a	<DIR>	startcntr
06/09/2005	09:57a	<DIR>	storeroom
06/09/2005	09:57a	<DIR>	toolinv
06/09/2005	09:57a	<DIR>	user
06/09/2005	09:57a	<DIR>	wfdesign
06/09/2005	09:57a	<DIR>	workman
06/09/2005	09:57a	<DIR>	workorder
0 File(s)		0 bytes	

Directory of C:\Maximo\applications\maximo\maximouiweb\webmodule\WEB-INF\classes\psdi\webclient\system

06/09/2005	09:57a	<DIR>	beans
06/09/2005	09:57a	<DIR>	controller
06/09/2005	09:57a	<DIR>	filter
06/09/2005	09:57a	<DIR>	tags
06/09/2005	09:57a	<DIR>	websession

0 File(s) 0 bytes

Directory of C:\Maximo\applications\maximo\maximouiweb\webmodule\webclient

```
06/09/2005 09:57a <DIR> common
06/09/2005 09:57a <DIR> controls
06/09/2005 09:57a <DIR> css
06/09/2005 09:58a <DIR> images
06/09/2005 09:58a <DIR> javascript
06/09/2005 09:58a <DIR> login
06/09/2005 09:58a <DIR> shared
06/09/2005 09:58a <DIR> utility
```

0 File(s) 0 bytes

Directory of

C:\Maximo\applications\maximo\maximouiweb\webmodule\webclient\controls

```
06/09/2005 09:57a <DIR> action
06/09/2005 09:57a <DIR> actiontree
06/09/2005 09:57a <DIR> appbar
06/09/2005 09:57a <DIR> aptree
06/09/2005 09:57a <DIR> attachdoc
06/09/2005 09:57a <DIR> attachments
06/09/2005 09:57a <DIR> bboardpopup
06/09/2005 09:57a <DIR> blankline
06/09/2005 09:57a <DIR> buttongroup
06/09/2005 09:57a <DIR> calendar
06/09/2005 09:57a <DIR> checkbox
06/09/2005 09:57a <DIR> clientarea
06/09/2005 09:57a <DIR> combobox
06/09/2005 09:57a <DIR> controlcontainer
06/09/2005 09:57a <DIR> datasrc
06/09/2005 09:57a <DIR> defaultvalue
06/09/2005 09:57a <DIR> designer_applications
06/09/2005 09:57a <DIR> designer_canvas
06/09/2005 09:57a <DIR> designer_toolbox
06/09/2005 09:57a <DIR> dialog
06/09/2005 09:57a <DIR> displayrule
06/09/2005 09:57a <DIR> doclinkuploadbutton
06/09/2005 09:57a <DIR> dynamictoolbar
06/09/2005 09:57a <DIR> ecommframe
06/09/2005 09:57a <DIR> exact
06/09/2005 09:57a <DIR> expbutton
06/09/2005 09:57a <DIR> fieldhelp
06/09/2005 09:57a <DIR> footer
06/09/2005 09:57a <DIR> gauge
```

06/09/2005	09:57a	<DIR>	glnavigator
06/09/2005	09:57a	<DIR>	header
06/09/2005	09:57a	<DIR>	helpgrid
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06/09/2005	09:57a	<DIR>	longdescription
06/09/2005	09:57a	<DIR>	longop
06/09/2005	09:57a	<DIR>	lookup
06/09/2005	09:57a	<DIR>	menu
06/09/2005	09:57a	<DIR>	menubar
06/09/2005	09:57a	<DIR>	menuItem
06/09/2005	09:57a	<DIR>	messagebox
06/09/2005	09:57a	<DIR>	moveable
06/09/2005	09:57a	<DIR>	moveablewindow
06/09/2005	09:57a	<DIR>	multicolumnlabel
06/09/2005	09:57a	<DIR>	multilinetextbox
06/09/2005	09:57a	<DIR>	multiparttextbox
06/09/2005	09:57a	<DIR>	page
06/09/2005	09:57a	<DIR>	paramvalue
06/09/2005	09:57a	<DIR>	paramvalues
06/09/2005	09:57a	<DIR>	performancelink
06/09/2005	09:57a	<DIR>	popup
06/09/2005	09:57a	<DIR>	presentation
06/09/2005	09:57a	<DIR>	printattachdocs
06/09/2005	09:57a	<DIR>	pushbutton
06/09/2005	09:57a	<DIR>	quicksearch
06/09/2005	09:57a	<DIR>	radiobutton
06/09/2005	09:57a	<DIR>	radiobuttongroup
06/09/2005	09:57a	<DIR>	range
06/09/2005	09:57a	<DIR>	reasonchange
06/09/2005	09:57a	<DIR>	reportbutton
06/09/2005	09:57a	<DIR>	section
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06/09/2005	09:57a	<DIR>	sectionheader
06/09/2005	09:57a	<DIR>	sectionrow
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06/09/2005	09:57a	<DIR>	statictext
06/09/2005	09:57a	<DIR>	systemlib
06/09/2005	09:57a	<DIR>	systemprop
06/09/2005	09:57a	<DIR>	tab

06/09/2005	09:57a	<DIR>	tabgroup
06/09/2005	09:57a	<DIR>	table
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06/09/2005	09:57a	<DIR>	tablecol
06/09/2005	09:57a	<DIR>	tabledetails
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06/09/2005	09:57a	<DIR>	titlebar
06/09/2005	09:57a	<DIR>	toolbar
06/09/2005	09:57a	<DIR>	toolbaractions
06/09/2005	09:57a	<DIR>	toolbarbutton
06/09/2005	09:57a	<DIR>	toolbarcombobox
06/09/2005	09:57a	<DIR>	toolbarsection
06/09/2005	09:57a	<DIR>	toolbarsep
06/09/2005	09:57a	<DIR>	tree
06/09/2005	09:57a	<DIR>	treeattribute
06/09/2005	09:57a	<DIR>	treeexp
06/09/2005	09:57a	<DIR>	treenode
06/09/2005	09:57a	<DIR>	wallcalendar
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06/09/2005	09:57a	<DIR>	whereclause
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Directory of

C:\Maximo\applications\maximo\maximouiweb\webmodule\webclient\controls\startcenter

06/09/2005	09:57a	<DIR>	portletheaders
06/09/2005	09:57a	<DIR>	portlets
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Directory of

C:\Maximo\applications\maximo\maximouiweb\webmodule\webclient\images

06/09/2005	09:58a	<DIR>	alternate
06/09/2005	09:58a	<DIR>	designer
06/09/2005	09:58a	<DIR>	gauges
06/09/2005	09:58a	<DIR>	workflow
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Directory of C:\Maximo\applications\maximo\maximouiweb\webmodule\webclient\login

06/09/2005	09:58a	<DIR>	css
06/09/2005	09:58a	<DIR>	images
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Directory of

C:\Maximo\applications\maximo\maximouiweb\webmodule\webclient\utility

06/09/2005 09:58a <DIR> profiler
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Directory of C:\Maximo\applications\maximo\mboejb

06/09/2005 09:58a <DIR> ejbmodule
 0 File(s) 0 bytes

Directory of C:\Maximo\applications\maximo\mboejb\ejbmodule

06/09/2005 09:58a <DIR> META-INF
 06/09/2005 09:58a <DIR> psdi
 0 File(s) 0 bytes

Directory of C:\Maximo\applications\maximo\mboejb\ejbmodule\psdi

06/09/2005 09:58a <DIR> iface
 06/09/2005 09:58a <DIR> security
 0 File(s) 0 bytes

Directory of C:\Maximo\applications\maximo\mboejb\ejbmodule\psdi\iface

06/09/2005 09:58a <DIR> gateway
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Directory of C:\Maximo\applications\maximo\mboejb\ejbmodule\psdi\security

06/09/2005 09:58a <DIR> ejb
 0 File(s) 0 bytes

Directory of C:\Maximo\applications\maximo\mbojava

06/09/2005 09:58a <DIR> javamodule
 0 File(s) 0 bytes

Directory of C:\Maximo\applications\maximo\mbojava\javamodule

06/09/2005 09:58a <DIR> META-INF
 06/09/2005 09:58a <DIR> psdi
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Directory of C:\Maximo\applications\maximo\mbojava\javamodule\psdi

06/09/2005 09:58a <DIR> client
0 File(s) 0 bytes

Directory of C:\Maximo\applications\maximo\mboweb

06/09/2005 09:58a <DIR> webmodule
0 File(s) 0 bytes

Directory of C:\Maximo\applications\maximo\mboweb\webmodule

06/09/2005 09:58a <DIR> META-INF
06/09/2005 09:58a <DIR> WEB-INF
0 File(s) 0 bytes

Directory of C:\Maximo\applications\maximo\mboweb\webmodule\WEB-INF

06/09/2005 09:58a <DIR> classes
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Directory of C:\Maximo\applications\maximo\mboweb\webmodule\WEB-INF\classes

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06/09/2005 09:58a <DIR> servlet
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Directory of C:\Maximo\applications\maximo\meajmsejb

06/09/2005 09:58a <DIR> ejbmodule
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Directory of C:\Maximo\applications\maximo\meaweb

06/09/2005 09:58a <DIR> webmodule
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Directory of C:\Maximo\applications\maximo\meaweb\webmodule

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06/09/2005 09:58a <DIR> psdi
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Directory of C:\Maximo\applications\maximo\meaweb\webmodule\WEB-INF\classes\psdi

06/09/2005 09:58a <DIR> iface
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Directory of C:\Maximo\applications\maximo\meaweb\webmodule\WEB-INF\classes\psdi\iface

06/09/2005 09:58a <DIR> servlet
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Directory of C:\Maximo\applications\maximo\resources

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Directory of C:\Maximo\applications\maximo\resources\resources

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06/09/2005 09:58a <DIR> images
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Directory of C:\Maximo\applications\maximo\resources\resources\defaults\dictionaries

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06/09/2005 09:58a <DIR> NL
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06/09/2005 09:58a <DIR> PT
06/09/2005 09:58a <DIR> SV
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Directory of C:\Maximo\applications\maximohelp

06/09/2005 09:58a <DIR> helpweb
06/09/2005 10:03a <DIR> META-INF
0 File(s) 0 bytes

Directory of C:\Maximo\applications\maximohelp\helpweb

06/09/2005 09:58a <DIR> webmodule
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Directory of C:\Maximo\applications\maximohelp\helpweb\webmodule

06/09/2005 10:03a <DIR> en
06/09/2005 10:03a <DIR> WEB-INF
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Directory of C:\Maximo\applications\maximohelp\helpweb\webmodule\en

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06/09/2005	10:03a	<DIR>	whdata
06/09/2005	10:03a	<DIR>	whgdata
06/09/2005	09:58a	<DIR>	whxdata
	0 File(s)		0 bytes

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects

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06/09/2005	10:02a	<DIR>	activity
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06/09/2005	10:02a	<DIR>	assetcat
06/09/2005	10:02a	<DIR>	bboard
06/09/2005	10:02a	<DIR>	calendr
06/09/2005	10:02a	<DIR>	change
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06/09/2005	10:02a	<DIR>	chrtacct
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06/09/2005	10:01a	<DIR>	dpamswusg
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06/09/2005	10:01a	<DIR>	emailstner
06/09/2005	10:01a	<DIR>	escalation
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06/09/2005	10:01a	<DIR>	extsystem
06/09/2005	10:01a	<DIR>	faconfig
06/09/2005	10:01a	<DIR>	failure
06/09/2005	10:01a	<DIR>	fincntrl
06/09/2005	10:01a	<DIR>	hazards
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06/09/2005	10:01a	<DIR>	incident
06/09/2005	10:01a	<DIR>	interface
06/09/2005	10:00a	<DIR>	intobject
06/09/2005	10:00a	<DIR>	inventor
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06/09/2005	09:59a	<DIR>	ndasset
06/09/2005	09:59a	<DIR>	npasset
06/09/2005	09:59a	<DIR>	person
06/09/2005	09:59a	<DIR>	persongr
06/09/2005	09:59a	<DIR>	pm
06/09/2005	09:59a	<DIR>	po
06/09/2005	09:59a	<DIR>	pr
06/09/2005	09:59a	<DIR>	precautn
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06/09/2005	09:59a	<DIR>	qual
06/09/2005	09:59a	<DIR>	quickrep
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06/09/2005 09:59a	<DIR>	receipts
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06/09/2005 09:59a	<DIR>	report
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06/09/2005 10:00a	<DIR>	securgroup
06/09/2005 10:00a	<DIR>	selfreg
06/09/2005 09:58a	<DIR>	sets
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06/09/2005 09:58a	<DIR>	srvcommod
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06/09/2005 09:58a	<DIR>	startcntr
06/09/2005 09:58a	<DIR>	storeroom
06/09/2005 09:58a	<DIR>	system
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06/09/2005 09:58a	<DIR>	taglocks
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06/09/2005 09:58a	<DIR>	toolinv
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06/09/2005 10:03a	<DIR>	user
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06/09/2005 10:03a	<DIR>	viewdrft
06/09/2005 10:03a	<DIR>	viewsr
06/09/2005 10:03a	<DIR>	viewtml
06/09/2005 10:03a	<DIR>	wfadmin
06/09/2005 10:03a	<DIR>	wfdesign
06/09/2005 10:03a	<DIR>	wfinbox
06/09/2005 10:03a	<DIR>	workman
06/09/2005 10:03a	<DIR>	workview
06/09/2005 10:03a	<DIR>	wotrack

0 File(s) 0 bytes

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\action

```
06/09/2005 10:02a <DIR> action
06/09/2005 10:02a <DIR> image
06/09/2005 10:02a <DIR> whdata
06/09/2005 10:02a <DIR> whgdata
06/09/2005 10:02a <DIR> whxdata
0 File(s) 0 bytes
```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\actionscfg

```
06/09/2005 10:02a <DIR> actionscfg
06/09/2005 10:02a <DIR> image
06/09/2005 10:02a <DIR> whdata
06/09/2005 10:02a <DIR> whgdata
06/09/2005 10:02a <DIR> whxdata
0 File(s) 0 bytes
```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\activity

```
06/09/2005 10:02a <DIR> activity
06/09/2005 10:02a <DIR> image
06/09/2005 10:02a <DIR> whdata
06/09/2005 10:02a <DIR> whgdata
06/09/2005 10:02a <DIR> whxdata
0 File(s) 0 bytes
```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\asset

```
06/09/2005 10:02a <DIR> asset
06/09/2005 10:02a <DIR> image
06/09/2005 10:02a <DIR> whdata
06/09/2005 10:02a <DIR> whgdata
06/09/2005 10:02a <DIR> whxdata
0 File(s) 0 bytes
```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\assetcat

```
06/09/2005 10:02a <DIR> assetcat
06/09/2005 10:02a <DIR> image
06/09/2005 10:02a <DIR> whdata
06/09/2005 10:02a <DIR> whgdata
06/09/2005 10:02a <DIR> whxdata
```

0 File(s) 0 bytes

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\bboard

06/09/2005	10:02a	<DIR>	bboard
06/09/2005	10:02a	<DIR>	image
06/09/2005	10:02a	<DIR>	whdata
06/09/2005	10:02a	<DIR>	whgdata
06/09/2005	10:02a	<DIR>	whxdata

0 File(s) 0 bytes

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\calendr

06/09/2005	10:02a	<DIR>	calendr
06/09/2005	10:02a	<DIR>	image
06/09/2005	10:02a	<DIR>	whdata
06/09/2005	10:02a	<DIR>	whgdata
06/09/2005	10:02a	<DIR>	whxdata

0 File(s) 0 bytes

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\change

06/09/2005	10:02a	<DIR>	activity
06/09/2005	10:02a	<DIR>	change
06/09/2005	10:02a	<DIR>	image
06/09/2005	10:02a	<DIR>	whdata
06/09/2005	10:02a	<DIR>	whgdata
06/09/2005	10:02a	<DIR>	whxdata

0 File(s) 0 bytes

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\changepswd

06/09/2005	10:02a	<DIR>	changepswd
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06/09/2005	10:02a	<DIR>	whdata
06/09/2005	10:02a	<DIR>	whgdata
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0 File(s) 0 bytes

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\chrtacct

```

06/09/2005 10:02a <DIR> chrtacct
06/09/2005 10:02a <DIR> image
06/09/2005 10:02a <DIR> whdata
06/09/2005 10:02a <DIR> whgdata
06/09/2005 10:02a <DIR> whxdata

```

```

0 File(s)      0 bytes

```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\common

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06/09/2005 10:02a <DIR> assetcatalog
06/09/2005 10:02a <DIR> changesite
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06/09/2005 10:02a <DIR> ecatalog
06/09/2005 10:02a <DIR> itemavail
06/09/2005 10:02a <DIR> linkdocs
06/09/2005 10:02a <DIR> lookup
06/09/2005 10:02a <DIR> moveeq
06/09/2005 10:02a <DIR> purchasing
06/09/2005 10:02a <DIR> spareparts
06/09/2005 10:02a <DIR> system
06/09/2005 10:02a <DIR> wopms
06/09/2005 10:02a <DIR> workflow

```

```

0 File(s)      0 bytes

```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\commtmplt

```

06/09/2005 10:02a <DIR> commtmplt
06/09/2005 10:02a <DIR> image
06/09/2005 10:02a <DIR> whdata
06/09/2005 10:02a <DIR> whgdata
06/09/2005 10:02a <DIR> whxdata

```

```

0 File(s)      0 bytes

```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\company

```

06/09/2005 10:02a <DIR> company
06/09/2005 10:02a <DIR> image
06/09/2005 10:02a <DIR> whdata
06/09/2005 10:02a <DIR> whgdata
06/09/2005 10:02a <DIR> whxdata

```

```

0 File(s)      0 bytes

```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\compmaster

```
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06/09/2005 10:02a <DIR> image
06/09/2005 10:02a <DIR> whdata
06/09/2005 10:02a <DIR> whgdata
06/09/2005 10:02a <DIR> whxdata
0 File(s) 0 bytes
```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\cond

```
06/09/2005 10:02a <DIR> cond
06/09/2005 10:02a <DIR> image
06/09/2005 10:02a <DIR> whdata
06/09/2005 10:02a <DIR> whgdata
06/09/2005 10:02a <DIR> whxdata
0 File(s) 0 bytes
```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\condcode

```
06/09/2005 10:02a <DIR> condcode
06/09/2005 10:02a <DIR> image
06/09/2005 10:02a <DIR> whdata
06/09/2005 10:02a <DIR> whgdata
06/09/2005 10:02a <DIR> whxdata
0 File(s) 0 bytes
```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\configur

```
06/09/2005 10:02a <DIR> configur
06/09/2005 10:02a <DIR> image
06/09/2005 10:02a <DIR> whdata
06/09/2005 10:02a <DIR> whgdata
06/09/2005 10:02a <DIR> whxdata
0 File(s) 0 bytes
```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\contlabor

```
06/09/2005 10:02a <DIR>    contlabor
06/09/2005 10:02a <DIR>    image
06/09/2005 10:02a <DIR>    whdata
06/09/2005 10:02a <DIR>    whgdata
06/09/2005 10:02a <DIR>    whxdata
          0 File(s)      0 bytes
```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\contlease

```
06/09/2005 10:01a <DIR>    contlease
06/09/2005 10:01a <DIR>    image
06/09/2005 10:01a <DIR>    whdata
06/09/2005 10:01a <DIR>    whgdata
06/09/2005 10:01a <DIR>    whxdata
          0 File(s)      0 bytes
```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\contmaster

```
06/09/2005 10:01a <DIR>    contmaster
06/09/2005 10:01a <DIR>    image
06/09/2005 10:01a <DIR>    whdata
06/09/2005 10:01a <DIR>    whgdata
06/09/2005 10:01a <DIR>    whxdata
          0 File(s)      0 bytes
```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\contpurch

```
06/09/2005 10:01a <DIR>    contpurch
06/09/2005 10:01a <DIR>    image
06/09/2005 10:01a <DIR>    whdata
06/09/2005 10:01a <DIR>    whgdata
06/09/2005 10:01a <DIR>    whxdata
          0 File(s)      0 bytes
```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\contwarry

```
06/09/2005 10:01a <DIR>    contwarry
06/09/2005 10:01a <DIR>    image
06/09/2005 10:01a <DIR>    whdata
06/09/2005 10:01a <DIR>    whgdata
06/09/2005 10:01a <DIR>    whxdata
```

0 File(s) 0 bytes

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\craft

06/09/2005	10:01a	<DIR>	craft
06/09/2005	10:01a	<DIR>	image
06/09/2005	10:01a	<DIR>	whdata
06/09/2005	10:01a	<DIR>	whgdata
06/09/2005	10:01a	<DIR>	whxdata

0 File(s) 0 bytes

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\createdr

06/09/2005	10:01a	<DIR>	createdr
06/09/2005	10:01a	<DIR>	image
06/09/2005	10:01a	<DIR>	whdata
06/09/2005	10:01a	<DIR>	whgdata
06/09/2005	10:01a	<DIR>	whxdata

0 File(s) 0 bytes

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\createsr

06/09/2005	10:01a	<DIR>	createsr
06/09/2005	10:01a	<DIR>	image
06/09/2005	10:01a	<DIR>	whdata
06/09/2005	10:01a	<DIR>	whgdata
06/09/2005	10:01a	<DIR>	whxdata

0 File(s) 0 bytes

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\crontask

06/09/2005	10:01a	<DIR>	crontask
06/09/2005	10:01a	<DIR>	image
06/09/2005	10:01a	<DIR>	whdata
06/09/2005	10:01a	<DIR>	whgdata
06/09/2005	10:01a	<DIR>	whxdata

0 File(s) 0 bytes

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\currency

```
06/09/2005 10:01a <DIR>    currency
06/09/2005 10:01a <DIR>    image
06/09/2005 10:01a <DIR>    whdata
06/09/2005 10:01a <DIR>    whgdata
06/09/2005 10:01a <DIR>    whxdata
                0 File(s)      0 bytes
```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\designer

```
06/09/2005 10:01a <DIR>    designer
06/09/2005 10:01a <DIR>    image
06/09/2005 10:01a <DIR>    whdata
06/09/2005 10:01a <DIR>    whgdata
06/09/2005 10:01a <DIR>    whxdata
                0 File(s)      0 bytes
```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\domainadm

```
06/09/2005 10:02a <DIR>    domainadm
06/09/2005 10:02a <DIR>    image
06/09/2005 10:02a <DIR>    whdata
06/09/2005 10:02a <DIR>    whgdata
06/09/2005 10:02a <DIR>    whxdata
                0 File(s)      0 bytes
```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\dpamadpt

```
06/09/2005 10:02a <DIR>    dpamadpt
06/09/2005 10:02a <DIR>    image
06/09/2005 10:02a <DIR>    whdata
06/09/2005 10:02a <DIR>    whgdata
06/09/2005 10:02a <DIR>    whxdata
                0 File(s)      0 bytes
```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\dpammanu

```
06/09/2005 10:02a <DIR>    dpammanu
06/09/2005 10:02a <DIR>    image
06/09/2005 10:02a <DIR>    whdata
```

```

06/09/2005 10:02a <DIR> whgdata
06/09/2005 10:02a <DIR> whxdata
0 File(s) 0 bytes

```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\dpamos

```

06/09/2005 10:02a <DIR> dpamos
06/09/2005 10:02a <DIR> image
06/09/2005 10:02a <DIR> whdata
06/09/2005 10:02a <DIR> whgdata
06/09/2005 10:02a <DIR> whxdata
0 File(s) 0 bytes

```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\dpamproc

```

06/09/2005 10:02a <DIR> dpamproc
06/09/2005 10:02a <DIR> image
06/09/2005 10:02a <DIR> whdata
06/09/2005 10:02a <DIR> whgdata
06/09/2005 10:02a <DIR> whxdata
0 File(s) 0 bytes

```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\dpamsw

```

06/09/2005 10:02a <DIR> dpamsw
06/09/2005 10:02a <DIR> image
06/09/2005 10:02a <DIR> whdata
06/09/2005 10:02a <DIR> whgdata
06/09/2005 10:02a <DIR> whxdata
0 File(s) 0 bytes

```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\dpamsws

```

06/09/2005 10:01a <DIR> dpamsws
06/09/2005 10:01a <DIR> image
06/09/2005 10:01a <DIR> whdata
06/09/2005 10:01a <DIR> whgdata
06/09/2005 10:01a <DIR> whxdata
0 File(s) 0 bytes

```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\dpamswusg

06/09/2005	10:01a	<DIR>	dpamswusg
06/09/2005	10:01a	<DIR>	image
06/09/2005	10:01a	<DIR>	whdata
06/09/2005	10:01a	<DIR>	whgdata
06/09/2005	10:01a	<DIR>	whxdata
	0 File(s)	0 bytes	

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\dpldasset

06/09/2005	10:01a	<DIR>	dpldasset
06/09/2005	10:01a	<DIR>	image
06/09/2005	10:01a	<DIR>	whdata
06/09/2005	10:01a	<DIR>	whgdata
06/09/2005	10:01a	<DIR>	whxdata
	0 File(s)	0 bytes	

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\emailstner

06/09/2005	10:01a	<DIR>	emailstner
06/09/2005	10:01a	<DIR>	image
06/09/2005	10:01a	<DIR>	whdata
06/09/2005	10:01a	<DIR>	whgdata
06/09/2005	10:01a	<DIR>	whxdata
	0 File(s)	0 bytes	

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\escalation

06/09/2005	10:01a	<DIR>	escalation
06/09/2005	10:01a	<DIR>	image
06/09/2005	10:01a	<DIR>	whdata
06/09/2005	10:01a	<DIR>	whgdata
06/09/2005	10:01a	<DIR>	whxdata
	0 File(s)	0 bytes	

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\exchange

06/09/2005	10:01a	<DIR>	exchange
06/09/2005	10:01a	<DIR>	image

```

06/09/2005 10:01a <DIR> whdata
06/09/2005 10:01a <DIR> whgdata
06/09/2005 10:01a <DIR> whxdata
0 File(s) 0 bytes

```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\extsystem

```

06/09/2005 10:01a <DIR> extsystem
06/09/2005 10:01a <DIR> image
06/09/2005 10:01a <DIR> whdata
06/09/2005 10:01a <DIR> whgdata
06/09/2005 10:01a <DIR> whxdata
0 File(s) 0 bytes

```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\faconfig

```

06/09/2005 10:01a <DIR> faconfig
06/09/2005 10:01a <DIR> image
06/09/2005 10:01a <DIR> whdata
06/09/2005 10:01a <DIR> whgdata
06/09/2005 10:01a <DIR> whxdata
0 File(s) 0 bytes

```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\failure

```

06/09/2005 10:01a <DIR> failure
06/09/2005 10:01a <DIR> image
06/09/2005 10:01a <DIR> whdata
06/09/2005 10:01a <DIR> whgdata
06/09/2005 10:01a <DIR> whxdata
0 File(s) 0 bytes

```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\finctrl

```

06/09/2005 10:01a <DIR> finctrl
06/09/2005 10:01a <DIR> image
06/09/2005 10:01a <DIR> whdata
06/09/2005 10:01a <DIR> whgdata
06/09/2005 10:01a <DIR> whxdata
0 File(s) 0 bytes

```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\hazards

06/09/2005	10:01a	<DIR>	hazards
06/09/2005	10:01a	<DIR>	image
06/09/2005	10:01a	<DIR>	whdata
06/09/2005	10:01a	<DIR>	whgdata
06/09/2005	10:01a	<DIR>	whxdata
	0 File(s)	0 bytes	

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\inbxconfig

06/09/2005	10:01a	<DIR>	image
06/09/2005	10:01a	<DIR>	inbxconfig
06/09/2005	10:01a	<DIR>	whdata
06/09/2005	10:01a	<DIR>	whgdata
06/09/2005	10:01a	<DIR>	whxdata
	0 File(s)	0 bytes	

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\incident

06/09/2005	10:01a	<DIR>	image
06/09/2005	10:01a	<DIR>	incident
06/09/2005	10:01a	<DIR>	whdata
06/09/2005	10:01a	<DIR>	whgdata
06/09/2005	10:01a	<DIR>	whxdata
	0 File(s)	0 bytes	

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\interface

06/09/2005	10:01a	<DIR>	image
06/09/2005	10:01a	<DIR>	interface
06/09/2005	10:01a	<DIR>	whdata
06/09/2005	10:01a	<DIR>	whgdata
06/09/2005	10:01a	<DIR>	whxdata
	0 File(s)	0 bytes	

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\intobject

06/09/2005	10:00a	<DIR>	image
06/09/2005	10:00a	<DIR>	intobject
06/09/2005	10:00a	<DIR>	whdata

```

06/09/2005 10:00a <DIR> whgdata
06/09/2005 10:00a <DIR> whxdata
0 File(s) 0 bytes

```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\inventor

```

06/09/2005 10:00a <DIR> image
06/09/2005 10:00a <DIR> inventor
06/09/2005 10:00a <DIR> whdata
06/09/2005 10:00a <DIR> whgdata
06/09/2005 10:00a <DIR> whxdata
0 File(s) 0 bytes

```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\inissue

```

06/09/2005 10:00a <DIR> image
06/09/2005 10:00a <DIR> inissue
06/09/2005 10:00a <DIR> whdata
06/09/2005 10:00a <DIR> whgdata
06/09/2005 10:00a <DIR> whxdata
0 File(s) 0 bytes

```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\invoice

```

06/09/2005 10:00a <DIR> image
06/09/2005 10:00a <DIR> invoice
06/09/2005 10:00a <DIR> whdata
06/09/2005 10:00a <DIR> whgdata
06/09/2005 10:00a <DIR> whxdata
0 File(s) 0 bytes

```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\item

```

06/09/2005 10:00a <DIR> image
06/09/2005 10:00a <DIR> item
06/09/2005 10:00a <DIR> whdata
06/09/2005 10:00a <DIR> whgdata
06/09/2005 10:00a <DIR> whxdata
0 File(s) 0 bytes

```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\jobplan

06/09/2005	10:00a	<DIR>	image
06/09/2005	10:00a	<DIR>	jobplan
06/09/2005	10:00a	<DIR>	whdata
06/09/2005	10:00a	<DIR>	whgdata
06/09/2005	10:00a	<DIR>	whxdata
	0 File(s)	0 bytes	

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\kpi

06/09/2005	10:00a	<DIR>	image
06/09/2005	10:00a	<DIR>	kpi
06/09/2005	10:00a	<DIR>	whdata
06/09/2005	10:00a	<DIR>	whgdata
06/09/2005	10:00a	<DIR>	whxdata
	0 File(s)	0 bytes	

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\kpigconfig

06/09/2005	10:00a	<DIR>	image
06/09/2005	10:00a	<DIR>	kpigconfig
06/09/2005	10:00a	<DIR>	whdata
06/09/2005	10:00a	<DIR>	whgdata
06/09/2005	10:00a	<DIR>	whxdata
	0 File(s)	0 bytes	

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\kpilconfig

06/09/2005	10:00a	<DIR>	image
06/09/2005	10:00a	<DIR>	kpilconfig
06/09/2005	10:00a	<DIR>	whdata
06/09/2005	10:00a	<DIR>	whgdata
06/09/2005	10:00a	<DIR>	whxdata
	0 File(s)	0 bytes	

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\labor

06/09/2005	10:00a	<DIR>	image
06/09/2005	10:00a	<DIR>	labor

```

06/09/2005 10:00a <DIR> whdata
06/09/2005 10:00a <DIR> whgdata
06/09/2005 10:00a <DIR> whxdata
0 File(s) 0 bytes

```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\labrep

```

06/09/2005 10:00a <DIR> image
06/09/2005 10:00a <DIR> labrep
06/09/2005 10:00a <DIR> whdata
06/09/2005 10:00a <DIR> whgdata
06/09/2005 10:00a <DIR> whxdata
0 File(s) 0 bytes

```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\location

```

06/09/2005 10:00a <DIR> image
06/09/2005 10:00a <DIR> location
06/09/2005 10:00a <DIR> whdata
06/09/2005 10:00a <DIR> whgdata
06/09/2005 10:00a <DIR> whxdata
0 File(s) 0 bytes

```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\masterpm

```

06/09/2005 10:00a <DIR> image
06/09/2005 10:00a <DIR> masterpm
06/09/2005 10:00a <DIR> whdata
06/09/2005 10:00a <DIR> whgdata
06/09/2005 10:00a <DIR> whxdata
0 File(s) 0 bytes

```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\meter

```

06/09/2005 10:00a <DIR> image
06/09/2005 10:00a <DIR> meter
06/09/2005 10:00a <DIR> whdata
06/09/2005 10:00a <DIR> whgdata
06/09/2005 10:00a <DIR> whxdata
0 File(s) 0 bytes

```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\metergrp

```

06/09/2005 10:00a <DIR> image
06/09/2005 10:00a <DIR> metergrp
06/09/2005 10:00a <DIR> whdata
06/09/2005 10:00a <DIR> whgdata
06/09/2005 10:00a <DIR> whxdata
          0 File(s)      0 bytes

```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\multisite

```

06/09/2005 09:59a <DIR> image
06/09/2005 09:59a <DIR> multisite
06/09/2005 09:59a <DIR> whdata
06/09/2005 09:59a <DIR> whgdata
06/09/2005 09:59a <DIR> whxdata
          0 File(s)      0 bytes

```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\ndasset

```

06/09/2005 09:59a <DIR> image
06/09/2005 09:59a <DIR> ndasset
06/09/2005 09:59a <DIR> whdata
06/09/2005 09:59a <DIR> whgdata
06/09/2005 09:59a <DIR> whxdata
          0 File(s)      0 bytes

```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\npasset

```

06/09/2005 09:59a <DIR> image
06/09/2005 09:59a <DIR> npasset
06/09/2005 09:59a <DIR> whdata
06/09/2005 09:59a <DIR> whgdata
06/09/2005 09:59a <DIR> whxdata
          0 File(s)      0 bytes

```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\person

```

06/09/2005 09:59a <DIR> image
06/09/2005 09:59a <DIR> person
06/09/2005 09:59a <DIR> whdata

```

```

06/09/2005 09:59a <DIR> whgdata
06/09/2005 09:59a <DIR> whxdata
0 File(s) 0 bytes

```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\persongr

```

06/09/2005 09:59a <DIR> image
06/09/2005 09:59a <DIR> persongr
06/09/2005 09:59a <DIR> whdata
06/09/2005 09:59a <DIR> whgdata
06/09/2005 09:59a <DIR> whxdata
0 File(s) 0 bytes

```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\pm

```

06/09/2005 09:59a <DIR> image
06/09/2005 09:59a <DIR> pm
06/09/2005 09:59a <DIR> whdata
06/09/2005 09:59a <DIR> whgdata
06/09/2005 09:59a <DIR> whxdata
0 File(s) 0 bytes

```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\po

```

06/09/2005 09:59a <DIR> image
06/09/2005 09:59a <DIR> po
06/09/2005 09:59a <DIR> whdata
06/09/2005 09:59a <DIR> whgdata
06/09/2005 09:59a <DIR> whxdata
0 File(s) 0 bytes

```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\pr

```

06/09/2005 09:59a <DIR> image
06/09/2005 09:59a <DIR> pr
06/09/2005 09:59a <DIR> whdata
06/09/2005 09:59a <DIR> whgdata
06/09/2005 09:59a <DIR> whxdata
0 File(s) 0 bytes

```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\precautn

06/09/2005 09:59a	<DIR>	image
06/09/2005 09:59a	<DIR>	precautn
06/09/2005 09:59a	<DIR>	whdata
06/09/2005 09:59a	<DIR>	whgdata
06/09/2005 09:59a	<DIR>	whxdata
0 File(s)	0 bytes	

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\problem

06/09/2005 09:59a	<DIR>	image
06/09/2005 09:59a	<DIR>	problem
06/09/2005 09:59a	<DIR>	whdata
06/09/2005 09:59a	<DIR>	whgdata
06/09/2005 09:59a	<DIR>	whxdata
0 File(s)	0 bytes	

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\qual

06/09/2005 09:59a	<DIR>	image
06/09/2005 09:59a	<DIR>	qual
06/09/2005 09:59a	<DIR>	whdata
06/09/2005 09:59a	<DIR>	whgdata
06/09/2005 09:59a	<DIR>	whxdata
0 File(s)	0 bytes	

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\quickrep

06/09/2005 09:59a	<DIR>	image
06/09/2005 09:59a	<DIR>	quickrep
06/09/2005 09:59a	<DIR>	whdata
06/09/2005 09:59a	<DIR>	whgdata
06/09/2005 09:59a	<DIR>	whxdata
0 File(s)	0 bytes	

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\rcncmprul
e

06/09/2005 09:59a	<DIR>	image
-------------------	-------	-------

```

06/09/2005 09:59a <DIR>   rcncmprule
06/09/2005 09:59a <DIR>   whdata
06/09/2005 09:59a <DIR>   whgdata
06/09/2005 09:59a <DIR>   whxdata
          0 File(s)      0 bytes

```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\rcnlkrule

```

06/09/2005 09:59a <DIR>   image
06/09/2005 09:59a <DIR>   rcnlkrule
06/09/2005 09:59a <DIR>   whdata
06/09/2005 09:59a <DIR>   whgdata
06/09/2005 09:59a <DIR>   whxdata
          0 File(s)      0 bytes

```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\rcnresult

```

06/09/2005 09:59a <DIR>   image
06/09/2005 09:59a <DIR>   rcnresult
06/09/2005 09:59a <DIR>   whdata
06/09/2005 09:59a <DIR>   whgdata
06/09/2005 09:59a <DIR>   whxdata
          0 File(s)      0 bytes

```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\rcntskfltr

```

06/09/2005 09:59a <DIR>   image
06/09/2005 09:59a <DIR>   rcntskfltr
06/09/2005 09:59a <DIR>   whdata
06/09/2005 09:59a <DIR>   whgdata
06/09/2005 09:59a <DIR>   whxdata
          0 File(s)      0 bytes

```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\receipts

```

06/09/2005 09:59a <DIR>   image
06/09/2005 09:59a <DIR>   receipts
06/09/2005 09:59a <DIR>   whdata
06/09/2005 09:59a <DIR>   whgdata
06/09/2005 09:59a <DIR>   whxdata
          0 File(s)      0 bytes

```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\reconlink

```

06/09/2005 09:59a <DIR> image
06/09/2005 09:59a <DIR> reconlink
06/09/2005 09:59a <DIR> whdata
06/09/2005 09:59a <DIR> whgdata
06/09/2005 09:59a <DIR> whxdata
          0 File(s)          0 bytes

```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\recontask

```

06/09/2005 09:59a <DIR> image
06/09/2005 09:59a <DIR> recontask
06/09/2005 09:59a <DIR> whdata
06/09/2005 09:59a <DIR> whgdata
06/09/2005 09:59a <DIR> whxdata
          0 File(s)          0 bytes

```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\release

```

06/09/2005 09:59a <DIR> image
06/09/2005 09:59a <DIR> release
06/09/2005 09:59a <DIR> whdata
06/09/2005 09:59a <DIR> whgdata
06/09/2005 09:59a <DIR> whxdata
          0 File(s)          0 bytes

```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\report

```

06/09/2005 09:59a <DIR> image
06/09/2005 09:59a <DIR> report
06/09/2005 09:59a <DIR> whdata
06/09/2005 09:59a <DIR> whgdata
06/09/2005 09:59a <DIR> whxdata
          0 File(s)          0 bytes

```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\rfq

```

06/09/2005 09:59a <DIR> image
06/09/2005 09:59a <DIR> rfq
06/09/2005 09:59a <DIR> whdata

```

```

06/09/2005 09:59a <DIR> whgdata
06/09/2005 09:59a <DIR> whxdata
0 File(s) 0 bytes

```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\role

```

06/09/2005 09:59a <DIR> image
06/09/2005 09:59a <DIR> role
06/09/2005 09:59a <DIR> whdata
06/09/2005 09:59a <DIR> whgdata
06/09/2005 09:59a <DIR> whxdata
0 File(s) 0 bytes

```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\routes

```

06/09/2005 10:00a <DIR> image
06/09/2005 10:00a <DIR> routes
06/09/2005 10:00a <DIR> whdata
06/09/2005 10:00a <DIR> whgdata
06/09/2005 10:00a <DIR> whxdata
0 File(s) 0 bytes

```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\rsconfig

```

06/09/2005 10:00a <DIR> image
06/09/2005 10:00a <DIR> rsconfig
06/09/2005 10:00a <DIR> whdata
06/09/2005 10:00a <DIR> whgdata
06/09/2005 10:00a <DIR> whxdata
0 File(s) 0 bytes

```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\safeplan

```

06/09/2005 10:00a <DIR> image
06/09/2005 10:00a <DIR> safeplan
06/09/2005 10:00a <DIR> whdata
06/09/2005 10:00a <DIR> whgdata
06/09/2005 10:00a <DIR> whxdata
0 File(s) 0 bytes

```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\scconfig

06/09/2005	10:00a	<DIR>	image
06/09/2005	10:00a	<DIR>	scconfig
06/09/2005	10:00a	<DIR>	whdata
06/09/2005	10:00a	<DIR>	whgdata
06/09/2005	10:00a	<DIR>	whxdata
0 File(s)		0 bytes	

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\searchsol

06/09/2005	10:00a	<DIR>	image
06/09/2005	10:00a	<DIR>	searchsol
06/09/2005	10:00a	<DIR>	whdata
06/09/2005	10:00a	<DIR>	whgdata
06/09/2005	10:00a	<DIR>	whxdata
0 File(s)		0 bytes	

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\securgroup

06/09/2005	10:00a	<DIR>	image
06/09/2005	10:00a	<DIR>	securgroup
06/09/2005	10:00a	<DIR>	whdata
06/09/2005	10:00a	<DIR>	whgdata
06/09/2005	10:00a	<DIR>	whxdata
0 File(s)		0 bytes	

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\selfreg

06/09/2005	10:00a	<DIR>	image
06/09/2005	10:00a	<DIR>	selfreg
06/09/2005	10:00a	<DIR>	whdata
06/09/2005	10:00a	<DIR>	whgdata
06/09/2005	10:00a	<DIR>	whxdata
0 File(s)		0 bytes	

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\sets

06/09/2005	09:58a	<DIR>	image
06/09/2005	09:58a	<DIR>	sets

```

06/09/2005 09:58a <DIR> whdata
06/09/2005 09:58a <DIR> whgdata
06/09/2005 09:58a <DIR> whxdata
0 File(s) 0 bytes

```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\sla

```

06/09/2005 09:58a <DIR> image
06/09/2005 09:58a <DIR> sla
06/09/2005 09:58a <DIR> whdata
06/09/2005 09:58a <DIR> whgdata
06/09/2005 09:58a <DIR> whxdata
0 File(s) 0 bytes

```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\solution

```

06/09/2005 09:58a <DIR> image
06/09/2005 09:58a <DIR> solution
06/09/2005 09:58a <DIR> whdata
06/09/2005 09:58a <DIR> whgdata
06/09/2005 09:58a <DIR> whxdata
0 File(s) 0 bytes

```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\sr

```

06/09/2005 09:58a <DIR> image
06/09/2005 09:58a <DIR> problem
06/09/2005 09:58a <DIR> sr
06/09/2005 09:58a <DIR> whdata
06/09/2005 09:58a <DIR> whgdata
06/09/2005 09:58a <DIR> whxdata
0 File(s) 0 bytes

```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\src\commod

```

06/09/2005 09:58a <DIR> image
06/09/2005 09:58a <DIR> src\commod
06/09/2005 09:58a <DIR> whdata
06/09/2005 09:58a <DIR> whgdata
06/09/2005 09:58a <DIR> whxdata
0 File(s) 0 bytes

```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\srvittem

06/09/2005 09:58a	<DIR>	image
06/09/2005 09:58a	<DIR>	srvittem
06/09/2005 09:58a	<DIR>	whdata
06/09/2005 09:58a	<DIR>	whgdata
06/09/2005 09:58a	<DIR>	whxdata
0 File(s)	0 bytes	

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\startcntr

06/09/2005 09:58a	<DIR>	image
06/09/2005 09:58a	<DIR>	startcntr
06/09/2005 09:58a	<DIR>	whdata
06/09/2005 09:58a	<DIR>	whgdata
06/09/2005 09:58a	<DIR>	whxdata
0 File(s)	0 bytes	

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\storeroom

06/09/2005 09:58a	<DIR>	image
06/09/2005 09:58a	<DIR>	storeroom
06/09/2005 09:58a	<DIR>	whdata
06/09/2005 09:58a	<DIR>	whgdata
06/09/2005 09:58a	<DIR>	whxdata
0 File(s)	0 bytes	

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\system

06/09/2005 09:58a	<DIR>	library
06/09/2005 09:58a	<DIR>	lookup
0 File(s)	0 bytes	

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects>taglocks

06/09/2005 09:58a	<DIR>	image
06/09/2005 09:58a	<DIR>	taglocks
06/09/2005 09:58a	<DIR>	whdata
06/09/2005 09:58a	<DIR>	whgdata
06/09/2005 09:58a	<DIR>	whxdata
0 File(s)	0 bytes	

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\termcond

06/09/2005 09:58a	<DIR>	image
06/09/2005 09:58a	<DIR>	termcond
06/09/2005 09:58a	<DIR>	whdata
06/09/2005 09:58a	<DIR>	whgdata
06/09/2005 09:58a	<DIR>	whxdata
0 File(s)	0 bytes	

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\tktemplate

06/09/2005 09:58a	<DIR>	image
06/09/2005 09:58a	<DIR>	tktemplate
06/09/2005 09:58a	<DIR>	whdata
06/09/2005 09:58a	<DIR>	whgdata
06/09/2005 09:58a	<DIR>	whxdata
0 File(s)	0 bytes	

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\tool

06/09/2005 09:58a	<DIR>	image
06/09/2005 09:58a	<DIR>	tool
06/09/2005 09:58a	<DIR>	whdata
06/09/2005 09:58a	<DIR>	whgdata
06/09/2005 09:58a	<DIR>	whxdata
0 File(s)	0 bytes	

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\toolinv

06/09/2005 09:58a	<DIR>	image
06/09/2005 09:58a	<DIR>	toolinv
06/09/2005 09:58a	<DIR>	whdata
06/09/2005 09:58a	<DIR>	whgdata
06/09/2005 09:58a	<DIR>	whxdata
0 File(s)	0 bytes	

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\ug

06/09/2005 09:58a	<DIR>	Baggage
06/09/2005 09:59a	<DIR>	Resources
06/09/2005 09:58a	<DIR>	Scripts

```
06/09/2005 09:58a <DIR> whdata
06/09/2005 09:58a <DIR> whgdata
06/09/2005 09:58a <DIR> whxdata
0 File(s) 0 bytes
```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\user

```
06/09/2005 10:03a <DIR> image
06/09/2005 10:03a <DIR> user
06/09/2005 10:02a <DIR> whdata
06/09/2005 10:03a <DIR> whgdata
06/09/2005 10:03a <DIR> whxdata
0 File(s) 0 bytes
```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\viewdr

```
06/09/2005 10:03a <DIR> image
06/09/2005 10:03a <DIR> viewdr
06/09/2005 10:03a <DIR> whdata
06/09/2005 10:03a <DIR> whgdata
06/09/2005 10:03a <DIR> whxdata
0 File(s) 0 bytes
```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\viewdrft

```
06/09/2005 10:03a <DIR> image
06/09/2005 10:03a <DIR> viewdrft
06/09/2005 10:03a <DIR> whdata
06/09/2005 10:03a <DIR> whgdata
06/09/2005 10:03a <DIR> whxdata
0 File(s) 0 bytes
```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\viewsr

```
06/09/2005 10:03a <DIR> image
06/09/2005 10:03a <DIR> viewsr
06/09/2005 10:03a <DIR> whdata
06/09/2005 10:03a <DIR> whgdata
06/09/2005 10:03a <DIR> whxdata
0 File(s) 0 bytes
```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\viewtmpl

06/09/2005	10:03a	<DIR>	image
06/09/2005	10:03a	<DIR>	viewtmpl
06/09/2005	10:03a	<DIR>	whdata
06/09/2005	10:03a	<DIR>	whgdata
06/09/2005	10:03a	<DIR>	whxdata
	0 File(s)	0 bytes	

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\wfadmin

06/09/2005	10:03a	<DIR>	image
06/09/2005	10:03a	<DIR>	wfadmin
06/09/2005	10:03a	<DIR>	whdata
06/09/2005	10:03a	<DIR>	whgdata
06/09/2005	10:03a	<DIR>	whxdata
	0 File(s)	0 bytes	

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\wfdesign

06/09/2005	10:03a	<DIR>	image
06/09/2005	10:03a	<DIR>	wfdesign
06/09/2005	10:03a	<DIR>	whdata
06/09/2005	10:03a	<DIR>	whgdata
06/09/2005	10:03a	<DIR>	whxdata
	0 File(s)	0 bytes	

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\wfinbox

06/09/2005	10:03a	<DIR>	image
06/09/2005	10:03a	<DIR>	wfinbox
06/09/2005	10:03a	<DIR>	whdata
06/09/2005	10:03a	<DIR>	whgdata
06/09/2005	10:03a	<DIR>	whxdata
	0 File(s)	0 bytes	

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\workman

06/09/2005	10:03a	<DIR>	image
06/09/2005	10:03a	<DIR>	whdata
06/09/2005	10:03a	<DIR>	whgdata

```
06/09/2005 10:03a <DIR> whxdata
06/09/2005 10:03a <DIR> workman
0 File(s) 0 bytes
```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\workview

```
06/09/2005 10:03a <DIR> image
06/09/2005 10:03a <DIR> whdata
06/09/2005 10:03a <DIR> whgdata
06/09/2005 10:03a <DIR> whxdata
06/09/2005 10:03a <DIR> workview
0 File(s) 0 bytes
```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\wotrack

```
06/09/2005 10:03a <DIR> image
06/09/2005 10:03a <DIR> whdata
06/09/2005 10:03a <DIR> whgdata
06/09/2005 10:03a <DIR> whxdata
06/09/2005 10:03a <DIR> wotrack
0 File(s) 0 bytes
```

Directory of

C:\Maximo\applications\maximohelp\helpweb\webmodule\en\mergedProjects\wotrack\wotrack

```
06/09/2005 10:03a <DIR> image
0 File(s) 0 bytes
```

Directory of C:\Maximo\applications\maximohelp\helpweb\webmodule\WEB-INF

```
06/09/2005 10:03a <DIR> classes
0 File(s) 0 bytes
```

Directory of C:\Maximo\applications\maximohelp\helpweb\webmodule\WEB-INF\classes

```
06/09/2005 10:03a <DIR> psdi
0 File(s) 0 bytes
```

Directory of C:\Maximo\applications\maximohelp\helpweb\webmodule\WEB-INF\classes\psdi

```
06/09/2005 10:03a <DIR> servlet
```

0 File(s) 0 bytes

Directory of C:\Maximo\applications\UninstallerJre

06/09/2005 10:03a <DIR> bin
 06/09/2005 10:03a <DIR> javaws
 06/09/2005 10:03a <DIR> lib
 0 File(s) 0 bytes

Directory of C:\Maximo\applications\UninstallerJre\bin

06/09/2005 10:03a <DIR> client
 0 File(s) 0 bytes

Directory of C:\Maximo\applications\UninstallerJre\javaws

06/09/2005 10:03a <DIR> resources
 0 File(s) 0 bytes

Directory of C:\Maximo\applications\UninstallerJre\lib

06/09/2005 10:03a <DIR> cmm
 06/09/2005 10:03a <DIR> ext
 06/09/2005 10:03a <DIR> fonts
 06/09/2005 10:03a <DIR> i386
 06/09/2005 10:03a <DIR> im
 06/09/2005 10:03a <DIR> images
 06/09/2005 10:03a <DIR> security
 06/09/2005 10:03a <DIR> zi
 0 File(s) 0 bytes

Directory of C:\Maximo\applications\UninstallerJre\lib\images

06/09/2005 10:03a <DIR> cursors
 0 File(s) 0 bytes

Directory of C:\Maximo\applications\UninstallerJre\lib\zi

06/09/2005 10:03a <DIR> Africa
 06/09/2005 10:03a <DIR> America
 06/09/2005 10:03a <DIR> Antarctica
 06/09/2005 10:03a <DIR> Asia
 06/09/2005 10:03a <DIR> Atlantic
 06/09/2005 10:03a <DIR> Australia
 06/09/2005 10:03a <DIR> Etc
 06/09/2005 10:03a <DIR> Europe

```
06/09/2005 10:03a <DIR> Indian
06/09/2005 10:03a <DIR> Pacific
0 File(s) 0 bytes
```

Directory of C:\Maximo\applications\UninstallerJre\lib\zi\America

```
06/09/2005 10:03a <DIR> Indiana
06/09/2005 10:03a <DIR> Kentucky
06/09/2005 10:03a <DIR> North_Dakota
0 File(s) 0 bytes
```

Directory of C:\Maximo\appserver

```
06/09/2005 09:56a <DIR> weblogic
0 File(s) 0 bytes
```

Directory of C:\Maximo\appserver\weblogic

```
06/09/2005 09:56a <DIR> clusterweb
0 File(s) 0 bytes
```

Directory of C:\Maximo\appserver\weblogic\clusterweb

```
06/09/2005 09:56a <DIR> WEB-INF
0 File(s) 0 bytes
```

Directory of C:\Maximo\deployment

```
06/09/2005 10:45a <DIR> default
0 File(s) 0 bytes
```

Directory of C:\Maximo\PowerUpdateClient

```
06/09/2005 10:59a <DIR> MEASAPPowerUpdate
0 File(s) 0 bytes
```

Directory of C:\Maximo\resources

```
06/09/2005 10:24a <DIR> messages
06/09/2005 10:24a <DIR> presentations
0 File(s) 0 bytes
```

Directory of C:\Maximo\resources\presentations

```
06/09/2005 10:24a <DIR> system
0 File(s) 0 bytes
```

Directory of C:\Maximo\tools

```

06/09/2005 10:24a <DIR> ant
06/09/2005 10:24a <DIR> java
06/09/2005 10:24a <DIR> maximo
          0 File(s)          0 bytes

```

Directory of C:\Maximo\tools\ant

```

06/09/2005 10:24a <DIR> bin
06/09/2005 10:24a <DIR> etc
06/09/2005 10:24a <DIR> lib
          0 File(s)          0 bytes

```

Directory of C:\Maximo\tools\java

```

06/09/2005 10:24a <DIR> jre
          0 File(s)          0 bytes

```

Directory of C:\Maximo\tools\java\jre

```

06/09/2005 10:24a <DIR> bin
06/09/2005 10:24a <DIR> javaws
06/09/2005 10:24a <DIR> lib
          0 File(s)          0 bytes

```

Directory of C:\Maximo\tools\java\jre\bin

```

06/09/2005 10:24a <DIR> client
06/09/2005 10:24a <DIR> server
          0 File(s)          0 bytes

```

Directory of C:\Maximo\tools\java\jre\javaws

```

06/09/2005 10:24a <DIR> resources
          0 File(s)          0 bytes

```

Directory of C:\Maximo\tools\java\jre\lib

```

06/09/2005 10:24a <DIR> audio
06/09/2005 10:24a <DIR> cmm
06/09/2005 10:24a <DIR> ext
06/09/2005 10:24a <DIR> fonts
06/09/2005 10:24a <DIR> i386
06/09/2005 10:24a <DIR> im

```

```
06/09/2005 10:24a <DIR> images
06/09/2005 10:24a <DIR> security
06/09/2005 10:24a <DIR> zi
0 File(s) 0 bytes
```

Directory of C:\Maximo\tools\java\jre\lib\images

```
06/09/2005 10:24a <DIR> cursors
0 File(s) 0 bytes
```

Directory of C:\Maximo\tools\java\jre\lib\zi

```
06/09/2005 10:24a <DIR> Africa
06/09/2005 10:24a <DIR> America
06/09/2005 10:24a <DIR> Antarctica
06/09/2005 10:24a <DIR> Asia
06/09/2005 10:24a <DIR> Atlantic
06/09/2005 10:24a <DIR> Australia
06/09/2005 10:24a <DIR> Etc
06/09/2005 10:24a <DIR> Europe
06/09/2005 10:24a <DIR> Indian
06/09/2005 10:24a <DIR> Pacific
0 File(s) 0 bytes
```

Directory of C:\Maximo\tools\java\jre\lib\zi\America

```
06/09/2005 10:24a <DIR> Indiana
06/09/2005 10:24a <DIR> Kentucky
06/09/2005 10:24a <DIR> North_Dakota
0 File(s) 0 bytes
```

Directory of C:\Maximo\tools\maximo

```
06/09/2005 10:24a <DIR> classes
06/09/2005 10:24a <DIR> en
06/09/2005 10:24a <DIR> internal
06/09/2005 10:24a <DIR> j2eeclient
06/09/2005 10:24a <DIR> log
0 File(s) 0 bytes
```

Directory of C:\Maximo\tools\maximo\classes

```
06/09/2005 10:24a <DIR> psdi
0 File(s) 0 bytes
```

Directory of C:\Maximo\tools\maximo\classes\psdi

```
06/09/2005 10:24a <DIR>    tools
06/09/2005 10:24a <DIR>    webclient
06/09/2005 10:24a <DIR>    xlate
          0 File(s)      0 bytes
```

Directory of C:\Maximo\tools\maximo\classes\psdi\webclient

```
06/09/2005 10:24a <DIR>    upgrade
          0 File(s)      0 bytes
```

Directory of C:\Maximo\tools\maximo\en

```
06/09/2005 10:24a <DIR>    script
          0 File(s)      0 bytes
```

Directory of C:\Maximo\UninstallerData

```
06/09/2005 10:59a <DIR>    resource
          0 File(s)      0 bytes
```

Directory of C:\Maximo\UninstallerSAPAdapter

```
06/09/2005 10:59a <DIR>    resource
          0 File(s)      0 bytes
```

CHAPTER 2

TABLES AND COLUMNS FOR MAXIMO RELEASE 6.0

This chapter lists the tables and columns in the MAXIMO Release 6.0 database (plus any product updates you may have applied) including basic column definition information. These table and column listings are broken up into the following categories:

- Columns with persistent attributes in persistent tables
- Columns with non-persistent attributes in persistent tables
- Columns with persistent attributes in views
- Columns with non-persistent attributes in views
- Columns in non-persistent tables

Nonpersistent Database Objects

Nonpersistent database objects are table or column-like data structures that are created in memory by the MAXIMO Application Server at start-up from definitions contained in the Maximo data dictionary tables.

Non persistent database objects are used by applications during processing in several possible ways. They may be used as temporary placeholders for data, for calculations, for assembling dialog box information, and so forth. The data may ultimately be distributed to regular database tables.

At the end of this chapter there are additional sections relating to database function:

- MAXIMO Database Triggers
- MAXIMO Database Sequences

Table/Column Information

NOTE: Each table has an additional column, ROWSTAMP, which the application populates automatically.

Columns with persistent attributes in persistent tables

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
ACCOUNTDEFAULTS	DFTLGROUP	1	UPPER	20	0	1	1	
ACCOUNTDEFAULTS	GROUPVALUE	2	UPPER	50	0	1	1	
ACCOUNTDEFAULTS	GLDEFAULT	3	GL	23	0	0	1	
ACCOUNTDEFAULTS	OLDGLDEFAULT	4	GL	23	0	0	1	
ACCOUNTDEFAULTS	ORGID	5	UPPER	8	0	1	0	ORGANIZATION.ORGID
ACCOUNTDEFAULTS	ACCOUNTDEFAULTSID	6	INTEGER	12	0	1	1	
ACTION	ACTIONID	1	INTEGER	12	0	1	1	
ACTION	ACTION	2	UPPER	30	0	1	0	
ACTION	DESCRIPTION	3	ALN	100	0	0	0	
ACTION	OBJECTNAME	4	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
ACTION	TYPE	5	UPPER	12	0	0	0	
ACTION	VALUE	6	ALN	254	0	0	0	
ACTION	PARAMETER	8	ALN	254	0	0	0	
ACTION	LANGCODE	13	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
ACTION	MEMO	14	ALN	50	0	0	0	
ACTION	USEWITH	15	UPPER	10	0	1	0	
ACTION	HASLD	16	YORN	1	0	1	1	
ACTION	SENDERSYSID	17	ALN	50	0	0	0	
ACTIONGROUP	ACTIONGROUPID	1	INTEGER	12	0	1	1	
ACTIONGROUP	ACTION	2	UPPER	30	0	0	0	ACTION.ACTION
ACTIONGROUP	MEMBER	3	UPPER	30	0	0	0	ACTION.ACTION
ACTIONGROUP	SEQUENCE	4	INTEGER	12	0	0	0	
ACTIONSCFG	ACTIONSCFGID	1	INTEGER	12	0	1	1	
ACTIONSCFG	OPTIONNAME	2	UPPER	10	0	0	0	
ACTIONSCFG	APP	3	UPPER	10	0	0	0	
ACTIONSCFG	ORDERNUM	4	INTEGER	12	0	0	0	
ACTIONSCFG	LAYOUTID	5	INTEGER	12	0	0	0	
ACTIONSCFG	DESCRIPTION	6	ALN	100	0	0	0	
ADDRESS	ORGID	1	UPPER	8	0	1	0	ORGANIZATION.ORGID
ADDRESS	ADDRESSCODE	2	UPPER	30	0	1	0	
ADDRESS	DESCRIPTION	3	ALN	100	0	0	0	
ADDRESS	ADDRESS1	4	ALN	50	0	0	0	
ADDRESS	ADDRESS2	5	ALN	50	0	0	0	
ADDRESS	ADDRESS3	6	ALN	50	0	0	0	
ADDRESS	ADDRESS4	7	ALN	50	0	0	0	
ADDRESS	ADDRESS5	8	ALN	50	0	0	0	
ADDRESS	CHANGEBY	9	UPPER	30	0	0	0	PERSON.PERSONID
ADDRESS	CHANGEDATE	10	DATETIME	10	0	1	0	
ADDRESS	ADDRESSID	12	INTEGER	12	0	1	1	

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
ADDRESS	LANGCODE	13	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
ADDRESS	HASLD	14	YORN	1	0	1	1	
ALNDOMAIN	DOMAINID	1	UPPER	18	0	1	1	MAXDOMAIN.DOMAINID
ALNDOMAIN	VALUE	2	ALN	25	0	1	1	
ALNDOMAIN	DESCRIPTION	3	ALN	100	0	0	0	
ALNDOMAIN	SITEID	4	UPPER	8	0	0	0	SITE.SITEID
ALNDOMAIN	ORGID	5	UPPER	8	0	0	0	ORGANIZATION.ORGID
ALNDOMAIN	ALNDOMAINID	6	INTEGER	12	0	1	1	
ALTITEM	ITEMNUM	1	UPPER	30	0	1	0	ITEM.ITEMNUM
ALTITEM	ALTITEMNUM	2	UPPER	30	0	1	0	ITEM.ITEMNUM
ALTITEM	ITEMSETID	3	UPPER	8	0	1	0	SETS.SETID
ALTITEM	ALTITEMID	4	INTEGER	12	0	1	1	
APPDOCTYPE	APP	1	UPPER	10	0	1	1	MAXAPPS.APP
APPDOCTYPE	DOCTYPE	2	ALN	16	0	1	0	DOCTYPES.DOCTYPE
APPDOCTYPE	APPDOCTYPEID	3	INTEGER	12	0	1	1	
APPFIELDDEFAULTS	APP	1	UPPER	10	0	1	1	MAXAPPS.APP
APPFIELDDEFAULTS	SITEID	2	UPPER	8	0	1	0	SITE.SITEID
APPFIELDDEFAULTS	GRPNAME	3	UPPER	30	0	0	0	PERSON.PERSONID
APPFIELDDEFAULTS	USERNAME	4	UPPER	30	0	0	0	PERSON.PERSONID
APPFIELDDEFAULTS	DEFAULTVALUE	5	ALN	50	0	0	0	
APPFIELDDEFAULTS	OBJECTNAME	6	UPPER	18	0	1	1	MAXOBJECT.OBJECTNAME
APPFIELDDEFAULTS	ATTRIBUTENAME	7	UPPER	50	0	1	0	MAXATTRIBUTE.ATTRIBUTENAME
APPFIELDDEFAULTS	APPFIELDDEFAULTSID	8	INTEGER	12	0	1	1	
APPLICATIONAUTH	GROUPNAME	1	UPPER	30	0	1	1	MAXGROUP.GROUPNAME
APPLICATIONAUTH	APP	2	UPPER	10	0	1	1	MAXAPPS.APP
APPLICATIONAUTH	OPTIONNAME	3	UPPER	10	0	1	1	
APPLICATIONAUTH	APPLICATIONAUTHID	4	INTEGER	12	0	1	1	
ARCHIVE	ARCHIVEDATE	1	DATETIME	10	0	1	1	
ARCHIVE	MODULE	2	UPPER	30	0	1	1	
ARCHIVE	TYPE	3	ALN	8	0	0	1	
ARCHIVE	PATH	4	ALN	63	0	0	1	
ARCHIVE	ARCHSCRIPT	5	ALN	12	0	0	1	
ARCHIVE	RESTSCRIPT	6	ALN	12	0	0	1	
ARCHIVE	VIEWSQL	7	ALN	254	0	0	1	
ARCHIVE	SITEID	8	UPPER	8	0	0	0	SITE.SITEID
ARCHIVE	ORGID	9	UPPER	8	0	0	0	ORGANIZATION.ORGID
ARCHIVE	ARCHIVEID	10	INTEGER	12	0	1	1	
AREASAFFECTED	AREASAFFECTEDID	1	INTEGER	12	0	1	1	
AREASAFFECTED	WONUM	2	UPPER	10	0	1	0	WORKORDER.WONUM
AREASAFFECTED	SITEID	3	UPPER	8	0	0	0	SITE.SITEID
AREASAFFECTED	DESCRIPTION	4	ALN	100	0	0	0	
AREASAFFECTED	CONTACT	6	UPPER	30	0	0	0	PERSON.PERSONID
AREASAFFECTED	CONTACTGROUP	7	UPPER	8	0	0	0	PERSONGROUP.PERSONGROUP
AREASAFFECTED	NOTIFY	8	YORN	1	0	1	1	
AREASAFFECTED	APPROVE	9	YORN	1	0	1	1	
AREASAFFECTED	ORGID	10	UPPER	8	0	0	0	ORGANIZATION.ORGID

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
AREASAFFECTED	AFFECTEDSITE	11	UPPER	8	0	0	0	SITE.SITEID
AREASAFFECTED	AFFECTEDCOMMODITY	12	UPPER	8	0	0	1	COMMODITIES.COMMODITY
AREASAFFECTED	AFFECTEDLOCATION	13	UPPER	12	0	0	0	LOCATIONS.LOCATION
AREASAFFECTED	AFFECTEDASSETNUM	14	UPPER	12	0	0	0	ASSET.ASSETNUM
AREASAFFECTED	LANGCODE	15	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
AREASAFFECTED	HASLD	16	YORN	1	0	1	1	
ASSET	ASSETNUM	1	UPPER	12	0	1	0	
ASSET	PARENT	2	UPPER	12	0	0	0	ASSET.ASSETNUM
ASSET	SERIALNUM	3	UPPER	15	0	0	0	
ASSET	ASSETTAG	4	ALN	15	0	0	0	
ASSET	LOCATION	5	UPPER	12	0	0	0	LOCATIONS.LOCATION
ASSET	DESCRIPTION	6	ALN	100	0	0	0	ITEM.DESCRPTION
ASSET	VENDOR	7	UPPER	12	0	0	0	COMPANIES.COMPANY
ASSET	FAILURECODE	8	UPPER	8	0	0	0	FAILURECODE.FAILURECODE
ASSET	MANUFACTURER	9	UPPER	12	0	0	0	COMPANIES.COMPANY
ASSET	PURCHASEPRICE	10	AMOUNT	10	2	1	1	
ASSET	REPLACECOST	11	AMOUNT	10	2	1	1	
ASSET	INSTALLDATE	12	DATE	4	0	0	1	
ASSET	WARRANTYEXPDATE	13	DATE	4	0	0	1	
ASSET	TOTALCOST	14	AMOUNT	10	2	1	1	
ASSET	YTD COST	15	AMOUNT	10	2	1	1	
ASSET	BUDGETCOST	16	AMOUNT	10	2	1	1	
ASSET	CALNUM	17	UPPER	8	0	0	0	CALENDAR.CALNUM
ASSET	ISRUNNING	18	YORN	1	0	1	1	
ASSET	ITEMNUM	19	UPPER	30	0	0	0	ITEM.ITEMNUM
ASSET	UNCHARGEDCOST	20	AMOUNT	10	2	1	1	
ASSET	TOTUNCHARGEDCOST	21	AMOUNT	10	2	1	1	
ASSET	TOTDOWNTIME	22	DURATION	8	0	1	1	
ASSET	STATUSDATE	23	DATETIME	10	0	0	1	
ASSET	CHANGEDATE	24	DATETIME	10	0	1	1	
ASSET	CHANGEBY	25	UPPER	30	0	1	0	PERSON.PERSONID
ASSET	EQ1	26	ALN	10	0	0	0	
ASSET	EQ2	27	ALN	10	0	0	0	
ASSET	EQ3	28	ALN	10	0	0	0	
ASSET	EQ4	29	ALN	10	0	0	0	
ASSET	EQ5	30	AMOUNT	10	2	0	0	
ASSET	EQ6	31	DATETIME	10	0	0	0	
ASSET	EQ7	32	DECIMAL	15	2	0	0	
ASSET	EQ8	33	ALN	10	0	0	0	
ASSET	EQ9	34	ALN	10	0	0	0	
ASSET	EQ10	35	ALN	10	0	0	0	
ASSET	EQ11	36	ALN	10	0	0	0	
ASSET	EQ12	37	AMOUNT	10	2	0	0	
ASSET	EQ23	38	DATETIME	10	0	0	0	
ASSET	EQ24	39	DECIMAL	15	2	0	0	
ASSET	PRIORITY	40	INTEGER	12	0	0	1	

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
ASSET	INVCOST	41	AMOUNT	10	2	1	1	
ASSET	GLACCOUNT	42	GL	23	0	0	1	
ASSET	ROTSUSPACCT	43	GL	23	0	0	1	
ASSET	CHILDREN	44	YORN	1	0	1	1	
ASSET	BINNUM	45	ALN	8	0	0	0	INVENTORY.BINNUM
ASSET	DISABLED	46	YORN	1	0	1	1	
ASSET	CLASSTRUCTUREID	47	UPPER	20	0	0	1	CLASSTRUCTURE.CLASSTRUCTUREID
ASSET	SOURCESYSID	48	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
ASSET	OWNERSYSID	49	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
ASSET	EXTERNALREFID	50	ALN	10	0	0	0	
ASSET	SITEID	51	UPPER	8	0	1	0	SITE.SITEID
ASSET	ORGID	52	UPPER	8	0	1	0	ORGANIZATION.ORGID
ASSET	AUTOWOGEN	53	YORN	1	0	1	1	ASSET.ISRUNNING
ASSET	ITEMSETID	54	UPPER	8	0	0	0	SETS.SETID
ASSET	CONDITIONCODE	66	UPPER	30	0	0	0	ITEMCONDITION.CONDITIONCODE
ASSET	GROUPNAME	67	UPPER	10	0	0	0	METERGROUP.GROUPNAME
ASSET	ASSETTYPE	69	ALN	15	0	0	0	
ASSET	USAGE	70	ALN	15	0	0	0	
ASSET	STATUS	71	ALN	20	0	0	0	
ASSET	MAINTIERCHY	72	YORN	1	0	1	0	
ASSET	ASSETID	73	INTEGER	12	0	1	0	
ASSET	MOVED	74	YORN	1	0	1	0	
ASSET	ASSETUID	80	INTEGER	12	0	1	1	
ASSET	LANGCODE	86	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
ASSET	TOOLRATE	87	AMOUNT	10	2	0	0	
ASSET	ITEMTYPE	88	UPPER	8	0	0	0	
ASSET	ANCESTOR	89	UPPER	12	0	0	0	ASSET.ASSETNUM
ASSET	SENDERSYSID	93	ALN	50	0	0	1	
ASSET	SHIFTNUM	94	UPPER	8	0	0	0	SHIFT.SHIFTNUM
ASSET	TOOLCONTROLACCOUNT	95	GL	23	0	0	1	
ASSET	HASLD	96	YORN	1	0	1	1	
ASSETANCESTOR	ASSETANCESTORID	1	INTEGER	12	0	1	1	
ASSETANCESTOR	ASSETNUM	2	UPPER	12	0	1	0	ASSET.ASSETNUM
ASSETANCESTOR	ANCESTOR	3	UPPER	12	0	1	0	ASSET.ASSETNUM
ASSETANCESTOR	SITEID	4	UPPER	8	0	1	0	SITE.SITEID
ASSETANCESTOR	ORGID	5	UPPER	8	0	1	0	ORGANIZATION.ORGID
ASSETANCESTOR	HIERARCHYLEVELS	6	INTEGER	12	0	1	0	
ASSETATTRIBUTE	ASSETATTRID	1	UPPER	8	0	1	0	
ASSETATTRIBUTE	DESCRIPTION	2	ALN	100	0	0	0	
ASSETATTRIBUTE	DATATYPE	3	UPPER	8	0	1	0	
ASSETATTRIBUTE	MEASUREUNITID	4	UPPER	8	0	0	0	MEASUREUNIT.MEASUREUNITID
ASSETATTRIBUTE	DOMAINID	5	UPPER	18	0	0	1	MAXDOMAIN.DOMAINID
ASSETATTRIBUTE	ATTRDESCPREFIX	6	ALN	8	0	0	0	
ASSETATTRIBUTE	ORGID	7	UPPER	8	0	0	0	ORGANIZATION.ORGID
ASSETATTRIBUTE	SITEID	8	UPPER	8	0	0	0	SITE.SITEID
ASSETATTRIBUTE	ASSETATTRIBUTEID	9	INTEGER	12	0	1	1	

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
ASSETCUST	ASSETNUM	1	UPPER	12	0	1	0	ASSET.ASSETNUM
ASSETCUST	PARENT	2	UPPER	12	0	0	0	ASSET.ASSETNUM
ASSETCUST	SERIALNUM	3	UPPER	15	0	0	0	ASSET.SERIALNUM
ASSETCUST	ASSETTAG	4	ALN	15	0	0	0	ASSET.ASSETTAG
ASSETCUST	LOCATION	5	UPPER	12	0	0	0	LOCATIONS.LOCATION
ASSETCUST	DESCRIPTION	6	ALN	100	0	0	0	ITEM.DESCRPTION
ASSETCUST	VENDOR	7	UPPER	12	0	0	0	COMPANIES.COMPANY
ASSETCUST	FAILURECODE	8	UPPER	8	0	0	0	FAILURECODE.FAILURECODE
ASSETCUST	MANUFACTURER	9	UPPER	12	0	0	0	COMPANIES.COMPANY
ASSETCUST	PURCHASEPRICE	10	AMOUNT	10	2	1	1	ASSET.PURCHASEPRICE
ASSETCUST	REPLACECOST	11	AMOUNT	10	2	1	1	ASSET.REPLACECOST
ASSETCUST	INSTALLDATE	12	DATE	4	0	0	1	ASSET.INSTALLDATE
ASSETCUST	WARRANTYEXPDATE	13	DATE	4	0	0	1	ASSET.WARRANTYEXPDATE
ASSETCUST	TOTALCOST	14	AMOUNT	10	2	1	1	ASSET.TOTALCOST
ASSETCUST	YTD COST	15	AMOUNT	10	2	1	1	ASSET.YTD COST
ASSETCUST	BUDGETCOST	16	AMOUNT	10	2	1	1	ASSET.BUDGETCOST
ASSETCUST	CALNUM	17	UPPER	8	0	0	0	CALENDAR.CALNUM
ASSETCUST	ISRUNNING	18	YORN	1	0	1	1	ASSET.ISRUNNING
ASSETCUST	ITEMNUM	19	UPPER	30	0	0	0	ITEM.ITEMNUM
ASSETCUST	UNCHARGEDCOST	20	AMOUNT	10	2	1	1	ASSET.UNCHARGEDCOST
ASSETCUST	TOTUNCHARGEDCOST	21	AMOUNT	10	2	1	1	ASSET.TOTUNCHARGEDCOST
ASSETCUST	TOTDOWNTIME	22	DURATION	8	0	1	1	ASSET.TOTDOWNTIME
ASSETCUST	STATUSDATE	23	DATETIME	10	0	0	1	ASSET.STATUSDATE
ASSETCUST	CHANGEDATE	24	DATETIME	10	0	1	1	ASSET.CHANGEDATE
ASSETCUST	CHANGEBY	25	UPPER	30	0	1	0	PERSON.PERSONID
ASSETCUST	EQ1	26	ALN	10	0	0	0	ASSET.EQ1
ASSETCUST	EQ2	27	ALN	10	0	0	0	ASSET.EQ2
ASSETCUST	EQ3	28	ALN	10	0	0	0	ASSET.EQ3
ASSETCUST	EQ4	29	ALN	10	0	0	0	ASSET.EQ4
ASSETCUST	EQ5	30	AMOUNT	10	2	0	0	ASSET.EQ5
ASSETCUST	EQ6	31	DATETIME	10	0	0	0	ASSET.EQ6
ASSETCUST	EQ7	32	DECIMAL	15	2	0	0	ASSET.EQ7
ASSETCUST	EQ8	33	ALN	10	0	0	0	ASSET.EQ8
ASSETCUST	EQ9	34	ALN	10	0	0	0	ASSET.EQ9
ASSETCUST	EQ10	35	ALN	10	0	0	0	ASSET.EQ10
ASSETCUST	EQ11	36	ALN	10	0	0	0	ASSET.EQ11
ASSETCUST	EQ12	37	AMOUNT	10	2	0	0	ASSET.EQ12
ASSETCUST	EQ23	38	DATETIME	10	0	0	0	ASSET.EQ23
ASSETCUST	EQ24	39	DECIMAL	15	2	0	0	ASSET.EQ24
ASSETCUST	PRIORITY	40	INTEGER	12	0	0	1	ASSET.PRIORITY
ASSETCUST	INVCOST	41	AMOUNT	10	2	1	1	ASSET.INVCOST
ASSETCUST	GLACCOUNT	42	GL	23	0	0	1	
ASSETCUST	ROTSUSPACCT	43	GL	23	0	0	1	
ASSETCUST	CHILDREN	44	YORN	1	0	1	1	ASSET.CHILDREN
ASSETCUST	BINNUM	45	ALN	8	0	0	0	INVENTORY.BINNUM
ASSETCUST	DISABLED	46	YORN	1	0	1	1	ASSET.DISABLED

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
ASSETCUST	CLASSSTRUCTUREID	47	UPPER	20	0	0	1	CLASSSTRUCTURE.CLASSSTRUCTUREID
ASSETCUST	SOURCESYSID	48	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
ASSETCUST	OWNERSYSID	49	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
ASSETCUST	EXTERNALREFID	50	ALN	10	0	0	0	ASSET.EXTERNALREFID
ASSETCUST	SITEID	51	UPPER	8	0	1	0	SITE.SITEID
ASSETCUST	ORGID	52	UPPER	8	0	1	0	ORGANIZATION.ORGID
ASSETCUST	AUTOWOGEN	53	YORN	1	0	1	1	ASSET.ISRUNNING
ASSETCUST	ITEMSETID	54	UPPER	8	0	0	0	SETS.SETID
ASSETCUST	CONDITIONCODE	66	UPPER	30	0	0	0	ITEMCONDITION.CONDITIONCODE
ASSETCUST	GROUPNAME	67	UPPER	10	0	0	0	METERGROUP.GROUPNAME
ASSETCUST	ASSETTYPE	69	ALN	15	0	0	0	ASSET.ASSETTYPE
ASSETCUST	USAGE	70	ALN	15	0	0	0	ASSET.USAGE
ASSETCUST	STATUS	71	ALN	20	0	0	0	ASSET.STATUS
ASSETCUST	MAINTHIERCHY	72	YORN	1	0	1	0	ASSET.MAINTHIERCHY
ASSETCUST	ASSETID	73	INTEGER	12	0	1	0	ASSET.ASSETID
ASSETCUST	MOVED	74	YORN	1	0	1	0	ASSET.MOVED
ASSETCUST	ASSETUID	80	INTEGER	12	0	1	1	ASSET.ASSETUID
ASSETCUST	LANGCODE	86	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
ASSETCUST	TOOLRATE	87	AMOUNT	10	2	0	0	ASSET.TOOLRATE
ASSETCUST	ITEMTYPE	88	UPPER	8	0	0	0	ASSET.ITEMTYPE
ASSETCUST	ANCESTOR	89	UPPER	12	0	0	0	ASSET.ASSETNUM
ASSETCUST	SENDERSYSID	93	ALN	50	0	0	1	ASSET.SENDERSYSID
ASSETCUST	SHIFTNUM	94	UPPER	8	0	0	0	SHIFT.SHIFTNUM
ASSETCUST	TOOLCONTROLACCOUNT	95	GL	23	0	0	1	
ASSETCUST	PERSONID	96	UPPER	30	0	1	0	PERSON.PERSONID
ASSETCUST	ISUSER	97	YORN	1	0	1	0	ASSETUSERCUST.ISUSER
ASSETCUST	ISCUSTODIAN	98	YORN	1	0	1	0	ASSETUSERCUST.ISCUSTODIAN
ASSETCUST	ASSETUSERCUSTID	99	INTEGER	12	0	1	1	ASSETUSERCUST.ASSETUSERCUSTID
ASSETCUST	ISPRIMARY	100	YORN	1	0	1	0	ASSETUSERCUST.ISPRIMARY
ASSETCUST	HASLD	101	YORN	1	0	1	1	
ASSETHIERARCHY	ASSETNUM	1	UPPER	12	0	1	0	ASSET.ASSETNUM
ASSETHIERARCHY	PARENT	2	UPPER	12	0	0	0	ASSET.ASSETNUM
ASSETHIERARCHY	WONUM	3	UPPER	10	0	1	0	WORKORDER.WONUM
ASSETHIERARCHY	LOCATION	4	UPPER	12	0	0	0	LOCATIONS.LOCATION
ASSETHIERARCHY	SITEID	5	UPPER	8	0	1	0	SITE.SITEID
ASSETHIERARCHY	ORGID	6	UPPER	8	0	1	0	ORGANIZATION.ORGID
ASSETHIERARCHY	ASSETHIERARCHYID	7	INTEGER	12	0	1	1	
ASSETHISTORY	ASSETNUM	1	UPPER	12	0	1	0	ASSET.ASSETNUM
ASSETHISTORY	WONUM	2	UPPER	10	0	1	0	WORKORDER.WONUM
ASSETHISTORY	TOTALCOST	3	AMOUNT	10	2	0	1	ASSET.TOTALCOST
ASSETHISTORY	YTD COST	4	AMOUNT	10	2	0	1	ASSET.YTD COST
ASSETHISTORY	TOTUNCHARGEDCOST	5	AMOUNT	10	2	0	1	ASSET.TOTUNCHARGEDCOST
ASSETHISTORY	BUDGETCOST	6	AMOUNT	10	2	0	1	ASSET.BUDGETCOST
ASSETHISTORY	SITEID	7	UPPER	8	0	1	0	SITE.SITEID
ASSETHISTORY	ORGID	8	UPPER	8	0	1	0	ORGANIZATION.ORGID
ASSETHISTORY	ASSETHISTORYID	9	INTEGER	12	0	1	1	

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
ASSETLOCCOMM	COMMODITY	1	UPPER	8	0	0	1	COMMODITIES.COMMODITY
ASSETLOCCOMM	ASSETNUM	2	UPPER	12	0	0	0	ASSET.ASSETNUM
ASSETLOCCOMM	ASSETTYPE	3	ALN	15	0	0	0	ASSET.ASSETTYPE
ASSETLOCCOMM	LOCATION	4	UPPER	12	0	0	0	LOCATIONS.LOCATION
ASSETLOCCOMM	SITEID	5	UPPER	8	0	1	0	SITE.SITEID
ASSETLOCCOMM	ORGID	6	UPPER	8	0	1	0	ORGANIZATION.ORGID
ASSETLOCCOMM	ITEMSETID	7	UPPER	8	0	0	0	SETS.SETID
ASSETLOCCOMM	ASSETLOCCOMMID	8	INTEGER	12	0	1	1	
ASSETLOCCOMM	COMMODITYGROUP	11	UPPER	8	0	1	1	COMMODITIES.COMMODITY
ASSETMETER	ASSETNUM	1	UPPER	12	0	1	0	ASSET.ASSETNUM
ASSETMETER	METERNAME	2	UPPER	10	0	1	0	METER.METERNAME
ASSETMETER	ACTIVE	3	YORN	1	0	1	1	
ASSETMETER	MEASUREUNITID	4	UPPER	8	0	0	0	MEASUREUNIT.MEASUREUNITID
ASSETMETER	ROLLOVER	5	DECIMAL	15	2	0	1	METERINGROUP.ROLLOVER
ASSETMETER	AVGCALCMETHOD	6	UPPER	25	0	0	0	
ASSETMETER	SLIDINGWINDOWSIZE	7	INTEGER	12	0	0	1	
ASSETMETER	ROLLDOWNSOURCE	8	UPPER	10	0	0	0	
ASSETMETER	SINCELASTREPAIR	9	DECIMAL	15	2	1	1	
ASSETMETER	SINCELASTOVERHAUL	10	DECIMAL	15	2	1	1	
ASSETMETER	SINCELASTINSPECT	11	DECIMAL	15	2	1	1	
ASSETMETER	SINCEINSTALL	12	DECIMAL	15	2	1	1	
ASSETMETER	LIFETODATE	13	DECIMAL	15	2	1	1	
ASSETMETER	CHANGEBY	14	UPPER	30	0	1	0	PERSON.PERSONID
ASSETMETER	CHANGEDATE	15	DATETIME	10	0	1	1	
ASSETMETER	REMARKS	16	ALN	50	0	0	0	
ASSETMETER	SITEID	17	UPPER	8	0	1	0	SITE.SITEID
ASSETMETER	ORGID	18	UPPER	8	0	1	0	ORGANIZATION.ORGID
ASSETMETER	LASTREADINGDATE	24	DATETIME	10	0	0	1	ASSETMETER.NEWREADINGDATE
ASSETMETER	LASTREADING	25	ALN	16	0	0	0	ASSETMETER.NEWREADING
ASSETMETER	POINTNUM	31	UPPER	8	0	0	0	MEASUREPOINT.POINTNUM
ASSETMETER	AVERAGE	32	DECIMAL	15	2	0	1	
ASSETMETER	READINGTYPE	33	UPPER	10	0	0	1	METER.READINGTYPE
ASSETMETER	LASTREADINGINSPCTR	36	UPPER	30	0	0	0	PERSON.PERSONID
ASSETMETER	ASSETMETERID	39	INTEGER	12	0	1	1	
ASSETMETER	LANGCODE	50	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
ASSETMETER	HASLD	52	YORN	1	0	1	1	
ASSETSPEC	ASSETNUM	1	UPPER	12	0	1	0	ASSET.ASSETNUM
ASSETSPEC	ASSETATTRID	2	UPPER	8	0	1	0	ASSETATTRIBUTE.ASSETATTRID
ASSETSPEC	CLASSSTRUCTUREID	3	UPPER	20	0	1	1	CLASSSTRUCTURE.CLASSSTRUCTUREID
ASSETSPEC	INHERITEDFROMITEM	4	YORN	1	0	1	1	
ASSETSPEC	ITEMSPECVALCHANGED	5	YORN	1	0	1	1	
ASSETSPEC	DISPLAYSEQUENCE	6	SMALLINT	10	0	1	1	
ASSETSPEC	NUMVALUE	7	DECIMAL	10	2	0	1	NUMERICDOMAIN.VALUE
ASSETSPEC	MEASUREUNITID	8	UPPER	8	0	0	0	MEASUREUNIT.MEASUREUNITID
ASSETSPEC	ALNVALUE	9	ALN	25	0	0	1	ALNDOMAIN.VALUE
ASSETSPEC	CHANGEDATE	10	DATETIME	10	0	1	1	

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
ASSETSPEC	CHANGEBY	11	UPPER	30	0	1	0	PERSON.PERSONID
ASSETSPEC	ES01	12	ALN	10	0	0	0	
ASSETSPEC	ES02	13	ALN	10	0	0	0	
ASSETSPEC	ES03	14	ALN	10	0	0	0	
ASSETSPEC	ES04	15	DATETIME	10	0	0	0	
ASSETSPEC	ES05	16	DECIMAL	15	2	0	0	
ASSETSPEC	SITEID	17	UPPER	8	0	1	0	SITE.SITEID
ASSETSPEC	ORGID	18	UPPER	8	0	1	0	ORGANIZATION.ORGID
ASSETSPEC	SECTION	19	UPPER	10	0	0	0	CLASSSPEC.SECTION
ASSETSPEC	ASSETSPECID	20	INTEGER	12	0	1	1	
ASSETSTATUS	ASSETNUM	1	UPPER	12	0	1	0	ASSET.ASSETNUM
ASSETSTATUS	WONUM	2	UPPER	10	0	1	0	WORKORDER.WONUM
ASSETSTATUS	ISRUNNING	3	YORN	1	0	1	1	ASSET.ISRUNNING
ASSETSTATUS	CHANGEDATE	4	DATETIME	10	0	1	1	
ASSETSTATUS	CHANGEBY	5	UPPER	30	0	1	0	PERSON.PERSONID
ASSETSTATUS	DOWNTIME	6	DURATION	8	0	1	1	
ASSETSTATUS	CALNUM	7	UPPER	8	0	0	0	CALENDAR.CALNUM
ASSETSTATUS	CODE	8	UPPER	12	0	0	0	
ASSETSTATUS	OPERATIONAL	9	YORN	1	0	1	0	
ASSETSTATUS	LOCATION	10	UPPER	12	0	0	0	LOCATIONS.LOCATION
ASSETSTATUS	SITEID	11	UPPER	8	0	1	0	SITE.SITEID
ASSETSTATUS	ORGID	12	UPPER	8	0	1	0	ORGANIZATION.ORGID
ASSETSTATUS	ASSETSTATUSID	13	INTEGER	12	0	1	1	
ASSETTRANS	ASSETNUM	1	UPPER	12	0	1	0	ASSET.ASSETNUM
ASSETTRANS	DATEMOVED	2	DATETIME	10	0	1	1	
ASSETTRANS	FROMPARENT	3	UPPER	12	0	0	0	ASSET.ASSETNUM
ASSETTRANS	TOPARENT	4	UPPER	12	0	0	0	ASSET.ASSETNUM
ASSETTRANS	FROMLOC	5	UPPER	12	0	0	0	LOCATIONS.LOCATION
ASSETTRANS	TOLOC	6	UPPER	12	0	0	0	LOCATIONS.LOCATION
ASSETTRANS	GLCREDITACCT	7	GL	23	0	0	1	
ASSETTRANS	GLDEBITACCT	8	GL	23	0	0	1	
ASSETTRANS	TRANSDATE	9	DATETIME	10	0	1	1	
ASSETTRANS	ENTERBY	10	UPPER	30	0	1	0	PERSON.PERSONID
ASSETTRANS	MEMO	11	ALN	254	0	0	0	
ASSETTRANS	WONUM	12	UPPER	10	0	0	0	WORKORDER.WONUM
ASSETTRANS	PONUM	13	UPPER	8	0	0	0	PO.PONUM
ASSETTRANS	ASSETTRANSID	14	INTEGER	12	0	1	1	
ASSETTRANS	MATRECTTRANSID	15	INTEGER	12	0	0	1	MATRECTTRANS.MATRECTTRANSID
ASSETTRANS	MATUSETTRANSID	16	INTEGER	12	0	0	1	MATUSETTRANS.MATUSETTRANSID
ASSETTRANS	SOURCESYSID	17	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
ASSETTRANS	OWNERSYSID	18	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
ASSETTRANS	EXTERNALREFID	19	ALN	10	0	0	0	
ASSETTRANS	SITEID	20	UPPER	8	0	1	0	SITE.SITEID
ASSETTRANS	ORGID	21	UPPER	8	0	1	0	ORGANIZATION.ORGID
ASSETTRANS	TOSITEID	22	UPPER	8	0	1	0	SITE.SITEID
ASSETTRANS	CONDITIONCODE	23	UPPER	30	0	0	0	ITEMCONDITION.CONDITIONCODE

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
ASSETTRANS	FROMCONDITIONCODE	24	UPPER	30	0	0	0	ITEMCONDITION.CONDITIONCODE
ASSETTRANS	FROMDEPT	25	ALN	30	0	0	0	PERSON.DEPARTMENT
ASSETTRANS	TODEPT	26	ALN	30	0	0	0	PERSON.DEPARTMENT
ASSETTRANS	ASSETID	27	INTEGER	12	0	0	0	ASSET.ASSETID
ASSETTRANS	TOORGID	28	UPPER	8	0	0	0	ORGANIZATION.ORGID
ASSETTRANS	TASKID	29	INTEGER	12	0	0	1	WORKORDER.TASKID
ASSETTRANS	TRANSTYPE	30	UPPER	16	0	0	0	
ASSETTRANS	POSITEID	31	UPPER	8	0	0	0	SITE.SITEID
ASSETUSERCUST	ASSETNUM	1	UPPER	12	0	1	0	ASSET.ASSETNUM
ASSETUSERCUST	PERSONID	2	UPPER	30	0	1	0	PERSON.PERSONID
ASSETUSERCUST	ORGID	3	UPPER	8	0	1	0	ORGANIZATION.ORGID
ASSETUSERCUST	SITEID	4	UPPER	8	0	1	0	SITE.SITEID
ASSETUSERCUST	ISUSER	5	YORN	1	0	1	0	
ASSETUSERCUST	ISCUSTODIAN	6	YORN	1	0	1	0	
ASSETUSERCUST	ASSETUSERCUSTID	7	INTEGER	12	0	1	1	
ASSETUSERCUST	ISPRIMARY	8	YORN	1	0	1	0	
ASSIGNMENT	WPLABORID	1	ALN	20	0	0	1	WPLABOR.WPLABORID
ASSIGNMENT	WONUM	2	UPPER	10	0	1	0	WORKORDER.WONUM
ASSIGNMENT	CRAFT	3	UPPER	8	0	0	0	CRAFT.CRAFT
ASSIGNMENT	LABORHRS	4	DURATION	8	0	0	1	
ASSIGNMENT	STATUS	5	UPPER	12	0	1	1	
ASSIGNMENT	SCHEDULEDATE	6	DATETIME	10	0	0	0	
ASSIGNMENT	LABORCODE	7	UPPER	8	0	0	0	LABOR.LABORCODE
ASSIGNMENT	STARTDATE	8	DATETIME	10	0	0	1	
ASSIGNMENT	FINISHDATE	9	DATETIME	10	0	0	1	
ASSIGNMENT	ORGID	10	UPPER	8	0	1	0	ORGANIZATION.ORGID
ASSIGNMENT	SITEID	11	UPPER	8	0	0	0	SITE.SITEID
ASSIGNMENT	ASSIGNMENTID	17	INTEGER	12	0	1	1	
ASSIGNMENT	SKILLLEVEL	18	UPPER	12	0	0	0	CRAFTSKILL.SKILLLEVEL
ASSIGNMENT	CONTRACTNUM	19	UPPER	8	0	0	0	CONTRACT.CONTRACTNUM
ASSIGNMENT	VENDOR	20	UPPER	12	0	0	0	COMPANIES.COMPANY
ATTENDANCE	LABORCODE	1	UPPER	8	0	1	0	LABOR.LABORCODE
ATTENDANCE	STARTDATE	2	DATE	4	0	1	1	
ATTENDANCE	STARTTIME	3	TIME	3	0	0	1	
ATTENDANCE	FINISHDATE	4	DATE	4	0	0	1	
ATTENDANCE	FINISHTIME	5	TIME	3	0	0	1	
ATTENDANCE	LABORHOURS	6	DURATION	8	0	1	1	
ATTENDANCE	ENTERDATE	7	DATETIME	10	0	1	1	
ATTENDANCE	TRANSDATE	8	DATETIME	10	0	1	1	
ATTENDANCE	ENTERBY	9	UPPER	30	0	1	0	PERSON.PERSONID
ATTENDANCE	ORGID	10	UPPER	8	0	0	0	ORGANIZATION.ORGID
ATTENDANCE	ATTENDANCEID	11	INTEGER	12	0	1	1	
AUTOATTRUPDATE	AUTOATTRUPDATEID	1	INTEGER	12	0	1	1	
AUTOATTRUPDATE	WONUM	2	UPPER	10	0	1	0	WORKORDER.WONUM
AUTOATTRUPDATE	ASSET	3	UPPER	12	0	0	0	ASSET.ASSETNUM
AUTOATTRUPDATE	LOCATION	4	UPPER	12	0	0	0	LOCATIONS.LOCATION

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
AUTOATTRUPDATE	ATTRIBUTE	5	UPPER	8	0	1	0	ASSETATTRIBUTE.ASSETATTRID
AUTOATTRUPDATE	OLDALNVALUE	6	ALN	25	0	0	1	ALNDOMAIN.VALUE
AUTOATTRUPDATE	NEWALNVALUE	7	ALN	25	0	0	1	ALNDOMAIN.VALUE
AUTOATTRUPDATE	OLDNUMVALUE	8	DECIMAL	10	2	0	1	NUMERICDOMAIN.VALUE
AUTOATTRUPDATE	NEWNUMVALUE	9	DECIMAL	10	2	0	1	NUMERICDOMAIN.VALUE
AUTOATTRUPDATE	COMPLETEDATETIME	10	DATETIME	10	0	0	0	
AUTOATTRUPDATE	COMPLETEDBY	11	UPPER	30	0	0	0	PERSON.PERSONID
AUTOATTRUPDATE	SITEID	12	UPPER	8	0	1	0	SITE.SITEID
AUTOATTRUPDATE	ORGID	13	UPPER	8	0	1	0	ORGANIZATION.ORGID
AUTOATTRUPDATE	SECTION	16	UPPER	10	0	0	0	CLASSSPEC.SECTION
AUTOKEY	PREFIX	1	ALN	8	0	0	1	
AUTOKEY	SEED	2	INTEGER	12	0	1	1	
AUTOKEY	ORGID	3	UPPER	8	0	0	0	ORGANIZATION.ORGID
AUTOKEY	SITEID	4	UPPER	8	0	0	0	SITE.SITEID
AUTOKEY	AUTOKEYNAME	5	UPPER	40	0	1	0	
AUTOKEY	SETID	6	UPPER	8	0	0	0	SETS.SETID
AUTOKEY	LANGCODE	7	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
AUTOKEY	AUTOKEYID	8	INTEGER	12	0	1	1	
A_ASSET	ANCESTOR	1	UPPER	12	0	0	0	ASSET.ASSETNUM
A_ASSET	ASSETID	2	INTEGER	12	0	0	0	ASSET.ASSETID
A_ASSET	ASSETNUM	3	UPPER	12	0	0	0	ASSET.ASSETNUM
A_ASSET	ASSETTAG	4	ALN	15	0	0	0	ASSET.ASSETTAG
A_ASSET	ASSETTYPE	5	ALN	15	0	0	0	ASSET.ASSETTYPE
A_ASSET	ASSETUID	6	INTEGER	12	0	0	1	ASSET.ASSETUID
A_ASSET	AUTOWOGEN	7	YORN	1	0	0	1	ASSET.ISRUNNING
A_ASSET	BINNUM	8	ALN	8	0	0	0	INVENTORY.BINNUM
A_ASSET	BUDGETCOST	9	AMOUNT	10	2	0	1	ASSET.BUDGETCOST
A_ASSET	CALNUM	10	UPPER	8	0	0	0	CALENDAR.CALNUM
A_ASSET	CHANGEBY	11	UPPER	30	0	0	0	PERSON.PERSONID
A_ASSET	CHANGEDATE	12	DATETIME	10	0	0	1	ASSET.CHANGEDATE
A_ASSET	CHILDREN	13	YORN	1	0	0	1	ASSET.CHILDREN
A_ASSET	CLASSSTRUCTUREID	14	UPPER	20	0	0	1	CLASSSTRUCTURE.CLASSSTRUCTUREID
A_ASSET	CONDITIONCODE	15	UPPER	30	0	0	0	ITEMCONDITION.CONDITIONCODE
A_ASSET	DESCRIPTION	16	ALN	100	0	0	0	ITEM.DESCRPTION
A_ASSET	DISABLED	17	YORN	1	0	0	1	ASSET.DISABLED
A_ASSET	EQ1	18	ALN	10	0	0	0	ASSET.EQ1
A_ASSET	EQ10	19	ALN	10	0	0	0	ASSET.EQ10
A_ASSET	EQ11	20	ALN	10	0	0	0	ASSET.EQ11
A_ASSET	EQ12	21	AMOUNT	10	2	0	0	ASSET.EQ12
A_ASSET	EQ2	22	ALN	10	0	0	0	ASSET.EQ2
A_ASSET	EQ23	23	DATETIME	10	0	0	0	ASSET.EQ23
A_ASSET	EQ24	24	DECIMAL	15	2	0	0	ASSET.EQ24
A_ASSET	EQ3	25	ALN	10	0	0	0	ASSET.EQ3
A_ASSET	EQ4	26	ALN	10	0	0	0	ASSET.EQ4
A_ASSET	EQ5	27	AMOUNT	10	2	0	0	ASSET.EQ5
A_ASSET	EQ6	28	DATETIME	10	0	0	0	ASSET.EQ6

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
A_ASSET	EQ7	29	DECIMAL	15	2	0	0	ASSET.EQ7
A_ASSET	EQ8	30	ALN	10	0	0	0	ASSET.EQ8
A_ASSET	EQ9	31	ALN	10	0	0	0	ASSET.EQ9
A_ASSET	EXTERNALREFID	32	ALN	10	0	0	0	ASSET.EXTERNALREFID
A_ASSET	FAILURECODE	33	UPPER	8	0	0	0	FAILURECODE.FAILURECODE
A_ASSET	GLACCOUNT	34	GL	23	0	0	1	ASSET.GLACCOUNT
A_ASSET	GROUPNAME	35	UPPER	10	0	0	0	METERGROUP.GROUPNAME
A_ASSET	HASLD	36	YORN	1	0	0	1	ASSET.HASLD
A_ASSET	INSTALLDATE	37	DATE	4	0	0	1	ASSET.INSTALLDATE
A_ASSET	INVCOST	38	AMOUNT	10	2	0	1	ASSET.INVCOST
A_ASSET	ISRUNNING	39	YORN	1	0	0	1	ASSET.ISRUNNING
A_ASSET	ITEMNUM	40	UPPER	30	0	0	0	ITEM.ITEMNUM
A_ASSET	ITEMSETID	41	UPPER	8	0	0	0	SETS.SETID
A_ASSET	ITEMTYPE	42	UPPER	8	0	0	0	ASSET.ITEMTYPE
A_ASSET	LANGCODE	43	UPPER	4	0	0	1	LANGUAGE.MAXLANGCODE
A_ASSET	LOCATION	44	UPPER	12	0	0	0	LOCATIONS.LOCATION
A_ASSET	MAINTHIERCHY	45	YORN	1	0	0	0	ASSET.MAINTHIERCHY
A_ASSET	MANUFACTURER	46	UPPER	12	0	0	0	COMPANIES.COMPANY
A_ASSET	MOVED	47	YORN	1	0	0	0	ASSET.MOVED
A_ASSET	ORGID	48	UPPER	8	0	0	0	ORGANIZATION.ORGID
A_ASSET	OWNERSYSID	49	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
A_ASSET	PARENT	50	UPPER	12	0	0	0	ASSET.ASSETNUM
A_ASSET	PRIORITY	51	INTEGER	12	0	0	1	ASSET.PRIORITY
A_ASSET	PURCHASEPRICE	52	AMOUNT	10	2	0	1	ASSET.PURCHASEPRICE
A_ASSET	REPLACECOST	53	AMOUNT	10	2	0	1	ASSET.REPLACECOST
A_ASSET	ROTSUSPACCT	54	GL	23	0	0	1	ASSET.ROTSUSPACCT
A_ASSET	SENDERSYSID	55	ALN	50	0	0	1	ASSET.SENDERSYSID
A_ASSET	SERIALNUM	56	UPPER	15	0	0	0	ASSET.SERIALNUM
A_ASSET	SHIFTNUM	57	UPPER	8	0	0	0	SHIFT.SHIFTNUM
A_ASSET	SITEID	58	UPPER	8	0	0	0	SITE.SITEID
A_ASSET	SOURCESYSID	59	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
A_ASSET	STATUS	60	ALN	20	0	0	0	ASSET.STATUS
A_ASSET	STATUSDATE	61	DATETIME	10	0	0	1	ASSET.STATUSDATE
A_ASSET	TOOLCONTROLACCOUNT	62	GL	23	0	0	1	ASSET.TOOLCONTROLACCOUNT
A_ASSET	TOOLRATE	63	AMOUNT	10	2	0	0	ASSET.TOOLRATE
A_ASSET	TOTALCOST	64	AMOUNT	10	2	0	1	ASSET.TOTALCOST
A_ASSET	TOTDOWNTIME	65	DURATION	8	0	0	1	ASSET.TOTDOWNTIME
A_ASSET	TOTUNCHARGEDCOST	66	AMOUNT	10	2	0	1	ASSET.TOTUNCHARGEDCOST
A_ASSET	UNCHARGEDCOST	67	AMOUNT	10	2	0	1	ASSET.UNCHARGEDCOST
A_ASSET	USAGE	68	ALN	15	0	0	0	ASSET.USAGE
A_ASSET	VENDOR	69	UPPER	12	0	0	0	COMPANIES.COMPANY
A_ASSET	WARRANTYEXPDATE	70	DATE	4	0	0	1	ASSET.WARRANTYEXPDATE
A_ASSET	YTDCOST	71	AMOUNT	10	2	0	1	ASSET.YTDCOST
A_ASSET	EAUDITUSERNAME	72	UPPER	18	0	1	1	
A_ASSET	EAUDITTIMESTAMP	73	DATETIME	10	0	1	1	
A_ASSET	EAUDITTYPE	74	UPPER	1	0	1	1	

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
A_ASSET	EAUDITTRANSID	75	ALN	40	0	1	1	
A_ASSET	ESIGTRANSID	76	ALN	40	0	0	1	
A_JOBTASK	DESCRIPTION	1	ALN	100	0	0	0	JOBTASK.DESCRPTION
A_JOBTASK	JO1	2	ALN	10	0	0	0	JOBTASK.JO1
A_JOBTASK	JO2	3	ALN	10	0	0	0	JOBTASK.JO2
A_JOBTASK	JO3	4	ALN	10	0	0	0	JOBTASK.JO3
A_JOBTASK	JO4	5	DECIMAL	15	2	0	0	JOBTASK.JO4
A_JOBTASK	JO5	6	ALN	10	0	0	0	JOBTASK.JO5
A_JOBTASK	JO6	7	ALN	10	0	0	0	JOBTASK.JO6
A_JOBTASK	JO7	8	ALN	10	0	0	0	JOBTASK.JO7
A_JOBTASK	JO8	9	ALN	10	0	0	0	JOBTASK.JO8
A_JOBTASK	JOBPLANID	10	INTEGER	12	0	0	1	JOBPLAN.JOBPLANID
A_JOBTASK	JOBTASKID	11	INTEGER	12	0	0	1	JOBTASK.JOBTASKID
A_JOBTASK	JPNUM	12	UPPER	10	0	0	0	JOBPLAN.JPNUM
A_JOBTASK	JPTASK	13	INTEGER	12	0	0	1	WORKORDER.TASKID
A_JOBTASK	LANGCODE	14	UPPER	4	0	0	1	LANGUAGE.MAXLANGCODE
A_JOBTASK	METERNAME	15	UPPER	10	0	0	0	METER.METERNAME
A_JOBTASK	ORGID	19	UPPER	8	0	0	0	ORGANIZATION.ORGID
A_JOBTASK	SITEID	20	UPPER	8	0	0	0	SITE.SITEID
A_JOBTASK	TASKDURATION	21	DURATION	8	0	0	1	JOBTASK.TASKDURATION
A_JOBTASK	TASKSEQUENCE	22	INTEGER	12	0	0	1	WORKORDER.WOSEQUENCE
A_JOBTASK	EAUDITUSERNAME	23	UPPER	18	0	1	1	
A_JOBTASK	EAUDITTIMESTAMP	24	DATETIME	10	0	1	1	
A_JOBTASK	EAUDITTYPE	25	UPPER	1	0	1	1	
A_JOBTASK	EAUDITTRANSID	26	ALN	40	0	1	1	
A_JOBTASK	ESIGTRANSID	27	ALN	40	0	0	1	
A_JOBTASK	HASLD	28	YORN	1	0	0	1	JOBTASK.HASLD
A_LONGDESCRIPTION	LDKEY	1	INTEGER	12	0	0	1	LONGDESCRIPTION.LDKEY
A_LONGDESCRIPTION	LDOWNERTABLE	2	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
A_LONGDESCRIPTION	LDOWNERCOL	3	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
A_LONGDESCRIPTION	LDTEXT	4	CLOB	32000	0	0	1	LONGDESCRIPTION.LDTEXT
A_LONGDESCRIPTION	EAUDITUSERNAME	5	UPPER	18	0	1	1	
A_LONGDESCRIPTION	EAUDITTIMESTAMP	6	DATETIME	10	0	1	1	
A_LONGDESCRIPTION	EAUDITTYPE	7	UPPER	1	0	1	1	
A_LONGDESCRIPTION	EAUDITTRANSID	8	ALN	40	0	1	1	
A_LONGDESCRIPTION	ESIGTRANSID	9	ALN	40	0	0	1	
A_LONGDESCRIPTION	LANGCODE	10	UPPER	4	0	0	1	LANGUAGE.MAXLANGCODE
A_LONGDESCRIPTION	LONGDESCRIPTIONID	11	INTEGER	12	0	1	1	LONGDESCRIPTION.LONGDESCRIPTIONID
A_PM	ADJNEXTDUE	1	YORN	1	0	0	1	PM.ADJNEXTDUE
A_PM	ALERTLEAD	2	INTEGER	12	0	0	1	PM.LEADTIME
A_PM	ASSETNUM	3	UPPER	12	0	0	0	ASSET.ASSETNUM
A_PM	CALENDAR	4	UPPER	8	0	0	0	CALENDAR.CALNUM
A_PM	CHANGEBY	5	UPPER	30	0	0	0	PERSON.PERSONID
A_PM	CHANGEDATE	6	DATETIME	10	0	0	1	PM.CHANGEDATE
A_PM	CREWID	7	ALN	12	0	0	1	LABOR.CREWID
A_PM	DESCRIPTION	8	ALN	100	0	0	0	WORKORDER.DESCRPTION

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
A_PM	DOWNTIME	9	YORN	1	0	0	1	PM.DOWNTIME
A_PM	EXTDATE	10	DATE	4	0	0	1	PM.EXTDATE
A_PM	FIRSTDATE	11	DATE	4	0	0	1	PM.FIRSTDATE
A_PM	FREQUENCY	12	INTEGER	12	0	0	1	PM.FREQUENCY
A_PM	FREQUNIT	13	UPPER	8	0	0	0	PM.FREQUNIT
A_PM	FRIDAY	14	YORN	1	0	0	1	PM.FRIDAY
A_PM	GLACCOUNT	15	GL	23	0	0	1	
A_PM	HASCHILDREN	16	YORN	1	0	0	1	PM.HASCHILDREN
A_PM	INTERRUPTIBLE	17	YORN	1	0	0	1	PM.INTERRUPTIBLE
A_PM	JPNUM	18	UPPER	10	0	0	0	JOBPLAN.JPNUM
A_PM	JPSEQINUSE	19	YORN	1	0	0	1	PM.JPSEQINUSE
A_PM	LANGCODE	20	UPPER	4	0	0	1	LANGUAGE.MAXLANGCODE
A_PM	LASTCOMPDATE	21	DATE	4	0	0	1	PM.LASTCOMPDATE
A_PM	LASTSTARTDATE	22	DATE	4	0	0	1	PM.LASTSTARTDATE
A_PM	LEAD	23	UPPER	30	0	0	0	PERSON.PERSONID
A_PM	LEADTIME	24	INTEGER	12	0	0	1	PM.LEADTIME
A_PM	LOCATION	25	UPPER	12	0	0	0	LOCATIONS.LOCATION
A_PM	MASTERPM	26	UPPER	8	0	0	0	PM.PMNUM
A_PM	MONDAY	27	YORN	1	0	0	1	PM.MONDAY
A_PM	NEXTDATE	28	DATE	4	0	0	1	PM.NEXTDATE
A_PM	ORGID	29	UPPER	8	0	0	0	ORGANIZATION.ORGID
A_PM	OVERRIDEMASTERUPD	30	YORN	1	0	0	1	PM.OVERRIDEMASTERUPD
A_PM	OWNER	31	UPPER	30	0	0	0	PERSON.PERSONID
A_PM	OWNERGROUP	32	UPPER	8	0	0	0	PERSONGROUP.PERSONGROUP
A_PM	PARENT	33	UPPER	8	0	0	0	PM.PMNUM
A_PM	PARENTCHGSSTATUS	34	YORN	1	0	0	0	PM.PARENTCHGSSTATUS
A_PM	PERSONGROUP	35	UPPER	8	0	0	0	PERSONGROUP.PERSONGROUP
A_PM	PMACTMETER	36	YORN	1	0	0	1	PM.USEFREQUENCY
A_PM	PMASSETWOGEN	37	YORN	1	0	0	1	PM.USEFREQUENCY
A_PM	PMCOUNTER	38	INTEGER	12	0	0	1	PM.PMCOUNTER
A_PM	PMEQ1	39	ALN	10	0	0	0	ASSET.EQ9
A_PM	PMEQ2	40	DATETIME	10	0	0	0	ASSET.EQ23
A_PM	PMEQ3	41	DECIMAL	15	2	0	0	ASSET.EQ24
A_PM	PMNUM	42	UPPER	8	0	0	0	PM.PMNUM
A_PM	PMUID	43	INTEGER	12	0	0	1	PM.PMUID
A_PM	PRIORITY	44	INTEGER	12	0	0	1	PM.PRIORITY
A_PM	ROUTE	45	UPPER	8	0	0	0	ROUTES.ROUTE
A_PM	SATURDAY	46	YORN	1	0	0	1	PM.SATURDAY
A_PM	SITEID	47	UPPER	8	0	0	0	SITE.SITEID
A_PM	STATUS	48	UPPER	20	0	0	0	PM.STATUS
A_PM	STORELOC	49	UPPER	12	0	0	0	LOCATIONS.LOCATION
A_PM	STORELOCSITE	50	UPPER	8	0	0	0	SITE.SITEID
A_PM	SUNDAY	51	YORN	1	0	0	1	PM.SUNDAY
A_PM	SUPERVISOR	52	UPPER	30	0	0	0	PERSON.PERSONID
A_PM	THURSDAY	53	YORN	1	0	0	1	PM.THURSDAY
A_PM	TUESDAY	54	YORN	1	0	0	1	PM.TUESDAY

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
A_PM	USEFREQUENCY	55	YORN	1	0	0	1	PM.USEFREQUENCY
A_PM	USETARGETDATE	56	YORN	1	0	0	1	PM.USETARGETDATE
A_PM	WEDNESDAY	57	YORN	1	0	0	1	PM.WEDNESDAY
A_PM	WORKTYPE	58	UPPER	5	0	0	0	WORKTYPE.WORKTYPE
A_PM	WOSEQUENCE	59	INTEGER	12	0	0	1	WORKORDER.WOSEQUENCE
A_PM	WOSTATUS	60	UPPER	16	0	0	1	WORKORDER.STATUS
A_PM	EAUDITUSERNAME	61	UPPER	18	0	1	1	
A_PM	EAUDITTIMESTAMP	62	DATETIME	10	0	1	1	
A_PM	EAUDITTYPE	63	UPPER	1	0	1	1	
A_PM	EAUDITTRANSID	64	ALN	40	0	1	1	
A_PM	ESIGTRANSID	65	ALN	40	0	0	1	
A_PM	HASLD	66	YORN	1	0	0	1	PM.HASLD
BBOARDAUDIENCE	BULLETINBOARDID	1	UPPER	10	0	1	0	
BBOARDAUDIENCE	MSGORGID	2	UPPER	8	0	0	0	ORGANIZATION.ORGID
BBOARDAUDIENCE	MSGSITEID	3	UPPER	8	0	0	0	SITE.SITEID
BBOARDAUDIENCE	BBOARDAUDIENCEID	4	INTEGER	12	0	1	1	
BBOARDAUDIENCE	PERSONGROUP	5	UPPER	8	0	0	0	PERSONGROUP.PERSONGROUP
BOOKMARK	APP	1	UPPER	10	0	1	1	MAXAPPS.APP
BOOKMARK	KEYVALUE	2	INTEGER	12	0	1	1	
BOOKMARK	ENTERDATE	3	DATETIME	10	0	1	0	
BOOKMARK	USERID	4	UPPER	30	0	1	0	PERSON.PERSONID
BOOKMARK	BOOKMARKID	6	INTEGER	12	0	1	1	
BULLETINBOARD	BULLETINBOARDID	1	UPPER	10	0	1	0	
BULLETINBOARD	SUBJECT	2	ALN	200	0	1	0	
BULLETINBOARD	MESSAGE	3	ALN	4000	0	0	0	
BULLETINBOARD	POSTBY	4	UPPER	18	0	1	1	
BULLETINBOARD	POSTDATE	5	DATETIME	10	0	1	1	
BULLETINBOARD	EXPIREDATE	6	DATETIME	10	0	1	1	
BULLETINBOARD	BULLETINBOARDUID	7	INTEGER	12	0	1	1	
CALENDAR	CALNUM	1	UPPER	8	0	1	0	
CALENDAR	DESCRIPTION	2	ALN	100	0	0	0	
CALENDAR	STARTDATE	3	DATE	4	0	1	1	
CALENDAR	ENDDATE	4	DATE	4	0	1	1	
CALENDAR	ORGID	5	UPPER	8	0	1	0	ORGANIZATION.ORGID
CALENDAR	CALENDARID	7	INTEGER	12	0	1	1	
CALENDAR	LANGCODE	8	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
CALENDAR	HASLD	9	YORN	1	0	1	1	
CHARPOINTACTION	POINTNUM	1	UPPER	8	0	1	0	MEASUREPOINT.POINTNUM
CHARPOINTACTION	VALUE	2	ALN	25	0	1	1	ALNDOMAIN.VALUE
CHARPOINTACTION	PMNUM	3	UPPER	8	0	0	0	PM.PMNUM
CHARPOINTACTION	JPNUM	4	UPPER	10	0	0	0	JOBPLAN.JPNUM
CHARPOINTACTION	PRIORITY	5	INTEGER	12	0	0	1	
CHARPOINTACTION	SITEID	6	UPPER	8	0	1	0	SITE.SITEID
CHARPOINTACTION	ORGID	7	UPPER	8	0	1	0	ORGANIZATION.ORGID
CHARPOINTACTION	CHARPOINTACTIONID	11	INTEGER	12	0	1	1	
CHARTOFACCOUNTS	GLACCOUNT	1	GL	23	0	1	1	

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
CHARTOFACCOUNTS	GLCOMP01	2	ALN	20	0	0	1	
CHARTOFACCOUNTS	GLCOMP02	3	ALN	20	0	0	1	
CHARTOFACCOUNTS	GLCOMP03	4	ALN	20	0	0	1	
CHARTOFACCOUNTS	GLCOMP04	5	ALN	20	0	0	1	
CHARTOFACCOUNTS	GLCOMP05	6	ALN	20	0	0	1	
CHARTOFACCOUNTS	GLCOMP06	7	ALN	20	0	0	1	
CHARTOFACCOUNTS	GLCOMP07	8	ALN	20	0	0	1	
CHARTOFACCOUNTS	GLCOMP08	9	ALN	20	0	0	1	
CHARTOFACCOUNTS	GLCOMP09	10	ALN	20	0	0	1	
CHARTOFACCOUNTS	GLCOMP10	11	ALN	20	0	0	1	
CHARTOFACCOUNTS	GLCOMP11	12	ALN	20	0	0	1	
CHARTOFACCOUNTS	GLCOMP12	13	ALN	20	0	0	1	
CHARTOFACCOUNTS	GLCOMP13	14	ALN	20	0	0	1	
CHARTOFACCOUNTS	GLCOMP14	15	ALN	20	0	0	1	
CHARTOFACCOUNTS	GLCOMP15	16	ALN	20	0	0	1	
CHARTOFACCOUNTS	GLCOMP16	17	ALN	20	0	0	1	
CHARTOFACCOUNTS	GLCOMP17	18	ALN	20	0	0	1	
CHARTOFACCOUNTS	GLCOMP18	19	ALN	20	0	0	1	
CHARTOFACCOUNTS	GLCOMP19	20	ALN	20	0	0	1	
CHARTOFACCOUNTS	GLCOMP20	21	ALN	20	0	0	1	
CHARTOFACCOUNTS	ACCOUNTNAME	22	ALN	100	0	0	0	
CHARTOFACCOUNTS	GLACCTYPE	23	ALN	3	0	0	0	
CHARTOFACCOUNTS	SOURCESYSID	24	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
CHARTOFACCOUNTS	OWNERSYSID	25	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
CHARTOFACCOUNTS	EXTERNALREFID	26	ALN	10	0	0	0	
CHARTOFACCOUNTS	SENDERSYSID	27	ALN	50	0	0	0	
CHARTOFACCOUNTS	ORGID	28	UPPER	8	0	1	0	ORGANIZATION.ORGID
CHARTOFACCOUNTS	ACTIVE	29	YORN	1	0	1	1	
CHARTOFACCOUNTS	CHARTOFACCOUNTSID	31	INTEGER	12	0	1	1	
CHARTOFACCOUNTS	LANGCODE	32	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
CHARTOFACCOUNTS	HASLD	33	YORN	1	0	1	1	
CLASSANCESTOR	CLASSANCESTORID	1	INTEGER	12	0	1	1	
CLASSANCESTOR	CLASSSTRUCTUREID	2	UPPER	20	0	0	1	CLASSSTRUCTURE.CLASSSTRUCTUREID
CLASSANCESTOR	CLASSIFICATIONID	3	UPPER	8	0	0	0	CLASSIFICATION.CLASSIFICATIONID
CLASSANCESTOR	ANCESTOR	4	UPPER	20	0	0	1	CLASSSTRUCTURE.CLASSSTRUCTUREID
CLASSANCESTOR	ANCESTORCLASSID	5	UPPER	8	0	0	0	CLASSIFICATION.CLASSIFICATIONID
CLASSANCESTOR	HIERARCHYLEVELS	6	INTEGER	12	0	0	0	
CLASSANCESTOR	ORGID	7	UPPER	8	0	0	0	ORGANIZATION.ORGID
CLASSANCESTOR	SITEID	8	UPPER	8	0	0	0	SITE.SITEID
CLASSIFICATION	CLASSIFICATIONID	1	UPPER	8	0	1	0	
CLASSIFICATION	DESCRIPTION	2	ALN	100	0	0	0	
CLASSIFICATION	ORGID	3	UPPER	8	0	0	0	ORGANIZATION.ORGID
CLASSIFICATION	SITEID	5	UPPER	8	0	0	0	SITE.SITEID
CLASSIFICATION	CLASSIFICATIONUID	6	INTEGER	12	0	1	1	
CLASSSPEC	CLASSSTRUCTUREID	1	UPPER	20	0	1	1	CLASSSTRUCTURE.CLASSSTRUCTUREID
CLASSSPEC	ASSETATTRID	2	UPPER	8	0	1	0	ASSETATTRIBUTE.ASSETATTRID

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
CLASSSPEC	MEASUREUNITID	3	UPPER	8	0	0	0	MEASUREUNIT.MEASUREUNITID
CLASSSPEC	DOMAINID	4	UPPER	18	0	0	1	MAXDOMAIN.DOMAINID
CLASSSPEC	DEFAULTNUMVALUE	5	DECIMAL	10	2	0	1	NUMERICDOMAIN.VALUE
CLASSSPEC	DEFAULTALNVALUE	6	ALN	25	0	0	1	ALNDOMAIN.VALUE
CLASSSPEC	ATTRDESCPREFIX	7	ALN	8	0	0	0	ASSETATTRIBUTE.ATTRDESCPREFIX
CLASSSPEC	USEITEMSPEC	8	YORN	1	0	1	1	
CLASSSPEC	ITEMSEQUENCE	9	SMALLINT	10	0	1	1	
CLASSSPEC	ITEMREQUIREVALUE	10	YORN	1	0	1	1	
CLASSSPEC	USEITEMDESC	11	YORN	1	0	1	1	
CLASSSPEC	USEINASSETSPEC	12	YORN	1	0	1	1	
CLASSSPEC	ASSETSEQUENCE	13	SMALLINT	10	0	1	1	
CLASSSPEC	ASSETREQUIREVALUE	14	YORN	1	0	1	1	
CLASSSPEC	USEINASSETDESC	15	YORN	1	0	1	1	
CLASSSPEC	USEINLOCSPEC	16	YORN	1	0	1	1	
CLASSSPEC	LOCSEQUENCE	17	SMALLINT	10	0	1	1	
CLASSSPEC	LOCREQUIREVALUE	18	YORN	1	0	1	1	
CLASSSPEC	USEINLOCDESC	19	YORN	1	0	1	1	
CLASSSPEC	CS01	20	ALN	10	0	0	0	
CLASSSPEC	CS02	21	ALN	10	0	0	0	
CLASSSPEC	CS03	22	ALN	10	0	0	0	
CLASSSPEC	CS04	23	DATETIME	10	0	0	0	
CLASSSPEC	CS05	24	DECIMAL	15	2	0	0	
CLASSSPEC	ORGID	25	UPPER	8	0	0	0	ORGANIZATION.ORGID
CLASSSPEC	SECTION	28	UPPER	10	0	0	0	
CLASSSPEC	SITEID	29	UPPER	8	0	0	0	SITE.SITEID
CLASSSPEC	CLASSSPECID	30	INTEGER	12	0	1	1	
CLASSTRUCTURE	CLASSTRUCTUREID	1	UPPER	20	0	1	1	
CLASSTRUCTURE	DESCRIPTION	2	ALN	100	0	0	0	
CLASSTRUCTURE	GENASSETDESC	3	YORN	1	0	1	1	
CLASSTRUCTURE	ORGID	4	UPPER	8	0	0	0	ORGANIZATION.ORGID
CLASSTRUCTURE	PARENT	6	UPPER	20	0	0	1	CLASSTRUCTURE.CLASSTRUCTUREID
CLASSTRUCTURE	CLASSIFICATIONID	7	UPPER	8	0	1	0	CLASSIFICATION.CLASSIFICATIONID
CLASSTRUCTURE	USECLASSINDESC	8	YORN	1	0	1	0	
CLASSTRUCTURE	TYPE	9	UPPER	10	0	0	0	
CLASSTRUCTURE	USEWITHASSETS	10	YORN	1	0	1	0	
CLASSTRUCTURE	USEWITHLOCATIONS	11	YORN	1	0	1	0	
CLASSTRUCTURE	USEWITHITEMS	12	YORN	1	0	1	0	
CLASSTRUCTURE	USEWITHWORKORDERS	13	YORN	1	0	1	0	
CLASSTRUCTURE	USEWITHCHANGES	14	YORN	1	0	1	0	
CLASSTRUCTURE	USEWITHRELEASES	15	YORN	1	0	1	0	
CLASSTRUCTURE	USEWITHACTIVITIES	16	YORN	1	0	1	0	
CLASSTRUCTURE	USEWITHSERVREQS	17	YORN	1	0	1	0	
CLASSTRUCTURE	USEWITHINCIDENTS	18	YORN	1	0	1	0	
CLASSTRUCTURE	USEWITHPROBLEMS	19	YORN	1	0	1	0	
CLASSTRUCTURE	USEWITHFAILURES	20	YORN	1	0	1	0	
CLASSTRUCTURE	SITEID	22	UPPER	8	0	0	0	SITE.SITEID

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
CLASSSTRUCTURE	CLASSSTRUCTUREUID	23	INTEGER	12	0	1	1	
CLASSSTRUCTURE	HASCHILDREN	24	YORN	1	0	1	0	
CLASSSTRUCTURE	LANGCODE	28	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
CLASSSTRUCTURE	USEWITHSOLUTIONS	29	YORN	1	0	1	0	
CLASSSTRUCTURE	HASLD	30	YORN	1	0	1	1	
COMMLOG	COMMLOGID	1	INTEGER	12	0	1	1	
COMMLOG	SENDTO	2	ALN	4000	0	1	0	
COMMLOG	SENDFROM	3	ALN	50	0	1	1	EMAIL.EMAILADDRESS
COMMLOG	SUBJECT	4	ALN	254	0	0	1	
COMMLOG	CREATEBY	5	UPPER	30	0	1	0	PERSON.PERSONID
COMMLOG	CREATEDATE	6	DATETIME	10	0	1	1	
COMMLOG	OWNERID	7	INTEGER	12	0	1	0	
COMMLOG	OWNERTABLE	8	UPPER	18	0	1	1	MAXOBJECT.OBJECTNAME
COMMLOG	CC	9	ALN	4000	0	0	0	
COMMLOG	BCC	10	ALN	4000	0	0	0	
COMMLOG	REPLYTO	11	ALN	50	0	0	1	EMAIL.EMAILADDRESS
COMMLOG	INBOUND	12	YORN	1	0	1	0	
COMMLOG	COMMLOGUID	14	INTEGER	12	0	1	1	
COMMLOG	MESSAGE	15	CLOB	32000	0	0	0	
COMMLOGDOCS	COMMLOGID	1	INTEGER	12	0	1	1	COMMLOG.COMMLOGID
COMMLOGDOCS	COMMLOGDOCSID	2	INTEGER	12	0	1	1	
COMMLOGDOCS	DOCINFOID	3	INTEGER	12	0	0	1	DOCINFO.DOCINFOID
COMMLOGDOCS	URLNAME	4	ALN	255	0	0	0	
COMMODITIES	COMMODITY	1	UPPER	8	0	1	1	
COMMODITIES	DESCRIPTION	2	ALN	100	0	0	0	
COMMODITIES	PARENT	3	UPPER	8	0	0	1	COMMODITIES.COMMODITY
COMMODITIES	ISSERVICE	4	YORN	1	0	1	0	
COMMODITIES	SERVICETYPE	5	ALN	10	0	1	1	
COMMODITIES	ITEMSETID	6	UPPER	8	0	1	0	SETS.SETID
COMMODITIES	COMMODITIESID	8	INTEGER	12	0	1	1	
COMMODITIES	OWNER	9	UPPER	30	0	0	0	PERSON.PERSONID
COMMODITIES	OWNERGROUP	10	UPPER	8	0	0	0	PERSONGROUP.PERSONGROUP
COMMODITIES	LANGCODE	11	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
COMMODITIES	HASLD	12	YORN	1	0	1	1	
COMMTEMPLATE	TEMPLATEID	1	UPPER	10	0	1	1	
COMMTEMPLATE	DESCRIPTION	2	ALN	100	0	0	0	
COMMTEMPLATE	SENDFROM	3	ALN	50	0	1	1	EMAIL.EMAILADDRESS
COMMTEMPLATE	SUBJECT	4	ALN	254	0	0	0	
COMMTEMPLATE	REPLYTO	5	ALN	50	0	0	1	EMAIL.EMAILADDRESS
COMMTEMPLATE	CREATEBY	6	UPPER	30	0	1	0	PERSON.PERSONID
COMMTEMPLATE	CREATEDATE	7	DATETIME	10	0	1	1	
COMMTEMPLATE	OBJECTNAME	8	UPPER	18	0	1	1	MAXOBJECT.OBJECTNAME
COMMTEMPLATE	COMMTEMPLATEID	12	INTEGER	12	0	1	1	
COMMTEMPLATE	STATUS	13	UPPER	8	0	0	0	
COMMTEMPLATE	STATUSDATE	14	DATETIME	10	0	0	0	
COMMTEMPLATE	USEWITH	15	UPPER	10	0	1	0	

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
COMMTEMPLATE	LANGCODE	17	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
COMMTEMPLATE	MESSAGE	18	CLOB	32000	0	0	0	
COMMTEMPLATE	FREEFORM	19	YORN	1	0	1	0	
COMMTEMPLATE	HASLD	20	YORN	1	0	1	1	
COMMTEMPLATE	SENDERSYSID	21	ALN	50	0	0	0	
COMMTEMPLATEDOCS	TEMPLATEID	1	UPPER	10	0	1	1	COMMTEMPLATE.TEMPLATEID
COMMTEMPLATEDOCS	COMMTEMPLATEDOCSID	2	INTEGER	12	0	1	1	
COMMTEMPLATEDOCS	APPDOCTYPEID	3	INTEGER	12	0	0	1	APPDOCTYPE.APPDOCTYPEID
COMMTMPLTSENDTO	TEMPLATEID	1	UPPER	10	0	1	1	COMMTEMPLATE.TEMPLATEID
COMMTMPLTSENDTO	TYPE	2	ALN	20	0	0	0	
COMMTMPLTSENDTO	SENDTO	3	YORN	1	0	1	0	
COMMTMPLTSENDTO	CC	4	YORN	1	0	1	0	
COMMTMPLTSENDTO	BCC	5	YORN	1	0	1	0	
COMMTMPLTSENDTO	ISBROADCAST	6	YORN	1	0	1	0	
COMMTMPLTSENDTO	SENDTOVALUE	7	ALN	4000	0	0	0	
COMMTMPLTSENDTO	COMMTMPLTSENDTOID	11	INTEGER	12	0	1	1	
COMPANIES	COMPANY	1	UPPER	12	0	1	0	
COMPANIES	TYPE	2	ALN	1	0	0	0	
COMPANIES	NAME	3	ALN	50	0	0	0	
COMPANIES	ADDRESS1	4	ALN	50	0	0	0	
COMPANIES	ADDRESS2	5	ALN	50	0	0	0	
COMPANIES	ADDRESS3	6	ALN	50	0	0	0	
COMPANIES	ADDRESS4	7	ALN	50	0	0	0	
COMPANIES	CONTACT	8	ALN	50	0	0	0	
COMPANIES	PHONE	9	ALN	20	0	0	0	
COMPANIES	FOB	10	ALN	20	0	0	0	
COMPANIES	FREIGHTTERMS	11	ALN	50	0	0	0	
COMPANIES	SHIPVIA	12	ALN	20	0	0	0	
COMPANIES	PAYMENTTERMS	13	ALN	20	0	0	0	
COMPANIES	CUSTOMERNUM	14	ALN	16	0	0	0	
COMPANIES	FAX	15	ALN	20	0	0	0	
COMPANIES	CHANGEBY	16	UPPER	30	0	0	0	PERSON.PERSONID
COMPANIES	CHANGEDATE	17	DATETIME	10	0	0	1	
COMPANIES	INCLUSIVE1	18	YORN	1	0	1	1	
COMPANIES	INCLUSIVE2	19	YORN	1	0	1	1	
COMPANIES	INCLUSIVE3	20	YORN	1	0	1	1	
COMPANIES	TAX1CODE	21	UPPER	8	0	0	0	TAX.TAXCODE
COMPANIES	TAX2CODE	22	UPPER	8	0	0	0	TAX.TAXCODE
COMPANIES	TAX3CODE	23	UPPER	8	0	0	0	TAX.TAXCODE
COMPANIES	CURRENCYCODE	24	UPPER	8	0	1	0	CURRENCY.CURRENCYCODE
COMPANIES	LOCATION	25	UPPER	12	0	0	0	LOCATIONS.LOCATION
COMPANIES	REGISTRATION1	26	ALN	20	0	0	0	
COMPANIES	REGISTRATION2	27	ALN	20	0	0	0	
COMPANIES	REGISTRATION3	28	ALN	20	0	0	0	
COMPANIES	APCONTROLACC	29	GL	23	0	0	1	
COMPANIES	APSUSPENSEACC	30	GL	23	0	0	1	

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
COMPANIES	RBNIACC	31	GL	23	0	0	1	
COMPANIES	PAYVENDOR	32	UPPER	12	0	0	0	COMPANIES.COMPANY
COMPANIES	BANKACCOUNT	33	UPPER	20	0	0	0	
COMPANIES	INCLUSIVE4	34	YORN	1	0	1	1	
COMPANIES	INCLUSIVE5	35	YORN	1	0	1	1	
COMPANIES	REGISTRATION4	36	ALN	20	0	0	0	
COMPANIES	REGISTRATION5	37	ALN	20	0	0	0	
COMPANIES	TAX4CODE	38	UPPER	8	0	0	0	TAX.TAXCODE
COMPANIES	TAX5CODE	39	UPPER	8	0	0	0	TAX.TAXCODE
COMPANIES	DISABLED	40	YORN	1	0	1	1	
COMPANIES	REMITADDRESS1	41	ALN	50	0	0	0	COMPANIES.ADDRESS1
COMPANIES	REMITADDRESS2	42	ALN	50	0	0	0	COMPANIES.ADDRESS2
COMPANIES	REMITADDRESS3	43	ALN	50	0	0	0	COMPANIES.ADDRESS3
COMPANIES	REMITADDRESS4	44	ALN	50	0	0	0	COMPANIES.ADDRESS4
COMPANIES	REMITCONTACT	45	ALN	50	0	0	0	COMPANIES.CONTACT
COMPANIES	PAYONRECEIPT	46	YORN	1	0	1	1	.
COMPANIES	HOMEPAGE	47	ALN	250	0	0	1	DOCINFO.URLNAME
COMPANIES	BANKNUM	48	ALN	16	0	0	0	.
COMPANIES	DUNSNUM	49	ALN	16	0	0	0	.
COMPANIES	TAXEXEMPTCODE	50	ALN	1	0	0	0	.
COMPANIES	TAXEXEMPTNUM	51	ALN	20	0	0	0	.
COMPANIES	ECOMMERCEENABLED	52	YORN	1	0	1	1	.
COMPANIES	MNETCOMPANYID	53	ALN	50	0	0	0	.
COMPANIES	SOURCESYSID	54	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
COMPANIES	OWNERSYSID	55	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
COMPANIES	EXTERNALREFID	56	ALN	10	0	0	0	.
COMPANIES	SENDERSYSID	57	ALN	50	0	0	0	.
COMPANIES	AUTORECEIVEONASN	58	YORN	1	0	1	1	.
COMPANIES	VENDORSENDSASN	59	YORN	1	0	1	1	.
COMPANIES	VENDORSENDSINV	60	YORN	1	0	1	1	.
COMPANIES	ECOMINTERFACE	61	ALN	30	0	0	0	.
COMPANIES	VENDORSENDSSTATUS	62	YORN	1	0	1	1	.
COMPANIES	AUTOAPPROVEINV	63	YORN	1	0	1	1	.
COMPANIES	AUTOSENDPOCANCEL	64	YORN	1	0	1	1	.
COMPANIES	ORGID	65	UPPER	8	0	1	0	ORGANIZATION.ORGID
COMPANIES	DEFAULTWAREHOUSE	66	ALN	12	0	0	0	MRLINE.VENDORWAREHOUSE
COMPANIES	PARENTCOMPANY	67	UPPER	12	0	0	0	COMPANIES.COMPANY
COMPANIES	USEPARENTREMITTO	68	YORN	1	0	1	1	.
COMPANIES	ADDRESS5	69	ALN	50	0	0	0	.
COMPANIES	REMITADDRESS5	70	ALN	50	0	0	0	COMPANIES.ADDRESS5
COMPANIES	CATALOGNAME	71	ALN	50	0	0	0	.
COMPANIES	PUNCHOUTENABLED	72	YORN	1	0	1	0	.
COMPANIES	COMPANIESID	75	INTEGER	12	0	1	1	.
COMPANIES	INSUREXPDATE	76	DATE	4	0	0	0	.
COMPANIES	INSPECTIONREQUIRED	77	YORN	1	0	1	0	.
COMPANIES	LANGCODE	78	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
COMPANIES	TOOLCONTROLACCOUNT	79	GL	23	0	0	1	.
COMPANIES	HASLD	80	YORN	1	0	1	1	.
COMPANIES	CELLPHONE	81	ALN	20	0	0	0	.
COMPANYACCDEF	TYPE	1	ALN	1	0	1	0	COMPANIES.TYPE
COMPANYACCDEF	RBNIACC	2	GL	23	0	0	1	.
COMPANYACCDEF	APCONTROLACC	3	GL	23	0	0	1	.
COMPANYACCDEF	APSUSPENSEACC	4	GL	23	0	0	1	.
COMPANYACCDEF	OLDRBNIACC	5	GL	23	0	0	1	.
COMPANYACCDEF	OLDAPCONTROLACC	6	GL	23	0	0	1	.
COMPANYACCDEF	OLDAPSUSPENSEACC	7	GL	23	0	0	1	.
COMPANYACCDEF	ORGID	8	UPPER	8	0	1	0	ORGANIZATION.ORGID
COMPANYACCDEF	COMPANYACCDEFID	9	INTEGER	12	0	1	1	.
COMPCCOMMODITY	COMPANY	1	UPPER	12	0	1	0	COMPANIES.COMPANY
COMPCCOMMODITY	COMMODITY	2	UPPER	8	0	1	1	COMMODITIES.COMMODITY
COMPCCOMMODITY	ITEMSETID	3	UPPER	8	0	0	0	SETS.SETID
COMPCCOMMODITY	PARENT	4	UPPER	8	0	0	1	COMMODITIES.COMMODITY
COMPCCOMMODITY	ORGID	5	UPPER	8	0	1	0	.
COMPCCOMMODITY	COMPCCOMMODITYID	6	INTEGER	12	0	1	1	.
COMPCONTACT	COMPANY	1	UPPER	12	0	1	0	COMPANIES.COMPANY
COMPCONTACT	CONTACT	2	ALN	50	0	1	0	COMPANIES.CONTACT
COMPCONTACT	POSITION	3	ALN	24	0	0	0	.
COMPCONTACT	VOICEPHONE	4	ALN	20	0	0	0	COMPANIES.PHONE
COMPCONTACT	FAXPHONE	5	ALN	20	0	0	0	COMPANIES.FAX
COMPCONTACT	EMAIL	6	ALN	60	0	0	0	.
COMPCONTACT	HOMEPHONE	7	ALN	20	0	0	0	.
COMPCONTACT	PAGERPHONE	8	ALN	30	0	0	0	.
COMPCONTACT	PROCUREMENTCARDNUM	9	ALN	30	0	0	0	.
COMPCONTACT	PROCCARDEXPIREDATE	10	DATE	4	0	0	1	.
COMPCONTACT	MNETUSERID	11	ALN	50	0	0	0	.
COMPCONTACT	ORGID	12	UPPER	8	0	1	0	ORGANIZATION.ORGID
COMPCONTACT	COMPCONTACTID	13	INTEGER	12	0	1	1	.
COMPCONTACT	CELLPHONE	14	ALN	20	0	0	0	.
COMPCONTACTMSTR	COMPANY	1	UPPER	12	0	1	0	COMPANIES.COMPANY
COMPCONTACTMSTR	CONTACT	2	ALN	50	0	1	0	COMPANIES.CONTACT
COMPCONTACTMSTR	COMPANYSETID	3	UPPER	8	0	1	0	SETS.SETID
COMPCONTACTMSTR	POSITION	4	ALN	24	0	0	0	COMPCONTACT.POSITION
COMPCONTACTMSTR	VOICEPHONE	5	ALN	20	0	0	0	COMPANIES.PHONE
COMPCONTACTMSTR	FAXPHONE	6	ALN	20	0	0	0	COMPANIES.FAX
COMPCONTACTMSTR	EMAIL	7	ALN	60	0	0	0	COMPCONTACT.EMAIL
COMPCONTACTMSTR	HOMEPHONE	8	ALN	20	0	0	0	COMPCONTACT.HOMEPHONE
COMPCONTACTMSTR	PAGERPHONE	9	ALN	30	0	0	0	COMPCONTACT.PAGERPHONE
COMPCONTACTMSTR	PROCUREMENTCARDNUM	10	ALN	30	0	0	0	COMPCONTACT.PROCUREMENTCARDNUM
COMPCONTACTMSTR	PROCCARDEXPIREDATE	11	DATE	4	0	0	1	COMPCONTACT.PROCCARDEXPIREDATE
COMPCONTACTMSTR	MNETUSERID	12	ALN	50	0	0	0	COMPCONTACT.MNETUSERID
COMPCONTACTMSTR	COMPCONTACTMSTRID	13	INTEGER	12	0	1	1	.
COMPMASTER	ADDRESS1	1	ALN	50	0	0	0	COMPANIES.ADDRESS1

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
COMPMASTER	ADDRESS2	2	ALN	50	0	0	0	COMPANIES.ADDRESS2
COMPMASTER	ADDRESS3	3	ALN	50	0	0	0	COMPANIES.ADDRESS3
COMPMASTER	ADDRESS4	4	ALN	50	0	0	0	COMPANIES.ADDRESS4
COMPMASTER	ADDRESS5	5	ALN	50	0	0	0	COMPANIES.ADDRESS5
COMPMASTER	AUTOAPPROVEINV	6	YORN	1	0	1	1	COMPANIES.AUTOAPPROVEINV
COMPMASTER	AUTORECEIVEONASN	7	YORN	1	0	1	1	COMPANIES.AUTORECEIVEONASN
COMPMASTER	AUTOSENDPOCANCEL	8	YORN	1	0	1	1	COMPANIES.AUTOSENDPOCANCEL
COMPMASTER	BANKACCOUNT	9	UPPER	20	0	0	0	COMPANIES.BANKACCOUNT
COMPMASTER	BANKNUM	10	ALN	16	0	0	0	COMPANIES.BANKNUM
COMPMASTER	CATALOGNAME	11	ALN	50	0	0	0	COMPANIES.CATALOGNAME
COMPMASTER	CHANGEBY	12	UPPER	30	0	0	0	PERSON.PERSONID
COMPMASTER	CHANGEDATE	13	DATETIME	10	0	0	1	COMPANIES.CHANGEDATE
COMPMASTER	COMPANY	14	UPPER	12	0	1	0	COMPANIES.COMPANY
COMPMASTER	COMPANYSETID	15	UPPER	8	0	1	0	SETS.SETID
COMPMASTER	CONTACT	16	ALN	50	0	0	0	COMPANIES.CONTACT
COMPMASTER	CURRENCYCODE	17	UPPER	8	0	1	0	CURRENCY.CURRENCYCODE
COMPMASTER	CUSTOMERNUM	18	ALN	16	0	0	0	COMPANIES.CUSTOMERNUM
COMPMASTER	DEFAULTWAREHOUSE	19	ALN	12	0	0	0	MRLINE.VENDORWAREHOUSE
COMPMASTER	DUNSNUM	20	ALN	16	0	0	0	COMPANIES.DUNSNUM
COMPMASTER	ECOMINTERFACE	21	ALN	30	0	0	0	COMPANIES.ECOMINTERFACE
COMPMASTER	ECOMMERCEENABLED	22	YORN	1	0	1	1	COMPANIES.ECOMMERCEENABLED
COMPMASTER	EXTERNALREFID	23	ALN	10	0	0	0	COMPANIES.EXTERNALREFID
COMPMASTER	FAX	24	ALN	20	0	0	0	COMPANIES.FAX
COMPMASTER	FOB	25	ALN	20	0	0	0	COMPANIES.FOB
COMPMASTER	FREIGHTTERMS	26	ALN	50	0	0	0	COMPANIES.FREIGHTTERMS
COMPMASTER	HOMEPAGE	27	ALN	250	0	0	1	DOCINFO.URLNAME
COMPMASTER	MNETCOMPANYID	28	ALN	50	0	0	0	COMPANIES.MNETCOMPANYID
COMPMASTER	NAME	29	ALN	50	0	0	0	COMPANIES.NAME
COMPMASTER	OWNERSYSID	30	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
COMPMASTER	PAYMENTTERMS	31	ALN	20	0	0	0	COMPANIES.PAYMENTTERMS
COMPMASTER	PAYVENDOR	32	UPPER	12	0	0	0	COMPANIES.COMPANY
COMPMASTER	PHONE	33	ALN	20	0	0	0	COMPANIES.PHONE
COMPMASTER	PUNCHOUTENABLED	34	YORN	1	0	1	0	COMPANIES.PUNCHOUTENABLED
COMPMASTER	REMITADDRESS1	35	ALN	50	0	0	0	COMPANIES.ADDRESS1
COMPMASTER	REMITADDRESS2	36	ALN	50	0	0	0	COMPANIES.ADDRESS2
COMPMASTER	REMITADDRESS3	37	ALN	50	0	0	0	COMPANIES.ADDRESS3
COMPMASTER	REMITADDRESS4	38	ALN	50	0	0	0	COMPANIES.ADDRESS4
COMPMASTER	REMITADDRESS5	39	ALN	50	0	0	0	COMPANIES.ADDRESS5
COMPMASTER	REMITCONTACT	40	ALN	50	0	0	0	COMPANIES.CONTACT
COMPMASTER	SENDERSYSID	41	ALN	50	0	0	0	COMPANIES.SENDERSYSID
COMPMASTER	SHIPVIA	42	ALN	20	0	0	0	COMPANIES.SHIPVIA
COMPMASTER	SOURCESYSID	43	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
COMPMASTER	TAXEXEMPTCODE	44	ALN	1	0	0	0	COMPANIES.TAXEXEMPTCODE
COMPMASTER	TAXEXEMPTNUM	45	ALN	20	0	0	0	COMPANIES.TAXEXEMPTNUM
COMPMASTER	TYPE	46	ALN	1	0	0	0	COMPANIES.TYPE
COMPMASTER	VENDORSENDSASN	47	YORN	1	0	1	1	COMPANIES.VENDORSENDSASN

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
COMPMASTER	VENDORSENDSINV	48	YORN	1	0	1	1	COMPANIES.VENDORSENDSINV
COMPMASTER	VENDORSENDSSTATUS	49	YORN	1	0	1	1	COMPANIES.VENDORSENDSSTATUS
COMPMASTER	REGISTRATION1	53	ALN	20	0	0	0	COMPANIES.REGISTRATION1
COMPMASTER	REGISTRATION2	54	ALN	20	0	0	0	COMPANIES.REGISTRATION2
COMPMASTER	REGISTRATION3	55	ALN	20	0	0	0	COMPANIES.REGISTRATION3
COMPMASTER	REGISTRATION4	56	ALN	20	0	0	0	COMPANIES.REGISTRATION4
COMPMASTER	REGISTRATION5	57	ALN	20	0	0	0	COMPANIES.REGISTRATION5
COMPMASTER	COMPMASTERID	58	INTEGER	12	0	1	1	.
COMPMASTER	INSPECTIONREQUIRED	59	YORN	1	0	1	0	COMPANIES.INSPECTIONREQUIRED
COMPMASTER	LANGCODE	60	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
COMPMASTER	DISABLED	61	YORN	1	0	1	1	.
COMPMASTER	HASLD	62	YORN	1	0	1	1	.
COMPUTERSYSTEM	NODEID	1	INTEGER	12	0	1	0	DEPLOYEDASSET.NODEID
COMPUTERSYSTEM	LOGONNAME	2	ALN	64	0	0	0	DPACOMPUTER.LOGONNAME
COMPUTERSYSTEM	SWLASTSCANDATE	3	DATETIME	10	0	0	0	DPACOMPUTER.SWLASTSCANDATE
COMPUTERSYSTEM	SWDETECTIONTOOL	4	ALN	256	0	0	0	DPACOMPUTER.SWDETECTIONTOOL
COMPUTERSYSTEM	SUPPORTSWMI	5	YORN	1	0	1	0	DPACOMPUTER.SUPPORTSWMI
COMPUTERSYSTEM	NODENAME	6	ALN	128	0	1	0	DEPLOYEDASSET.NODENAME
COMPUTERSYSTEM	DOMAINNAME	7	ALN	128	0	1	0	DEPLOYEDASSET.DOMAINNAME
COMPUTERSYSTEM	SERIALNUMBER	8	ALN	64	0	0	0	DEPLOYEDASSET.SERIALNUMBER
COMPUTERSYSTEM	ASSETTAG	9	ALN	64	0	0	0	DEPLOYEDASSET.ASSETTAG
COMPUTERSYSTEM	MAKEMODEL	10	ALN	128	0	0	0	DEPLOYEDASSET.MAKEMODEL
COMPUTERSYSTEM	DESCRIPTION	11	ALN	256	0	0	0	DEPLOYEDASSET.DESCRPTION
COMPUTERSYSTEM	HWLASTSCANDATE	12	DATETIME	10	0	0	0	DEPLOYEDASSET.HWLASTSCANDATE
COMPUTERSYSTEM	HWDETECTIONTOOL	13	ALN	256	0	0	0	DEPLOYEDASSET.HWDETECTIONTOOL
COMPUTERSYSTEM	SUPPORTSSNMP	14	YORN	1	0	1	0	DEPLOYEDASSET.SUPPORTSSNMP
COMPUTERSYSTEM	SOURCEID	15	ALN	128	0	0	0	DEPLOYEDASSET.SOURCEID
COMPUTERSYSTEM	SYSTEMROLE	16	ALN	32	0	0	0	DEPLOYEDASSET.SYSTEMROLE
COMPUTERSYSTEM	ASSETCLASS	17	ALN	32	0	1	0	DEPLOYEDASSET.ASSETCLASS
COMPUTERSYSTEM	SITEID	18	UPPER	8	0	0	0	SITE.SITEID
COMPUTERSYSTEM	ORGID	19	UPPER	8	0	0	0	ORGANIZATION.ORGID
COMPUTERSYSTEM	MOBOCHIPSET	20	ALN	128	0	0	0	DPACOMPUTER.MOBOCHIPSET
COMPUTERSYSTEM	RAMTYPE	21	ALN	32	0	0	0	.
COMPUTERSYSTEM	RAMTOTALSLOTS	22	INTEGER	12	0	0	0	.
COMPUTERSYSTEM	RAMUNUSEDLOTS	23	INTEGER	12	0	0	0	.
COMPUTERSYSTEM	RAMDESCRIPTION	24	ALN	256	0	0	0	.
COMPUTERSYSTEM	BIOSNAME	25	ALN	64	0	0	0	.
COMPUTERSYSTEM	BIOSVERSION	26	ALN	32	0	0	0	.
COMPUTERSYSTEM	BIOSDATE	27	DATETIME	10	0	0	0	.
COMPUTERSYSTEM	BIOSPNP	28	YORN	1	0	1	0	.
COMPUTERSYSTEM	MOBOSERIALNUMBER	29	ALN	64	0	0	0	DPACOMPUTER.MOBOSERIALNUMBER
COMPUTERSYSTEM	MOBOASSETTAG	30	ALN	64	0	0	0	DPACOMPUTER.MOBOASSETTAG
COMPUTERSYSTEM	MOBOMAKEMODEL	31	ALN	128	0	0	0	DPACOMPUTER.MOBOMAKEMODEL
COMPUTERSYSTEM	MOBOMANUFACTURER	32	ALN	128	0	0	0	DPACOMPUTER.MOBOMANUFACTURER
COMPUTERSYSTEM	MOBODESCRIPTION	33	ALN	256	0	0	0	DPACOMPUTER.MOBODESCRIPTION
COMPUTERSYSTEM	RAMSIZE	34	DECIMAL	10	2	0	0	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
COMPUTERSYSTEM	RAMUNIT	35	ALN	16	0	0	0	.
COMPUTERSYSTEM	SMBIOS	36	YORN	1	0	1	0	.
COMPUTERSYSTEM	CREATEDATE	37	DATETIME	10	0	1	0	.
COMPUTERSYSTEM	CHANGEDATE	38	DATETIME	10	0	1	0	.
COMPUTERSYSTEM	CREATEDATE1	40	DATETIME	10	0	1	0	.
COMPUTERSYSTEM	CHANGEDATE1	41	DATETIME	10	0	1	0	.
COMPUTERSYSTEM	CMANUFACTURER	42	ALN	128	0	1	0	DPAMMANUVARIANT.MANUFACTURERNAME
COMPUTERSYSTEM	MANUFACTURERVAR	43	ALN	128	0	1	0	DPAMMANUVARIANT.MANUFACTURERVAR
COMPUTERSYSTEM	DPAMMANUVARIANTID	44	INTEGER	12	0	1	1	DPAMMANUVARIANT.DPAMMANUVARIANTID
CONTASSETMETER	CONTASSETMETERID	1	INTEGER	12	0	1	1	.
CONTASSETMETER	LOCATION	2	UPPER	12	0	0	0	LOCATIONS.LOCATION
CONTASSETMETER	METERNAME	3	UPPER	10	0	0	0	METER.METERNAME
CONTASSETMETER	COVERSCHILDREN	4	YORN	1	0	1	1	CONTRACTASSET.COVERSCHILDREN
CONTASSETMETER	MEASUREUNIT	5	UPPER	8	0	0	0	MEASUREUNIT.MEASUREUNITID
CONTASSETMETER	STARTREADING	6	DECIMAL	15	2	0	1	METERREADING.READING
CONTASSETMETER	ENDREADING	7	DECIMAL	15	2	0	1	METERREADING.READING
CONTASSETMETER	METERDURATION	8	DECIMAL	15	2	0	1	METERREADING.READING
CONTASSETMETER	ORGID	9	UPPER	8	0	1	0	ORGANIZATION.ORGID
CONTASSETMETER	CONTRACTNUM	10	UPPER	8	0	1	0	CONTRACT.CONTRACTNUM
CONTASSETMETER	REVISIONNUM	11	INTEGER	12	0	1	1	CONTRACT.REVISIONNUM
CONTASSETMETER	ASSETID	12	INTEGER	12	0	0	0	ASSET.ASSETID
CONTASSETMETER	CONTRACTLINENUM	13	UPPER	8	0	0	0	CONTRACT.CONTRACTNUM
CONTASSETMETER	LOCATIONSITE	14	UPPER	8	0	0	0	SITE.SITEID
CONTCOMMODITY	CONTRACTNUM	1	UPPER	8	0	0	0	CONTRACT.CONTRACTNUM
CONTCOMMODITY	COMMODITY	2	UPPER	8	0	1	1	COMMODITIES.COMMODITY
CONTCOMMODITY	ITEMSETID	3	UPPER	8	0	0	0	SETS.SETID
CONTCOMMODITY	PARENT	4	UPPER	8	0	0	1	COMMODITIES.COMMODITY
CONTCOMMODITY	ORGID	5	UPPER	8	0	0	0	ORGANIZATION.ORGID
CONTCOMMODITY	CONTCOMMODITYID	6	INTEGER	12	0	1	1	.
CONTCOMMODITY	REVISIONNUM	7	INTEGER	12	0	1	1	CONTRACT.REVISIONNUM
CONTLINEASSET	CONTLINEASSETID	1	INTEGER	12	0	1	1	.
CONTLINEASSET	CONTRACTNUM	2	UPPER	8	0	1	0	CONTRACT.CONTRACTNUM
CONTLINEASSET	REVISIONNUM	3	INTEGER	12	0	1	1	CONTRACT.REVISIONNUM
CONTLINEASSET	LOCATION	4	UPPER	12	0	0	0	LOCATIONS.LOCATION
CONTLINEASSET	WARRANTYSTARTDATE	5	DATE	4	0	1	0	CONTRACT.STARTDATE
CONTLINEASSET	WARRANTYENDDATE	6	DATE	4	0	0	0	CONTRACT.ENDDATE
CONTLINEASSET	COVERSCHILDREN	7	YORN	1	0	1	1	CONTRACTASSET.COVERSCHILDREN
CONTLINEASSET	ORGID	8	UPPER	8	0	1	0	ORGANIZATION.ORGID
CONTLINEASSET	DESCRIPTION	9	ALN	100	0	1	0	ITEM.DESCRPTION
CONTLINEASSET	DURATION	10	INTEGER	12	0	1	0	WARRANTYLINE.DURATION
CONTLINEASSET	TIMEUNIT	11	UPPER	8	0	1	0	WARRANTYLINE.TIMEUNIT
CONTLINEASSET	ASSETID	12	INTEGER	12	0	0	0	ASSET.ASSETID
CONTLINEASSET	CONTRACTLINENUM	13	INTEGER	12	0	1	0	CONTRACTLINE.CONTRACTLINENUM
CONTLINEASSET	ASSETTYPE	15	ALN	15	0	0	0	ASSET.ASSETTYPE
CONTLINEASSET	LOCATIONSITE	16	UPPER	8	0	0	0	SITE.SITEID
CONTLINEMETER	CONTLINEMETERID	1	INTEGER	12	0	1	1	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
CONTLINEMETER	CONTRACTNUM	2	UPPER	8	0	1	0	CONTRACT.CONTRACTNUM
CONTLINEMETER	REVISIONNUM	3	INTEGER	12	0	1	1	CONTRACT.REVISIONNUM
CONTLINEMETER	CONTRACTLINENUM	4	INTEGER	12	0	1	0	CONTRACTLINE.CONTRACTLINENUM
CONTLINEMETER	MEASUREUNIT	5	UPPER	8	0	1	0	MEASUREUNIT.MEASUREUNITID
CONTLINEMETER	METERDURATION	6	DECIMAL	15	2	0	1	METERREADING.READING
CONTLINEMETER	ORGID	7	UPPER	8	0	0	0	ORGANIZATION.ORGID
CONTRACT	CONTRACTNUM	1	UPPER	8	0	1	0	.
CONTRACT	DESCRIPTION	2	ALN	100	0	0	0	PR.DESCRPTION
CONTRACT	MASTERNUM	3	UPPER	8	0	0	0	.
CONTRACT	VENDORREFNUM	4	ALN	12	0	0	0	.
CONTRACT	CONTRACTTYPE	5	UPPER	25	0	0	0	.
CONTRACT	REVISIONNUM	6	INTEGER	12	0	1	1	.
CONTRACT	PURCHASEAGENT	7	UPPER	30	0	0	0	PERSON.PERSONID
CONTRACT	STATUS	8	UPPER	6	0	1	0	.
CONTRACT	STATUSDATE	9	DATETIME	10	0	0	0	.
CONTRACT	STARTDATE	10	DATE	4	0	0	0	.
CONTRACT	ENDDATE	11	DATE	4	0	0	0	.
CONTRACT	RENEWALDATE	12	DATE	4	0	0	0	.
CONTRACT	EXTENDABLE	13	YORN	1	0	1	0	.
CONTRACT	AUTOEXTENDPERIOD	14	INTEGER	12	0	0	0	.
CONTRACT	CONDFOREXT	15	ALN	20	0	0	0	.
CONTRACT	CUSTTERMALLOWED	16	YORN	1	0	1	0	.
CONTRACT	CUSTNOTIFYPERIOD	17	INTEGER	12	0	0	0	.
CONTRACT	VENDTERMALLOWED	18	YORN	1	0	1	0	.
CONTRACT	VENDNOTIFYPERIOD	19	INTEGER	12	0	0	0	.
CONTRACT	VENDOR	20	UPPER	12	0	0	0	COMPANIES.COMPANY
CONTRACT	CONTACT	21	ALN	50	0	0	0	COMPANIES.CONTACT
CONTRACT	FREIGHTTERMS	22	ALN	50	0	0	0	COMPANIES.FREIGHTTERMS
CONTRACT	PAYMENTTERMS	23	ALN	20	0	0	0	COMPANIES.PAYMENTTERMS
CONTRACT	SHIPVIA	24	ALN	20	0	0	0	COMPANIES.SHIPVIA
CONTRACT	CUSTOMERNUM	25	ALN	16	0	0	0	COMPANIES.CUSTOMERNUM
CONTRACT	FOB	26	ALN	20	0	0	0	COMPANIES.FOB
CONTRACT	TOTALCOST	27	DECIMAL	10	2	0	1	PO.TOTALCOST
CONTRACT	CHANGEBY	28	UPPER	30	0	0	0	PERSON.PERSONID
CONTRACT	CHANGEDATE	29	DATETIME	10	0	1	0	.
CONTRACT	HISTORYFLAG	30	YORN	1	0	1	0	.
CONTRACT	CURRENCYCODE	31	UPPER	8	0	1	0	CURRENCY.CURRENCYCODE
CONTRACT	EXCHANGERATE	32	DECIMAL	14	7	0	1	EXCHANGE.EXCHANGERATE
CONTRACT	EXCHANGERATE2	33	DECIMAL	14	7	0	1	EXCHANGE.EXCHANGERATE
CONTRACT	EXCHANGEDATE	34	DATE	4	0	0	0	.
CONTRACT	BUYAHEAD	35	YORN	1	0	1	0	.
CONTRACT	INCLUSIVE1	36	YORN	1	0	1	0	.
CONTRACT	INCLUSIVE2	37	YORN	1	0	1	0	.
CONTRACT	INCLUSIVE3	38	YORN	1	0	1	0	.
CONTRACT	INCLUSIVE4	39	YORN	1	0	1	0	.
CONTRACT	INCLUSIVE5	40	YORN	1	0	1	0	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
CONTRACT	EXTERNALREFID	41	ALN	10	0	0	0	.
CONTRACT	OWNERSYSID	42	ALN	10	0	0	0	.
CONTRACT	SENDERSYSID	43	ALN	50	0	0	0	.
CONTRACT	ORGID	44	UPPER	8	0	0	0	ORGANIZATION.ORGID
CONTRACT	TOTALBASECOST	45	DECIMAL	10	2	1	0	.
CONTRACT	POREQUIRED	48	YORN	1	0	1	0	.
CONTRACT	PAYMENTSCHED	49	YORN	1	0	1	0	.
CONTRACT	HASINSURANCE	50	YORN	1	0	1	0	.
CONTRACT	INSURANCEEXPDATE	51	DATE	4	0	0	0	.
CONTRACT	CONTRACTID	52	INTEGER	12	0	1	1	.
CONTRACT	REVCOMMENTS	53	ALN	100	0	0	0	PR.DESCRPTION
CONTRACT	LANGCODE	54	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
CONTRACT	MASTERREVNUM	55	INTEGER	12	0	0	1	CONTRACT.REVISIONNUM
CONTRACT	PROCESSCLAIM	56	YORN	1	0	1	0	.
CONTRACT	INSPECTIONREQUIRED	57	YORN	1	0	1	0	COMPANIES.INSPECTIONREQUIRED
CONTRACT	HASLD	58	YORN	1	0	1	1	.
CONTRACTASSET	CONTRACTASSETID	1	INTEGER	12	0	1	1	.
CONTRACTASSET	CONTRACTNUM	2	UPPER	8	0	0	0	CONTRACT.CONTRACTNUM
CONTRACTASSET	REVISIONNUM	3	INTEGER	12	0	0	1	CONTRACT.REVISIONNUM
CONTRACTASSET	ORGID	4	UPPER	8	0	0	0	ORGANIZATION.ORGID
CONTRACTASSET	CONTRACTLINENUM	5	INTEGER	12	0	0	0	CONTRACTLINE.CONTRACTLINENUM
CONTRACTASSET	LOCATION	7	UPPER	12	0	0	0	LOCATIONS.LOCATION
CONTRACTASSET	STARTDATE	8	DATE	4	0	0	0	CONTRACT.STARTDATE
CONTRACTASSET	ENDDATE	9	DATE	4	0	0	0	CONTRACT.ENDDATE
CONTRACTASSET	LEASEENDVALUE	10	AMOUNT	10	2	0	1	.
CONTRACTASSET	PAYMENTSCHEDULE	11	YORN	1	0	1	1	.
CONTRACTASSET	TOTALCOST	12	DECIMAL	10	2	0	1	PO.TOTALCOST
CONTRACTASSET	INTERIMCHG	13	AMOUNT	10	2	0	0	CONTRACTLEASE.INTERIMCHG
CONTRACTASSET	WARRANTYSTARTDATE	14	DATE	4	0	0	0	.
CONTRACTASSET	RMAREQUIRED	15	YORN	1	0	1	1	.
CONTRACTASSET	COVERSCHILDREN	16	YORN	1	0	1	1	.
CONTRACTASSET	CONTRACTLINENUM	18	INTEGER	12	0	1	0	CONTRACTLINE.CONTRACTLINENUM
CONTRACTASSET	ASSETID	19	INTEGER	12	0	1	0	ASSET.ASSETID
CONTRACTAUTH	CONTRACTNUM	1	UPPER	8	0	1	0	CONTRACT.CONTRACTNUM
CONTRACTAUTH	AUTHORGID	2	UPPER	8	0	1	0	ORGANIZATION.ORGID
CONTRACTAUTH	AUTHSITEID	3	UPPER	8	0	1	0	SITE.SITEID
CONTRACTAUTH	VENDOR	4	UPPER	12	0	1	0	COMPANIES.COMPANY
CONTRACTAUTH	BILLTO	5	UPPER	30	0	0	0	ADDRESS.ADDRESSCODE
CONTRACTAUTH	BILLTOATTN	6	UPPER	30	0	0	0	PERSON.PERSONID
CONTRACTAUTH	CONTRACTAUTHID	7	INTEGER	12	0	1	0	.
CONTRACTAUTH	ORGID	8	UPPER	8	0	1	0	ORGANIZATION.ORGID
CONTRACTAUTH	REVISIONNUM	9	INTEGER	12	0	0	1	CONTRACT.REVISIONNUM
CONTRACTAUTH	ISDEFAULT	10	YORN	1	0	1	0	.
CONTRACTAUTH	CONTRACTID	11	INTEGER	12	0	1	1	CONTRACT.CONTRACTID
CONTRACTDEFAULT	CONTRACTDEFAULTID	1	INTEGER	12	0	1	1	.
CONTRACTDEFAULT	MAXCONTRACTTYPE	2	ALN	25	0	1	1	SYNONYMDOMAIN.MAXVALUE

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
CONTRACTDEFAULT	PROPERTYID	3	UPPER	18	0	1	1	MAXOBJECT.OBJECTNAME
CONTRACTDEFAULT	DEFAULTVALUE	4	ALN	50	0	0	1	PROPERTYDEFAULT.DEFAULTVALUE
CONTRACTDEFAULT	EDITABLE	5	YORN	1	0	1	1	.
CONTRACTLEASE	SHIPPINGLOSS	1	YORN	1	0	1	0	.
CONTRACTLEASE	TECHREFRESH	2	YORN	1	0	1	0	.
CONTRACTLEASE	OUTSIDEMAINT	3	YORN	1	0	1	0	.
CONTRACTLEASE	INTERIMCHG	4	AMOUNT	10	2	0	0	.
CONTRACTLEASE	INSURANCEREQ	5	YORN	1	0	1	0	.
CONTRACTLEASE	SELFINSURED	6	YORN	1	0	1	0	.
CONTRACTLEASE	BUYOUT	7	YORN	1	0	1	0	.
CONTRACTLEASE	CASUALTYBUYOUT	8	YORN	1	0	1	0	.
CONTRACTLEASE	SUBONRETURN	9	YORN	1	0	1	0	.
CONTRACTLEASE	TRANSFERWARRANTY	10	YORN	1	0	1	0	.
CONTRACTLEASE	WARRANTYSTART	11	DATE	4	0	0	0	.
CONTRACTLEASE	NOTIFYONMOVE	12	YORN	1	0	1	0	.
CONTRACTLEASE	CASUALTYNOTIFY	13	YORN	1	0	1	0	.
CONTRACTLEASE	CONFIGURENOTIFY	14	YORN	1	0	1	0	.
CONTRACTLEASE	CANAUDIT	15	YORN	1	0	1	0	.
CONTRACTLEASE	ENFORCEBUNDLE	16	YORN	1	0	1	0	.
CONTRACTLEASE	LASTSCHEDULEDATE	17	DATE	4	0	0	0	.
CONTRACTLEASE	TERM	18	INTEGER	12	0	0	0	.
CONTRACTLEASE	LEASERATEFACTOR	19	DECIMAL	10	4	0	0	.
CONTRACTLEASE	NOTIFYCONTACT	20	ALN	50	0	0	0	.
CONTRACTLEASE	DAYSTONOTIFY	21	INTEGER	12	0	0	0	.
CONTRACTLEASE	ACCEPTANCELOSS	22	YORN	1	0	1	0	.
CONTRACTLEASE	ACCEPTPERIOD	23	INTEGER	12	0	0	0	.
CONTRACTLEASE	WARRANTYDURATION	24	INTEGER	12	0	0	0	.
CONTRACTLEASE	LEASESUSPACCT	25	GL	23	0	0	1	.
CONTRACTLEASE	INCLUDESMAINT	26	YORN	1	0	1	0	.
CONTRACTLEASE	TIMEUNIT	27	UPPER	8	0	0	0	.
CONTRACTLEASE	FINANCETYPE	28	ALN	25	0	0	0	.
CONTRACTLEASE	CONTRACTNUM	29	UPPER	8	0	1	0	CONTRACT.CONTRACTNUM
CONTRACTLEASE	ORGID	30	UPPER	8	0	1	0	ORGANIZATION.ORGID
CONTRACTLEASE	CONTRACTLEASEID	31	INTEGER	12	0	1	1	.
CONTRACTLEASE	REVISIONNUM	32	INTEGER	12	0	1	1	CONTRACT.REVISIONNUM
CONTRACTLEASE	PERIODICPAYMNT	33	AMOUNT	10	2	0	0	.
CONTRACTLEASE	SCHEDULE	34	ALN	80	0	0	1	.
CONTRACTLEASE	MAINTHIERCHY	35	YORN	1	0	1	0	ASSET.MAINTHIERCHY
CONTRACTLEASE	NUMOFPAYMENTS	36	INTEGER	12	0	0	0	.
CONTRACTLINE	CONTRACTNUM	1	UPPER	8	0	1	0	CONTRACT.CONTRACTNUM
CONTRACTLINE	CONTRACTLINENUM	2	INTEGER	12	0	1	0	.
CONTRACTLINE	CONTRACTLINEID	3	INTEGER	12	0	1	0	.
CONTRACTLINE	LINETYPE	4	UPPER	15	0	1	1	PRLINE.LINETYPE
CONTRACTLINE	ITEMNUM	5	UPPER	30	0	0	0	ITEM.ITEMNUM
CONTRACTLINE	ITEMSETID	6	UPPER	8	0	0	0	SETS.SETID
CONTRACTLINE	CONDITIONCODE	7	UPPER	30	0	0	0	ITEMCONDITION.CONDITIONCODE

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
CONTRACTLINE	DESCRIPTION	8	ALN	100	0	0	0	ITEM.DESCRPTION
CONTRACTLINE	CATALOGCODE	9	ALN	30	0	0	0	INVENTORY.CATALOGCODE
CONTRACTLINE	MANUFACTURER	10	UPPER	12	0	0	0	COMPANIES.COMPANY
CONTRACTLINE	MODELNUM	11	ALN	8	0	0	0	INVENTORY.MODELNUM
CONTRACTLINE	ORDERUNIT	12	UPPER	8	0	0	0	MEASUREUNIT.MEASUREUNITID
CONTRACTLINE	ORDERQTY	13	DECIMAL	15	2	0	1	INVENTORY.ORDERQTY
CONTRACTLINE	UNITCOST	14	DECIMAL	10	2	0	0	.
CONTRACTLINE	LINECOST	15	DECIMAL	10	2	0	0	.
CONTRACTLINE	LINECOST2	16	DECIMAL	10	2	0	0	.
CONTRACTLINE	INSPECTIONREQUIRED	17	YORN	1	0	1	1	ITEM.INSPECTIONREQUIRED
CONTRACTLINE	ENTERBY	18	UPPER	30	0	1	0	PERSON.PERSONID
CONTRACTLINE	ENTERDATE	19	DATETIME	10	0	1	0	.
CONTRACTLINE	REMARK	20	ALN	50	0	0	0	PRLINE.REMARK
CONTRACTLINE	ORGID	21	UPPER	8	0	0	0	ORGANIZATION.ORGID
CONTRACTLINE	LINESTATUS	25	UPPER	6	0	1	0	CONTRACT.STATUS
CONTRACTLINE	COMMODITY	26	UPPER	8	0	0	1	COMMODITIES.COMMODITY
CONTRACTLINE	COMMODITYGROUP	27	UPPER	8	0	0	1	COMMODITIES.COMMODITY
CONTRACTLINE	REVISIONNUM	28	INTEGER	12	0	1	1	CONTRACT.REVISIONNUM
CONTRACTLINE	REVSTATUS	29	UPPER	7	0	0	0	.
CONTRACTLINE	CHGQTYONUSE	30	YORN	1	0	1	0	CONTRACTPURCH.CHGQTYONUSE
CONTRACTLINE	CHGPRICEONUSE	31	YORN	1	0	1	0	CONTRACTPURCH.CHGPRICEONUSE
CONTRACTLINE	LEADTIME	32	INTEGER	12	0	0	1	INVENTORY.DELIVERYTIME
CONTRACTLINE	HASPAYMENTSCHED	33	YORN	1	0	1	0	.
CONTRACTLINE	POREQUIRED	34	YORN	1	0	1	0	CONTRACT.POREQUIRED
CONTRACTLINE	CONTRACTTYPE	35	UPPER	25	0	1	0	CONTRACT.CONTRACTTYPE
CONTRACTLINE	LEASEENDVALUE	36	AMOUNT	10	2	0	0	.
CONTRACTLINE	LANGCODE	37	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
CONTRACTLINE	HASLD	42	YORN	1	0	1	1	.
CONTRACTMASTER	CONTRACTMASTERID	1	INTEGER	12	0	1	1	.
CONTRACTMASTER	CONTRACTNUM	2	UPPER	8	0	1	0	CONTRACT.CONTRACTNUM
CONTRACTMASTER	REVISIONNUM	3	INTEGER	12	0	1	1	CONTRACT.REVISIONNUM
CONTRACTMASTER	ORGID	4	UPPER	8	0	0	0	ORGANIZATION.ORGID
CONTRACTMASTER	ACCEPTPERIOD	5	INTEGER	12	0	0	0	CONTRACTPURCH.ACCEPTPERIOD
CONTRACTMASTER	MAXVOL	6	DECIMAL	10	2	0	0	CONTRACTPURCH.MAXVOL
CONTRACTMASTER	CANEXCEEDVOLUME	7	YORN	1	0	1	0	CONTRACTPURCH.CANEXCEEDVOLUME
CONTRACTMASTER	LASTASSOCDATE	8	DATE	4	0	0	0	.
CONTRACTMASTER	SHIPPINGLOSS	9	YORN	1	0	1	0	CONTRACTLEASE.SHIPPINGLOSS
CONTRACTMASTER	ACCEPTANCELOSS	10	YORN	1	0	1	0	CONTRACTPURCH.ACCEPTANCELOSS
CONTRACTPROPERTY	PROPERTYID	1	UPPER	18	0	1	1	MAXOBJECT.OBJECTNAME
CONTRACTPROPERTY	DESCRIPTION	2	ALN	120	0	0	0	.
CONTRACTPROPERTY	DATATYPE	3	UPPER	8	0	1	1	MAXATTRIBUTE.MAXTYPE
CONTRACTPROPERTY	CONTRACTPROPERTYID	4	INTEGER	12	0	1	1	.
CONTRACTPURCH	CONTRACTNUM	1	UPPER	8	0	1	0	CONTRACT.CONTRACTNUM
CONTRACTPURCH	ADDLINESONUSE	2	YORN	1	0	1	0	.
CONTRACTPURCH	CHGPRICEONUSE	3	YORN	1	0	1	0	.
CONTRACTPURCH	CHGQTYONUSE	4	YORN	1	0	1	0	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
CONTRACTPURCH	MAXVOL	5	DECIMAL	10	2	0	0	.
CONTRACTPURCH	MAXRELVOL	6	DECIMAL	10	2	0	0	.
CONTRACTPURCH	SHIPPINGLOSS	7	YORN	1	0	1	0	.
CONTRACTPURCH	DELIVERYLOSS	8	YORN	1	0	1	0	.
CONTRACTPURCH	ACCEPTANCELOSS	9	YORN	1	0	1	0	.
CONTRACTPURCH	ACCEPTPERIOD	10	INTEGER	12	0	0	0	.
CONTRACTPURCH	ENFORCEBUNDLE	11	YORN	1	0	1	0	.
CONTRACTPURCH	AMTREMAINING	12	DECIMAL	10	2	0	0	.
CONTRACTPURCH	ORGID	13	UPPER	8	0	0	0	ORGANIZATION.ORGID
CONTRACTPURCH	CREATEREL	14	YORN	1	0	1	0	.
CONTRACTPURCH	CANEXCEEDVOLUME	15	YORN	1	0	1	0	.
CONTRACTPURCH	CONTRACTPURCHID	16	INTEGER	12	0	1	1	.
CONTRACTPURCH	REVISIONNUM	17	INTEGER	12	0	1	1	CONTRACT.REVISIONNUM
CONTRACTPURCH	MAINTHIERCHY	18	YORN	1	0	1	0	ASSET.MAINTHIERCHY
CONTRACTPURCH	SWLICTYPE	19	UPPER	25	0	0	0	.
CONTRACTSTATUS	CHANGEBY	1	UPPER	30	0	1	0	PERSON.PERSONID
CONTRACTSTATUS	CHANGEDATE	2	DATETIME	10	0	1	0	.
CONTRACTSTATUS	MEMO	3	ALN	50	0	0	0	WFTRANSACTION.MEMO
CONTRACTSTATUS	ORGID	4	UPPER	8	0	1	0	ORGANIZATION.ORGID
CONTRACTSTATUS	STATUS	5	UPPER	6	0	1	0	.
CONTRACTSTATUS	CONTRACTNUM	6	UPPER	8	0	1	0	CONTRACT.CONTRACTNUM
CONTRACTSTATUS	CONTRACTSTATUSID	7	INTEGER	12	0	1	1	.
CONTRACTSTATUS	REVISIONNUM	8	INTEGER	12	0	1	1	CONTRACT.REVISIONNUM
CONTRACTSWLIC	CONTRACTSWLICID	1	INTEGER	12	0	1	1	.
CONTRACTSWLIC	CONTRACTNUM	2	UPPER	8	0	1	0	CONTRACT.CONTRACTNUM
CONTRACTSWLIC	REVISIONNUM	3	INTEGER	12	0	1	1	CONTRACT.REVISIONNUM
CONTRACTSWLIC	ORGID	4	UPPER	8	0	1	0	ORGANIZATION.ORGID
CONTRACTSWLIC	INCLUDESMAINT	5	YORN	1	0	1	0	.
CONTRACTSWLIC	TRANSFERABLE	6	YORN	1	0	1	0	.
CONTRACTSWLIC	GLOBALUSAGE	7	YORN	1	0	1	0	.
CONTRACTSWLIC	METRIC	8	ALN	25	0	0	0	.
CONTRACTSWLIC	MAINTFEE	9	INTEGER	12	0	0	0	.
CONTRACTSWLIC	LICENSEKEYSUSED	10	YORN	1	0	1	0	.
CONTRACTTERM	CONTRACTNUM	1	UPPER	8	0	1	0	CONTRACT.CONTRACTNUM
CONTRACTTERM	SEQNUM	2	INTEGER	12	0	0	0	.
CONTRACTTERM	TERMIN	3	UPPER	25	0	0	0	.
CONTRACTTERM	DESCRIPTION	4	ALN	100	0	0	0	.
CONTRACTTERM	ORGID	5	UPPER	8	0	1	0	.
CONTRACTTERM	CANEDIT	7	YORN	1	0	1	0	.
CONTRACTTERM	SENDTOVENDOR	8	YORN	1	0	1	1	.
CONTRACTTERM	CONTRACTTERMIN	9	INTEGER	12	0	1	1	.
CONTRACTTERM	REVISIONNUM	10	INTEGER	12	0	1	1	CONTRACT.REVISIONNUM
CONTRACTTERM	LANGCODE	11	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
CONTRACTTERM	HASLD	12	YORN	1	0	1	1	.
CONTRACTTYPE	CONTRACTTYPEID	1	UPPER	25	0	1	1	.
CONTRACTTYPE	DESCRIPTION	2	ALN	100	0	0	0	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
CONTRACTTYPE	MAXCONTRACTTYPE	3	ALN	25	0	1	1	SYNONYMDOMAIN.MAXVALUE
CONTRACTTYPE	ORGID	4	UPPER	8	0	1	0	ORGANIZATION.ORGID
CONTRACTTYPE	CONTRACTTYPEUID	5	INTEGER	12	0	1	1	.
CONTRACTTYPETERM	CONTRACTTYPEID	1	UPPER	25	0	1	1	CONTRACTTYPE.CONTRACTTYPEID
CONTRACTTYPETERM	TERMID	2	UPPER	25	0	0	1	TERM.TERMID
CONTRACTTYPETERM	DESCRIPTION	3	ALN	100	0	0	0	.
CONTRACTTYPETERM	ORGID	4	UPPER	8	0	1	0	ORGANIZATION.ORGID
CONTRACTTYPETERM	CANEDIT	6	YORN	1	0	1	0	.
CONTRACTTYPETERM	CONTRACTTYPETERMID	7	INTEGER	12	0	1	1	.
CONTRACTTYPETERM	LANGCODE	8	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
CONTRACTTYPETERM	HASLD	9	YORN	1	0	1	1	.
CONVERSION	CONVERSIONID	1	INTEGER	12	0	1	1	.
CONVERSION	FROMMEASUREUNIT	2	UPPER	8	0	1	0	MEASUREUNIT.MEASUREUNITID
CONVERSION	TOMEASUREUNIT	3	UPPER	8	0	1	0	MEASUREUNIT.MEASUREUNITID
CONVERSION	CONVERSION	4	DECIMAL	15	2	1	1	.
CONVERSION	CHANGEBY	5	UPPER	30	0	1	0	PERSON.PERSONID
CONVERSION	CHANGEDATE	6	DATETIME	10	0	1	0	.
CONVERSION	ITEMSETID	7	UPPER	8	0	1	0	SETS.SETID
CONVERSION	ITEMNUM	8	UPPER	30	0	0	0	ITEM.ITEMNUM
CRAFT	CRAFT	1	UPPER	8	0	1	0	.
CRAFT	ORGID	2	UPPER	8	0	1	0	ORGANIZATION.ORGID
CRAFT	DESCRIPTION	3	ALN	100	0	0	0	.
CRAFT	CRAFTID	5	INTEGER	12	0	1	1	.
CRAFT	LANGCODE	7	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
CRAFT	SENDERSYSID	8	ALN	50	0	0	1	.
CRAFT	SOURCESYSID	9	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
CRAFT	OWNERSYSID	10	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
CRAFT	EXTERNALREFID	11	ALN	10	0	0	0	.
CRAFT	HASLD	12	YORN	1	0	1	1	.
CRAFTRATE	CRAFT	1	UPPER	8	0	1	0	CRAFT.CRAFT
CRAFTRATE	SKILLLEVEL	2	UPPER	12	0	0	0	CRAFTSKILL.SKILLLEVEL
CRAFTRATE	ORGID	3	UPPER	8	0	1	0	ORGANIZATION.ORGID
CRAFTRATE	CONTRACTNUM	4	UPPER	8	0	0	0	CONTRACT.CONTRACTNUM
CRAFTRATE	STANDARDRATE	5	AMOUNT	10	2	0	0	.
CRAFTRATE	CRAFTRATEID	7	INTEGER	12	0	1	1	.
CRAFTRATE	REVISIONNUM	8	INTEGER	12	0	0	1	CONTRACT.REVISIONNUM
CRAFTRATE	VENDOR	9	UPPER	12	0	0	0	COMPANIES.COMPANY
CRAFTSKILL	CRAFT	1	UPPER	8	0	1	0	CRAFT.CRAFT
CRAFTSKILL	SKILLLEVEL	2	UPPER	12	0	0	0	.
CRAFTSKILL	ORGID	3	UPPER	8	0	1	0	ORGANIZATION.ORGID
CRAFTSKILL	RANK	4	INTEGER	12	0	1	1	.
CRAFTSKILL	DESCRIPTION	5	ALN	100	0	0	0	.
CRAFTSKILL	CRAFTSKILLID	8	INTEGER	12	0	1	1	.
CRAFTSKILL	LANGCODE	9	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
CRAFTSKILL	HASLD	10	YORN	1	0	1	1	.
CRONTASKDEF	CRONTASKNAME	1	ALN	30	0	1	0	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
CRONTASKDEF	CLASSNAME	2	ALN	80	0	1	0	MAXOBJECT.CLASSNAME
CRONTASKDEF	DESCRIPTION	3	ALN	256	0	0	0	.
CRONTASKDEF	CRONTASKDEFID	4	INTEGER	12	0	1	1	.
CRONTASKDEF	ACCESSLEVEL	5	UPPER	15	0	1	0	.
CRONTASKDEF	LANGCODE	6	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
CRONTASKDEF	HASLD	8	YORN	1	0	1	1	.
CRONTASKINSTANCE	CRONTASKNAME	1	ALN	30	0	1	0	CRONTASKDEF.CRONTASKNAME
CRONTASKINSTANCE	INSTANCENAME	2	ALN	30	0	1	0	CRONTASKDEF.CRONTASKNAME
CRONTASKINSTANCE	RELOADREQTIME	3	DATETIME	10	0	0	0	.
CRONTASKINSTANCE	SCHEDULE	4	ALN	80	0	1	0	.
CRONTASKINSTANCE	ACTIVE	5	YORN	1	0	1	0	.
CRONTASKINSTANCE	DESCRIPTION	6	ALN	256	0	0	0	.
CRONTASKINSTANCE	CRONTASKINSTANCEID	7	INTEGER	12	0	1	1	.
CRONTASKINSTANCE	RUNASUSERID	8	UPPER	30	0	1	0	PERSON.PERSONID
CRONTASKINSTANCE	LANGCODE	10	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
CRONTASKINSTANCE	HASLD	12	YORN	1	0	1	1	.
CRONTASKPARAM	CRONTASKNAME	1	ALN	30	0	1	0	CRONTASKDEF.CRONTASKNAME
CRONTASKPARAM	INSTANCENAME	2	ALN	30	0	1	0	CRONTASKDEF.CRONTASKNAME
CRONTASKPARAM	PARAMETER	3	ALN	50	0	1	0	.
CRONTASKPARAM	VALUE	4	ALN	256	0	0	0	.
CRONTASKPARAM	CRONTASKPARAMID	5	INTEGER	12	0	1	1	.
CROSSOVERDOMAIN	DOMAINID	1	UPPER	18	0	1	1	MAXDOMAIN.DOMAINID
CROSSOVERDOMAIN	SOURCEFIELD	2	ALN	30	0	1	1	.
CROSSOVERDOMAIN	DESTFIELD	3	ALN	30	0	1	1	.
CROSSOVERDOMAIN	COPYIFNULL	4	YORN	1	0	1	1	.
CROSSOVERDOMAIN	SITEID	5	UPPER	8	0	0	0	SITE.SITEID
CROSSOVERDOMAIN	ORGID	6	UPPER	8	0	0	0	ORGANIZATION.ORGID
CROSSOVERDOMAIN	CROSSOVERDOMAINID	7	INTEGER	12	0	1	1	.
CURRENCY	CURRENCYCODE	1	UPPER	8	0	1	0	.
CURRENCY	DESCRIPTION	2	ALN	100	0	0	0	.
CURRENCY	ACTIVE	3	YORN	1	0	1	1	.
CURRENCY	CHANGEDATE	4	DATETIME	10	0	1	1	.
CURRENCY	CHANGEBY	5	UPPER	30	0	1	0	PERSON.PERSONID
CURRENCY	CURRENCYID	7	INTEGER	12	0	1	1	.
CURRENCY	LANGCODE	8	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
CURRENCY	HASLD	9	YORN	1	0	1	1	.
DEFAULTQUERY	APP	1	UPPER	10	0	1	1	MAXAPPS.APP
DEFAULTQUERY	CLAUSENAME	2	UPPER	15	0	1	0	QUERY.CLAUSENAME
DEFAULTQUERY	USERID	3	UPPER	30	0	1	0	PERSON.PERSONID
DEFAULTQUERY	DEFAULTQUERYID	4	INTEGER	12	0	1	1	.
DEPLOYEDASSET	NODEID	1	INTEGER	12	0	1	0	.
DEPLOYEDASSET	NODENAME	2	ALN	128	0	1	0	.
DEPLOYEDASSET	DOMAINNAME	3	ALN	128	0	1	0	.
DEPLOYEDASSET	SERIALNUMBER	4	ALN	64	0	0	0	.
DEPLOYEDASSET	ASSETTAG	5	ALN	64	0	0	0	.
DEPLOYEDASSET	MAKEMODEL	6	ALN	128	0	0	0	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
DEPLOYEDASSET	MANUFACTURER	7	ALN	128	0	1	0	.
DEPLOYEDASSET	DESCRIPTION	8	ALN	256	0	0	0	.
DEPLOYEDASSET	HWLASTSCANDATE	9	DATETIME	10	0	0	0	.
DEPLOYEDASSET	HWDETECTIONTOOL	10	ALN	256	0	0	0	.
DEPLOYEDASSET	SUPPORTSSNMP	11	YORN	1	0	1	0	.
DEPLOYEDASSET	SOURCEID	12	ALN	128	0	0	0	.
DEPLOYEDASSET	SYSTEMROLE	13	ALN	32	0	0	0	.
DEPLOYEDASSET	ASSETCLASS	14	ALN	32	0	1	0	.
DEPLOYEDASSET	SITEID	15	UPPER	8	0	0	0	SITE.SITEID
DEPLOYEDASSET	ORGID	16	UPPER	8	0	0	0	ORGANIZATION.ORGID
DEPLOYEDASSET	CREATEDATE	17	DATETIME	10	0	1	0	.
DEPLOYEDASSET	CHANGEDATE	18	DATETIME	10	0	1	0	.
DMSAPISETTING	DMSNAME	1	ALN	30	0	1	1	.
DMSAPISETTING	USEPARAMETER1	2	YORN	1	0	1	1	.
DMSAPISETTING	USEPARAMETER2	3	YORN	1	0	1	1	.
DMSAPISETTING	USEPARAMETER3	4	YORN	1	0	1	1	.
DMSAPISETTING	USEPARAMETER4	5	YORN	1	0	1	1	.
DMSAPISETTING	USEPARAMETER5	6	YORN	1	0	1	1	.
DMSAPISETTING	CLASSNAME	7	ALN	80	0	0	0	MAXOBJECT.CLASSNAME
DMSAPISETTING	DMSAPISETTINGID	8	INTEGER	12	0	1	1	.
DOCINFO	DOCUMENT	1	UPPER	8	0	1	0	.
DOCINFO	DESCRIPTION	2	ALN	254	0	0	0	.
DOCINFO	APPLICATION	3	UPPER	8	0	0	1	.
DOCINFO	STATUS	4	UPPER	8	0	0	1	.
DOCINFO	STATUSDATE	5	DATETIME	10	0	0	1	.
DOCINFO	CREATEDATE	6	DATETIME	10	0	0	1	.
DOCINFO	REVISION	7	INTEGER	12	0	0	0	.
DOCINFO	CHANGEBY	8	UPPER	30	0	0	0	PERSON.PERSONID
DOCINFO	CHANGEDATE	9	DATETIME	10	0	0	1	.
DOCINFO	DOCLOCATION	10	ALN	10	0	0	0	.
DOCINFO	DOCTYPE	11	ALN	16	0	1	0	DOCTYPES.DOCTYPE
DOCINFO	CREATEBY	12	UPPER	30	0	0	0	PERSON.PERSONID
DOCINFO	URLTYPE	13	ALN	8	0	1	1	.
DOCINFO	DMSNAME	14	ALN	30	0	0	1	DMSAPISETTING.DMSNAME
DOCINFO	URLNAME	15	ALN	250	0	1	1	.
DOCINFO	URLPARAM1	16	ALN	32	0	0	1	.
DOCINFO	URLPARAM2	17	ALN	32	0	0	1	.
DOCINFO	URLPARAM3	18	ALN	8	0	0	1	.
DOCINFO	URLPARAM4	19	ALN	8	0	0	1	.
DOCINFO	URLPARAM5	20	ALN	8	0	0	1	.
DOCINFO	PRINTTHRULINKDFLT	21	YORN	1	0	1	1	.
DOCINFO	USEDEFAULTFILEPATH	22	YORN	1	0	1	1	.
DOCINFO	SHOW	23	YORN	1	0	1	1	.
DOCINFO	DOCINFOID	29	INTEGER	12	0	1	1	.
DOCINFO	LANGCODE	30	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
DOCINFO	HASLD	32	YORN	1	0	1	1	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
DOCLINKS	DOCUMENT	1	UPPER	8	0	0	0	DOCINFO.DOCUMENT
DOCLINKS	OWNERTABLE	2	UPPER	18	0	1	1	MAXOBJECT.OBJECTNAME
DOCLINKS	OWNERID	3	INTEGER	12	0	1	0	.
DOCLINKS	REFERENCE	4	ALN	8	0	0	0	.
DOCLINKS	DOCTYPE	5	ALN	16	0	1	0	DOCTYPES.DOCTYPE
DOCLINKS	DOCVERSION	6	ALN	20	0	0	0	.
DOCLINKS	GETLATESTVERSION	7	YORN	1	0	1	1	.
DOCLINKS	CREATEBY	8	UPPER	30	0	0	0	PERSON.PERSONID
DOCLINKS	CREATEDATE	9	DATETIME	10	0	0	1	.
DOCLINKS	CHANGEBY	10	UPPER	30	0	0	0	PERSON.PERSONID
DOCLINKS	CHANGEDATE	11	DATETIME	10	0	0	1	.
DOCLINKS	PRINTTHRULINK	12	YORN	1	0	1	1	.
DOCLINKS	COPYLINKTOWO	13	YORN	1	0	1	1	.
DOCLINKS	DOCLINKSID	30	INTEGER	12	0	1	1	.
DOCLINKS	DOCINFOID	31	INTEGER	12	0	1	1	DOCINFO.DOCINFOID
DOCTYPES	DOCTYPE	1	ALN	16	0	1	0	.
DOCTYPES	DESCRIPTION	2	ALN	100	0	0	0	.
DOCTYPES	DEFAULTFILEPATH	3	ALN	255	0	0	0	.
DOCTYPES	DOCTYPESID	5	INTEGER	12	0	1	1	.
DPACCOMMDEVICE	NODEID	1	INTEGER	12	0	1	0	DEPLOYEDASSET.NODEID
DPACCOMMDEVICE	DEVICEID	2	INTEGER	12	0	1	0	DPACCOMMDEVICE.DEVICEID
DPACCOMMDEVICE	DEVICETYPE	3	ALN	32	0	0	0	DPACCOMMDEVICE.DEVICETYPE
DPACCOMMDEVICE	DEVICENAME	4	ALN	64	0	0	0	DPACCOMMDEVICE.DEVICENAME
DPACCOMMDEVICE	BANDWIDTH	5	DECIMAL	10	2	0	0	DPACCOMMDEVICE.BANDWIDTH
DPACCOMMDEVICE	BANDWIDTHUNIT	6	ALN	16	0	0	0	DPACCOMMDEVICE.BANDWIDTHUNIT
DPACCOMMDEVICE	SERIALNUMBER	7	ALN	64	0	0	0	DPACCOMMDEVICE.SERIALNUMBER
DPACCOMMDEVICE	ASSETTAG	8	ALN	64	0	0	0	DPACCOMMDEVICE.ASSETTAG
DPACCOMMDEVICE	DESCRIPTION	9	ALN	256	0	0	0	DPACCOMMDEVICE.DESCRPTION
DPACCOMMDEVICE	CREATEDATE	10	DATETIME	10	0	1	0	DPACCOMMDEVICE.CREATEDATE
DPACCOMMDEVICE	CHANGEDATE	11	DATETIME	10	0	1	0	DPACCOMMDEVICE.CHANGEDATE
DPACCOMMDEVICE	CMANUFACTURER	13	ALN	128	0	1	0	DPAMMANUVARIANT.MANUFACTURERNAME
DPACCOMMDEVICE	MANUFACTURERVAR	14	ALN	128	0	1	0	DPAMMANUVARIANT.MANUFACTURERVAR
DPACCOMMDEVICE	DPAMMANUVARIANTID	15	INTEGER	12	0	1	1	DPAMMANUVARIANT.DPAMMANUVARIANTID
DPACCOMMDEVICE	CMAKEMODEL	16	ALN	128	0	1	0	DPAMADPTVARIANT.ADAPTERNAME
DPACCOMMDEVICE	ADAPTERVARIANT	17	ALN	128	0	1	0	DPAMADPTVARIANT.ADAPTERVARIANT
DPACCOMMDEVICE	DPAMADPTVARIANTID	18	INTEGER	12	0	1	1	DPAMADPTVARIANT.DPAMADPTVARIANTID
DPACCPU	NODEID	1	INTEGER	12	0	1	0	DEPLOYEDASSET.NODEID
DPACCPU	CPUID	2	INTEGER	12	0	1	0	DPACPU.CPUID
DPACCPU	SERIALNUMBER	3	ALN	64	0	0	0	DPACPU.SERIALNUMBER
DPACCPU	DESCRIPTION	4	ALN	256	0	0	0	DPACPU.DESCRPTION
DPACCPU	MAXSPEED	5	DECIMAL	10	2	0	0	DPACPU.MAXSPEED
DPACCPU	CURRSPEED	6	DECIMAL	10	2	0	0	DPACPU.CURRSPEED
DPACCPU	SPEEDUNIT	7	ALN	16	0	0	0	DPACPU.SPEEDUNIT
DPACCPU	CREATEDATE	8	DATETIME	10	0	1	0	DPACPU.CREATEDATE
DPACCPU	CHANGEDATE	9	DATETIME	10	0	1	0	DPACPU.CHANGEDATE
DPACCPU	CMANUFACTURER	12	ALN	128	0	1	0	DPAMMANUVARIANT.MANUFACTURERNAME

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
DPACCPU	MANUFACTURERVAR	13	ALN	128	0	1	0	DPAMMANUVARIANT.MANUFACTURERVAR
DPACCPU	DPAMMANUVARIANTID	14	INTEGER	12	0	1	1	DPAMMANUVARIANT.DPAMMANUVARIANTID
DPACCPU	CMAKEMODEL	15	ALN	128	0	1	0	DPAMPROCVARIANT.PROCESSORNAME
DPACCPU	PROCESSORVAR	16	ALN	128	0	1	0	DPAMPROCVARIANT.PROCESSORVAR
DPACCPU	DPAMPROCVARIANTID	17	INTEGER	12	0	1	1	DPAMPROCVARIANT.DPAMPROCVARIANTID
DPACDISK	NODEID	1	INTEGER	12	0	1	0	DPADISK.NODEID
DPACDISK	DISKID	2	INTEGER	12	0	1	0	DPADISK.DISKID
DPACDISK	DISKTYPE	3	ALN	32	0	0	0	DPADISK.DISKTYPE
DPACDISK	DISKINTERFACE	4	ALN	32	0	0	0	DPADISK.DISKINTERFACE
DPACDISK	REMOVABLEMEDIA	5	YORN	1	0	1	0	DPADISK.REMOVABLEMEDIA
DPACDISK	WRITECAPABLE	6	YORN	1	0	1	0	DPADISK.WRITECAPABLE
DPACDISK	EXTERNALDEVICE	7	YORN	1	0	1	0	DPADISK.EXTERNALDEVICE
DPACDISK	SERIALNUMBER	8	ALN	64	0	0	0	DPADISK.SERIALNUMBER
DPACDISK	ASSETTAG	9	ALN	64	0	0	0	DPADISK.ASSETTAG
DPACDISK	MAKEMODEL	10	ALN	128	0	0	0	DPADISK.MAKEMODEL
DPACDISK	DESCRIPTION	11	ALN	256	0	0	0	DPADISK.DESCRPTION
DPACDISK	SIZEUNIT	12	ALN	16	0	0	0	DPADISK.SIZEUNIT
DPACDISK	TOTALSPACE	13	DECIMAL	10	2	0	0	DPADISK.TOTALSPACE
DPACDISK	CREATEDATE	14	DATETIME	10	0	1	0	DPADISK.CREATEDATE
DPACDISK	CHANGEDATE	15	DATETIME	10	0	1	0	DPADISK.CHANGEDATE
DPACDISK	HOTSWAPPABLE	16	YORN	1	0	1	0	DPADISK.HOTSWAPPABLE
DPACDISK	SYSTEMNAME	18	ALN	64	0	0	0	DPADISK.SYSTEMNAME
DPACDISK	CMANUFACTURER	19	ALN	128	0	1	0	DPAMMANUVARIANT.MANUFACTURERNAME
DPACDISK	MANUFACTURERVAR	20	ALN	128	0	1	0	DPAMMANUVARIANT.MANUFACTURERVAR
DPACDISK	DPAMMANUVARIANTID	21	INTEGER	12	0	1	1	DPAMMANUVARIANT.DPAMMANUVARIANTID
DPACDISPLAY	NODEID	1	INTEGER	12	0	1	0	DPADISPLAY.NODEID
DPACDISPLAY	DISPLAYID	2	INTEGER	12	0	1	0	DPADISPLAY.DISPLAYID
DPACDISPLAY	DISPLAYTYPE	3	ALN	32	0	0	0	DPADISPLAY.DISPLAYTYPE
DPACDISPLAY	DISPLAYSIZE	4	INTEGER	12	0	0	0	DPADISPLAY.DISPLAYSIZE
DPACDISPLAY	MAXHORZRESOLUTION	5	INTEGER	12	0	0	0	DPADISPLAY.MAXHORZRESOLUTION
DPACDISPLAY	MAXVERTRESOLUTION	6	INTEGER	12	0	0	0	DPADISPLAY.MAXVERTRESOLUTION
DPACDISPLAY	COLORDEPTHBIT	7	INTEGER	12	0	0	0	DPADISPLAY.COLORDEPTHBIT
DPACDISPLAY	SERIALNUMBER	8	ALN	64	0	0	0	DPADISPLAY.SERIALNUMBER
DPACDISPLAY	ASSETTAG	9	ALN	64	0	0	0	DPADISPLAY.ASSETTAG
DPACDISPLAY	MAKEMODEL	10	ALN	128	0	0	0	DPADISPLAY.MAKEMODEL
DPACDISPLAY	DESCRIPTION	11	ALN	256	0	0	0	DPADISPLAY.DESCRPTION
DPACDISPLAY	CREATEDATE	12	DATETIME	10	0	1	0	DPADISPLAY.CREATEDATE
DPACDISPLAY	CHANGEDATE	13	DATETIME	10	0	1	0	DPADISPLAY.CHANGEDATE
DPACDISPLAY	CMANUFACTURER	14	ALN	128	0	1	0	DPAMMANUVARIANT.MANUFACTURERNAME
DPACDISPLAY	MANUFACTURERVAR	15	ALN	128	0	1	0	DPAMMANUVARIANT.MANUFACTURERVAR
DPACDISPLAY	DPAMMANUVARIANTID	16	INTEGER	12	0	1	1	DPAMMANUVARIANT.DPAMMANUVARIANTID
DPACIMAGEDEVICE	NODEID	1	INTEGER	12	0	1	0	DEPLOYEDASSET.NODEID
DPACIMAGEDEVICE	DEVICEID	2	INTEGER	12	0	1	0	DPAIMAGEDEVICE.DEVICEID
DPACIMAGEDEVICE	DEVICETYPE	3	ALN	32	0	0	0	DPAIMAGEDEVICE.DEVICETYPE
DPACIMAGEDEVICE	NAME	4	ALN	128	0	0	0	DPAIMAGEDEVICE.NAME
DPACIMAGEDEVICE	ALIAS	5	ALN	128	0	0	0	DPAIMAGEDEVICE.ALIAS

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
DPACIMAGEDEVICE	CURRENTRAM	6	DECIMAL	10	2	0	0	DPACIMAGEDEVICE.CURRENTRAM
DPACIMAGEDEVICE	MAXRAM	7	DECIMAL	10	2	0	0	DPACIMAGEDEVICE.MAXRAM
DPACIMAGEDEVICE	RAMUNIT	8	ALN	16	0	0	0	DPACIMAGEDEVICE.RAMUNIT
DPACIMAGEDEVICE	COLORDEPTHBIT	9	INTEGER	12	0	0	0	DPACIMAGEDEVICE.COLORDEPTHBIT
DPACIMAGEDEVICE	MAXWIDTH	10	DECIMAL	10	2	0	0	DPACIMAGEDEVICE.MAXWIDTH
DPACIMAGEDEVICE	MAXLENGTH	11	DECIMAL	10	2	0	0	DPACIMAGEDEVICE.MAXLENGTH
DPACIMAGEDEVICE	SIZEUNIT	12	ALN	16	0	0	0	DPACIMAGEDEVICE.SIZEUNIT
DPACIMAGEDEVICE	VERTICALDPI	13	INTEGER	12	0	0	0	DPACIMAGEDEVICE.VERTICALDPI
DPACIMAGEDEVICE	HORIZONTALDPI	14	INTEGER	12	0	0	0	DPACIMAGEDEVICE.HORIZONTALDPI
DPACIMAGEDEVICE	PRINTCAPABLE	15	YORN	1	0	1	0	DPACIMAGEDEVICE.PRINTCAPABLE
DPACIMAGEDEVICE	FAXCAPABLE	16	YORN	1	0	1	0	DPACIMAGEDEVICE.FAXCAPABLE
DPACIMAGEDEVICE	SCANCAPABLE	17	YORN	1	0	1	0	DPACIMAGEDEVICE.SCANCAPABLE
DPACIMAGEDEVICE	COPYCAPABLE	18	YORN	1	0	1	0	DPACIMAGEDEVICE.COPYCAPABLE
DPACIMAGEDEVICE	NUMBEROFTRAYS	19	INTEGER	12	0	0	0	DPACIMAGEDEVICE.NUMBEROFTRAYS
DPACIMAGEDEVICE	INTERFACE	20	ALN	32	0	0	0	DPACIMAGEDEVICE.INTERFACE
DPACIMAGEDEVICE	SERIALNUMBER	21	ALN	64	0	0	0	DPACIMAGEDEVICE.SERIALNUMBER
DPACIMAGEDEVICE	ASSETTAG	22	ALN	64	0	0	0	DPACIMAGEDEVICE.ASSETTAG
DPACIMAGEDEVICE	MAKEMODEL	23	ALN	128	0	0	0	DPACIMAGEDEVICE.MAKEMODEL
DPACIMAGEDEVICE	DESCRIPTION	24	ALN	256	0	0	0	DPACIMAGEDEVICE.DESCRPTION
DPACIMAGEDEVICE	CREATEDATE	25	DATETIME	10	0	1	0	DPACIMAGEDEVICE.CREATEDATE
DPACIMAGEDEVICE	CHANGEDATE	26	DATETIME	10	0	1	0	DPACIMAGEDEVICE.CHANGEDATE
DPACIMAGEDEVICE	CMANUFACTURER	31	ALN	128	0	1	0	DPAMMANUVARIANT.MANUFACTURERNAME
DPACIMAGEDEVICE	MANUFACTURERVAR	32	ALN	128	0	1	0	DPAMMANUVARIANT.MANUFACTURERVAR
DPACIMAGEDEVICE	DPAMMANUVARIANTID	33	INTEGER	12	0	1	1	DPAMMANUVARIANT.DPAMMANUVARIANTID
DPACMEDIAADAPTER	NODEID	1	INTEGER	12	0	1	0	DEPLOYEDASSET.NODEID
DPACMEDIAADAPTER	ADAPTERID	2	INTEGER	12	0	1	0	DPAMEDIAADAPTER.ADAPTERID
DPACMEDIAADAPTER	MEDIATYPE	3	ALN	32	0	0	0	DPAMEDIAADAPTER.MEDIATYPE
DPACMEDIAADAPTER	MEMORYTYPE	4	ALN	32	0	0	0	DPAMEDIAADAPTER.MEMORYTYPE
DPACMEDIAADAPTER	RAMSIZE	5	DECIMAL	10	2	0	0	DPAMEDIAADAPTER.RAMSIZE
DPACMEDIAADAPTER	RAMUNIT	6	ALN	16	0	0	0	DPAMEDIAADAPTER.RAMUNIT
DPACMEDIAADAPTER	BUSTYPE	7	ALN	32	0	0	0	DPAMEDIAADAPTER.BUSTYPE
DPACMEDIAADAPTER	CHIPSET	8	ALN	64	0	0	0	DPAMEDIAADAPTER.CHIPSET
DPACMEDIAADAPTER	SERIALNUMBER	9	ALN	64	0	0	0	DPAMEDIAADAPTER.SERIALNUMBER
DPACMEDIAADAPTER	ASSETTAG	10	ALN	64	0	0	0	DPAMEDIAADAPTER.ASSETTAG
DPACMEDIAADAPTER	DESCRIPTION	11	ALN	256	0	0	0	DPAMEDIAADAPTER.DESCRPTION
DPACMEDIAADAPTER	CREATEDATE	12	DATETIME	10	0	1	0	DPAMEDIAADAPTER.CREATEDATE
DPACMEDIAADAPTER	CHANGEDATE	13	DATETIME	10	0	1	0	DPAMEDIAADAPTER.CHANGEDATE
DPACMEDIAADAPTER	CMANUFACTURER	15	ALN	128	0	1	0	DPAMMANUVARIANT.MANUFACTURERNAME
DPACMEDIAADAPTER	MANUFACTURERVAR	16	ALN	128	0	1	0	DPAMMANUVARIANT.MANUFACTURERVAR
DPACMEDIAADAPTER	DPAMMANUVARIANTID	17	INTEGER	12	0	1	1	DPAMMANUVARIANT.DPAMMANUVARIANTID
DPACMEDIAADAPTER	CMAKEMODEL	18	ALN	128	0	1	0	DPAMADPTVARIANT.ADAPTERNAME
DPACMEDIAADAPTER	ADAPTERVARIANT	19	ALN	128	0	1	0	DPAMADPTVARIANT.ADAPTERVARIANT
DPACMEDIAADAPTER	DPAMADPTVARIANTID	20	INTEGER	12	0	1	1	DPAMADPTVARIANT.DPAMADPTVARIANTID
DPACNETADAPTER	NODEID	1	INTEGER	12	0	1	0	DEPLOYEDASSET.NODEID
DPACNETADAPTER	ADAPTERID	2	INTEGER	12	0	1	0	DPANETADAPTER.ADAPTERID
DPACNETADAPTER	ADAPTERTYPE	3	ALN	32	0	0	0	DPANETADAPTER.ADAPTERTYPE

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
DPACNETADAPTER	BANDWIDTH	4	DECIMAL	10	2	0	0	DPANETADAPTER.BANDWIDTH
DPACNETADAPTER	BANDWIDTHUNIT	5	ALN	16	0	0	0	DPANETADAPTER.BANDWIDTHUNIT
DPACNETADAPTER	PROTOCOL	6	ALN	64	0	0	0	DPANETADAPTER.PROTOCOL
DPACNETADAPTER	PORT	7	ALN	16	0	0	0	DPANETADAPTER.PORT
DPACNETADAPTER	NETMACADDR1	8	ALN	16	0	0	0	DPANETADAPTER.NETMACADDR1
DPACNETADAPTER	NETMACADDR2	9	ALN	16	0	0	0	DPANETADAPTER.NETMACADDR2
DPACNETADAPTER	CHIPSET	10	ALN	64	0	0	0	DPANETADAPTER.CHIPSET
DPACNETADAPTER	FIRMWAREVERSION	11	ALN	32	0	0	0	DPANETADAPTER.FIRMWAREVERSION
DPACNETADAPTER	SERIALNUMBER	12	ALN	64	0	0	0	DPANETADAPTER.SERIALNUMBER
DPACNETADAPTER	ASSETTAG	13	ALN	64	0	0	0	DPANETADAPTER.ASSETTAG
DPACNETADAPTER	DESCRIPTION	14	ALN	256	0	0	0	DPANETADAPTER.DESCRPTION
DPACNETADAPTER	CREATEDATE	15	DATETIME	10	0	1	0	DPANETADAPTER.CREATEDATE
DPACNETADAPTER	CHANGEDATE	16	DATETIME	10	0	1	0	DPANETADAPTER.CHANGEDATE
DPACNETADAPTER	CMANUFACTURER	18	ALN	128	0	1	0	DPAMMANUVARIANT.MANUFACTURERNAME
DPACNETADAPTER	MANUFACTURERVAR	19	ALN	128	0	1	0	DPAMMANUVARIANT.MANUFACTURERVAR
DPACNETADAPTER	DPAMMANUVARIANTID	20	INTEGER	12	0	1	1	DPAMMANUVARIANT.DPAMMANUVARIANTID
DPACNETADAPTER	CMAKEMODEL	21	ALN	128	0	1	0	DPAMADPTVARIANT.ADAPTERNAME
DPACNETADAPTER	ADAPTERVARIANT	22	ALN	128	0	1	0	DPAMADPTVARIANT.ADAPTERVARIANT
DPACNETADAPTER	DPAMADPTVARIANTID	23	INTEGER	12	0	1	1	DPAMADPTVARIANT.DPAMADPTVARIANTID
DPACNETDEVCARD	NODEID	1	INTEGER	12	0	1	0	DEPLOYEDASSET.NODEID
DPACNETDEVCARD	CARDID	2	INTEGER	12	0	1	0	DPANETDEVCARD.CARDID
DPACNETDEVCARD	TYPE	3	ALN	32	0	0	0	DPANETDEVCARD.TYPE
DPACNETDEVCARD	NETWORKADDRESS	4	ALN	32	0	0	0	DPANETDEVCARD.NETWORKADDRESS
DPACNETDEVCARD	NETMACADDR	5	ALN	16	0	0	0	DPANETDEVCARD.NETMACADDR
DPACNETDEVCARD	FIRMWAREVERSION	6	ALN	32	0	0	0	DPANETDEVCARD.FIRMWAREVERSION
DPACNETDEVCARD	RAMSIZE	7	DECIMAL	10	2	0	0	DPANETDEVCARD.RAMSIZE
DPACNETDEVCARD	RAMUNIT	8	ALN	16	0	0	0	DPANETDEVCARD.RAMUNIT
DPACNETDEVCARD	CHIPSET	9	ALN	64	0	0	0	DPANETDEVCARD.CHIPSET
DPACNETDEVCARD	BANDWIDTH	10	DECIMAL	10	2	0	0	DPANETDEVCARD.BANDWIDTH
DPACNETDEVCARD	BANDWIDTHUNIT	11	ALN	16	0	0	0	DPANETDEVCARD.BANDWIDTHUNIT
DPACNETDEVCARD	SERIALNUMBER	12	ALN	64	0	0	0	DPANETDEVCARD.SERIALNUMBER
DPACNETDEVCARD	DESCRIPTION	13	ALN	256	0	0	0	DPANETDEVCARD.DESCRPTION
DPACNETDEVCARD	ASSETTAG	14	ALN	64	0	0	0	DPANETDEVCARD.ASSETTAG
DPACNETDEVCARD	CREATEDATE	15	DATETIME	10	0	1	0	DPANETDEVCARD.CREATEDATE
DPACNETDEVCARD	CHANGEDATE	16	DATETIME	10	0	1	0	DPANETDEVCARD.CHANGEDATE
DPACNETDEVCARD	CMANUFACTURER	19	ALN	128	0	1	0	DPAMMANUVARIANT.MANUFACTURERNAME
DPACNETDEVCARD	MANUFACTURERVAR	20	ALN	128	0	1	0	DPAMMANUVARIANT.MANUFACTURERVAR
DPACNETDEVCARD	DPAMMANUVARIANTID	21	INTEGER	12	0	1	1	DPAMMANUVARIANT.DPAMMANUVARIANTID
DPACNETDEVCARD	CMAKEMODEL	22	ALN	128	0	1	0	DPAMADPTVARIANT.ADAPTERNAME
DPACNETDEVCARD	ADAPTERVARIANT	23	ALN	128	0	1	0	DPAMADPTVARIANT.ADAPTERVARIANT
DPACNETDEVCARD	DPAMADPTVARIANTID	24	INTEGER	12	0	1	1	DPAMADPTVARIANT.DPAMADPTVARIANTID
DPACOMMDEVICE	NODEID	1	INTEGER	12	0	1	0	DEPLOYEDASSET.NODEID
DPACOMMDEVICE	DEVICEID	2	INTEGER	12	0	1	0	.
DPACOMMDEVICE	DEVICETYPE	3	ALN	32	0	0	0	.
DPACOMMDEVICE	DEVICENAME	4	ALN	64	0	0	0	.
DPACOMMDEVICE	BANDWIDTH	5	DECIMAL	10	2	0	0	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
DPACOMMDEVICE	BANDWIDTHUNIT	6	ALN	16	0	0	0	.
DPACOMMDEVICE	SERIALNUMBER	7	ALN	64	0	0	0	.
DPACOMMDEVICE	ASSETTAG	8	ALN	64	0	0	0	.
DPACOMMDEVICE	MAKEMODEL	9	ALN	128	0	1	0	.
DPACOMMDEVICE	MANUFACTURER	10	ALN	128	0	1	0	.
DPACOMMDEVICE	DESCRIPTION	11	ALN	256	0	0	0	.
DPACOMMDEVICE	CREATEDATE	12	DATETIME	10	0	1	0	.
DPACOMMDEVICE	CHANGEDATE	13	DATETIME	10	0	1	0	.
DPACOMPUTER	NODEID	1	INTEGER	12	0	1	0	DEPLOYEDASSET.NODEID
DPACOMPUTER	LOGONNAME	2	ALN	64	0	0	0	.
DPACOMPUTER	SWLASTSCANDATE	3	DATETIME	10	0	0	0	.
DPACOMPUTER	SWDETECTIONTOOL	4	ALN	256	0	0	0	.
DPACOMPUTER	SUPPORTSWMI	5	YORN	1	0	1	0	.
DPACOMPUTER	MOBOCHIPSET	6	ALN	128	0	0	0	.
DPACOMPUTER	RAMTYPE	7	ALN	32	0	0	0	.
DPACOMPUTER	RAMTOTALSLOTS	8	INTEGER	12	0	0	0	.
DPACOMPUTER	RAMUNUSEDLOTS	9	INTEGER	12	0	0	0	.
DPACOMPUTER	RAMDESCRIPTION	10	ALN	256	0	0	0	.
DPACOMPUTER	BIOSNAME	11	ALN	64	0	0	0	.
DPACOMPUTER	BIOSVERSION	12	ALN	32	0	0	0	.
DPACOMPUTER	BIOSDATE	13	DATETIME	10	0	0	0	.
DPACOMPUTER	BIOSPNP	14	YORN	1	0	1	0	.
DPACOMPUTER	MOBOSERIALNUMBER	15	ALN	64	0	0	0	.
DPACOMPUTER	MOBOASSETTAG	16	ALN	64	0	0	0	.
DPACOMPUTER	MOBOMAKEMODEL	17	ALN	128	0	0	0	.
DPACOMPUTER	MOBOMANUFACTURER	18	ALN	128	0	0	0	.
DPACOMPUTER	MOBODESCRIPTION	19	ALN	256	0	0	0	.
DPACOMPUTER	RAMSIZE	20	DECIMAL	10	2	0	0	.
DPACOMPUTER	RAMUNIT	21	ALN	16	0	0	0	.
DPACOMPUTER	SMBIOS	22	YORN	1	0	1	0	.
DPACOMPUTER	CREATEDATE	23	DATETIME	10	0	1	0	.
DPACOMPUTER	CHANGEDATE	24	DATETIME	10	0	1	0	.
DPACOS	NODEID	1	INTEGER	12	0	1	0	DEPLOYEDASSET.NODEID
DPACOS	OSID	2	INTEGER	12	0	1	0	DPAOS.OSID
DPACOS	LANGUAGE	3	ALN	32	0	0	0	DPAOS.LANGUAGE
DPACOS	VERSION	4	ALN	128	0	0	0	DPAOS.VERSION
DPACOS	SERVICEPACK	5	ALN	64	0	0	0	DPAOS.SERVICEPACK
DPACOS	LICENSEDORG	6	ALN	64	0	0	0	DPAOS.LICENSEDORG
DPACOS	LICENSEDUSER	7	ALN	64	0	0	0	DPAOS.LICENSEDUSER
DPACOS	SERIALNUMBER	8	ALN	64	0	0	0	DPAOS.SERIALNUMBER
DPACOS	DESCRIPTION	9	ALN	256	0	0	0	DPAOS.DESCRPTION
DPACOS	BUILD	10	ALN	64	0	0	0	DPAOS.BUILD
DPACOS	CREATEDATE	11	DATETIME	10	0	1	0	DPAOS.CREATEDATE
DPACOS	CHANGEDATE	12	DATETIME	10	0	1	0	DPAOS.CHANGEDATE
DPACOS	CMANUFACTURER	13	ALN	128	0	1	0	DPAMMANUVARIANT.MANUFACTURERNAME
DPACOS	MANUFACTURERVAR	14	ALN	128	0	1	0	DPAMMANUVARIANT.MANUFACTURERVAR

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
DPACOS	DPAMMANUVARIANTID	15	INTEGER	12	0	1	1	DPAMMANUVARIANT.DPAMMANUVARIANTID
DPACOS	CNAME	16	ALN	256	0	1	0	DPAMOSVARIANT.OSNAME
DPACOS	OSVARIANT	17	ALN	256	0	1	0	DPAMOSVARIANT.OSVARIANT
DPACOS	DPAMOSVARIANTID	18	INTEGER	12	0	1	1	DPAMOSVARIANT.DPAMOSVARIANTID
DPACPU	NODEID	1	INTEGER	12	0	1	0	DEPLOYEDASSET.NODEID
DPACPU	CPUID	2	INTEGER	12	0	1	0	.
DPACPU	SERIALNUMBER	3	ALN	64	0	0	0	.
DPACPU	MANUFACTURER	4	ALN	128	0	1	0	.
DPACPU	MAKEMODEL	5	ALN	128	0	1	0	.
DPACPU	DESCRIPTION	6	ALN	256	0	0	0	.
DPACPU	MAXSPEED	7	DECIMAL	10	2	0	0	.
DPACPU	CURRSPEED	8	DECIMAL	10	2	0	0	.
DPACPU	SPEEDUNIT	9	ALN	16	0	0	0	.
DPACPU	CREATEDATE	10	DATETIME	10	0	1	0	.
DPACPU	CHANGEDATE	11	DATETIME	10	0	1	0	.
DPACSOFTWARE	NODEID	1	INTEGER	12	0	1	0	DPASOFTWARE.NODEID
DPACSOFTWARE	SOFTWAREID	2	INTEGER	12	0	1	0	DPASOFTWARE.SOFTWAREID
DPACSOFTWARE	SUITEID	3	INTEGER	12	0	0	0	DPASOFTWARE.SUITEID
DPACSOFTWARE	LANGUAGE	4	ALN	32	0	0	0	DPASOFTWARE.LANGUAGE
DPACSOFTWARE	VERSION	5	ALN	128	0	0	0	DPASOFTWARE.VERSION
DPACSOFTWARE	LICENSEDORG	6	ALN	64	0	0	0	DPASOFTWARE.LICENSEDORG
DPACSOFTWARE	LICENSEDUSER	7	ALN	64	0	0	0	DPASOFTWARE.LICENSEDUSER
DPACSOFTWARE	USAGECOUNT	8	INTEGER	12	0	0	0	DPASOFTWARE.USAGECOUNT
DPACSOFTWARE	LASTUSAGEDATE	9	DATETIME	10	0	0	0	DPASOFTWARE.LASTUSAGEDATE
DPACSOFTWARE	INSTALLPATH	10	ALN	4000	0	0	0	DPASOFTWARE.INSTALLPATH
DPACSOFTWARE	INSTALLDATE	11	DATETIME	10	0	0	0	DPASOFTWARE.INSTALLDATE
DPACSOFTWARE	SERIALNUMBER	12	ALN	64	0	0	0	DPASOFTWARE.SERIALNUMBER
DPACSOFTWARE	PRODUCTID	13	ALN	128	0	0	0	DPASOFTWARE.PRODUCTID
DPACSOFTWARE	DESCRIPTION	14	ALN	256	0	0	0	DPASOFTWARE.DESCRPTION
DPACSOFTWARE	CREATEDATE	15	DATETIME	10	0	1	0	DPASOFTWARE.CREATEDATE
DPACSOFTWARE	CHANGEDATE	16	DATETIME	10	0	1	0	DPASOFTWARE.CHANGEDATE
DPACSOFTWARE	TYPE	17	ALN	64	0	0	0	DPASOFTWARE.TYPE
DPACSOFTWARE	CSOFTWARENAME	20	ALN	256	0	1	0	DPAMSWVARIANT.SOFTWARENAME
DPACSOFTWARE	SOFTWAREVARIANT	21	ALN	256	0	1	0	DPAMSWVARIANT.SOFTWAREVARIANT
DPACSOFTWARE	DPAMSWVARIANTID	22	INTEGER	12	0	1	1	DPAMSWVARIANT.DPAMSWVARIANTID
DPACSOFTWARE	CMANUFACTURER	23	ALN	128	0	1	0	DPAMMANUVARIANT.MANUFACTURERNAME
DPACSOFTWARE	MANUFACTURERVAR	24	ALN	128	0	1	0	DPAMMANUVARIANT.MANUFACTURERVAR
DPACSOFTWARE	DPAMMANUVARIANTID	25	INTEGER	12	0	1	1	DPAMMANUVARIANT.DPAMMANUVARIANTID
DPACSOFTWARE	SOFTWAREID1	26	INTEGER	12	0	1	0	.
DPACSOFTWARE	COMPLIANCESETTING	27	ALN	32	0	0	0	.
DPACSWSUITE	NODEID	1	INTEGER	12	0	1	0	DEPLOYEDASSET.NODEID
DPACSWSUITE	SUITEID	2	INTEGER	12	0	1	0	DPASWSUITE.SUITEID
DPACSWSUITE	SUITENAME	3	ALN	256	0	0	0	DPASWSUITE.SUITENAME
DPACSWSUITE	LANGUAGE	4	ALN	32	0	0	0	DPASWSUITE.LANGUAGE
DPACSWSUITE	VERSION	5	ALN	64	0	0	0	DPASWSUITE.VERSION
DPACSWSUITE	LICENSEDORG	6	ALN	64	0	0	0	DPASWSUITE.LICENSEDORG

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
DPACWSUITE	LICENSEDUSER	7	ALN	64	0	0	0	DPASWSUITE.LICENSEDUSER
DPACWSUITE	USAGECOUNT	8	INTEGER	12	0	0	0	DPASWSUITE.USAGECOUNT
DPACWSUITE	LASTUSAGEDATE	9	DATETIME	10	0	0	0	DPASWSUITE.LASTUSAGEDATE
DPACWSUITE	INSTALLDATE	10	DATETIME	10	0	0	0	DPASWSUITE.INSTALLDATE
DPACWSUITE	SERIALNUMBER	11	ALN	64	0	0	0	DPASWSUITE.SERIALNUMBER
DPACWSUITE	PRODUCTID	12	ALN	128	0	0	0	DPASWSUITE.PRODUCTID
DPACWSUITE	DESCRIPTION	13	ALN	256	0	0	0	DPASWSUITE.DESCRPTION
DPACWSUITE	CREATEDATE	14	DATETIME	10	0	1	0	DPASWSUITE.CREATEDATE
DPACWSUITE	CHANGEDATE	15	DATETIME	10	0	1	0	DPASWSUITE.CHANGEDATE
DPACWSUITE	DPASWSUITEID	17	INTEGER	12	0	1	0	DPASWSUITE.DPASWSUITEID
DPACWSUITE	CMANUFACTURER	18	ALN	128	0	1	0	DPAMMANUVARIANT.MANUFACTURERNAME
DPACWSUITE	MANUFACTURERVAR	19	ALN	128	0	1	0	DPAMMANUVARIANT.MANUFACTURERVAR
DPACWSUITE	DPAMMANUVARIANTID	20	INTEGER	12	0	1	1	DPAMMANUVARIANT.DPAMMANUVARIANTID
DPADISK	NODEID	1	INTEGER	12	0	1	0	.
DPADISK	DISKID	2	INTEGER	12	0	1	0	.
DPADISK	DISKTYPE	3	ALN	32	0	0	0	.
DPADISK	DISKINTERFACE	4	ALN	32	0	0	0	.
DPADISK	REMOVABLEMEDIA	5	YORN	1	0	1	0	.
DPADISK	WRITECAPABLE	6	YORN	1	0	1	0	.
DPADISK	EXTERNALDEVICE	7	YORN	1	0	1	0	.
DPADISK	SERIALNUMBER	8	ALN	64	0	0	0	.
DPADISK	ASSETTAG	9	ALN	64	0	0	0	.
DPADISK	MAKEMODEL	10	ALN	128	0	0	0	.
DPADISK	MANUFACTURER	11	ALN	128	0	1	0	.
DPADISK	DESCRIPTION	12	ALN	256	0	0	0	.
DPADISK	SIZEUNIT	13	ALN	16	0	0	0	.
DPADISK	TOTALSPACE	14	DECIMAL	10	2	0	0	.
DPADISK	CREATEDATE	15	DATETIME	10	0	1	0	.
DPADISK	CHANGEDATE	16	DATETIME	10	0	1	0	.
DPADISK	HOTSWAPPABLE	17	YORN	1	0	1	0	.
DPADISK	SYSTEMNAME	19	ALN	64	0	0	0	.
DPADISPLAY	NODEID	1	INTEGER	12	0	1	0	.
DPADISPLAY	DISPLAYID	2	INTEGER	12	0	1	0	.
DPADISPLAY	DISPLAYTYPE	3	ALN	32	0	0	0	.
DPADISPLAY	DISPLAYSIZE	4	INTEGER	12	0	0	0	.
DPADISPLAY	MAXHORZRESOLUTION	5	INTEGER	12	0	0	0	.
DPADISPLAY	MAXVERTRESOLUTION	6	INTEGER	12	0	0	0	.
DPADISPLAY	COLORDEPTHBIT	7	INTEGER	12	0	0	0	.
DPADISPLAY	SERIALNUMBER	8	ALN	64	0	0	0	.
DPADISPLAY	ASSETTAG	9	ALN	64	0	0	0	.
DPADISPLAY	MAKEMODEL	10	ALN	128	0	0	0	.
DPADISPLAY	MANUFACTURER	11	ALN	128	0	1	0	.
DPADISPLAY	DESCRIPTION	12	ALN	256	0	0	0	.
DPADISPLAY	CREATEDATE	13	DATETIME	10	0	1	0	.
DPADISPLAY	CHANGEDATE	14	DATETIME	10	0	1	0	.
DPAFILE	NODEID	1	INTEGER	12	0	1	0	DEPLOYEDASSET.NODEID

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
DPAFILE	FILEID	2	INTEGER	12	0	1	0	.
DPAFILE	NAME	3	ALN	256	0	1	0	.
DPAFILE	AUTHOR	4	ALN	32	0	0	0	.
DPAFILE	OWNER	5	ALN	32	0	0	0	.
DPAFILE	CREATEDATE	6	DATETIME	10	0	1	0	.
DPAFILE	LASTCHANGEDATE	7	DATETIME	10	0	0	0	.
DPAFILE	LASTACCESSDATE	8	DATETIME	10	0	0	0	.
DPAFILE	LASTACCESSEDBY	9	ALN	32	0	0	0	.
DPAFILE	EXTENSION	10	ALN	256	0	0	0	.
DPAFILE	VOLUME	11	ALN	256	0	0	0	.
DPAFILE	PATH	12	ALN	4000	0	0	0	.
DPAFILE	DESCRIPTION	13	ALN	256	0	0	0	.
DPAFILE	FILESIZE	14	DECIMAL	10	2	0	0	.
DPAFILE	SIZEUNIT	15	ALN	16	0	0	0	.
DPAFILE	FILECREATEDATE	16	DATETIME	10	0	0	0	.
DPAFILE	CHANGEDATE	17	DATETIME	10	0	1	0	.
DPAIMAGEDEVICE	NODEID	1	INTEGER	12	0	1	0	DEPLOYEDASSET.NODEID
DPAIMAGEDEVICE	DEVICEID	2	INTEGER	12	0	1	0	.
DPAIMAGEDEVICE	DEVICETYPE	3	ALN	32	0	0	0	.
DPAIMAGEDEVICE	NAME	4	ALN	128	0	0	0	.
DPAIMAGEDEVICE	ALIAS	5	ALN	128	0	0	0	.
DPAIMAGEDEVICE	CURRENTRAM	6	DECIMAL	10	2	0	0	.
DPAIMAGEDEVICE	MAXRAM	7	DECIMAL	10	2	0	0	.
DPAIMAGEDEVICE	RAMUNIT	8	ALN	16	0	0	0	.
DPAIMAGEDEVICE	COLORDEPTHBIT	9	INTEGER	12	0	0	0	.
DPAIMAGEDEVICE	MAXWIDTH	10	DECIMAL	10	2	0	0	.
DPAIMAGEDEVICE	MAXLENGTH	11	DECIMAL	10	2	0	0	.
DPAIMAGEDEVICE	SIZEUNIT	12	ALN	16	0	0	0	.
DPAIMAGEDEVICE	VERTICALDPI	13	INTEGER	12	0	0	0	.
DPAIMAGEDEVICE	HORIZONTALDPI	14	INTEGER	12	0	0	0	.
DPAIMAGEDEVICE	PRINTCAPABLE	15	YORN	1	0	1	0	.
DPAIMAGEDEVICE	FAXCAPABLE	16	YORN	1	0	1	0	.
DPAIMAGEDEVICE	SCANCAPABLE	17	YORN	1	0	1	0	.
DPAIMAGEDEVICE	COPYCAPABLE	18	YORN	1	0	1	0	.
DPAIMAGEDEVICE	NUMBEROFTRAYS	19	INTEGER	12	0	0	0	.
DPAIMAGEDEVICE	INTERFACE	20	ALN	32	0	0	0	.
DPAIMAGEDEVICE	SERIALNUMBER	21	ALN	64	0	0	0	.
DPAIMAGEDEVICE	ASSETTAG	22	ALN	64	0	0	0	.
DPAIMAGEDEVICE	MAKEMODEL	23	ALN	128	0	0	0	.
DPAIMAGEDEVICE	MANUFACTURER	24	ALN	128	0	1	0	.
DPAIMAGEDEVICE	DESCRIPTION	25	ALN	256	0	0	0	.
DPAIMAGEDEVICE	CREATEDATE	26	DATETIME	10	0	1	0	.
DPAIMAGEDEVICE	CHANGEDATE	27	DATETIME	10	0	1	0	.
DPAIPX	NODEID	1	INTEGER	12	0	1	0	DEPLOYEDASSET.NODEID
DPAIPX	IPXID	2	INTEGER	12	0	1	0	.
DPAIPX	IPXADDRESS	3	ALN	32	0	1	0	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
DPAIPX	FRAMETYPE	4	ALN	32	0	0	0	.
DPAIPX	NETWORKNUMBER	5	ALN	8	0	0	0	.
DPAIPX	LINKSPEED	6	INTEGER	12	0	0	0	.
DPAIPX	MAXPACKETSIZE	7	INTEGER	12	0	0	0	.
DPAIPX	CREATEDATE	8	DATETIME	10	0	1	0	.
DPAIPX	CHANGEDATE	9	DATETIME	10	0	1	0	.
DPALOGICALDRIVE	NODEID	1	INTEGER	12	0	1	0	DEPLOYEDASSET.NODEID
DPALOGICALDRIVE	LOGICALDRIVEID	2	INTEGER	12	0	1	0	.
DPALOGICALDRIVE	DRIVETYPE	3	ALN	32	0	0	0	.
DPALOGICALDRIVE	FILESYSTEM	4	ALN	32	0	0	0	.
DPALOGICALDRIVE	VOLUMELABEL	5	ALN	16	0	0	0	.
DPALOGICALDRIVE	ENCRYPTED	6	YORN	1	0	1	0	.
DPALOGICALDRIVE	COMPRESSED	7	YORN	1	0	1	0	.
DPALOGICALDRIVE	ATTACHEDNETNAME	8	ALN	256	0	0	0	.
DPALOGICALDRIVE	DESCRIPTION	9	ALN	256	0	0	0	.
DPALOGICALDRIVE	TOTALSIZE	10	DECIMAL	10	2	0	0	.
DPALOGICALDRIVE	AVAILABLESIZE	11	DECIMAL	10	2	0	0	.
DPALOGICALDRIVE	SIZEUNIT	12	ALN	16	0	0	0	.
DPALOGICALDRIVE	MOUNT	13	ALN	256	0	0	0	.
DPALOGICALDRIVE	CREATEDATE	14	DATETIME	10	0	1	0	.
DPALOGICALDRIVE	CHANGEDATE	15	DATETIME	10	0	1	0	.
DPAMADAPTER	ADAPTERID	1	INTEGER	12	0	1	0	.
DPAMADAPTER	ADAPTERNAME	2	ALN	128	0	1	0	.
DPAMADAPTER	VALIDATED	3	YORN	1	0	1	0	.
DPAMADPTVARIANT	ADAPTERNAME	1	ALN	128	0	1	0	.
DPAMADPTVARIANT	ADAPTERVARIANT	2	ALN	128	0	1	0	.
DPAMADPTVARIANT	DPAMADPTVARIANTID	3	INTEGER	12	0	1	1	.
DPAMEDIAADAPTER	NODEID	1	INTEGER	12	0	1	0	DEPLOYEDASSET.NODEID
DPAMEDIAADAPTER	ADAPTERID	2	INTEGER	12	0	1	0	.
DPAMEDIAADAPTER	MEDIATYPE	3	ALN	32	0	0	0	.
DPAMEDIAADAPTER	MEMORYTYPE	4	ALN	32	0	0	0	.
DPAMEDIAADAPTER	RAMSIZE	5	DECIMAL	10	2	0	0	.
DPAMEDIAADAPTER	RAMUNIT	6	ALN	16	0	0	0	.
DPAMEDIAADAPTER	BUSTYPE	7	ALN	32	0	0	0	.
DPAMEDIAADAPTER	CHIPSET	8	ALN	64	0	0	0	.
DPAMEDIAADAPTER	SERIALNUMBER	9	ALN	64	0	0	0	.
DPAMEDIAADAPTER	ASSETTAG	10	ALN	64	0	0	0	.
DPAMEDIAADAPTER	MAKEMODEL	11	ALN	128	0	1	0	.
DPAMEDIAADAPTER	MANUFACTURER	12	ALN	128	0	1	0	.
DPAMEDIAADAPTER	DESCRIPTION	13	ALN	256	0	0	0	.
DPAMEDIAADAPTER	CREATEDATE	14	DATETIME	10	0	1	0	.
DPAMEDIAADAPTER	CHANGEDATE	15	DATETIME	10	0	1	0	.
DPAMMANUFACTURER	MANUFACTURERID	1	INTEGER	12	0	1	0	.
DPAMMANUFACTURER	MANUFACTURERNAME	2	ALN	128	0	1	0	.
DPAMMANUFACTURER	VALIDATED	3	YORN	1	0	1	0	.
DPAMMANUVARIANT	MANUFACTURERNAME	1	ALN	128	0	1	0	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
DPAMMANUVARIANT	MANUFACTURERVAR	2	ALN	128	0	1	0	.
DPAMMANUVARIANT	DPAMMANUVARIANTID	3	INTEGER	12	0	1	1	.
DPAMOS	OSID	1	INTEGER	12	0	1	0	.
DPAMOS	OSNAME	2	ALN	256	0	1	0	.
DPAMOS	VALIDATED	3	YORN	1	0	1	0	.
DPAMOSVARIANT	OSNAME	1	ALN	256	0	1	0	.
DPAMOSVARIANT	OSVARIANT	2	ALN	256	0	1	0	.
DPAMOSVARIANT	DPAMOSVARIANTID	3	INTEGER	12	0	1	1	.
DPAMPROCESSOR	PROCESSORID	1	INTEGER	12	0	1	0	.
DPAMPROCESSOR	PROCESSORNAME	2	ALN	128	0	1	0	.
DPAMPROCESSOR	VALIDATED	3	YORN	1	0	1	0	.
DPAMPROC VARIANT	PROCESSORNAME	1	ALN	128	0	1	0	.
DPAMPROC VARIANT	PROCESSORVAR	2	ALN	128	0	1	0	.
DPAMPROC VARIANT	DPAMPROC VARIANTID	3	INTEGER	12	0	1	1	.
DPAMSOFTWARE	SOFTWAREID	1	INTEGER	12	0	1	0	.
DPAMSOFTWARE	SOFTWARENAME	2	ALN	256	0	1	0	.
DPAMSOFTWARE	COMPLIANCESETTING	3	ALN	32	0	0	0	.
DPAMSOFTWARE	VALIDATED	4	YORN	1	0	1	0	.
DPAMSW SUITE	SUITEID	1	INTEGER	12	0	1	0	.
DPAMSW SUITE	SUITENAME	2	ALN	254	0	1	0	.
DPAMSW SUITE	VERSION	3	ALN	64	0	0	0	.
DPAMSW SUITE	DESCRIPTION	4	ALN	256	0	0	0	.
DPAMSW SUITE	LANGCODE	5	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
DPAMSW SUITE	HASLD	7	YORN	1	0	1	1	.
DPAMSW SUITECOMP	SOFTWARENAME	1	ALN	254	0	1	0	.
DPAMSW SUITECOMP	REQUIREDVERSIONLOW	2	ALN	64	0	1	0	.
DPAMSW SUITECOMP	REQUIREDVERSIONHI	3	ALN	64	0	1	0	.
DPAMSW SUITECOMP	DPAMSW SUITECOMPID	4	INTEGER	12	0	1	1	.
DPAMSW SUITECOMP	REQUIRED	5	YORN	1	0	1	0	.
DPAMSW SUITECOMP	SUITEID	6	INTEGER	12	0	0	0	DPAMSW SUITE.SUITEID
DPAMSW USAGE	INPUTSOURCEID	1	INTEGER	12	0	1	0	.
DPAMSW USAGE	SWDETECTIONTOOL	2	ALN	256	0	1	0	.
DPAMSW USAGE	DESCRIPTION	3	ALN	256	0	0	0	.
DPAMSW USAGE	LANGCODE	4	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
DPAMSW USAGE	HASLD	6	YORN	1	0	1	1	.
DPAMSW USAGERANGE	RANGEFROM	1	INTEGER	12	0	1	0	.
DPAMSW USAGERANGE	RANGETO	2	INTEGER	12	0	1	0	.
DPAMSW USAGERANGE	DPAMSW USAGERANGEID	3	INTEGER	12	0	1	1	.
DPAMSW USAGERANGE	INPUTSOURCEID	4	INTEGER	12	0	1	0	DPAMSW USAGE.INPUTSOURCEID
DPAMSW USAGERANGE	USAGE	5	ALN	64	0	0	0	.
DPAMSW VARIANT	SOFTWARENAME	1	ALN	256	0	1	0	.
DPAMSW VARIANT	SOFTWAREVARIANT	2	ALN	256	0	1	0	.
DPAMSW VARIANT	DPAMSW VARIANTID	3	INTEGER	12	0	1	1	.
DPANET ADAPTER	NODEID	1	INTEGER	12	0	1	0	DEPLOYEDASSET.NODEID
DPANET ADAPTER	ADAPTERID	2	INTEGER	12	0	1	0	.
DPANET ADAPTER	ADAPTERTYPE	3	ALN	32	0	0	0	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
DPANETADAPTER	BANDWIDTH	4	DECIMAL	10	2	0	0	.
DPANETADAPTER	BANDWIDTHUNIT	5	ALN	16	0	0	0	.
DPANETADAPTER	PROTOCOL	6	ALN	64	0	0	0	.
DPANETADAPTER	PORT	7	ALN	16	0	0	0	.
DPANETADAPTER	NETMACADDR1	8	ALN	16	0	0	0	.
DPANETADAPTER	NETMACADDR2	9	ALN	16	0	0	0	.
DPANETADAPTER	CHIPSET	10	ALN	64	0	0	0	.
DPANETADAPTER	FIRMWAREVERSION	11	ALN	32	0	0	0	.
DPANETADAPTER	SERIALNUMBER	12	ALN	64	0	0	0	.
DPANETADAPTER	ASSETTAG	13	ALN	64	0	0	0	.
DPANETADAPTER	MAKEMODEL	14	ALN	128	0	1	0	.
DPANETADAPTER	MANUFACTURER	15	ALN	128	0	1	0	.
DPANETADAPTER	DESCRIPTION	16	ALN	256	0	0	0	.
DPANETADAPTER	CREATEDATE	17	DATETIME	10	0	1	0	.
DPANETADAPTER	CHANGEDATE	18	DATETIME	10	0	1	0	.
DPANETDEVCARD	NODEID	1	INTEGER	12	0	1	0	DEPLOYEDASSET.NODEID
DPANETDEVCARD	CARDID	2	INTEGER	12	0	1	0	.
DPANETDEVCARD	TYPE	3	ALN	32	0	0	0	.
DPANETDEVCARD	NETWORKADDRESS	4	ALN	32	0	0	0	.
DPANETDEVCARD	NETMACADDR	5	ALN	16	0	0	0	.
DPANETDEVCARD	FIRMWAREVERSION	6	ALN	32	0	0	0	.
DPANETDEVCARD	RAMSIZE	7	DECIMAL	10	2	0	0	.
DPANETDEVCARD	RAMUNIT	8	ALN	16	0	0	0	.
DPANETDEVCARD	CHIPSET	9	ALN	64	0	0	0	.
DPANETDEVCARD	BANDWIDTH	10	DECIMAL	10	2	0	0	.
DPANETDEVCARD	BANDWIDTHUNIT	11	ALN	16	0	0	0	.
DPANETDEVCARD	SERIALNUMBER	12	ALN	64	0	0	0	.
DPANETDEVCARD	MAKEMODEL	13	ALN	128	0	1	0	.
DPANETDEVCARD	MANUFACTURER	14	ALN	128	0	1	0	.
DPANETDEVCARD	DESCRIPTION	15	ALN	256	0	0	0	.
DPANETDEVCARD	ASSETTAG	16	ALN	64	0	0	0	.
DPANETDEVCARD	CREATEDATE	17	DATETIME	10	0	1	0	.
DPANETDEVCARD	CHANGEDATE	18	DATETIME	10	0	1	0	.
DPANETDEVICE	NODEID	1	INTEGER	12	0	1	0	DEPLOYEDASSET.NODEID
DPANETDEVICE	NETWORKADDRESS	2	ALN	32	0	0	0	.
DPANETDEVICE	NETMACADDR	3	ALN	16	0	0	0	.
DPANETDEVICE	FIRMWAREVERSION	4	ALN	128	0	0	0	.
DPANETDEVICE	OSVERSION	5	ALN	128	0	0	0	.
DPANETDEVICE	RAMSIZE	6	DECIMAL	10	2	0	0	.
DPANETDEVICE	RAMUNIT	7	ALN	16	0	0	0	.
DPANETDEVICE	CREATEDATE	8	DATETIME	10	0	1	0	.
DPANETDEVICE	CHANGEDATE	9	DATETIME	10	0	1	0	.
DPANETPRINTER	NODEID	1	INTEGER	12	0	1	0	DEPLOYEDASSET.NODEID
DPANETPRINTER	NETWORKADDRESS	2	ALN	32	0	0	0	.
DPANETPRINTER	NETMACADDR	3	ALN	16	0	0	0	.
DPANETPRINTER	CURRENTRAM	4	DECIMAL	10	2	0	0	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
DPANETPRINTER	MAXRAM	5	DECIMAL	10	2	0	0	.
DPANETPRINTER	RAMUNIT	6	ALN	16	0	0	0	.
DPANETPRINTER	COLORDEPTHBIT	7	INTEGER	12	0	0	0	.
DPANETPRINTER	MAXWIDTH	8	DECIMAL	10	2	0	0	.
DPANETPRINTER	MAXLENGTH	9	DECIMAL	10	2	0	0	.
DPANETPRINTER	SIZEUNIT	10	ALN	16	0	0	0	.
DPANETPRINTER	VERTICALDPI	11	INTEGER	12	0	0	0	.
DPANETPRINTER	HORIZONTALDPI	12	INTEGER	12	0	0	0	.
DPANETPRINTER	NUMBEROFTRAYS	13	INTEGER	12	0	0	0	.
DPANETPRINTER	CREATEDATE	14	DATETIME	10	0	1	0	.
DPANETPRINTER	CHANGEDATE	15	DATETIME	10	0	1	0	.
DPAOS	NODEID	1	INTEGER	12	0	1	0	DEPLOYEDASSET.NODEID
DPAOS	OSID	2	INTEGER	12	0	1	0	.
DPAOS	NAME	3	ALN	256	0	1	0	.
DPAOS	LANGUAGE	4	ALN	32	0	0	0	.
DPAOS	VERSION	5	ALN	128	0	0	0	.
DPAOS	SERVICEPACK	6	ALN	64	0	0	0	.
DPAOS	LICENSEDORG	7	ALN	64	0	0	0	.
DPAOS	LICENSEDUSER	8	ALN	64	0	0	0	.
DPAOS	SERIALNUMBER	9	ALN	64	0	0	0	.
DPAOS	MANUFACTURER	10	ALN	128	0	1	0	.
DPAOS	DESCRIPTION	11	ALN	256	0	0	0	.
DPAOS	BUILD	12	ALN	64	0	0	0	.
DPAOS	CREATEDATE	13	DATETIME	10	0	1	0	.
DPAOS	CHANGEDATE	14	DATETIME	10	0	1	0	.
DPASOFTWARE	NODEID	1	INTEGER	12	0	1	0	.
DPASOFTWARE	SOFTWAREID	2	INTEGER	12	0	1	0	.
DPASOFTWARE	SUITEID	3	INTEGER	12	0	0	0	.
DPASOFTWARE	SOFTWARENAME	4	ALN	256	0	1	0	.
DPASOFTWARE	LANGUAGE	5	ALN	32	0	0	0	.
DPASOFTWARE	VERSION	6	ALN	128	0	0	0	.
DPASOFTWARE	LICENSEDORG	7	ALN	64	0	0	0	.
DPASOFTWARE	LICENSEDUSER	8	ALN	64	0	0	0	.
DPASOFTWARE	USAGECOUNT	9	INTEGER	12	0	0	0	.
DPASOFTWARE	LASTUSAGEDATE	10	DATETIME	10	0	0	0	.
DPASOFTWARE	INSTALLPATH	11	ALN	4000	0	0	0	.
DPASOFTWARE	INSTALLDATE	12	DATETIME	10	0	0	0	.
DPASOFTWARE	SERIALNUMBER	13	ALN	64	0	0	0	.
DPASOFTWARE	PRODUCTID	14	ALN	128	0	0	0	.
DPASOFTWARE	MANUFACTURER	15	ALN	128	0	1	0	.
DPASOFTWARE	DESCRIPTION	16	ALN	256	0	0	0	.
DPASOFTWARE	CREATEDATE	17	DATETIME	10	0	1	0	.
DPASOFTWARE	CHANGEDATE	18	DATETIME	10	0	1	0	.
DPASOFTWARE	TYPE	19	ALN	64	0	0	0	.
DPASWSUITE	NODEID	1	INTEGER	12	0	1	0	DEPLOYEDASSET.NODEID
DPASWSUITE	SUITEID	2	INTEGER	12	0	1	0	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
DPASWSUITE	SUITENAME	3	ALN	256	0	0	0	.
DPASWSUITE	LANGUAGE	4	ALN	32	0	0	0	.
DPASWSUITE	VERSION	5	ALN	64	0	0	0	.
DPASWSUITE	LICENSEDORG	6	ALN	64	0	0	0	.
DPASWSUITE	LICENSEDUSER	7	ALN	64	0	0	0	.
DPASWSUITE	USAGECOUNT	8	INTEGER	12	0	0	0	.
DPASWSUITE	LASTUSAGEDATE	9	DATETIME	10	0	0	0	.
DPASWSUITE	INSTALLDATE	10	DATETIME	10	0	0	0	.
DPASWSUITE	SERIALNUMBER	11	ALN	64	0	0	0	.
DPASWSUITE	PRODUCTID	12	ALN	128	0	0	0	.
DPASWSUITE	MANUFACTURER	13	ALN	128	0	1	0	.
DPASWSUITE	DESCRIPTION	14	ALN	256	0	0	0	.
DPASWSUITE	CREATEDATE	15	DATETIME	10	0	1	0	.
DPASWSUITE	CHANGEDATE	16	DATETIME	10	0	1	0	.
DPASWSUITE	DPASWSUITEID	18	INTEGER	12	0	1	0	.
DPATCPIP	NODEID	1	INTEGER	12	0	1	0	DEPLOYEDASSET.NODEID
DPATCPIP	TCPIPID	2	INTEGER	12	0	1	0	.
DPATCPIP	TCPIPADDRESS	3	ALN	32	0	1	0	.
DPATCPIP	TCPIPNETMASK	4	ALN	32	0	0	0	.
DPATCPIP	HOST	5	ALN	128	0	0	0	.
DPATCPIP	GATEWAY	6	ALN	32	0	0	0	.
DPATCPIP	DNSSERVER1	7	ALN	32	0	0	0	.
DPATCPIP	DNSSERVER2	8	ALN	32	0	0	0	.
DPATCPIP	DNSSERVER3	9	ALN	32	0	0	0	.
DPATCPIP	DHCPSEVER	10	ALN	32	0	0	0	.
DPATCPIP	PRIMARYWINS	11	ALN	32	0	0	0	.
DPATCPIP	SECONDARYWINS	12	ALN	32	0	0	0	.
DPATCPIP	TCPIPDOMAIN	13	ALN	256	0	0	0	.
DPATCPIP	CREATEDATE	14	DATETIME	10	0	1	0	.
DPATCPIP	CHANGEDATE	15	DATETIME	10	0	1	0	.
DPAUSERINFO	NODEID	1	INTEGER	12	0	1	0	DEPLOYEDASSET.NODEID
DPAUSERINFO	PERSONNELNUMBER	2	ALN	32	0	0	0	.
DPAUSERINFO	LASTNAME	3	ALN	64	0	0	0	.
DPAUSERINFO	FIRSTNAME	4	ALN	64	0	0	0	.
DPAUSERINFO	JOBTITLE	5	ALN	64	0	0	0	.
DPAUSERINFO	DEPARTMENT	6	ALN	32	0	0	0	.
DPAUSERINFO	WORKPHONE	7	ALN	32	0	0	0	.
DPAUSERINFO	WORKEMAIL	8	ALN	64	0	0	0	.
DPAUSERINFO	BUILDING	9	ALN	32	0	0	0	.
DPAUSERINFO	FLOOR	10	ALN	16	0	0	0	.
DPAUSERINFO	ROOM	11	ALN	16	0	0	0	.
DPAUSERINFO	GLACCOUNT	12	GL	23	0	0	1	.
DPAUSERINFO	ASSETTAG	13	ALN	64	0	0	0	.
DPAUSERINFO	PERSONID	14	UPPER	30	0	1	0	PERSON.PERSONID
DPAUSERINFO	FACILITY	15	ALN	64	0	0	0	.
DPAUSERINFO	CREATEDATE	16	DATETIME	10	0	1	0	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
DPAUSERINFO	CHANGEDATE	17	DATETIME	10	0	1	0	.
DUMMY_TABLE	DUMMY_ALN	1	ALN	50	0	0	1	.
DUMMY_TABLE	DUMMY_INTEGER	2	INTEGER	12	0	0	1	.
DUMMY_TABLE	DUMMY_SMALLINT	3	SMALLINT	10	0	0	1	.
DUMMY_TABLE	DUMMY_DECIMAL	4	DECIMAL	15	2	0	1	.
DUMMY_TABLE	DUMMY_AMOUNT	5	AMOUNT	10	2	0	1	.
DUMMY_TABLE	DUMMY_FLOAT	6	FLOAT	8	0	0	1	.
DUMMY_TABLE	DUMMY_YORN	7	YORN	1	0	1	1	.
DUMMY_TABLE	DUMMY_UPPER	8	UPPER	50	0	0	1	.
DUMMY_TABLE	DUMMY_LOWER	9	LOWER	50	0	0	1	.
DUMMY_TABLE	DUMMY_DATE	10	DATE	4	0	0	1	.
DUMMY_TABLE	DUMMY_TIME	11	TIME	3	0	0	1	.
DUMMY_TABLE	DUMMY_DATETIME	12	DATETIME	10	0	0	1	.
DUMMY_TABLE	DUMMY_DURATION	13	DURATION	8	0	0	1	.
DUMMY_TABLE	DUMMY_CRYPTO	14	CRYPTO	30	0	0	1	.
DUMMY_TABLE	DUMMY_CLOB	15	CLOB	32000	0	0	1	.
DUMMY_TABLE	DUMMY_TABLEID	16	INTEGER	12	0	1	1	.
DUMMY_TABLE	DUMMY_BLOB	17	BLOB	32000	0	0	1	.
DUMMY_TABLE	DUMMY_CRYPTOX	18	CRYPTOX	10	0	0	1	.
EMAIL	EMAILID	1	INTEGER	12	0	1	1	.
EMAIL	PERSONID	2	UPPER	30	0	1	0	PERSON.PERSONID
EMAIL	EMAILADDRESS	3	ALN	50	0	1	1	.
EMAIL	TYPE	4	UPPER	10	0	0	1	.
EMAIL	ISPRIMARY	5	YORN	1	0	1	0	.
ESCALATION	ESCALATIONID	1	INTEGER	12	0	1	1	.
ESCALATION	DESCRIPTION	2	ALN	255	0	0	0	.
ESCALATION	ORGID	3	ALN	8	0	0	0	.
ESCALATION	SITEID	4	ALN	8	0	0	0	.
ESCALATION	ACTIVE	5	YORN	1	0	1	0	.
ESCALATION	OBJECTNAME	6	UPPER	18	0	1	0	.
ESCALATION	CONDITION	7	ALN	2000	0	0	0	.
ESCALATION	CHANGEBY	8	UPPER	18	0	1	0	.
ESCALATION	CHANGEDATE	9	DATETIME	10	0	1	0	.
ESCALATION	CRONTASKNAME	10	ALN	30	0	0	0	CRONTASKDEF.CRONTASKNAME
ESCALATION	INSTANCENAME	11	ALN	30	0	0	0	.
ESCALATION	ESCALATION	12	UPPER	10	0	1	0	.
ESCALATION	SCHEDULE	14	ALN	80	0	1	0	CRONTASKINSTANCE.SCHEDULE
ESCALATION	LANGCODE	17	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
ESCALATION	HASLD	19	YORN	1	0	1	1	.
ESCNOTIFICATION	TEMPLATEID	1	UPPER	10	0	1	1	COMMTEMPLATE.TEMPLATEID
ESCNOTIFICATION	REFPOINTID	2	INTEGER	12	0	1	0	.
ESCNOTIFICATION	ROLE	3	ALN	4000	0	0	0	COMMTEMPLATE.TOLIST
ESCNOTIFICATION	ESCNOTIFICATIONID	7	INTEGER	12	0	1	1	.
ESCREFPOINT	ESCALATION	1	UPPER	10	0	0	0	.
ESCREFPOINT	REFPOINTNUM	2	INTEGER	12	0	1	0	.
ESCREFPOINT	EVENTCONDITION	3	ALN	2000	0	0	0	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
ESCREFPPOINT	ELAPSEDINTERVAL	4	DECIMAL	8	2	0	0	SLACOMMITMENTS.VALUE
ESCREFPPOINT	INTERVALUOM	5	UPPER	12	0	0	0	.
ESCREFPPOINT	REPEAT	6	YORN	1	0	1	0	.
ESCREFPPOINT	REFPOINTID	7	INTEGER	12	0	1	0	.
ESCREFPPOINT	EVENTATTRIBUTE	9	UPPER	50	0	0	0	MAXATTRIBUTE.ATTRIBUTENAME
ESCREFPPOINT	ACTION	10	UPPER	30	0	0	0	ACTION.ACTION
ESCREPEATTRACK	OWNERID	1	INTEGER	12	0	1	0	.
ESCREPEATTRACK	OBJECTNAME	2	UPPER	18	0	1	1	MAXOBJECT.OBJECTNAME
ESCREPEATTRACK	REFPOINTID	3	INTEGER	12	0	1	0	.
ESCREPEATTRACK	ESCALATION	4	ALN	10	0	1	0	.
ESCSTATUS	ORGID	1	UPPER	8	0	0	0	ORGANIZATION.ORGID
ESCSTATUS	SITEID	2	UPPER	8	0	0	0	SITE.SITEID
ESCSTATUS	OBJECTNAME	3	UPPER	18	0	1	1	MAXOBJECT.OBJECTNAME
ESCSTATUS	STATUS	4	UPPER	8	0	1	0	.
ESCSTATUS	STATUSDATE	5	DATETIME	10	0	1	0	.
ESCSTATUS	RECORDSPROCESSED	6	INTEGER	12	0	1	0	.
ESCSTATUS	STATUSMEMO	7	ALN	255	0	0	0	.
ESCSTATUS	REFPOINTID	8	INTEGER	12	0	1	0	.
ESCSTATUS	ESCALATION	9	ALN	10	0	1	0	.
ESCSTATUS	ESCSTATUSID	10	INTEGER	12	0	1	1	.
EVENTRESPONSE	VALIDATEACTIONID	1	ALN	20	0	0	0	.
EVENTRESPONSE	PRESAVEACTIONID	2	ALN	20	0	0	0	.
EVENTRESPONSE	EVENTACTIONID	3	ALN	20	0	0	0	.
EVENTRESPONSE	POSTCOMMITID	4	ALN	20	0	0	0	.
EVENTRESPONSE	EVENTNAME	5	LOWER	254	0	1	0	.
EVENTRESPONSE	ERID	6	INTEGER	12	0	1	0	.
EVENTRESPONSE	INSTALLATIONDATE	7	DATETIME	10	0	1	0	.
EVENTRESPONSE	SOURCETABLE	8	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
EVENTRESPONSE	SOURCEID	9	INTEGER	12	0	0	0	.
EVENTRESPONSE	REFTABLE	10	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
EVENTRESPONSE	REFID	11	INTEGER	12	0	0	0	.
EVENTRESPONSE	TARGETTABLE	12	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
EVENTRESPONSE	TARGETID	13	INTEGER	12	0	0	1	.
EXCHANGE	CURRENCYCODE	1	UPPER	8	0	1	0	CURRENCY.CURRENCYCODE
EXCHANGE	EXCHANGERATE	2	DECIMAL	14	7	1	1	.
EXCHANGE	ACTIVEDATE	3	DATE	4	0	1	1	.
EXCHANGE	EXPIREDATE	4	DATE	4	0	1	1	.
EXCHANGE	MEMO	5	ALN	25	0	0	1	.
EXCHANGE	ENTERDATE	6	DATETIME	10	0	1	1	.
EXCHANGE	ENTERBY	7	UPPER	30	0	1	0	PERSON.PERSONID
EXCHANGE	CURRENCYCODETO	8	UPPER	8	0	1	0	CURRENCY.CURRENCYCODE
EXCHANGE	ORGID	9	UPPER	8	0	1	0	ORGANIZATION.ORGID
EXCHANGE	CHANGEBY	10	UPPER	30	0	0	0	PERSON.PERSONID
EXCHANGE	CHANGEDATE	11	DATETIME	10	0	0	0	.
EXCHANGE	EXCHANGEID	12	INTEGER	12	0	1	1	.
EXCLUDEDACTIONS	EXCLUDEDACTIONSID	1	INTEGER	12	0	1	1	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
EXCLUDEDACTIONS	APP	2	UPPER	10	0	0	1	MAXAPPS.APP
EXCLUDEDACTIONS	OPTIONNAME	3	UPPER	10	0	0	1	SIGOPTION.OPTIONNAME
FACONFIG	FACONFIGID	1	INTEGER	12	0	1	0	.
FACONFIG	LAYOUTID	2	INTEGER	12	0	0	0	.
FACONFIG	APP	3	UPPER	10	0	0	0	.
FACONFIG	ORDERNUM	4	INTEGER	12	0	0	0	.
FAILURECODE	FAILURECODE	1	UPPER	8	0	1	0	.
FAILURECODE	DESCRIPTION	2	ALN	100	0	0	0	.
FAILURECODE	ORGID	3	UPPER	8	0	1	0	ORGANIZATION.ORGID
FAILURECODE	FAILURECODEID	5	INTEGER	12	0	1	1	.
FAILURECODE	LANGCODE	6	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
FAILURECODE	HASLD	7	YORN	1	0	1	1	.
FAILURELIST	FAILURELIST	1	INTEGER	12	0	1	1	.
FAILURELIST	FAILURECODE	2	UPPER	8	0	1	0	FAILURECODE.FAILURECODE
FAILURELIST	PARENT	3	INTEGER	12	0	0	1	FAILURELIST.FAILURELIST
FAILURELIST	TYPE	4	UPPER	12	0	0	0	.
FAILURELIST	ORGID	5	UPPER	8	0	1	0	ORGANIZATION.ORGID
FAILUREREMARK	WONUM	1	UPPER	10	0	0	0	WORKORDER.WONUM
FAILUREREMARK	DESCRIPTION	2	ALN	100	0	0	0	.
FAILUREREMARK	ENTERDATE	3	DATETIME	10	0	0	1	.
FAILUREREMARK	ORGID	4	UPPER	8	0	0	0	ORGANIZATION.ORGID
FAILUREREMARK	SITEID	5	UPPER	8	0	0	0	SITE.SITEID
FAILUREREMARK	TICKETID	6	UPPER	10	0	0	0	TICKET.TICKETID
FAILUREREMARK	TICKETCLASS	7	UPPER	10	0	0	1	TICKET.CLASS
FAILUREREMARK	FAILUREREMARKID	9	INTEGER	12	0	1	1	.
FAILUREREMARK	LANGCODE	10	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
FAILUREREMARK	HASLD	11	YORN	1	0	1	1	.
FAILUREREPORT	WONUM	1	UPPER	10	0	0	0	WORKORDER.WONUM
FAILUREREPORT	FAILURECODE	2	UPPER	8	0	1	0	FAILURECODE.FAILURECODE
FAILUREREPORT	ASSETNUM	3	UPPER	12	0	0	0	ASSET.ASSETNUM
FAILUREREPORT	LINENUM	4	INTEGER	12	0	1	1	FAILURELIST.FAILURELIST
FAILUREREPORT	TYPE	5	UPPER	12	0	0	0	FAILURELIST.TYPE
FAILUREREPORT	ORGID	6	UPPER	8	0	1	0	ORGANIZATION.ORGID
FAILUREREPORT	SITEID	7	UPPER	8	0	0	0	SITE.SITEID
FAILUREREPORT	TICKETID	8	UPPER	10	0	0	0	TICKET.TICKETID
FAILUREREPORT	TICKETCLASS	9	UPPER	10	0	0	1	TICKET.CLASS
FAILUREREPORT	FAILUREREPORTID	11	INTEGER	12	0	1	1	.
FAVITEM	FAVITEMID	1	INTEGER	12	0	1	1	.
FAVITEM	PERSONID	2	UPPER	30	0	1	0	PERSON.PERSONID
FAVITEM	ITEMNUM	3	UPPER	30	0	0	0	ITEM.ITEMNUM
FAVITEM	ITEMSETID	4	UPPER	8	0	1	0	SETS.SETID
FAVITEM	DESCRIPTION	5	ALN	100	0	0	0	.
FAVITEM	STOREROOM	6	UPPER	12	0	0	0	LOCATIONS.LOCATION
FAVITEM	VENDOR	7	UPPER	12	0	0	0	COMPANIES.COMPANY
FAVITEM	VENDORSETID	8	UPPER	8	0	1	0	SETS.SETID
FAVITEM	UNITCOST	9	DECIMAL	10	2	0	1	MRLINE.UNITCOST

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
FAVITEM	ORDERUNIT	10	UPPER	8	0	0	0	MEASUREUNIT.MEASUREUNITID
FAVITEM	QUANTITY	11	DECIMAL	15	2	0	1	MRLINE.QTY
FAVITEM	REMARKS	12	ALN	50	0	0	0	MRLINE.REMARKS
FAVITEM	LINETYPE	13	UPPER	15	0	1	1	PRLINE.LINETYPE
FAVITEM	CATALOGCODE	14	ALN	30	0	0	0	INVENTORY.CATALOGCODE
FAVITEM	MANUFACTURER	15	UPPER	12	0	0	0	COMPANIES.COMPANY
FAVITEM	MODELNUM	16	ALN	8	0	0	0	INVENTORY.MODELNUM
FAVITEM	CURRENCYCODE	17	UPPER	8	0	0	0	CURRENCY.CURRENCYCODE
FAVITEM	INSPECTIONREQUIRED	18	YORN	1	0	1	1	ITEM.INSPECTIONREQUIRED
FAVITEM	REQUIREDDATE	19	DATETIME	10	0	0	0	.
FAVITEM	STOREROOMSITE	20	UPPER	12	0	0	0	LOCATIONS.LOCATION
FAVITEM	MKTPLCITEM	21	YORN	1	0	1	0	.
FINANCIALPERIODS	FINANCIALPERIOD	1	ALN	6	0	1	0	.
FINANCIALPERIODS	PERIODSTART	2	DATE	4	0	1	1	.
FINANCIALPERIODS	PERIODEND	3	DATE	4	0	1	1	.
FINANCIALPERIODS	CLOSEDBY	4	UPPER	30	0	0	0	PERSON.PERSONID
FINANCIALPERIODS	CLOSEDATE	5	DATETIME	10	0	0	1	.
FINANCIALPERIODS	PERIODCLOSEDATE	6	DATETIME	10	0	0	1	.
FINANCIALPERIODS	ORGID	7	UPPER	8	0	1	0	ORGANIZATION.ORGID
FINANCIALPERIODS	FINANCIALPERIODSID	8	INTEGER	12	0	1	1	.
FINCNTRL	FINCNTRLID	1	UPPER	8	0	1	0	.
FINCNTRL	DESCRIPTION	2	ALN	100	0	0	0	.
FINCNTRL	BUDGETID	3	ALN	25	0	0	0	.
FINCNTRL	BUDGETLINEID	4	ALN	25	0	0	0	.
FINCNTRL	PROJECTID	5	ALN	25	0	0	0	.
FINCNTRL	TASKID	6	ALN	25	0	0	0	.
FINCNTRL	BUDGETTYPE	7	ALN	30	0	0	0	.
FINCNTRL	BUDGETLINETYPE	8	ALN	30	0	0	0	.
FINCNTRL	PROJECTTYPE	9	ALN	30	0	0	0	.
FINCNTRL	TASKTYPE	10	ALN	30	0	0	0	.
FINCNTRL	PARENTFINCNTRLID	11	UPPER	8	0	0	0	FINCNTRL.FINCNTRLID
FINCNTRL	TASKLEVEL	12	INTEGER	12	0	0	1	.
FINCNTRL	BUDGETCOST	13	AMOUNT	10	2	0	1	.
FINCNTRL	ACTUALCOST	14	AMOUNT	10	2	0	1	.
FINCNTRL	BURDENEDCOST	15	AMOUNT	10	2	0	1	.
FINCNTRL	ALLOCATEDCOST	16	AMOUNT	10	2	0	1	.
FINCNTRL	COMMITTEDCOST	17	AMOUNT	10	2	0	1	.
FINCNTRL	REMAININGCOST	18	AMOUNT	10	2	0	1	.
FINCNTRL	ASOFDATE	19	DATETIME	10	0	0	1	.
FINCNTRL	STARTDATE	20	DATETIME	10	0	0	1	.
FINCNTRL	ENDDATE	21	DATETIME	10	0	0	1	.
FINCNTRL	FCTYPE	22	ALN	12	0	0	0	.
FINCNTRL	DISABLED	23	YORN	1	0	1	1	.
FINCNTRL	ISSUMMARY	24	YORN	1	0	1	1	.
FINCNTRL	ISCHARGEABLE	25	YORN	1	0	1	1	.
FINCNTRL	TEMPLATEID	26	ALN	25	0	0	0	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
FINCNTRL	SOURCESYSID	27	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
FINCNTRL	OWNERSYSID	28	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
FINCNTRL	CHANGEDATE	29	DATETIME	10	0	1	1	.
FINCNTRL	CHANGEBY	30	UPPER	30	0	1	0	PERSON.PERSONID
FINCNTRL	SOURCEID	31	ALN	25	0	0	0	.
FINCNTRL	SITEID	32	UPPER	8	0	1	0	SITE.SITEID
FINCNTRL	ORGID	33	UPPER	8	0	1	0	ORGANIZATION.ORGID
FINCNTRL	FCSTATUS	34	UPPER	12	0	0	1	.
FINCNTRL	EXTERNALREFID	35	ALN	10	0	0	0	.
FINCNTRL	SENDERSYSID	36	ALN	50	0	0	0	.
FINCNTRL	FINCNTRLUID	40	INTEGER	12	0	1	1	.
FINCNTRL	LANGCODE	41	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
FINCNTRL	HASLD	42	YORN	1	0	1	1	.
FSNCLASS	CID	1	INTEGER	12	0	1	0	.
FSNCLASS	SID	2	INTEGER	12	0	1	0	.
FSNCLASS	NAME	3	ALN	256	0	1	0	.
FSNCLASS	ISROOT	4	SMALLINT	10	0	1	0	.
FSNCLASS	ISDISPLAYABLE	5	SMALLINT	10	0	1	0	.
FSNCLASSQUAL	CQID	1	INTEGER	12	0	1	0	.
FSNCLASSQUAL	CID	2	INTEGER	12	0	1	0	.
FSNCLASSQUAL	QID	3	INTEGER	12	0	1	0	.
FSNCLASSQUAL	VALUE	4	ALN	256	0	0	0	.
FSNCLASSRELATION	CRID	1	INTEGER	12	0	1	0	.
FSNCLASSRELATION	PARENTCID	2	INTEGER	12	0	1	0	.
FSNCLASSRELATION	CHILDCID	3	INTEGER	12	0	1	0	.
FSNCLASSRELATION	RELATIONTYPE	4	INTEGER	12	0	1	0	.
FSNLASTSCAN	MAPPINGNAME	1	ALN	256	0	1	0	.
FSNLASTSCAN	SOURCEID	2	ALN	256	0	1	0	.
FSNLASTSCAN	TARGETID	3	ALN	256	0	1	0	.
FSNLASTSCAN	LASTSCANDATE	4	DATETIME	10	0	0	0	.
FSNMETHOD	CID	1	INTEGER	12	0	1	0	.
FSNMETHOD	MID	2	INTEGER	12	0	1	0	.
FSNMETHOD	NAME	3	ALN	256	0	1	0	.
FSNMETHOD	RETURNTYPE	4	INTEGER	12	0	0	0	.
FSNMETHODPARAM	MPID	1	INTEGER	12	0	1	0	.
FSNMETHODPARAM	MID	2	INTEGER	12	0	1	0	.
FSNMETHODPARAM	NAME	3	ALN	256	0	1	0	.
FSNMETHODPARAM	TYPE	4	INTEGER	12	0	1	0	.
FSNMETHODPARAM	LENGTH	5	INTEGER	12	0	0	0	.
FSNMETHODPARAM	DEFAULTVALUE	6	ALN	256	0	0	0	.
FSNMETHODPARAM	REQUIRED	7	INTEGER	12	0	1	0	.
FSNMETHODPARAM	PARAMINDEX	8	INTEGER	12	0	1	0	.
FSNMTHDPARAMQUAL	MPQID	1	INTEGER	12	0	1	0	.
FSNMTHDPARAMQUAL	MPID	2	INTEGER	12	0	1	0	.
FSNMTHDPARAMQUAL	QID	3	INTEGER	12	0	1	0	.
FSNMTHDPARAMQUAL	VALUE	4	ALN	256	0	1	0	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
FSNMTHDQUAL	MQID	1	INTEGER	12	0	1	0	.
FSNMTHDQUAL	MID	2	INTEGER	12	0	1	0	.
FSNMTHDQUAL	QID	3	INTEGER	12	0	1	0	.
FSNMTHDQUAL	VALUE	4	ALN	4000	0	1	0	.
FSNOBJECT	OID	1	INTEGER	12	0	1	0	.
FSNOBJECT	CID	2	INTEGER	12	0	1	0	.
FSNOBJPROPERTY	OID	1	INTEGER	12	0	1	0	.
FSNOBJPROPERTY	PID	2	INTEGER	12	0	1	0	.
FSNOBJPROPERTY	INTVALUE	3	INTEGER	12	0	0	0	.
FSNOBJPROPERTY	STRVALUE	4	ALN	256	0	0	0	.
FSNOBJPROPERTY	TEXTVALUE	5	ALN	4000	0	0	0	.
FSNOBJRELATION	CRID	1	INTEGER	12	0	1	0	.
FSNOBJRELATION	PARENTOID	2	INTEGER	12	0	1	0	.
FSNOBJRELATION	CHILDROID	3	INTEGER	12	0	1	0	.
FSNPROPERTY	PID	1	INTEGER	12	0	1	0	.
FSNPROPERTY	CID	2	INTEGER	12	0	1	0	.
FSNPROPERTY	NAME	3	ALN	256	0	1	0	.
FSNPROPERTY	TYPE	4	INTEGER	12	0	1	0	.
FSNPROPERTY	LENGTH	5	INTEGER	12	0	0	0	.
FSNPROPERTY	ISKEY	6	SMALLINT	10	0	1	0	.
FSNPROPERTY	ALTERNATEKEY	7	SMALLINT	10	0	1	0	.
FSNPROPERTY	ISNULLABLE	8	SMALLINT	10	0	1	0	.
FSNPROPERTY	ISDISPLAYABLE	9	INTEGER	12	0	1	0	.
FSNPROPERTYQUAL	PQID	1	INTEGER	12	0	1	0	.
FSNPROPERTYQUAL	PID	2	INTEGER	12	0	1	0	.
FSNPROPERTYQUAL	QID	3	INTEGER	12	0	1	0	.
FSNPROPERTYQUAL	VALUE	4	ALN	256	0	0	0	.
FSNPROVIDER	PROVID	1	INTEGER	12	0	1	0	.
FSNPROVIDER	NAME	2	ALN	256	0	1	0	.
FSNQUALIFIER	QID	1	INTEGER	12	0	1	0	.
FSNQUALIFIER	NAME	2	ALN	256	0	1	0	.
FSNQUALIFIER	TYPE	3	INTEGER	12	0	1	0	.
FSNQUALIFIER	CLASSLEVEL	4	SMALLINT	10	0	1	0	.
FSNQUALIFIER	PROPERTYLEVEL	5	SMALLINT	10	0	1	0	.
FSNQUALIFIER	METHODLEVEL	6	SMALLINT	10	0	1	0	.
FSNQUALIFIER	METHODPARAMLEVEL	7	SMALLINT	10	0	1	0	.
FSNQUALIFIER	TABLELEVEL	8	INTEGER	12	0	1	0	.
FSNREFPROPERTY	CRID	1	INTEGER	12	0	1	0	.
FSNREFPROPERTY	PID	2	INTEGER	12	0	1	0	.
FSNREFPROPERTY	REFERTOCID	3	INTEGER	12	0	1	0	.
FSNREFPROPERTY	REFERTOPIID	4	INTEGER	12	0	1	0	.
FSNSHEMA	SID	1	INTEGER	12	0	1	0	.
FSNSHEMA	NAME	2	ALN	255	0	1	0	.
FSNSHEMA	PROVID	3	INTEGER	12	0	1	0	.
FSNSQLCOLUMN	PID	1	INTEGER	12	0	1	0	.
FSNSQLCOLUMN	TID	2	INTEGER	12	0	1	0	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
FSNSQLCOLUMN	CID	3	INTEGER	12	0	1	0	.
FSNSQLCOLUMN	COLUMNNAME	4	ALN	256	0	1	0	.
FSNSQLCOLUMN	COLUMNNTYPE	5	ALN	50	0	1	0	.
FSNSQLCOLUMN	COLUMNLENGTH	6	INTEGER	12	0	0	0	.
FSNSQLCOLUMN	PRIMARYKEY	7	SMALLINT	10	0	1	0	.
FSNSQLCOLUMN	ALTERNATEKEY	8	SMALLINT	10	0	0	0	.
FSNSQLCOLUMN	ISNULLABLE	9	SMALLINT	10	0	1	0	.
FSNSQLCOLUMN	JAVAPACKAGENAME	10	ALN	256	0	0	0	.
FSNSQLCOLUMN	JAVACLASSNAME	11	ALN	50	0	0	0	.
FSNSQLCOLUMN	JAVAMETHODNAME	12	ALN	50	0	0	0	.
FSNSQLTABLE	CID	1	INTEGER	12	0	1	0	.
FSNSQLTABLE	TID	2	INTEGER	12	0	1	0	.
FSNSQLTABLE	TABlename	3	ALN	256	0	1	0	.
FSNSQLTABLE	HIDDENJOINTS	4	ALN	256	0	0	0	.
FSNSQLTABLE	TABLECRITERIA	5	ALN	256	0	0	0	.
FSNSQLTABLE	CUSTOMMETHOD	6	ALN	256	0	0	0	.
FSNSQLTABLE	TABLEOWNER	7	ALN	256	0	0	0	.
FSNTABLEQUAL	TQID	1	INTEGER	12	0	1	0	.
FSNTABLEQUAL	TID	2	INTEGER	12	0	1	0	.
FSNTABLEQUAL	QID	3	INTEGER	12	0	1	0	.
FSNTABLEQUAL	VALUE	4	ALN	256	0	0	0	.
GLAUTH	GROUPNAME	1	UPPER	30	0	1	1	MAXGROUP.GROUPNAME
GLAUTH	GLACCOUNTFIELD	2	UPPER	18	0	1	1	GLCONFIGURE.GLACCOUNTFIELD
GLAUTH	GLAUTHID	3	INTEGER	12	0	1	1	.
GLCOMPONENTS	GLORDER	1	SMALLINT	10	0	1	1	GLCONFIGURE.GLORDER
GLCOMPONENTS	COMPVALUE	2	ALN	20	0	1	1	.
GLCOMPONENTS	COMPTEXT	3	ALN	100	0	1	1	.
GLCOMPONENTS	USERID	4	UPPER	30	0	0	0	PERSON.PERSONID
GLCOMPONENTS	SOURCESYSID	5	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
GLCOMPONENTS	OWNERSYSID	6	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
GLCOMPONENTS	EXTERNALREFID	7	ALN	10	0	0	0	.
GLCOMPONENTS	SENDERSYSID	8	ALN	50	0	0	0	.
GLCOMPONENTS	ORGID	9	UPPER	8	0	1	0	ORGANIZATION.ORGID
GLCOMPONENTS	ACTIVE	10	YORN	1	0	1	1	.
GLCOMPONENTS	GLCOMPONENTSID	11	INTEGER	12	0	1	1	.
GLCONFIGURE	GLACCOUNTFIELD	1	UPPER	18	0	1	1	.
GLCONFIGURE	GLORDER	2	SMALLINT	10	0	1	1	.
GLCONFIGURE	MANDATORY	3	YORN	1	0	1	1	.
GLCONFIGURE	DELIMITER	4	ALN	1	0	0	1	.
GLCONFIGURE	GLTYPE	5	UPPER	8	0	1	1	.
GLCONFIGURE	GLLENGTH	6	INTEGER	12	0	1	1	.
GLCONFIGURE	GLCONFIGUREID	8	INTEGER	12	0	1	1	.
GROUPRESTRICTION	GROUPRESTRICTIONID	1	INTEGER	12	0	1	1	.
GROUPRESTRICTION	GROUPNAME	2	UPPER	30	0	1	1	MAXGROUP.GROUPNAME
GROUPRESTRICTION	ENTITYNAME	3	UPPER	18	0	1	1	MAXOBJECT.OBJECTNAME
GROUPRESTRICTION	RESTRICTIONS	4	ALN	500	0	0	0	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
GROUPUSER	GROUPUSERID	1	INTEGER	12	0	1	1	.
GROUPUSER	USERID	2	UPPER	30	0	1	0	PERSON.PERSONID
GROUPUSER	GROUPNAME	3	UPPER	30	0	1	1	MAXGROUP.GROUPNAME
GRPREASSIGNAUTH	GRPREASSIGNAUTHID	1	INTEGER	12	0	1	1	.
GRPREASSIGNAUTH	USERID	2	UPPER	30	0	1	0	PERSON.PERSONID
GRPREASSIGNAUTH	GROUPNAME	3	UPPER	30	0	1	1	MAXGROUP.GROUPNAME
HAZARD	HAZARDID	1	UPPER	8	0	1	0	.
HAZARD	DESCRIPTION	2	ALN	100	0	0	0	.
HAZARD	PRECAUTIONENABLED	3	YORN	1	0	1	1	.
HAZARD	HAZMATENABLED	4	YORN	1	0	1	1	.
HAZARD	TAGOUTENABLED	5	YORN	1	0	1	1	.
HAZARD	HAZARDTYPE	6	UPPER	16	0	0	0	.
HAZARD	MSDSNUM	7	ALN	10	0	0	0	ITEM.MSDSNUM
HAZARD	HEALTHRATING	8	INTEGER	12	0	0	0	.
HAZARD	FLAMMABILITYRATING	9	INTEGER	12	0	0	0	.
HAZARD	REACTIVITYRATING	10	INTEGER	12	0	0	0	.
HAZARD	CONTACTRATING	11	INTEGER	12	0	0	0	.
HAZARD	HAZ01	12	ALN	10	0	0	0	.
HAZARD	HAZ02	13	ALN	10	0	0	0	.
HAZARD	HAZ03	14	ALN	10	0	0	0	.
HAZARD	HAZ04	15	ALN	10	0	0	0	.
HAZARD	HAZ05	16	ALN	10	0	0	0	.
HAZARD	HAZ06	17	ALN	10	0	0	0	.
HAZARD	HAZ07	18	ALN	10	0	0	0	.
HAZARD	HAZ08	19	ALN	10	0	0	0	.
HAZARD	HAZ09	20	ALN	10	0	0	0	.
HAZARD	HAZ10	21	ALN	10	0	0	0	.
HAZARD	HAZ11	22	AMOUNT	10	2	0	0	.
HAZARD	HAZ12	23	AMOUNT	10	2	0	0	.
HAZARD	HAZ13	24	DATETIME	10	0	0	0	.
HAZARD	HAZ14	25	DATETIME	10	0	0	0	.
HAZARD	HAZ15	26	DECIMAL	15	2	0	0	.
HAZARD	HAZ16	27	DECIMAL	15	2	0	0	.
HAZARD	HAZ17	28	ALN	10	0	0	0	.
HAZARD	HAZ18	29	ALN	10	0	0	0	.
HAZARD	HAZ19	30	INTEGER	12	0	0	0	.
HAZARD	HAZ20	31	YORN	1	0	1	0	.
HAZARD	ORGID	32	UPPER	8	0	1	0	ORGANIZATION.ORGID
HAZARD	HAZARUID	34	INTEGER	12	0	1	1	.
HAZARD	LANGCODE	35	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
HAZARD	HASLD	36	YORN	1	0	1	1	.
HAZARDPREC	HAZARDID	1	UPPER	8	0	1	0	HAZARD.HAZARDID
HAZARDPREC	PRECAUTIONID	2	UPPER	8	0	1	0	PRECAUTION.PRECAUTIONID
HAZARDPREC	ORGID	3	UPPER	8	0	1	0	ORGANIZATION.ORGID
HAZARDPREC	SITEID	4	UPPER	8	0	1	0	SITE.SITEID
HAZARDPREC	HAZARDPRECID	6	INTEGER	12	0	1	1	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
INBOUNDCOMM	INBOUNDCOMMID	1	INTEGER	12	0	1	1	.
INBOUNDCOMM	CC	2	ALN	255	0	0	0	.
INBOUNDCOMM	BCC	3	ALN	255	0	0	0	.
INBOUNDCOMM	SUBJECT	4	ALN	255	0	0	0	.
INBOUNDCOMM	PRIORITY	5	ALN	20	0	0	0	.
INBOUNDCOMM	OBJECTKEY	6	ALN	10	0	0	0	.
INBOUNDCOMM	RECEIVEDATE	7	DATETIME	10	0	0	0	.
INBOUNDCOMM	SENDDATE	8	DATETIME	10	0	0	0	.
INBOUNDCOMM	CREATEDATE	9	DATETIME	10	0	1	0	.
INBOUNDCOMM	CHANGEDATE	10	DATETIME	10	0	1	0	.
INBOUNDCOMM	CHANGEBY	11	ALN	20	0	1	0	.
INBOUNDCOMM	STATUS	12	ALN	40	0	1	0	.
INBOUNDCOMM	EMAILADDRESS	13	ALN	40	0	1	0	.
INBOUNDCOMM	MAILSERVER	14	ALN	40	0	1	0	.
INBOUNDCOMM	SENDFROM	15	ALN	100	0	1	0	.
INBOUNDCOMM	SENDTO	16	ALN	40	0	1	0	.
INBOUNDCOMM	STATUSDATE	18	DATETIME	10	0	1	0	.
INBOUNDCOMM	REPLYTO	19	ALN	255	0	0	0	.
INBOUNDCOMM	MAILID	20	ALN	255	0	0	1	.
INBOUNDCOMM	MSGBODY	21	CLOB	32000	0	0	0	.
INBOUNDCOMMCFG	INBOUNDCOMMCFGID	1	INTEGER	12	0	1	1	.
INBOUNDCOMMCFG	EMAILADDRESS	2	ALN	40	0	1	0	.
INBOUNDCOMMCFG	DESCRIPTION	3	ALN	100	0	0	0	.
INBOUNDCOMMCFG	MAILSERVER	4	ALN	40	0	1	0	.
INBOUNDCOMMCFG	PORT	5	INTEGER	12	0	0	0	.
INBOUNDCOMMCFG	EMAILFOLDER	6	ALN	10	0	1	0	.
INBOUNDCOMMCFG	EMAILPASSWORD	7	CRYPTO	50	0	1	0	.
INBOUNDCOMMCFG	AGEUOM	8	ALN	7	0	0	0	.
INBOUNDCOMMCFG	WFPROCESS	9	UPPER	10	0	1	0	WFPROCESS.PROCESSNAME
INBOUNDCOMMCFG	ADMINEMAIL	10	ALN	40	0	0	0	.
INBOUNDCOMMCFG	PREPROCESSOR	11	ALN	50	0	1	0	.
INBOUNDCOMMCFG	OBJKEYDELIMITER	12	ALN	5	0	1	0	.
INBOUNDCOMMCFG	ACTIVE	13	YORN	1	0	1	0	.
INBOUNDCOMMCFG	EMAILDELETION	14	YORN	1	0	1	0	.
INBOUNDCOMMCFG	CRONTASKNAME	15	ALN	30	0	1	0	CRONTASKDEF.CRONTASKNAME
INBOUNDCOMMCFG	CRONTASKINSTANCE	16	ALN	30	0	1	0	CRONTASKDEF.CRONTASKNAME
INBOUNDCOMMCFG	CONNFACTORY	17	ALN	30	0	0	0	.
INBOUNDCOMMCFG	QUEUE	18	ALN	30	0	0	0	.
INBOUNDCOMMCFG	AGETHRESHOLD	20	INTEGER	12	0	0	0	.
INBOUNDCOMMCFG	PROTOCOL	21	ALN	10	0	1	0	.
INBOUNDCOMMCFG	LANGCODE	22	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
INBOUNDCOMMCFG	SENDERADDRESS	23	ALN	40	0	0	0	.
INBOUNDCOMMCFG	HASLD	26	YORN	1	0	1	1	.
INBXCONFIG	INBXCONFIGID	1	INTEGER	12	0	1	0	.
INBXCONFIG	LAYOUTID	2	INTEGER	12	0	0	0	.
INBXCONFIG	INBXCOLUMN	3	ALN	50	0	0	0	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
INBXCONFIG	DESCRIPTION	4	ALN	100	0	0	0	.
INBXCONFIG	ORDERNUM	5	INTEGER	12	0	0	0	.
INBXCONFIG	DISPLAY	6	YORN	1	0	1	1	.
INCIDENT	TICKETID	1	UPPER	10	0	1	0	TICKET.TICKETID
INCIDENT	CLASS	2	UPPER	10	0	1	1	TICKET.CLASS
INCIDENT	DESCRIPTION	3	ALN	100	0	0	1	TICKET.DESCRPTION
INCIDENT	STATUS	4	UPPER	8	0	1	1	TICKET.STATUS
INCIDENT	STATUSDATE	5	DATETIME	10	0	1	1	TICKET.STATUSDATE
INCIDENT	REPORTEDPRIORITY	6	INTEGER	12	0	0	1	TICKET.REPORTEDPRIORITY
INCIDENT	INTERNALPRIORITY	7	INTEGER	12	0	0	1	TICKET.INTERNALPRIORITY
INCIDENT	IMPACT	8	INTEGER	12	0	0	1	TICKET.IMPACT
INCIDENT	URGENCY	9	INTEGER	12	0	0	1	TICKET.URGENCY
INCIDENT	REPORTEDBY	10	ALN	62	0	0	0	PERSON.DISPLAYNAME
INCIDENT	REPORTDATE	11	DATETIME	10	0	0	1	TICKET.REPORTDATE
INCIDENT	AFFECTEDPERSON	12	ALN	62	0	0	0	PERSON.DISPLAYNAME
INCIDENT	AFFECTEDDATE	13	DATETIME	10	0	0	1	TICKET.AFFECTEDDATE
INCIDENT	SOURCE	14	ALN	20	0	0	1	TICKET.SOURCE
INCIDENT	SUPERVISOR	15	UPPER	8	0	0	1	TICKET.SUPERVISOR
INCIDENT	OWNER	16	UPPER	30	0	0	0	PERSON.PERSONID
INCIDENT	OWNERGROUP	17	UPPER	8	0	0	0	PERSONGROUP.PERSONGROUP
INCIDENT	ISGLOBAL	18	YORN	1	0	1	1	TICKET.ISGLOBAL
INCIDENT	RELATEDTOGLOBAL	19	YORN	1	0	1	1	TICKET.RELATEDTOGLOBAL
INCIDENT	GLOBALTICKETID	20	UPPER	10	0	0	1	TICKET.GLOBALTICKETID
INCIDENT	GLOBALTICKETCLASS	21	UPPER	10	0	0	1	TICKET.GLOBALTICKETCLASS
INCIDENT	EXTERNALRECID	22	ALN	20	0	0	1	TICKET.EXTERNALRECID
INCIDENT	SITEVISIT	23	YORN	1	0	1	1	TICKET.SITEVISIT
INCIDENT	ORIGRECORDID	24	UPPER	10	0	0	1	TICKET.ORIGRECORDID
INCIDENT	ORIGRECORDCLASS	25	UPPER	10	0	0	1	TICKET.ORIGRECORDCLASS
INCIDENT	GLACCOUNT	26	GL	23	0	0	1	.
INCIDENT	COMMODITYGROUP	27	UPPER	8	0	0	1	COMMODITIES.COMMODITY
INCIDENT	COMMODITY	28	UPPER	8	0	0	1	COMMODITIES.COMMODITY
INCIDENT	INHERITSTATUS	29	YORN	1	0	1	1	TICKET.INHERITSTATUS
INCIDENT	ISKNOWNERROR	30	YORN	1	0	1	1	TICKET.ISKNOWNERROR
INCIDENT	TARGETSTART	31	DATETIME	10	0	0	1	TICKET.TARGETSTART
INCIDENT	TARGETFINISH	32	DATETIME	10	0	0	1	TICKET.TARGETFINISH
INCIDENT	ACTUALSTART	33	DATETIME	10	0	0	1	TICKET.ACTUALSTART
INCIDENT	ACTUALFINISH	34	DATETIME	10	0	0	1	TICKET.ACTUALFINISH
INCIDENT	ORIGRECSITEID	35	UPPER	8	0	0	1	TICKET.ORIGRECSITEID
INCIDENT	ORIGRECORDID	36	UPPER	8	0	0	1	TICKET.ORIGRECORDID
INCIDENT	SITEID	37	UPPER	8	0	0	0	SITE.SITEID
INCIDENT	ORGID	38	UPPER	8	0	0	0	ORGANIZATION.ORGID
INCIDENT	CHANGEDATE	39	DATETIME	10	0	1	1	TICKET.CHANGEDATE
INCIDENT	CHANGEBY	40	UPPER	30	0	1	0	PERSON.PERSONID
INCIDENT	HISTORYFLAG	41	YORN	1	0	1	1	TICKET.HISTORYFLAG
INCIDENT	TEMPLATE	42	YORN	1	0	1	1	TICKET.TEMPLATE
INCIDENT	HASACTIVITY	43	YORN	1	0	1	1	TICKET.HASACTIVITY

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
INCIDENT	FAILURECODE	44	UPPER	8	0	0	0	FAILURECODE.FAILURECODE
INCIDENT	PROBLEMCODE	45	UPPER	8	0	0	0	FAILURECODE.FAILURECODE
INCIDENT	ACTLABHRS	46	DURATION	8	0	1	1	TICKET.ACTLABHRS
INCIDENT	ACTLABCOST	47	AMOUNT	10	2	1	1	TICKET.ACTLABCOST
INCIDENT	AFFECTEDPHONE	48	ALN	20	0	0	0	TICKET.AFFECTEDPHONE
INCIDENT	REPORTEDPHONE	49	ALN	20	0	0	0	TICKET.REPORTEDPHONE
INCIDENT	AFFECTEEMAIL	50	ALN	50	0	0	1	EMAIL.EMAILADDRESS
INCIDENT	REPORTEDEMAIL	51	ALN	50	0	0	1	EMAIL.EMAILADDRESS
INCIDENT	ASSETSITID	52	UPPER	8	0	0	0	SITE.SITID
INCIDENT	TEMPLATEID	53	UPPER	10	0	0	0	TICKET.TEMPLATEID
INCIDENT	VENDOR	54	UPPER	12	0	0	0	COMPANIES.COMPANY
INCIDENT	ASSETNUM	59	UPPER	12	0	0	0	ASSET.ASSETNUM
INCIDENT	LOCATION	60	UPPER	12	0	0	0	LOCATIONS.LOCATION
INCIDENT	CLASSSTRUCTUREID	62	UPPER	20	0	0	1	CLASSSTRUCTURE.CLASSSTRUCTUREID
INCIDENT	ISKNOWNERRORDATE	63	DATETIME	10	0	0	0	TICKET.ISKNOWNERRORDATE
INCIDENT	TARGETCONTACTDATE	64	DATETIME	10	0	0	0	TICKET.TARGETCONTACTDATE
INCIDENT	ACTUALCONTACTDATE	65	DATETIME	10	0	0	0	TICKET.ACTUALCONTACTDATE
INCIDENT	CREATEWORELASSET	66	YORN	1	0	1	0	TICKET.CREATEWORELASSET
INCIDENT	FR1CODE	69	UPPER	8	0	0	0	FAILURECODE.FAILURECODE
INCIDENT	FR2CODE	71	UPPER	8	0	0	0	FAILURECODE.FAILURECODE
INCIDENT	TICKETUID	73	INTEGER	12	0	0	1	.
INCIDENT	SOLUTION	74	UPPER	8	0	0	1	SOLUTION.SOLUTION
INCIDENT	ASSETORGID	78	UPPER	8	0	0	0	ORGANIZATION.ORGID
INCIDENT	LANGCODE	80	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
INCIDENT	HASLD	88	YORN	1	0	1	1	.
INVBALANCES	ITEMNUM	1	UPPER	30	0	1	0	ITEM.ITEMNUM
INVBALANCES	LOCATION	2	UPPER	12	0	1	0	LOCATIONS.LOCATION
INVBALANCES	BINNUM	3	ALN	8	0	0	0	INVENTORY.BINNUM
INVBALANCES	LOTNUM	4	UPPER	8	0	0	0	INVLOT.LOTNUM
INVBALANCES	CURBAL	5	DECIMAL	15	2	1	1	.
INVBALANCES	PHYSCNT	6	DECIMAL	15	2	1	1	.
INVBALANCES	PHYSCNTDATE	7	DATETIME	10	0	0	1	.
INVBALANCES	RECONCILED	8	YORN	1	0	1	1	.
INVBALANCES	SOURCESYSID	9	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
INVBALANCES	OWNERSYSID	10	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
INVBALANCES	EXTERNALREFID	11	ALN	10	0	0	0	.
INVBALANCES	SENDERSYSID	12	ALN	50	0	0	0	.
INVBALANCES	ORGID	13	UPPER	8	0	1	0	ORGANIZATION.ORGID
INVBALANCES	SITID	14	UPPER	8	0	1	0	SITE.SITID
INVBALANCES	ITEMSETID	15	UPPER	8	0	1	0	SETS.SETID
INVBALANCES	CONDITIONCODE	20	UPPER	30	0	0	0	ITEMCONDITION.CONDITIONCODE
INVBALANCES	INVBALANCESID	24	INTEGER	12	0	1	1	.
INVCOST	ITEMNUM	1	UPPER	30	0	1	0	ITEM.ITEMNUM
INVCOST	LOCATION	2	UPPER	12	0	1	0	LOCATIONS.LOCATION
INVCOST	CONDITIONCODE	3	UPPER	30	0	0	0	ITEMCONDITION.CONDITIONCODE
INVCOST	CONDRATE	4	INTEGER	12	0	1	1	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
INVCOST	ITEMSETID	5	UPPER	8	0	1	0	SETS.SETID
INVCOST	SITEID	6	UPPER	8	0	1	0	SITE.SITEID
INVCOST	STDCOST	7	AMOUNT	10	2	1	1	.
INVCOST	AVGCOST	8	AMOUNT	10	2	1	1	.
INVCOST	LASTCOST	9	AMOUNT	10	2	1	1	.
INVCOST	GLACCOUNT	10	GL	23	0	0	1	.
INVCOST	CONTROLACC	11	GL	23	0	0	1	.
INVCOST	SHRINKAGEACC	12	GL	23	0	0	1	.
INVCOST	INVCOSTADJACC	13	GL	23	0	0	1	.
INVCOST	ORGID	14	UPPER	8	0	1	0	ORGANIZATION.ORGID
INVCOST	INVCOSTID	20	INTEGER	12	0	1	1	.
INVENTORY	ITEMSETID	1	UPPER	8	0	1	0	SETS.SETID
INVENTORY	MANUFACTURER	2	UPPER	12	0	0	0	COMPANIES.COMPANY
INVENTORY	MODELNUM	3	ALN	8	0	0	0	.
INVENTORY	ORDERUNIT	4	UPPER	8	0	0	0	MEASUREUNIT.MEASUREUNITID
INVENTORY	SHRINKAGEACC	5	GL	23	0	0	1	.
INVENTORY	SSTOCK	6	DECIMAL	15	2	0	1	.
INVENTORY	VENDOR	7	UPPER	12	0	0	0	COMPANIES.COMPANY
INVENTORY	ABCTYPE	8	UPPER	1	0	0	0	.
INVENTORY	BINNUM	9	ALN	8	0	0	0	.
INVENTORY	CATALOGCODE	10	ALN	30	0	0	0	.
INVENTORY	CONTROLACC	11	GL	23	0	0	1	.
INVENTORY	GLACCOUNT	12	GL	23	0	0	1	.
INVENTORY	INVCOSTADJACC	13	GL	23	0	0	1	.
INVENTORY	ISSUEUNIT	14	UPPER	8	0	1	0	MEASUREUNIT.MEASUREUNITID
INVENTORY	LASTISSUEDATE	15	DATETIME	10	0	0	1	.
INVENTORY	ORGID	16	UPPER	8	0	1	0	ORGANIZATION.ORGID
INVENTORY	SITEID	17	UPPER	8	0	1	0	SITE.SITEID
INVENTORY	SOURCESYSID	18	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
INVENTORY	OWNERSYSID	19	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
INVENTORY	EXTERNALREFID	20	ALN	10	0	0	0	.
INVENTORY	CATEGORY	21	UPPER	16	0	1	1	.
INVENTORY	CCF	22	INTEGER	12	0	1	1	.
INVENTORY	DELIVERYTIME	23	INTEGER	12	0	1	1	.
INVENTORY	ISSUE1YRAGO	24	DECIMAL	15	2	1	1	.
INVENTORY	ISSUE2YRAGO	25	DECIMAL	15	2	1	1	.
INVENTORY	ISSUE3YRAGO	26	DECIMAL	15	2	1	1	.
INVENTORY	ISSUEYTD	27	DECIMAL	15	2	1	1	.
INVENTORY	ITEMNUM	28	UPPER	30	0	1	0	ITEM.ITEMNUM
INVENTORY	LOCATION	29	UPPER	12	0	1	0	LOCATIONS.LOCATION
INVENTORY	MAXLEVEL	30	DECIMAL	15	2	1	1	.
INVENTORY	MINLEVEL	31	DECIMAL	15	2	1	1	.
INVENTORY	ORDERQTY	32	DECIMAL	15	2	1	1	.
INVENTORY	SENDERSYSID	33	ALN	50	0	0	0	.
INVENTORY	INVENTORYID	47	INTEGER	12	0	1	1	.
INVENTORY	STORELOC	49	UPPER	12	0	0	0	LOCATIONS.LOCATION

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
INVENTORY	STORELOCSITEID	50	UPPER	8	0	0	0	SITE.SITEID
INVENTORY	INTERNAL	51	YORN	1	0	1	1	PO.INTERNAL
INVLOT	LOTNUM	1	UPPER	8	0	1	0	.
INVLOT	SHELFLIFE	2	FLOAT	8	0	0	1	.
INVLOT	USEBY	3	DATE	4	0	0	0	.
INVLOT	MFGLOTNUM	4	UPPER	8	0	0	0	.
INVLOT	VENDOR	5	UPPER	12	0	0	0	COMPANIES.COMPANY
INVLOT	MANUFACTURER	6	UPPER	12	0	0	0	COMPANIES.COMPANY
INVLOT	ORGID	7	UPPER	8	0	1	0	ORGANIZATION.ORGID
INVLOT	SITEID	8	UPPER	8	0	1	0	SITE.SITEID
INVLOT	INVLOTID	9	INTEGER	12	0	1	1	.
INVLOT	ITEMNUM	10	UPPER	30	0	1	0	ITEM.ITEMNUM
INVLOT	LOCATION	11	UPPER	12	0	1	0	LOCATIONS.LOCATION
INVLOT	ITEMSETID	12	UPPER	8	0	1	0	SETS.SETID
INVOICE	INVOICENUM	1	UPPER	8	0	1	0	.
INVOICE	DESCRIPTION	2	ALN	100	0	0	0	PR.DESCRPTION
INVOICE	PONUM	3	UPPER	8	0	0	0	PO.PONUM
INVOICE	VENDOR	4	UPPER	12	0	1	0	COMPANIES.COMPANY
INVOICE	CONTACT	5	ALN	50	0	0	0	COMPANIES.CONTACT
INVOICE	PAYMENTTERMS	6	ALN	20	0	0	0	COMPANIES.PAYMENTTERMS
INVOICE	CHECKCODE	7	UPPER	12	0	0	0	.
INVOICE	CHECKNUM	8	UPPER	8	0	0	0	.
INVOICE	CURRENCYCODE	9	UPPER	8	0	1	0	CURRENCY.CURRENCYCODE
INVOICE	EXCHANGERATE	10	DECIMAL	14	7	0	1	EXCHANGE.EXCHANGERATE
INVOICE	EXCHANGEDATE	11	DATE	4	0	0	1	.
INVOICE	DOCUMENTTYPE	12	UPPER	12	0	1	1	.
INVOICE	ORIGINVOICENUM	13	UPPER	8	0	0	0	INVOICE.INVOICENUM
INVOICE	STATUS	14	UPPER	12	0	1	1	.
INVOICE	STATUSDATE	15	DATETIME	10	0	1	1	.
INVOICE	APPROVALNUM	16	ALN	20	0	0	0	.
INVOICE	INVOICEDATE	17	DATE	4	0	0	1	.
INVOICE	DISCOUNTDATE	18	DATE	4	0	0	1	.
INVOICE	DUEDATE	19	DATE	4	0	0	1	.
INVOICE	PAIDDATE	20	DATE	4	0	0	1	.
INVOICE	PAID	21	DECIMAL	10	2	0	1	.
INVOICE	ENTERDATE	22	DATETIME	10	0	1	1	.
INVOICE	ENTERBY	23	UPPER	30	0	1	0	PERSON.PERSONID
INVOICE	CHANGEDATE	24	DATETIME	10	0	1	1	.
INVOICE	CHANGEBY	25	UPPER	30	0	1	0	PERSON.PERSONID
INVOICE	HISTORYFLAG	26	YORN	1	0	1	1	.
INVOICE	TOTALTAX1	27	DECIMAL	10	2	1	1	.
INVOICE	TAX1GL	28	GL	23	0	0	1	.
INVOICE	TOTALTAX2	29	DECIMAL	10	2	1	1	.
INVOICE	TAX2GL	30	GL	23	0	0	1	.
INVOICE	TOTALTAX3	31	DECIMAL	10	2	1	1	.
INVOICE	TAX3GL	32	GL	23	0	0	1	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
INVOICE	TOTALTAX4	33	DECIMAL	10	2	1	1	.
INVOICE	TAX4GL	34	GL	23	0	0	1	.
INVOICE	INCLUSIVE1	35	YORN	1	0	1	0	.
INVOICE	INCLUSIVE2	36	YORN	1	0	1	0	.
INVOICE	INCLUSIVE3	37	YORN	1	0	1	0	.
INVOICE	DISCOUNT	38	DECIMAL	10	2	0	1	.
INVOICE	TOTALCOST	39	DECIMAL	10	2	1	1	.
INVOICE	SYSCODE	40	INTEGER	12	0	0	1	.
INVOICE	TOTALTAX5	41	DECIMAL	10	2	1	1	.
INVOICE	TAX5GL	42	GL	23	0	0	1	.
INVOICE	INCLUSIVE4	43	YORN	1	0	1	0	.
INVOICE	INCLUSIVE5	44	YORN	1	0	1	0	.
INVOICE	VENDORINVOICENUM	45	UPPER	12	0	0	0	.
INVOICE	BASETOTALCOST	46	AMOUNT	10	2	0	1	.
INVOICE	APSUSPENSEACCT	47	GL	23	0	0	1	.
INVOICE	APCONTROLACCT	48	GL	23	0	0	1	.
INVOICE	FINANCIALPERIOD	49	ALN	6	0	0	0	FINANCIALPERIODS.FINANCIALPERIOD
INVOICE	EXCHANGERATE2	50	DECIMAL	14	7	0	1	EXCHANGE.EXCHANGERATE
INVOICE	BANKACCOUNT	51	UPPER	20	0	0	0	.
INVOICE	BANKNUM	52	ALN	16	0	0	1	.
INVOICE	SOURCESYSID	53	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
INVOICE	OWNERSYSID	54	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
INVOICE	EXTERNALREFID	55	ALN	10	0	0	0	.
INVOICE	SENDERSYSID	56	ALN	50	0	0	0	.
INVOICE	EINVOICE	57	YORN	1	0	1	1	.
INVOICE	SITEID	58	UPPER	8	0	1	0	SITE.SITEID
INVOICE	ORGID	59	UPPER	8	0	1	0	ORGANIZATION.ORGID
INVOICE	INVOICEID	82	INTEGER	12	0	1	1	.
INVOICE	SCHEDULEID	83	INTEGER	12	0	0	1	SCHEDULE.SCHEDULEID
INVOICE	CONTRACTREFNUM	84	UPPER	8	0	0	0	CONTRACT.CONTRACTNUM
INVOICE	CONTRACTREFREV	85	INTEGER	12	0	0	1	CONTRACT.REVISIONNUM
INVOICE	CONTRACTREFID	86	INTEGER	12	0	0	1	CONTRACT.CONTRACTID
INVOICE	TARGINVSTATUS	87	UPPER	7	0	0	0	.
INVOICE	SCHEDULENUM	88	INTEGER	12	0	0	0	SCHEDULE.SCHEDULENUM
INVOICE	LANGCODE	90	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
INVOICE	HASLD	91	YORN	1	0	1	1	.
INVOICECOST	INVOICENUM	1	UPPER	8	0	1	0	INVOICE.INVOICENUM
INVOICECOST	VENDOR	2	UPPER	12	0	1	0	COMPANIES.COMPANY
INVOICECOST	INVOICELINENUM	3	INTEGER	12	0	1	1	INVOICELINE.INVOICELINENUM
INVOICECOST	GLDEBITACCT	4	GL	23	0	0	1	.
INVOICECOST	GLCREDITACCT	5	GL	23	0	0	1	.
INVOICECOST	ASSETNUM	6	UPPER	12	0	0	0	ASSET.ASSETNUM
INVOICECOST	UNITCOST	7	DECIMAL	10	2	0	1	.
INVOICECOST	LINECOST	8	DECIMAL	10	2	1	1	.
INVOICECOST	PERCENTAGE	9	DECIMAL	5	2	1	1	.
INVOICECOST	MEMO	10	ALN	25	0	0	0	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
INVOICECOST	COSTLINENUM	11	INTEGER	12	0	1	1	.
INVOICECOST	CHARGESTORE	12	YORN	1	0	1	1	.
INVOICECOST	ICT1	13	ALN	10	0	0	0	ITEM.IN19
INVOICECOST	ICT2	14	ALN	10	0	0	0	ITEM.IN20
INVOICECOST	ICT3	15	ALN	10	0	0	0	ITEM.IN21
INVOICECOST	QUANTITY	16	DECIMAL	15	2	0	1	.
INVOICECOST	LOCATION	17	UPPER	12	0	0	0	LOCATIONS.LOCATION
INVOICECOST	FINCNTRLID	18	UPPER	8	0	0	0	FINCNTRL.FINCNTRLID
INVOICECOST	SITEID	19	UPPER	8	0	1	0	SITE.SITEID
INVOICECOST	ORGID	20	UPPER	8	0	1	0	ORGANIZATION.ORGID
INVOICECOST	REFWO	21	UPPER	10	0	0	0	WORKORDER.WONUM
INVOICECOST	ENTEREDASTASK	22	YORN	1	0	1	1	.
INVOICECOST	INVOICECOSTID	33	INTEGER	12	0	1	1	.
INVOICECOST	TOSITEID	36	UPPER	8	0	0	0	SITE.SITEID
INVOICELINE	INVOICENUM	1	UPPER	8	0	1	0	INVOICE.INVOICENUM
INVOICELINE	VENDOR	2	UPPER	12	0	1	0	COMPANIES.COMPANY
INVOICELINE	PONUM	3	UPPER	8	0	0	0	PO.PONUM
INVOICELINE	INVOICELINENUM	4	INTEGER	12	0	1	1	.
INVOICELINE	POLINENUM	5	INTEGER	12	0	0	1	PRLINE.PRLINENUM
INVOICELINE	ITEMNUM	6	UPPER	30	0	0	0	ITEM.ITEMNUM
INVOICELINE	DESCRIPTION	7	ALN	100	0	0	0	ITEM.DESCRPTION
INVOICELINE	INVOICEQTY	8	DECIMAL	15	2	0	1	.
INVOICELINE	INVOICEUNIT	9	UPPER	8	0	0	0	MEASUREUNIT.MEASUREUNITID
INVOICELINE	UNITCOST	10	DECIMAL	10	2	0	1	.
INVOICELINE	LINECOST	11	DECIMAL	10	2	1	1	.
INVOICELINE	RECEIPTREQD	12	YORN	1	0	1	0	.
INVOICELINE	TAX1CODE	13	UPPER	8	0	0	0	TAX.TAXCODE
INVOICELINE	TAX1	14	DECIMAL	10	2	1	1	.
INVOICELINE	TAX2CODE	15	UPPER	8	0	0	0	TAX.TAXCODE
INVOICELINE	TAX2	16	DECIMAL	10	2	1	1	.
INVOICELINE	TAX3CODE	17	UPPER	8	0	0	0	TAX.TAXCODE
INVOICELINE	TAX3	18	DECIMAL	10	2	1	1	.
INVOICELINE	INVOICELIN1	19	ALN	10	0	0	0	ITEM.IN19
INVOICELINE	INVOICELIN2	20	ALN	10	0	0	0	ITEM.IN20
INVOICELINE	INVOICELIN3	21	ALN	10	0	0	0	ITEM.IN21
INVOICELINE	INVOICELIN4	22	ALN	1	0	0	0	.
INVOICELINE	INVOICELIN5	23	ALN	1	0	0	0	.
INVOICELINE	ENTERBY	24	UPPER	30	0	1	0	PERSON.PERSONID
INVOICELINE	ENTERDATE	25	DATETIME	10	0	1	0	.
INVOICELINE	TAX4CODE	26	UPPER	8	0	0	0	TAX.TAXCODE
INVOICELINE	TAX4	27	DECIMAL	10	2	1	1	.
INVOICELINE	TAX5CODE	28	UPPER	8	0	0	0	TAX.TAXCODE
INVOICELINE	TAX5	29	DECIMAL	10	2	1	1	.
INVOICELINE	LOADED COST	30	DECIMAL	10	2	1	1	.
INVOICELINE	PRORATED	31	YORN	1	0	1	1	.
INVOICELINE	PRORATECOST	32	DECIMAL	10	2	0	1	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
INVOICELINE	PRORATESERVICE	33	YORN	1	0	1	1	.
INVOICELINE	LINECOST2	34	DECIMAL	10	2	0	1	.
INVOICELINE	INVOICELIN6	35	ALN	10	0	0	0	ITEM.IN24
INVOICELINE	INVOICELIN7	36	ALN	10	0	0	0	ITEM.IN25
INVOICELINE	INVOICELIN8	37	ALN	10	0	0	0	ITEM.IN26
INVOICELINE	INVOICELIN9	38	ALN	10	0	0	0	ITEM.IN27
INVOICELINE	SITEID	39	UPPER	8	0	1	0	SITE.SITEID
INVOICELINE	ORGID	40	UPPER	8	0	1	0	ORGANIZATION.ORGID
INVOICELINE	LINETYPE	41	UPPER	15	0	1	1	PRLINE.LINETYPE
INVOICELINE	ITEMSETID	42	UPPER	8	0	0	0	SETS.SETID
INVOICELINE	CONDITIONCODE	55	UPPER	30	0	0	0	ITEMCONDITION.CONDITIONCODE
INVOICELINE	COMMODITYGROUP	56	UPPER	8	0	0	1	COMMODITIES.COMMODITY
INVOICELINE	COMMODITY	57	UPPER	8	0	0	1	COMMODITIES.COMMODITY
INVOICELINE	INVOICELINEID	58	INTEGER	12	0	1	1	.
INVOICELINE	CONTRACTREFNUM	59	UPPER	8	0	0	0	CONTRACT.CONTRACTNUM
INVOICELINE	CONTRACTREFREV	60	INTEGER	12	0	0	1	CONTRACT.REVISIONNUM
INVOICELINE	CONTRACTREFID	61	INTEGER	12	0	0	1	CONTRACT.CONTRACTID
INVOICELINE	LEASEASSET	62	UPPER	12	0	0	0	ASSET.ASSETNUM
INVOICELINE	LANGCODE	63	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
INVOICELINE	CONTRREFLINEID	64	INTEGER	12	0	0	0	CONTRACTLINE.CONTRACTLINEID
INVOICELINE	CONVERSION	65	DECIMAL	15	2	0	1	CONVERSION.CONVERSION
INVOICELINE	HASLD	66	YORN	1	0	1	1	.
INVOICEMATCH	VENDOR	1	UPPER	12	0	1	0	COMPANIES.COMPANY
INVOICEMATCH	INVOICENUM	2	UPPER	8	0	1	0	INVOICE.INVOICENUM
INVOICEMATCH	INVOICELINENUM	3	INTEGER	12	0	1	1	INVOICELINE.INVOICELINENUM
INVOICEMATCH	PONUM	4	UPPER	8	0	0	0	PO.PONUM
INVOICEMATCH	POLINENUM	5	INTEGER	12	0	0	1	PRLINE.PRLINENUM
INVOICEMATCH	TRANSTYPE	6	UPPER	16	0	1	1	.
INVOICEMATCH	TRANSDATE	7	DATETIME	10	0	0	1	.
INVOICEMATCH	QUANTITY	8	DECIMAL	15	2	0	1	.
INVOICEMATCH	LINECOST	9	DECIMAL	10	2	1	1	.
INVOICEMATCH	COSTLINENUM	10	INTEGER	12	0	1	1	INVOICECOST.COSTLINENUM
INVOICEMATCH	MATRECTRANSID	11	INTEGER	12	0	0	1	MATRECTRANS.MATRECTRANSID
INVOICEMATCH	SERVRECTRANSID	12	INTEGER	12	0	0	1	SERVRECTRANS.SERVRECTRANSID
INVOICEMATCH	SITEID	13	UPPER	8	0	1	0	SITE.SITEID
INVOICEMATCH	ORGID	14	UPPER	8	0	1	0	ORGANIZATION.ORGID
INVOICEMATCH	USERMATCHED	15	YORN	1	0	1	0	.
INVOICEMATCH	INVOICEMATCHID	16	INTEGER	12	0	1	1	.
INVOICEMATCH	CONVERSION	17	DECIMAL	15	2	0	1	CONVERSION.CONVERSION
INVOICESTATUS	INVOICENUM	1	UPPER	8	0	1	0	INVOICE.INVOICENUM
INVOICESTATUS	VENDOR	2	UPPER	12	0	1	0	COMPANIES.COMPANY
INVOICESTATUS	STATUS	3	UPPER	12	0	1	1	INVOICE.STATUS
INVOICESTATUS	CHANGEDATE	4	DATETIME	10	0	1	1	.
INVOICESTATUS	CHANGEBY	5	UPPER	30	0	1	0	PERSON.PERSONID
INVOICESTATUS	MEMO	6	ALN	50	0	0	0	WFTRANSACTION.MEMO
INVOICESTATUS	SITEID	7	UPPER	8	0	1	0	SITE.SITEID

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
INVOICESTATUS	ORGID	8	UPPER	8	0	1	0	ORGANIZATION.ORGID
INVOICESTATUS	INVOICESTATUSID	9	INTEGER	12	0	1	1	.
INVOICETERM	INVOICENUM	1	UPPER	8	0	1	0	INVOICE.INVOICENUM
INVOICETERM	SEQNUM	2	INTEGER	12	0	0	0	.
INVOICETERM	TERMID	3	UPPER	25	0	0	0	.
INVOICETERM	DESCRIPTION	4	ALN	100	0	0	0	.
INVOICETERM	SITEID	5	UPPER	8	0	1	0	.
INVOICETERM	ORGID	6	UPPER	8	0	1	0	.
INVOICETERM	CANEDIT	8	YORN	1	0	1	0	.
INVOICETERM	INVOICETERMID	9	INTEGER	12	0	1	1	.
INVOICETERM	LANGCODE	10	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
INVOICETERM	HASLD	11	YORN	1	0	1	1	.
INVOICETRANS	VENDOR	1	UPPER	12	0	1	0	COMPANIES.COMPANY
INVOICETRANS	INVOICENUM	2	UPPER	8	0	1	0	INVOICE.INVOICENUM
INVOICETRANS	INVOICELINENUM	3	INTEGER	12	0	0	1	INVOICELINE.INVOICELINENUM
INVOICETRANS	COSTLINENUM	4	INTEGER	12	0	0	1	INVOICECOST.COSTLINENUM
INVOICETRANS	GLDEBITACCT	5	GL	23	0	0	1	.
INVOICETRANS	GLCREDITACCT	6	GL	23	0	0	1	.
INVOICETRANS	CURRENCYCODE	7	UPPER	8	0	1	0	CURRENCY.CURRENCYCODE
INVOICETRANS	LINECOST	8	AMOUNT	10	2	1	1	.
INVOICETRANS	TRANSDATE	9	DATETIME	10	0	1	0	.
INVOICETRANS	ENTERBY	10	UPPER	30	0	1	0	PERSON.PERSONID
INVOICETRANS	TRANSTYPE	11	UPPER	12	0	1	1	.
INVOICETRANS	CURRENCYLINECOST	12	DECIMAL	10	2	1	1	.
INVOICETRANS	EXCHANGERATE	13	DECIMAL	14	7	1	1	EXCHANGE.EXCHANGERATE
INVOICETRANS	FINANCIALPERIOD	14	ALN	6	0	0	0	FINANCIALPERIODS.FINANCIALPERIOD
INVOICETRANS	EXCHANGERATE2	15	DECIMAL	14	7	0	1	EXCHANGE.EXCHANGERATE
INVOICETRANS	LINECOST2	16	DECIMAL	10	2	0	1	.
INVOICETRANS	SENDERSYSID	17	ALN	50	0	0	0	.
INVOICETRANS	SOURCESYSID	18	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
INVOICETRANS	OWNERSYSID	19	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
INVOICETRANS	EXTERNALREFID	20	ALN	10	0	0	0	.
INVOICETRANS	SITEID	21	UPPER	8	0	1	0	SITE.SITEID
INVOICETRANS	ORGID	22	UPPER	8	0	1	0	ORGANIZATION.ORGID
INVOICETRANS	INVOICETRANSID	23	INTEGER	12	0	1	1	.
INVRESERVE	REQUESTNUM	1	UPPER	20	0	1	0	.
INVRESERVE	ITEMNUM	2	UPPER	30	0	0	0	ITEM.ITEMNUM
INVRESERVE	LOCATION	3	UPPER	12	0	0	0	LOCATIONS.LOCATION
INVRESERVE	WONUM	4	UPPER	10	0	0	0	WORKORDER.WONUM
INVRESERVE	ACTUALQTY	5	DECIMAL	15	2	1	1	.
INVRESERVE	RESERVEDQTY	6	DECIMAL	15	2	1	1	.
INVRESERVE	INITFLAG	7	YORN	1	0	1	1	.
INVRESERVE	DIRECTREQ	8	YORN	1	0	1	1	.
INVRESERVE	GLACCOUNT	9	GL	23	0	0	1	.
INVRESERVE	REQUESTEDBY	10	ALN	20	0	0	0	.
INVRESERVE	REQUESTEDDATE	11	DATETIME	10	0	0	0	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
INVRESERVE	REQUIREDDATE	12	DATETIME	10	0	0	0	.
INVRESERVE	PONUM	13	UPPER	8	0	0	0	PO.PONUM
INVRESERVE	POLINENUM	14	INTEGER	12	0	0	1	PRLINE.PRLINENUM
INVRESERVE	DELLOCATION	15	UPPER	12	0	0	0	LOCATIONS.LOCATION
INVRESERVE	DESCRIPTION	16	ALN	100	0	0	0	ITEM.DESCRPTION
INVRESERVE	POLINEID	17	INTEGER	12	0	0	1	.
INVRESERVE	MRNUM	18	UPPER	8	0	0	0	MR.MRNUM
INVRESERVE	ASSETNUM	19	UPPER	12	0	0	0	ASSET.ASSETNUM
INVRESERVE	MRLINENUM	20	INTEGER	12	0	0	1	MRLINE.MRLINENUM
INVRESERVE	SOURCESYSID	21	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
INVRESERVE	OWNERSYSID	22	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
INVRESERVE	EXTERNALREFID	23	ALN	10	0	0	0	.
INVRESERVE	ISSUETO	24	UPPER	8	0	0	0	LABOR.LABORCODE
INVRESERVE	SENDERSYSID	25	ALN	50	0	0	0	.
INVRESERVE	FINCNTRLID	26	UPPER	8	0	0	0	FINCNTRL.FINCNTRLID
INVRESERVE	ORGID	27	UPPER	8	0	1	0	ORGANIZATION.ORGID
INVRESERVE	SITEID	28	UPPER	8	0	1	0	SITE.SITEID
INVRESERVE	ITEMSETID	29	UPPER	8	0	0	0	SETS.SETID
INVRESERVE	CONDITIONCODE	33	UPPER	30	0	0	0	ITEMCONDITION.CONDITIONCODE
INVRESERVE	INVRESERVEID	34	INTEGER	12	0	1	1	.
INVRESERVE	STORELOCSITEID	37	UPPER	8	0	1	0	SITE.SITEID
INVRESERVE	LANGCODE	38	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
INVRESERVE	HASLD	39	YORN	1	0	1	1	.
INVTRANS	ITEMNUM	1	UPPER	30	0	1	0	ITEM.ITEMNUM
INVTRANS	STORELOC	2	UPPER	12	0	1	0	LOCATIONS.LOCATION
INVTRANS	TRANSDATE	3	DATETIME	10	0	1	1	.
INVTRANS	TRANSTYPE	4	UPPER	18	0	1	1	.
INVTRANS	QUANTITY	5	DECIMAL	15	2	1	1	.
INVTRANS	CURBAL	6	DECIMAL	15	2	1	1	.
INVTRANS	PHYSCNT	7	DECIMAL	15	2	1	1	.
INVTRANS	OLDCOST	8	AMOUNT	10	2	1	1	.
INVTRANS	NEWCOST	9	AMOUNT	10	2	1	1	.
INVTRANS	ENTERBY	10	UPPER	30	0	1	0	PERSON.PERSONID
INVTRANS	MEMO	11	ALN	254	0	0	0	.
INVTRANS	BINNUM	12	ALN	8	0	0	0	INVENTORY.BINNUM
INVTRANS	LOTNUM	13	UPPER	8	0	0	0	INVLOT.LOTNUM
INVTRANS	GLDEBITACCT	14	GL	23	0	0	1	.
INVTRANS	GLCREDITACCT	15	GL	23	0	0	1	.
INVTRANS	FINANCIALPERIOD	16	ALN	6	0	0	0	FINANCIALPERIODS.FINANCIALPERIOD
INVTRANS	LINECOST	17	DECIMAL	10	2	1	1	.
INVTRANS	EXCHANGERATE2	18	DECIMAL	14	7	0	1	EXCHANGE.EXCHANGERATE
INVTRANS	LINECOST2	19	DECIMAL	10	2	0	1	.
INVTRANS	INVTRANSID	20	INTEGER	12	0	1	1	.
INVTRANS	MATRECTRANSID	21	INTEGER	12	0	0	1	.
INVTRANS	SENDERSYSID	22	ALN	50	0	0	0	.
INVTRANS	SOURCESYSID	23	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
INVTRANS	OWNERSYSID	24	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
INVTRANS	EXTERNALREFID	25	ALN	10	0	0	0	.
INVTRANS	ORGID	26	UPPER	8	0	1	0	ORGANIZATION.ORGID
INVTRANS	SITEID	27	UPPER	8	0	1	0	SITE.SITEID
INVTRANS	ITEMSETID	28	UPPER	8	0	1	0	SETS.SETID
INVTRANS	CONDITIONCODE	29	UPPER	30	0	0	0	ITEMCONDITION.CONDITIONCODE
INVTRANS	CONDRATE	30	INTEGER	12	0	0	1	INVCOST.CONDRATE
INVTRANS	MATUSETRANSID	31	INTEGER	12	0	0	1	MATUSETRANS.MATUSETRANSID
INVVENDOR	ITEMNUM	1	UPPER	30	0	1	0	ITEM.ITEMNUM
INVVENDOR	VENDOR	2	UPPER	12	0	0	0	COMPANIES.COMPANY
INVVENDOR	MANUFACTURER	3	UPPER	12	0	0	0	COMPANIES.COMPANY
INVVENDOR	MODELNUM	4	ALN	8	0	0	0	INVENTORY.MODELNUM
INVVENDOR	CATALOGCODE	5	ALN	30	0	0	0	INVENTORY.CATALOGCODE
INVVENDOR	TAX1CODE	6	UPPER	8	0	0	0	TAX.TAXCODE
INVVENDOR	TAX2CODE	7	UPPER	8	0	0	0	TAX.TAXCODE
INVVENDOR	TAX3CODE	8	UPPER	8	0	0	0	TAX.TAXCODE
INVVENDOR	BIDPRICE	9	DECIMAL	10	2	1	1	.
INVVENDOR	BIDDATE	10	DATE	4	0	0	0	.
INVVENDOR	PROMDELIVERYTIME	11	INTEGER	12	0	1	1	INVENTORY.DELIVERYTIME
INVVENDOR	TAX4CODE	12	UPPER	8	0	0	0	TAX.TAXCODE
INVVENDOR	TAX5CODE	13	UPPER	8	0	0	0	TAX.TAXCODE
INVVENDOR	LASTCOST	14	DECIMAL	10	2	0	1	.
INVVENDOR	LASTDATE	15	DATE	4	0	0	1	.
INVVENDOR	CATALOGWEBPAGE	16	ALN	250	0	0	1	DOCINFO.URLNAME
INVVENDOR	SOURCESYSID	17	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
INVVENDOR	OWNERSYSID	18	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
INVVENDOR	EXTERNALREFID	19	ALN	10	0	0	0	.
INVVENDOR	SENDERSYSID	20	ALN	50	0	0	0	.
INVVENDOR	ORDERUNIT	21	UPPER	8	0	0	0	MEASUREUNIT.MEASUREUNITID
INVVENDOR	ISDEFAULT	22	YORN	1	0	1	1	.
INVVENDOR	ECOMPARTNUM1	23	ALN	30	0	0	0	.
INVVENDOR	ECOMPARTNUM2	24	ALN	30	0	0	0	.
INVVENDOR	DESCRIPTION	25	ALN	100	0	0	0	.
INVVENDOR	ORGID	26	UPPER	8	0	1	0	ORGANIZATION.ORGID
INVVENDOR	SITEID	27	UPPER	8	0	0	0	SITE.SITEID
INVVENDOR	ITEMSETID	28	UPPER	8	0	1	0	SETS.SETID
INVVENDOR	CONDITIONCODE	40	UPPER	30	0	0	0	ITEMCONDITION.CONDITIONCODE
INVVENDOR	INVENDORID	41	INTEGER	12	0	1	1	.
ITEM	ITEMNUM	1	UPPER	30	0	1	0	.
ITEM	DESCRIPTION	2	ALN	100	0	0	0	.
ITEM	ROTATING	3	YORN	1	0	1	1	.
ITEM	LOTTYE	4	UPPER	16	0	1	1	.
ITEM	CAPITALIZED	5	YORN	1	0	1	1	.
ITEM	MSDSNUM	6	ALN	10	0	0	0	.
ITEM	OUTSIDE	7	YORN	1	0	1	1	.
ITEM	IN19	8	ALN	10	0	0	0	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
ITEM	IN20	9	ALN	10	0	0	0	.
ITEM	IN21	10	ALN	10	0	0	0	.
ITEM	IN22	11	DATETIME	10	0	0	0	.
ITEM	IN23	12	DECIMAL	15	2	0	0	.
ITEM	SPAREPARTAUTOADD	13	YORN	1	0	1	1	.
ITEM	CLASSTRUCTUREID	14	UPPER	20	0	0	1	CLASSTRUCTURE.CLASSTRUCTUREID
ITEM	INSPECTIONREQUIRED	15	YORN	1	0	1	1	.
ITEM	SOURCESYSID	16	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
ITEM	OWNERSYSID	17	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
ITEM	EXTERNALREFID	18	ALN	10	0	0	0	.
ITEM	IN24	19	ALN	10	0	0	0	.
ITEM	IN25	20	ALN	10	0	0	0	.
ITEM	IN26	21	ALN	10	0	0	0	.
ITEM	IN27	22	ALN	10	0	0	0	.
ITEM	SENDERSYSID	23	ALN	50	0	0	0	.
ITEM	ITEMSETID	24	UPPER	8	0	1	0	SETS.SETID
ITEM	ORDERUNIT	25	UPPER	8	0	0	0	MEASUREUNIT.MEASUREUNITID
ITEM	ISSUEUNIT	26	UPPER	8	0	0	0	MEASUREUNIT.MEASUREUNITID
ITEM	CONDITIONENABLED	33	YORN	1	0	1	0	.
ITEM	GROUPNAME	34	UPPER	10	0	0	0	METERGROUP.GROUPNAME
ITEM	METERNAME	35	UPPER	10	0	0	0	METER.METERNAME
ITEM	COMMODITYGROUP	36	UPPER	8	0	0	1	COMMODITIES.COMMODITY
ITEM	COMMODITY	37	UPPER	8	0	0	1	COMMODITIES.COMMODITY
ITEM	ITEMTYPE	38	UPPER	10	0	1	0	.
ITEM	PRORATE	39	YORN	1	0	1	1	.
ITEM	ITEMID	40	INTEGER	12	0	1	1	.
ITEM	ISKIT	41	YORN	1	0	1	1	.
ITEM	LANGCODE	43	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
ITEM	ATTACHONISSUE	44	YORN	1	0	1	1	.
ITEM	HASLD	45	YORN	1	0	1	1	.
ITEMCONDITION	CONDITIONCODE	1	UPPER	30	0	1	0	.
ITEMCONDITION	DESCRIPTION	2	ALN	100	0	0	0	.
ITEMCONDITION	STOCKTYPE	3	UPPER	12	0	0	0	.
ITEMCONDITION	ITEMNUM	4	UPPER	30	0	0	0	ITEM.ITEMNUM
ITEMCONDITION	ITEMSETID	5	UPPER	8	0	1	0	SETS.SETID
ITEMCONDITION	CONDRATE	6	DECIMAL	8	0	0	1	.
ITEMCONDITION	COMMODITYGROUP	8	UPPER	8	0	0	1	COMMODITIES.COMMODITY
ITEMCONDITION	COMMODITY	9	UPPER	8	0	0	1	COMMODITIES.COMMODITY
ITEMCONDITION	ITEMCONDITIONID	10	INTEGER	12	0	1	1	.
ITEMCONDITION	LANGCODE	11	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
ITEMCONDITION	HASLD	12	YORN	1	0	1	1	.
ITEMORGINFO	ITEMNUM	1	UPPER	30	0	1	0	ITEM.ITEMNUM
ITEMORGINFO	ITEMSETID	2	UPPER	8	0	1	0	SETS.SETID
ITEMORGINFO	ORGID	3	UPPER	8	0	1	0	ORGANIZATION.ORGID
ITEMORGINFO	HAZARDID	4	UPPER	8	0	0	0	HAZARD.HAZARDID
ITEMORGINFO	TOOLRATE	5	AMOUNT	10	2	0	1	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
ITEMORGINFO	GLACCOUNT	6	GL	23	0	0	1	.
ITEMORGINFO	CONTROLACC	7	GL	23	0	0	1	.
ITEMORGINFO	TAX1CODE	8	UPPER	8	0	0	0	TAX.TAXCODE
ITEMORGINFO	TAX2CODE	9	UPPER	8	0	0	0	TAX.TAXCODE
ITEMORGINFO	TAX3CODE	10	UPPER	8	0	0	0	TAX.TAXCODE
ITEMORGINFO	TAX4CODE	11	UPPER	8	0	0	0	TAX.TAXCODE
ITEMORGINFO	TAX5CODE	12	UPPER	8	0	0	0	TAX.TAXCODE
ITEMORGINFO	ITEMORGINFOID	13	INTEGER	12	0	1	1	.
ITEMORGINFO	VENDOR	14	UPPER	12	0	0	0	COMPANIES.COMPANY
ITEMSPEC	ITEMNUM	1	UPPER	30	0	1	0	ITEM.ITEMNUM
ITEMSPEC	ASSETATTRID	2	UPPER	8	0	1	0	ASSETATTRIBUTE.ASSETATTRID
ITEMSPEC	ROTATING	3	YORN	1	0	1	1	ITEM.ROTATING
ITEMSPEC	CLASSSTRUCTUREID	4	UPPER	20	0	1	1	CLASSSTRUCTURE.CLASSSTRUCTUREID
ITEMSPEC	ALLASPECUSEVALUE	5	YORN	1	0	1	1	.
ITEMSPEC	ALLOCSPECUSEVALUE	6	YORN	1	0	1	1	.
ITEMSPEC	DISPLAYSEQUENCE	7	SMALLINT	10	0	1	1	.
ITEMSPEC	NUMVALUE	8	DECIMAL	10	2	0	1	NUMERICDOMAIN.VALUE
ITEMSPEC	MEASUREUNITID	9	UPPER	8	0	0	0	MEASUREUNIT.MEASUREUNITID
ITEMSPEC	ALNVALUE	10	ALN	25	0	0	1	ALNDOMAIN.VALUE
ITEMSPEC	CHANGEDATE	11	DATETIME	10	0	1	1	.
ITEMSPEC	CHANGEBY	12	UPPER	30	0	1	0	PERSON.PERSONID
ITEMSPEC	IS01	13	ALN	10	0	0	0	.
ITEMSPEC	IS02	14	ALN	10	0	0	0	.
ITEMSPEC	IS03	15	ALN	10	0	0	0	.
ITEMSPEC	IS04	16	DATETIME	10	0	0	0	.
ITEMSPEC	IS05	17	DECIMAL	15	2	0	0	.
ITEMSPEC	ORGID	18	UPPER	8	0	0	0	ORGANIZATION.ORGID
ITEMSPEC	ITEMSETID	19	UPPER	8	0	1	0	SETS.SETID
ITEMSPEC	SECTION	20	UPPER	10	0	0	0	CLASSSPEC.SECTION
ITEMSPEC	ITEMSPECID	21	INTEGER	12	0	1	1	.
ITEMSTRUCT	ITEMNUM	1	UPPER	30	0	1	0	ITEM.ITEMNUM
ITEMSTRUCT	INSTANCE	2	INTEGER	12	0	1	1	.
ITEMSTRUCT	PARENT	3	UPPER	30	0	0	0	ITEM.ITEMNUM
ITEMSTRUCT	PARINST	4	INTEGER	12	0	0	1	ITEMSTRUCT.INSTANCE
ITEMSTRUCT	ITEMID	5	UPPER	30	0	1	0	ITEM.ITEMNUM
ITEMSTRUCT	QUANTITY	6	DECIMAL	15	2	0	1	SPAREPART.QUANTITY
ITEMSTRUCT	REMARK	7	ALN	50	0	0	0	.
ITEMSTRUCT	IAS1	8	ALN	10	0	0	0	.
ITEMSTRUCT	IAS2	9	ALN	10	0	0	0	.
ITEMSTRUCT	IAS3	10	ALN	10	0	0	0	.
ITEMSTRUCT	IAS4	11	DATETIME	10	0	0	0	.
ITEMSTRUCT	IAS5	12	DECIMAL	15	2	0	0	.
ITEMSTRUCT	ITEMSETID	13	UPPER	8	0	1	0	SETS.SETID
ITEMSTRUCT	ITEMSTRUCTID	20	INTEGER	12	0	1	1	.
ITEMSTRUCT	LANGCODE	22	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
ITEMSTRUCT	HASLD	24	YORN	1	0	1	1	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
JOBITEM	JPNUM	1	UPPER	10	0	1	0	JOBPLAN.JPNUM
JOBITEM	DIRECTREQ	2	YORN	1	0	1	1	INVRESERVE.DIRECTREQ
JOBITEM	ITEMNUM	3	UPPER	30	0	1	0	ITEM.ITEMNUM
JOBITEM	ITEMQTY	4	DECIMAL	15	2	1	1	.
JOBITEM	ITEMSETID	5	UPPER	8	0	1	0	SETS.SETID
JOBITEM	JM1	6	ALN	10	0	0	0	.
JOBITEM	JM2	7	ALN	10	0	0	0	.
JOBITEM	JM3	8	DECIMAL	15	2	0	0	.
JOBITEM	JM4	9	ALN	10	0	0	0	.
JOBITEM	JM5	10	AMOUNT	10	2	0	0	.
JOBITEM	JM6	11	ALN	10	0	0	0	.
JOBITEM	JPTASK	12	INTEGER	12	0	0	1	WORKORDER.TASKID
JOBITEM	LINETYPE	14	UPPER	15	0	1	1	PRLINE.LINETYPE
JOBITEM	LOCATION	15	UPPER	12	0	0	0	LOCATIONS.LOCATION
JOBITEM	ORGID	16	UPPER	8	0	0	0	ORGANIZATION.ORGID
JOBITEM	SITEID	17	UPPER	8	0	0	0	SITE.SITEID
JOBITEM	VENDOR	19	UPPER	12	0	0	0	COMPANIES.COMPANY
JOBITEM	CONDITIONCODE	20	UPPER	30	0	0	0	ITEMCONDITION.CONDITIONCODE
JOBITEM	JOBITEMID	21	INTEGER	12	0	1	1	.
JOBITEM	JOBPLANID	22	INTEGER	12	0	1	1	JOBPLAN.JOBPLANID
JOBITEM	STORELOCSITE	23	UPPER	8	0	0	0	SITE.SITEID
JOBITEM	RATE	24	AMOUNT	10	2	1	1	.
JOBITEM	RESERVEREQ	25	YORN	1	0	1	0	.
JOBITEM	HOURS	26	DURATION	8	0	1	1	.
JOBLABOR	JPNUM	1	UPPER	10	0	1	0	JOBPLAN.JPNUM
JOBLABOR	LABORCODE	2	UPPER	8	0	0	0	LABOR.LABORCODE
JOBLABOR	LABORHRS	3	DURATION	8	0	1	1	.
JOBLABOR	JL1	4	ALN	10	0	0	0	.
JOBLABOR	JL2	5	DATETIME	10	0	0	0	.
JOBLABOR	JL3	6	ALN	10	0	0	0	.
JOBLABOR	JL4	7	ALN	10	0	0	0	.
JOBLABOR	JL5	8	ALN	10	0	0	0	.
JOBLABOR	JL6	9	DECIMAL	15	2	0	0	.
JOBLABOR	VENDOR	10	UPPER	12	0	0	0	COMPANIES.COMPANY
JOBLABOR	JL7	11	ALN	10	0	0	0	.
JOBLABOR	JL8	12	ALN	10	0	0	0	.
JOBLABOR	JL9	13	ALN	10	0	0	0	.
JOBLABOR	ORGID	14	UPPER	8	0	1	0	ORGANIZATION.ORGID
JOBLABOR	SITEID	15	UPPER	8	0	0	0	SITE.SITEID
JOBLABOR	JPTASK	16	INTEGER	12	0	0	1	WORKORDER.TASKID
JOBLABOR	JOBLABORID	19	INTEGER	12	0	1	1	.
JOBLABOR	JOBPLANID	20	INTEGER	12	0	1	1	JOBPLAN.JOBPLANID
JOBLABOR	CRAFT	21	UPPER	8	0	0	0	CRAFT.CRAFT
JOBLABOR	SKILLLEVEL	22	UPPER	12	0	0	0	CRAFTSKILL.SKILLLEVEL
JOBLABOR	CONTRACTNUM	23	UPPER	8	0	0	0	CONTRACT.CONTRACTNUM
JOBLABOR	QUANTITY	24	INTEGER	12	0	0	1	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
JOBMATERIAL	JPNUM	1	UPPER	10	0	1	0	JOBPLAN.JPNUM
JOBMATERIAL	DIRECTREQ	2	YORN	1	0	1	1	INVRESERVE.DIRECTREQ
JOBMATERIAL	ITEMNUM	3	UPPER	30	0	1	0	ITEM.ITEMNUM
JOBMATERIAL	ITEMQTY	4	DECIMAL	15	2	1	1	JOBITEM.ITEMQTY
JOBMATERIAL	ITEMSETID	5	UPPER	8	0	1	0	SETS.SETID
JOBMATERIAL	JM1	6	ALN	10	0	0	0	JOBITEM.JM1
JOBMATERIAL	JM2	7	ALN	10	0	0	0	JOBITEM.JM2
JOBMATERIAL	JM3	8	DECIMAL	15	2	0	0	JOBITEM.JM3
JOBMATERIAL	JM4	9	ALN	10	0	0	0	.
JOBMATERIAL	JM5	10	AMOUNT	10	2	0	0	.
JOBMATERIAL	JM6	11	ALN	10	0	0	0	.
JOBMATERIAL	JPTASK	12	INTEGER	12	0	0	1	WORKORDER.TASKID
JOBMATERIAL	LINETYPE	14	UPPER	15	0	1	1	PRLINE.LINETYPE
JOBMATERIAL	LOCATION	15	UPPER	12	0	0	0	LOCATIONS.LOCATION
JOBMATERIAL	ORGID	16	UPPER	8	0	0	0	ORGANIZATION.ORGID
JOBMATERIAL	SITEID	17	UPPER	8	0	0	0	SITE.SITEID
JOBMATERIAL	VENDOR	19	UPPER	12	0	0	0	COMPANIES.COMPANY
JOBMATERIAL	CONDITIONCODE	20	UPPER	30	0	0	0	ITEMCONDITION.CONDITIONCODE
JOBMATERIAL	JOBITEMID	21	INTEGER	12	0	1	1	JOBITEM.JOBITEMID
JOBMATERIAL	JOBPLANID	22	INTEGER	12	0	1	1	JOBPLAN.JOBPLANID
JOBMATERIAL	STORELOCSITE	23	UPPER	8	0	0	0	SITE.SITEID
JOBMATERIAL	RATE	24	AMOUNT	10	2	1	1	.
JOBMATERIAL	RESERVEREQ	25	YORN	1	0	1	0	JOBITEM.RESERVEREQ
JOBMATERIAL	HOURS	26	DURATION	8	0	1	1	.
JOBPLAN	JPNUM	1	UPPER	10	0	1	0	.
JOBPLAN	DESCRIPTION	2	ALN	100	0	0	0	.
JOBPLAN	JPDURATION	3	DURATION	8	0	1	1	.
JOBPLAN	LABORCODE	4	UPPER	30	0	0	0	PERSON.PERSONID
JOBPLAN	DOWNTIME	5	YORN	1	0	1	1	.
JOBPLAN	SUPERVISOR	6	UPPER	30	0	0	0	PERSON.PERSONID
JOBPLAN	CALENDAR	7	UPPER	8	0	0	0	CALENDAR.CALNUM
JOBPLAN	PRIORITY	8	INTEGER	12	0	0	1	.
JOBPLAN	CREWID	9	ALN	12	0	0	1	LABOR.CREWID
JOBPLAN	ORGID	10	UPPER	8	0	0	0	ORGANIZATION.ORGID
JOBPLAN	SITEID	11	UPPER	8	0	0	0	SITE.SITEID
JOBPLAN	OWNER	13	UPPER	30	0	0	0	PERSON.PERSONID
JOBPLAN	JOBPLANID	14	INTEGER	12	0	1	1	.
JOBPLAN	PERSONGROUP	15	UPPER	8	0	0	0	PERSONGROUP.PERSONGROUP
JOBPLAN	OWNERGROUP	16	UPPER	8	0	0	0	PERSONGROUP.PERSONGROUP
JOBPLAN	LANGCODE	17	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
JOBPLAN	STATUS	18	UPPER	16	0	1	0	.
JOBPLAN	INTERRUPTIBLE	20	YORN	1	0	1	0	.
JOBPLAN	HASLD	21	YORN	1	0	1	1	.
JOBSERVICE	JPNUM	1	UPPER	10	0	1	0	JOBPLAN.JPNUM
JOBSERVICE	DIRECTREQ	2	YORN	1	0	1	1	INVRESERVE.DIRECTREQ
JOBSERVICE	ITEMNUM	3	UPPER	30	0	1	0	ITEM.ITEMNUM

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
JOBSERVICE	ITEMQTY	4	DECIMAL	15	2	1	1	JOBITEM.ITEMQTY
JOBSERVICE	ITEMSETID	5	UPPER	8	0	1	0	SETS.SETID
JOBSERVICE	JM1	6	ALN	10	0	0	0	JOBITEM.JM1
JOBSERVICE	JM2	7	ALN	10	0	0	0	JOBITEM.JM2
JOBSERVICE	JM3	8	DECIMAL	15	2	0	0	JOBITEM.JM3
JOBSERVICE	JM4	9	ALN	10	0	0	0	.
JOBSERVICE	JM5	10	AMOUNT	10	2	0	0	.
JOBSERVICE	JM6	11	ALN	10	0	0	0	.
JOBSERVICE	JPTASK	12	INTEGER	12	0	0	1	WORKORDER.TASKID
JOBSERVICE	LINETYPE	14	UPPER	15	0	1	1	PRLINE.LINETYPE
JOBSERVICE	LOCATION	15	UPPER	12	0	0	0	LOCATIONS.LOCATION
JOBSERVICE	ORGID	16	UPPER	8	0	0	0	ORGANIZATION.ORGID
JOBSERVICE	SITEID	17	UPPER	8	0	0	0	SITE.SITEID
JOBSERVICE	VENDOR	19	UPPER	12	0	0	0	COMPANIES.COMPANY
JOBSERVICE	CONDITIONCODE	20	UPPER	30	0	0	0	ITEMCONDITION.CONDITIONCODE
JOBSERVICE	JOBITEMID	21	INTEGER	12	0	1	1	JOBITEM.JOBITEMID
JOBSERVICE	JOBPLANID	22	INTEGER	12	0	1	1	JOBPLAN.JOBPLANID
JOBSERVICE	STORELOCSITE	23	UPPER	8	0	0	0	SITE.SITEID
JOBSERVICE	RATE	24	AMOUNT	10	2	1	1	.
JOBSERVICE	RESERVEREQ	25	YORN	1	0	1	0	JOBITEM.RESERVEREQ
JOBSERVICE	HOURS	26	DURATION	8	0	1	1	.
JOBTASK	JPNUM	1	UPPER	10	0	1	0	JOBPLAN.JPNUM
JOBTASK	JPTASK	2	INTEGER	12	0	1	1	WORKORDER.TASKID
JOBTASK	DESCRIPTION	3	ALN	100	0	0	0	.
JOBTASK	TASKDURATION	4	DURATION	8	0	1	1	.
JOBTASK	JO1	5	ALN	10	0	0	0	.
JOBTASK	JO2	6	ALN	10	0	0	0	.
JOBTASK	JO3	7	ALN	10	0	0	0	.
JOBTASK	JO4	8	DECIMAL	15	2	0	0	.
JOBTASK	JO5	9	ALN	10	0	0	0	.
JOBTASK	JO6	10	ALN	10	0	0	0	.
JOBTASK	JO7	11	ALN	10	0	0	0	.
JOBTASK	JO8	12	ALN	10	0	0	0	.
JOBTASK	ORGID	13	UPPER	8	0	0	0	ORGANIZATION.ORGID
JOBTASK	SITEID	14	UPPER	8	0	0	0	SITE.SITEID
JOBTASK	TASKSEQUENCE	15	INTEGER	12	0	0	1	WORKORDER.WOSEQUENCE
JOBTASK	METERNAME	17	UPPER	10	0	0	0	METER.METERNAME
JOBTASK	JOBTASKID	18	INTEGER	12	0	1	1	.
JOBTASK	JOBPLANID	19	INTEGER	12	0	1	1	JOBPLAN.JOBPLANID
JOBTASK	LANGCODE	20	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
JOBTASK	HASLD	21	YORN	1	0	1	1	.
JOBTASK	JPNUM	1	UPPER	10	0	1	0	JOBPLAN.JPNUM
JOBTASK	DIRECTREQ	2	YORN	1	0	1	1	INVRESERVE.DIRECTREQ
JOBTASK	ITEMNUM	3	UPPER	30	0	1	0	ITEM.ITEMNUM
JOBTASK	ITEMQTY	4	DECIMAL	15	2	1	1	JOBITEM.ITEMQTY
JOBTASK	ITEMSETID	5	UPPER	8	0	1	0	SETS.SETID

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
JOBTOOL	JM1	6	ALN	10	0	0	0	JOBITEM.JM1
JOBTOOL	JM2	7	ALN	10	0	0	0	JOBITEM.JM2
JOBTOOL	JM3	8	DECIMAL	15	2	0	0	JOBITEM.JM3
JOBTOOL	JM4	9	ALN	10	0	0	0	.
JOBTOOL	JM5	10	AMOUNT	10	2	0	0	.
JOBTOOL	JM6	11	ALN	10	0	0	0	.
JOBTOOL	JPTASK	12	INTEGER	12	0	0	1	WORKORDER.TASKID
JOBTOOL	LINETYPE	14	UPPER	15	0	1	1	PRLINE.LINETYPE
JOBTOOL	LOCATION	15	UPPER	12	0	0	0	LOCATIONS.LOCATION
JOBTOOL	ORGID	16	UPPER	8	0	0	0	ORGANIZATION.ORGID
JOBTOOL	SITEID	17	UPPER	8	0	0	0	SITE.SITEID
JOBTOOL	VENDOR	19	UPPER	12	0	0	0	COMPANIES.COMPANY
JOBTOOL	CONDITIONCODE	20	UPPER	30	0	0	0	ITEMCONDITION.CONDITIONCODE
JOBTOOL	JOBITEMID	21	INTEGER	12	0	1	1	JOBITEM.JOBITEMID
JOBTOOL	JOBPLANID	22	INTEGER	12	0	1	1	JOBPLAN.JOBPLANID
JOBTOOL	STORELOCSITE	23	UPPER	8	0	0	0	SITE.SITEID
JOBTOOL	RATE	24	AMOUNT	10	2	1	1	JOBITEM.RATE
JOBTOOL	RESERVEREQ	25	YORN	1	0	1	0	JOBITEM.RESERVEREQ
JOBTOOL	HOURS	26	DURATION	8	0	1	1	JOBITEM.HOURS
JPASSETSPLINK	JPASSETSPLINKID	1	INTEGER	12	0	1	1	.
JPASSETSPLINK	JPNUM	2	UPPER	10	0	1	0	JOBPLAN.JPNUM
JPASSETSPLINK	SAFETYPLANID	3	UPPER	8	0	0	0	SAFETYPLAN.SAFETYPLANID
JPASSETSPLINK	ITEMNUM	4	UPPER	30	0	0	0	ITEM.ITEMNUM
JPASSETSPLINK	ASSETNUM	5	UPPER	12	0	0	0	ASSET.ASSETNUM
JPASSETSPLINK	LOCATION	6	UPPER	12	0	0	0	LOCATIONS.LOCATION
JPASSETSPLINK	ISDEFAULTASSETSP	7	YORN	1	0	1	1	.
JPASSETSPLINK	WOREQWHENPURCH	8	YORN	1	0	1	1	.
JPASSETSPLINK	WOTYPEWHENPURCH	9	UPPER	5	0	0	0	WORKTYPE.WORKTYPE
JPASSETSPLINK	ORGID	10	UPPER	8	0	0	0	ORGANIZATION.ORGID
JPASSETSPLINK	SITEID	11	UPPER	8	0	0	0	SITE.SITEID
JPASSETSPLINK	ITEMSETID	12	UPPER	8	0	0	0	SETS.SETID
JPASSETSPLINK	JOBPLANID	15	INTEGER	12	0	1	1	JOBPLAN.JOBPLANID
KPIGCONFIG	KPIGCONFIGID	1	INTEGER	12	0	1	1	.
KPIGCONFIG	LAYOUTID	2	INTEGER	12	0	0	0	.
KPIGCONFIG	KPINAME	3	UPPER	15	0	0	0	.
KPIHISTORY	KPIHISTORYID	1	INTEGER	12	0	1	1	.
KPIHISTORY	KPIVALUE	2	DECIMAL	10	2	0	0	.
KPIHISTORY	RECORDEDON	3	DATETIME	10	0	0	0	.
KPIHISTORY	KPIMAINID	4	INTEGER	12	0	0	1	KPIMAIN.KPIMAINID
KPILCONFIG	KPILCONFIGID	1	INTEGER	12	0	1	1	.
KPILCONFIG	LAYOUTID	2	INTEGER	12	0	0	0	.
KPILCONFIG	KPINAME	3	UPPER	15	0	0	0	.
KPIMAIN	KPINAME	1	UPPER	15	0	1	1	.
KPIMAIN	DESCRIPTION	2	ALN	254	0	0	0	.
KPIMAIN	KPIVALUE	3	DECIMAL	10	2	0	0	.
KPIMAIN	KPIDATE	4	DATETIME	10	0	1	1	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
KPIMAIN	CAUTIONMIN	5	DECIMAL	10	2	1	1	.
KPIMAIN	CAUTIONMAX	6	DECIMAL	10	2	1	1	.
KPIMAIN	URL	7	ALN	254	0	0	0	.
KPIMAIN	FORMAT	8	UPPER	15	0	1	1	.
KPIMAIN	TARGET	9	DECIMAL	10	2	1	1	.
KPIMAIN	SELECTSTMT	10	ALN	4000	0	1	1	.
KPIMAIN	CLAUSE	11	ALN	4000	0	0	0	.
KPIMAIN	OWNER	12	UPPER	8	0	0	0	.
KPIMAIN	ISPUBLIC	13	YORN	1	0	1	1	.
KPIMAIN	APP	14	UPPER	8	0	0	0	.
KPIMAIN	REPORTNAME	15	INTEGER	12	0	0	0	REPORT.REPORTNUM
KPIMAIN	KPITEXTFORMAT	16	ALN	50	0	0	0	.
KPIMAIN	LASTKPIVALUE	17	DECIMAL	10	2	0	0	.
KPIMAIN	REALTIME	18	YORN	1	0	1	1	.
KPIMAIN	LINKTO	19	UPPER	30	0	0	0	.
KPIMAIN	KPIMAINID	20	INTEGER	12	0	1	1	.
KPIMAIN	RECORDTIME	22	ALN	20	0	0	0	.
KPIMAIN	LANGCODE	23	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
KPIMAIN	HASLD	24	YORN	1	0	1	1	.
KPIOEE	PARTNUM	1	ALN	20	0	1	0	.
KPIOEE	DESCRIPTION	2	ALN	100	0	0	0	.
KPIOEE	ASSETNUM	3	UPPER	12	0	1	0	ASSET.ASSETNUM
KPIOEE	LOCATION	4	UPPER	12	0	1	0	LOCATIONS.LOCATION
KPIOEE	SCHEDQTY	5	DECIMAL	15	0	1	0	.
KPIOEE	PRODQTY	6	DECIMAL	15	0	1	0	.
KPIOEE	DEFECTQTY	7	DECIMAL	15	0	1	0	.
KPIOEE	OEEATE	8	DATETIME	10	0	1	0	.
KPIOEE	SITEID	9	UPPER	8	0	1	0	SITE.SITEID
KPIOEE	ORGID	10	UPPER	8	0	1	0	ORGANIZATION.ORGID
KPIOEE	KPIOEEID	11	INTEGER	12	0	1	1	.
KPITRENDCFG	KPITRENDCFGID	1	INTEGER	12	0	1	1	.
KPITRENDCFG	KPIMAINID	2	INTEGER	12	0	0	1	KPIMAIN.KPIMAINID
KPITRENDCFG	DATERANGE	3	ALN	10	0	0	0	.
KPITRENDCFG	CUSTSTARTDATE	4	DATETIME	10	0	0	0	.
KPITRENDCFG	CUSTENDDATE	5	DATETIME	10	0	0	0	.
KPITRENDCFG	CUSTDATERANGE	6	ALN	10	0	0	0	.
LABOR	LABORCODE	1	UPPER	8	0	1	0	.
LABOR	REPORTEDHRS	2	DURATION	8	0	1	1	.
LABOR	YTDOTHS	3	DURATION	8	0	1	1	.
LABOR	YTDHRSREFUSED	4	DURATION	8	0	1	1	.
LABOR	AVAILFACTOR	5	DECIMAL	15	2	1	1	.
LABOR	CREWID	6	ALN	12	0	0	1	.
LABOR	TYPE	7	UPPER	16	0	0	0	.
LABOR	WORKLOCATION	8	UPPER	12	0	0	0	LOCATIONS.LOCATION
LABOR	SOURCESYSID	9	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
LABOR	OWNERSYSID	10	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
LABOR	EXTERNALREFID	11	ALN	10	0	0	0	.
LABOR	DEFAULTSTORELOC	12	UPPER	12	0	0	0	LOCATIONS.LOCATION
LABOR	ORGID	13	UPPER	8	0	1	0	ORGANIZATION.ORGID
LABOR	PERSONID	18	UPPER	30	0	1	0	PERSON.PERSONID
LABOR	STATUS	19	UPPER	8	0	0	0	.
LABOR	WORKSITE	20	UPPER	8	0	0	0	SITE.SITEID
LABOR	LABINVENTORYSITE	21	UPPER	8	0	0	0	SITE.SITEID
LABOR	LABINVENTORYLOC	22	UPPER	12	0	0	0	LOCATIONS.LOCATION
LABOR	LABORID	23	INTEGER	12	0	1	1	.
LABOR	SENDERSYSID	33	ALN	50	0	0	1	.
LABORAUTH	LABORCODE	1	UPPER	8	0	1	0	LABOR.LABORCODE
LABORAUTH	ORGID	2	UPPER	8	0	1	0	ORGANIZATION.ORGID
LABORAUTH	GROUPNAME	3	UPPER	30	0	0	1	MAXGROUP.GROUPNAME
LABORAUTH	LABORAUTHID	4	INTEGER	12	0	1	1	.
LABORCERTHIST	LABORCODE	1	UPPER	8	0	1	0	LABOR.LABORCODE
LABORCERTHIST	QUALIFICATIONID	2	UPPER	8	0	1	0	QUALIFICATION.QUALIFICATIONID
LABORCERTHIST	ORGID	3	UPPER	8	0	1	0	ORGANIZATION.ORGID
LABORCERTHIST	CERTIFICATENUM	4	ALN	15	0	0	0	LABORQUAL.CERTIFICATENUM
LABORCERTHIST	EFFDATE	5	DATE	4	0	1	0	.
LABORCERTHIST	ENDDATE	6	DATE	4	0	0	0	.
LABORCERTHIST	VALIDATIONDATE	7	DATE	4	0	0	0	.
LABORCERTHIST	VALIDATEDBY	8	ALN	20	0	0	0	LABORQUAL.VALIDATEDBY
LABORCERTHIST	ISSUINGAUTHORITY	9	ALN	50	0	0	0	QUALIFICATION.ISSUINGAUTHORITY
LABORCERTHIST	EVALUATIONMETHOD	10	ALN	50	0	0	0	QUALIFICATION.EVALUATIONMETHOD
LABORCERTHIST	CHANGEDATE	11	DATETIME	10	0	1	0	.
LABORCERTHIST	CHANGEDBY	12	UPPER	30	0	1	0	PERSON.PERSONID
LABORCERTHIST	LABORCERTHISTID	13	INTEGER	12	0	1	1	.
LABORCERTHIST	LANGCODE	17	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
LABORCERTHIST	HASLD	18	YORN	1	0	1	1	.
LABORCRAFTRATE	CRAFT	1	UPPER	8	0	1	0	CRAFT.CRAFT
LABORCRAFTRATE	SKILLLEVEL	2	UPPER	12	0	0	0	CRAFTSKILL.SKILLLEVEL
LABORCRAFTRATE	LABORCODE	3	UPPER	8	0	1	0	LABOR.LABORCODE
LABORCRAFTRATE	ORGID	4	UPPER	8	0	1	0	ORGANIZATION.ORGID
LABORCRAFTRATE	CONTRACTNUM	5	UPPER	8	0	0	0	CONTRACT.CONTRACTNUM
LABORCRAFTRATE	INHERIT	6	YORN	1	0	1	0	.
LABORCRAFTRATE	DEFAULTCRAFT	7	YORN	1	0	1	0	.
LABORCRAFTRATE	RATE	8	AMOUNT	10	2	0	0	.
LABORCRAFTRATE	GLACCOUNT	9	GL	23	0	0	1	.
LABORCRAFTRATE	CONTROLACCOUNT	10	GL	23	0	0	1	.
LABORCRAFTRATE	LABORCRAFTRATEID	13	INTEGER	12	0	1	1	.
LABORCRAFTRATE	DEFAULTTICKETGLACC	14	GL	23	0	0	1	.
LABORCRAFTRATE	VENDOR	16	UPPER	12	0	0	0	COMPANIES.COMPANY
LABORQUAL	LABORCODE	1	UPPER	8	0	1	0	LABOR.LABORCODE
LABORQUAL	QUALIFICATIONID	2	UPPER	8	0	1	0	QUALIFICATION.QUALIFICATIONID
LABORQUAL	ORGID	3	UPPER	8	0	1	0	ORGANIZATION.ORGID
LABORQUAL	CERTIFICATENUM	4	ALN	15	0	0	0	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
LABORQUAL	EFFDATE	5	DATE	4	0	0	0	.
LABORQUAL	ENDDATE	6	DATE	4	0	0	0	.
LABORQUAL	VALIDATIONDATE	7	DATE	4	0	0	0	.
LABORQUAL	VALIDATEDBY	8	ALN	20	0	0	0	.
LABORQUAL	ORIGINALYEAR	9	ALN	4	0	0	1	.
LABORQUAL	ISSUINGAUTHORITY	10	ALN	50	0	0	0	QUALIFICATION.ISSUINGAUTHORITY
LABORQUAL	EVALUATIONMETHOD	11	ALN	50	0	0	0	QUALIFICATION.EVALUATIONMETHOD
LABORQUAL	LASTREPORTEDUSE	12	DATE	4	0	0	0	.
LABORQUAL	STATUS	13	UPPER	8	0	1	0	LABOR.STATUS
LABORQUAL	STATUSDATE	14	DATETIME	10	0	0	0	LABORQUALSTATUS.STATUSDATE
LABORQUAL	STATUSMEMO	15	ALN	50	0	0	0	LABORSTATUS.MEMO
LABORQUAL	USEREQUIREDEVERY	16	ALN	12	0	0	0	.
LABORQUAL	LABORQUALID	21	INTEGER	12	0	1	1	.
LABORQUAL	LANGCODE	23	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
LABORQUAL	HASLD	24	YORN	1	0	1	1	.
LABORQUALSTATUS	LABORCODE	1	UPPER	8	0	1	0	LABOR.LABORCODE
LABORQUALSTATUS	QUALIFICATIONID	2	UPPER	8	0	0	0	QUALIFICATION.QUALIFICATIONID
LABORQUALSTATUS	ORGID	3	UPPER	8	0	1	0	ORGANIZATION.ORGID
LABORQUALSTATUS	STATUS	4	UPPER	8	0	1	0	LABOR.STATUS
LABORQUALSTATUS	STATUSDATE	5	DATETIME	10	0	1	0	.
LABORQUALSTATUS	MEMO	6	ALN	50	0	0	0	.
LABORQUALSTATUS	CHANGEDATE	7	DATETIME	10	0	1	0	.
LABORQUALSTATUS	CHANGEDBY	8	UPPER	30	0	0	0	PERSON.PERSONID
LABORQUALSTATUS	LABORQUALSTATUSID	9	INTEGER	12	0	1	1	.
LABORSTATUS	LABORCODE	1	UPPER	8	0	0	0	LABOR.LABORCODE
LABORSTATUS	ORGID	2	UPPER	8	0	0	0	ORGANIZATION.ORGID
LABORSTATUS	STATUS	3	UPPER	10	0	0	0	.
LABORSTATUS	CHANGEBY	4	UPPER	30	0	0	0	PERSON.PERSONID
LABORSTATUS	CHANGEDATE	5	DATETIME	10	0	0	0	.
LABORSTATUS	MEMO	6	ALN	50	0	0	0	.
LABORSTATUS	LABORSTATUSID	7	INTEGER	12	0	1	1	.
LABORVIEW	CONTRACTNUM	1	UPPER	8	0	1	0	CONTRACT.CONTRACTNUM
LABORVIEW	DESCRIPTION	2	ALN	100	0	0	0	PR.DESCRPTION
LABORVIEW	MASTERNUM	3	UPPER	8	0	0	0	CONTRACT.MASTERNUM
LABORVIEW	VENDORREFNUM	4	ALN	12	0	0	0	CONTRACT.VENDORREFNUM
LABORVIEW	CONTRACTTYPE	5	UPPER	25	0	1	0	CONTRACT.CONTRACTTYPE
LABORVIEW	REVISIONNUM	6	INTEGER	12	0	0	1	CONTRACT.REVISIONNUM
LABORVIEW	PURCHASEAGENT	7	UPPER	30	0	0	0	PERSON.PERSONID
LABORVIEW	STATUS	8	UPPER	6	0	1	0	CONTRACT.STATUS
LABORVIEW	STATUSDATE	9	DATETIME	10	0	0	0	CONTRACT.STATUSDATE
LABORVIEW	STARTDATE	10	DATE	4	0	0	0	CONTRACT.STARTDATE
LABORVIEW	ENDDATE	11	DATE	4	0	0	0	CONTRACT.ENDDATE
LABORVIEW	RENEWALDATE	12	DATE	4	0	0	0	CONTRACT.RENEWALDATE
LABORVIEW	EXTENDABLE	13	YORN	1	0	1	0	CONTRACT.EXTENDABLE
LABORVIEW	AUTOEXTENDPERIOD	14	INTEGER	12	0	0	0	CONTRACT.AUTOEXTENDPERIOD
LABORVIEW	CONDFOREXT	15	ALN	20	0	0	0	CONTRACT.CONDFOREXT

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
LABORVIEW	CUSTTERMALLOWED	16	YORN	1	0	1	0	CONTRACT.CUSTTERMALLOWED
LABORVIEW	CUSTNOTIFYPERIOD	17	INTEGER	12	0	0	0	CONTRACT.CUSTNOTIFYPERIOD
LABORVIEW	VENDTERMALLOWED	18	YORN	1	0	1	0	CONTRACT.VENDTERMALLOWED
LABORVIEW	VENDNOTIFYPERIOD	19	INTEGER	12	0	0	0	CONTRACT.VENDNOTIFYPERIOD
LABORVIEW	VENDOR	20	UPPER	12	0	0	0	COMPANIES.COMPANY
LABORVIEW	CONTACT	21	ALN	50	0	0	0	COMPANIES.CONTACT
LABORVIEW	FREIGHTTERMS	22	ALN	50	0	0	0	COMPANIES.FREIGHTTERMS
LABORVIEW	PAYMENTTERMS	23	ALN	20	0	0	0	COMPANIES.PAYMENTTERMS
LABORVIEW	SHIPVIA	24	ALN	20	0	0	0	COMPANIES.SHIPVIA
LABORVIEW	CUSTOMERNUM	25	ALN	16	0	0	0	COMPANIES.CUSTOMERNUM
LABORVIEW	FOB	26	ALN	20	0	0	0	COMPANIES.FOB
LABORVIEW	TOTALCOST	27	DECIMAL	10	2	0	1	PO.TOTALCOST
LABORVIEW	CHANGEBY	28	UPPER	30	0	0	0	PERSON.PERSONID
LABORVIEW	CHANGEDATE	29	DATETIME	10	0	1	0	CONTRACT.CHANGEDATE
LABORVIEW	HISTORYFLAG	30	YORN	1	0	1	0	CONTRACT.HISTORYFLAG
LABORVIEW	CURRENCYCODE	31	UPPER	8	0	1	0	CURRENCY.CURRENCYCODE
LABORVIEW	EXCHANGERATE	32	DECIMAL	14	7	0	1	EXCHANGE.EXCHANGERATE
LABORVIEW	EXCHANGERATE2	33	DECIMAL	14	7	0	1	EXCHANGE.EXCHANGERATE
LABORVIEW	EXCHANGEDATE	34	DATE	4	0	0	0	CONTRACT.EXCHANGEDATE
LABORVIEW	BUYAHEAD	35	YORN	1	0	1	0	CONTRACT.BUYAHEAD
LABORVIEW	INCLUSIVE1	36	YORN	1	0	1	0	CONTRACT.INCLUSIVE1
LABORVIEW	INCLUSIVE2	37	YORN	1	0	1	0	CONTRACT.INCLUSIVE2
LABORVIEW	INCLUSIVE3	38	YORN	1	0	1	0	CONTRACT.INCLUSIVE3
LABORVIEW	INCLUSIVE4	39	YORN	1	0	1	0	CONTRACT.INCLUSIVE4
LABORVIEW	INCLUSIVE5	40	YORN	1	0	1	0	CONTRACT.INCLUSIVE5
LABORVIEW	EXTERNALREFID	41	ALN	10	0	0	0	CONTRACT.EXTERNALREFID
LABORVIEW	OWNERSYSID	42	ALN	10	0	0	0	CONTRACT.OWNERSYSID
LABORVIEW	SENDERSYSID	43	ALN	50	0	0	0	CONTRACT.SENDERSYSID
LABORVIEW	ORGID	44	UPPER	8	0	0	0	ORGANIZATION.ORGID
LABORVIEW	TOTALBASECOST	45	DECIMAL	10	2	1	0	CONTRACT.TOTALBASECOST
LABORVIEW	POREQUIRED	48	YORN	1	0	1	0	CONTRACT.POREQUIRED
LABORVIEW	PAYMENTSCHED	49	YORN	1	0	1	0	CONTRACT.PAYMENTSCHED
LABORVIEW	HASINSURANCE	50	YORN	1	0	1	0	CONTRACT.HASINSURANCE
LABORVIEW	INSURANCEEXPDATE	51	DATE	4	0	0	0	CONTRACT.INSURANCEEXPDATE
LABORVIEW	CONTRACTID	52	INTEGER	12	0	1	1	CONTRACT.CONTRACTID
LABORVIEW	REVCOMMENTS	53	ALN	100	0	0	0	PR.DESCRPTION
LABORVIEW	LANGCODE	54	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
LABORVIEW	MASTERREVNUM	57	INTEGER	12	0	0	1	CONTRACT.REVISIONNUM
LABORVIEW	PROCESSCLAIM	58	YORN	1	0	1	0	.
LABORVIEW	INSPECTIONREQUIRED	60	YORN	1	0	1	0	COMPANIES.INSPECTIONREQUIRED
LABORVIEW	HASLD	61	YORN	1	0	1	1	.
LABTRANS	TRANSDATE	1	DATETIME	10	0	1	1	.
LABTRANS	LABORCODE	2	UPPER	8	0	1	0	LABOR.LABORCODE
LABTRANS	CRAFT	3	UPPER	8	0	1	0	CRAFT.CRAFT
LABTRANS	PAYRATE	4	AMOUNT	10	2	1	1	.
LABTRANS	ASSETNUM	5	UPPER	12	0	0	0	ASSET.ASSETNUM

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
LABTRANS	REGULARHRS	6	DURATION	8	0	1	1	.
LABTRANS	ENTERBY	7	UPPER	30	0	1	0	PERSON.PERSONID
LABTRANS	ENTERDATE	8	DATETIME	10	0	1	1	.
LABTRANS	STARTDATE	9	DATE	4	0	1	1	.
LABTRANS	STARTTIME	10	TIME	3	0	0	1	.
LABTRANS	FINISHDATE	11	DATE	4	0	0	1	.
LABTRANS	FINISHTIME	12	TIME	3	0	0	1	.
LABTRANS	TRANSTYPE	13	UPPER	18	0	1	1	.
LABTRANS	OUTSIDE	14	YORN	1	0	1	0	.
LABTRANS	MEMO	15	ALN	100	0	0	0	.
LABTRANS	ROLLUP	16	YORN	1	0	1	1	.
LABTRANS	GLDEBITACCT	17	GL	23	0	0	1	.
LABTRANS	LINECOST	18	AMOUNT	10	2	1	1	.
LABTRANS	GLCREDITACCT	19	GL	23	0	0	1	.
LABTRANS	FINANCIALPERIOD	20	ALN	6	0	0	0	FINANCIALPERIODS.FINANCIALPERIOD
LABTRANS	PONUM	21	UPPER	8	0	0	0	PO.PONUM
LABTRANS	POLINENUM	22	INTEGER	12	0	0	1	PRLINE.PRLINENUM
LABTRANS	LOCATION	23	UPPER	12	0	0	0	LOCATIONS.LOCATION
LABTRANS	GENAPPRSERVRECEIPT	24	YORN	1	0	1	1	.
LABTRANS	PAYMENTTRANSDATE	25	DATETIME	10	0	0	1	.
LABTRANS	EXCHANGERATE2	26	DECIMAL	14	7	0	1	EXCHANGE.EXCHANGERATE
LABTRANS	LINECOST2	27	DECIMAL	10	2	0	1	.
LABTRANS	LABTRANSID	28	INTEGER	12	0	1	1	.
LABTRANS	SERVRECTRANSID	29	INTEGER	12	0	0	1	SERVRECTRANS.SERVRECTRANSID
LABTRANS	SOURCESYSID	30	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
LABTRANS	OWNERSYSID	31	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
LABTRANS	EXTERNALREFID	32	ALN	10	0	0	0	.
LABTRANS	SENDERSYSID	33	ALN	50	0	0	0	.
LABTRANS	FINCNTRLID	34	UPPER	8	0	0	0	FINCNTRL.FINCNTRLID
LABTRANS	ORGID	35	UPPER	8	0	1	0	ORGANIZATION.ORGID
LABTRANS	SITEID	36	UPPER	8	0	1	0	SITE.SITEID
LABTRANS	REFWO	37	UPPER	10	0	0	0	WORKORDER.WONUM
LABTRANS	ENTEREDASTASK	38	YORN	1	0	1	1	.
LABTRANS	TICKETID	39	UPPER	10	0	0	0	TICKET.TICKETID
LABTRANS	TICKETCLASS	40	UPPER	10	0	0	1	TICKET.CLASS
LABTRANS	CONTRACTNUM	44	UPPER	8	0	0	0	CONTRACT.CONTRACTNUM
LABTRANS	SKILLLEVEL	45	UPPER	12	0	0	0	CRAFTSKILL.SKILLLEVEL
LABTRANS	TIMERSTATUS	46	UPPER	10	0	0	0	.
LABTRANS	INVOICENUM	50	UPPER	8	0	0	0	INVOICE.INVOICENUM
LABTRANS	INVOICELINENUM	51	INTEGER	12	0	0	1	INVOICELINE.INVOICELINENUM
LABTRANS	REVISIONNUM	52	INTEGER	12	0	0	1	CONTRACT.REVISIONNUM
LABTRANS	PREMIUMPAYCODE	53	UPPER	8	0	0	0	PREMIUMPAY.PREMIUMPAYCODE
LABTRANS	PREMIUMPAYHOURS	54	DURATION	8	0	0	0	.
LABTRANS	PREMIUMPAYRATE	55	DECIMAL	10	2	0	0	PREMIUMPAY.DEFAULTRATE
LABTRANS	VENDOR	56	UPPER	12	0	0	0	COMPANIES.COMPANY
LABTRANS	PREMIUMPAYRATETYPE	57	UPPER	10	0	0	0	PREMIUMPAY.DEFAULTRATETYPE

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
LANGUAGE	LANGUAGEID	1	INTEGER	12	0	1	1	.
LANGUAGE	MAXLANGCODE	2	UPPER	4	0	1	1	.
LANGUAGE	ORALANGABRV	3	UPPER	3	0	0	0	.
LANGUAGE	USERDEFINED	4	YORN	1	0	1	0	.
LANGUAGE	ENABLED	5	YORN	1	0	1	0	.
LANGUAGE	LANGUAGENAME	6	ALN	256	0	1	0	.
LAYOUT	LAYOUTID	1	INTEGER	12	0	1	0	.
LAYOUT	PORTLETID	2	UPPER	15	0	0	0	.
LAYOUT	DESCRIPTION	3	ALN	100	0	0	0	.
LAYOUT	ORDERNUM	4	INTEGER	12	0	0	0	.
LAYOUT	COLUMNNUM	5	INTEGER	12	0	0	0	.
LAYOUT	SCCONFIGID	6	INTEGER	12	0	0	0	.
LAYOUT	MINORMAX	7	YORN	1	0	1	1	.
LAYOUT	CHARTTYPE	8	UPPER	10	0	0	0	.
LAYOUT	SHOWCHART	9	YORN	1	0	1	0	.
LAYOUT	ROWSTODISPLAY	12	INTEGER	12	0	0	0	.
LDAPSYNCPARAMS	PARAMNAME	1	ALN	40	0	1	1	.
LDAPSYNCPARAMS	PARAMVALUE	2	ALN	100	0	0	0	.
LDAPSYNCPARAMS	LDAPSYNCPARAMSID	3	INTEGER	12	0	1	1	.
LEASEVIEW	CONTRACTNUM	1	UPPER	8	0	1	0	CONTRACT.CONTRACTNUM
LEASEVIEW	DESCRIPTION	2	ALN	100	0	0	0	PR.DESCRPTION
LEASEVIEW	MASTERNUM	3	UPPER	8	0	0	0	CONTRACT.MASTERNUM
LEASEVIEW	VENDORREFNUM	4	ALN	12	0	0	0	CONTRACT.VENDORREFNUM
LEASEVIEW	CONTRACTTYPE	5	UPPER	25	0	1	0	CONTRACT.CONTRACTTYPE
LEASEVIEW	REVISIONNUM	6	INTEGER	12	0	1	1	CONTRACT.REVISIONNUM
LEASEVIEW	PURCHASEAGENT	7	UPPER	30	0	0	0	PERSON.PERSONID
LEASEVIEW	STATUS	8	UPPER	6	0	1	0	CONTRACT.STATUS
LEASEVIEW	STATUSDATE	9	DATETIME	10	0	0	0	CONTRACT.STATUSDATE
LEASEVIEW	STARTDATE	10	DATE	4	0	0	0	CONTRACT.STARTDATE
LEASEVIEW	ENDDATE	11	DATE	4	0	0	0	CONTRACT.ENDDATE
LEASEVIEW	RENEWALDATE	12	DATE	4	0	0	0	CONTRACT.RENEWALDATE
LEASEVIEW	EXTENDABLE	13	YORN	1	0	1	0	CONTRACT.EXTENDABLE
LEASEVIEW	AUTOEXTENDPERIOD	14	INTEGER	12	0	0	0	CONTRACT.AUTOEXTENDPERIOD
LEASEVIEW	CONDFOREXT	15	ALN	20	0	0	0	CONTRACT.CONDFOREXT
LEASEVIEW	CUSTTERMALLOWED	16	YORN	1	0	1	0	CONTRACT.CUSTTERMALLOWED
LEASEVIEW	CUSTNOTIFYPERIOD	17	INTEGER	12	0	0	0	CONTRACT.CUSTNOTIFYPERIOD
LEASEVIEW	VENDTERMALLOWED	18	YORN	1	0	1	0	CONTRACT.VENDTERMALLOWED
LEASEVIEW	VENDNOTIFYPERIOD	19	INTEGER	12	0	0	0	CONTRACT.VENDNOTIFYPERIOD
LEASEVIEW	VENDOR	20	UPPER	12	0	0	0	COMPANIES.COMPANY
LEASEVIEW	CONTACT	21	ALN	50	0	0	0	COMPANIES.CONTACT
LEASEVIEW	FREIGHTTERMS	22	ALN	50	0	0	0	COMPANIES.FREIGHTTERMS
LEASEVIEW	PAYMENTTERMS	23	ALN	20	0	0	0	COMPANIES.PAYMENTTERMS
LEASEVIEW	SHIPVIA	24	ALN	20	0	0	0	COMPANIES.SHIPVIA
LEASEVIEW	CUSTOMERNUM	25	ALN	16	0	0	0	COMPANIES.CUSTOMERNUM
LEASEVIEW	FOB	26	ALN	20	0	0	0	COMPANIES.FOB
LEASEVIEW	TOTALCOST	27	DECIMAL	10	2	0	1	PO.TOTALCOST

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
LEASEVIEW	CHANGEBY	28	UPPER	30	0	0	0	PERSON.PERSONID
LEASEVIEW	CHANGEDATE	29	DATETIME	10	0	1	0	CONTRACT.CHANGEDATE
LEASEVIEW	HISTORYFLAG	30	YORN	1	0	1	0	CONTRACT.HISTORYFLAG
LEASEVIEW	CURRENCYCODE	31	UPPER	8	0	1	0	CURRENCY.CURRENCYCODE
LEASEVIEW	EXCHANGERATE	32	DECIMAL	14	7	0	1	EXCHANGE.EXCHANGERATE
LEASEVIEW	EXCHANGERATE2	33	DECIMAL	14	7	0	1	EXCHANGE.EXCHANGERATE
LEASEVIEW	EXCHANGEDATE	34	DATE	4	0	0	0	CONTRACT.EXCHANGEDATE
LEASEVIEW	BUYAHEAD	35	YORN	1	0	1	0	CONTRACT.BUYAHEAD
LEASEVIEW	INCLUSIVE1	36	YORN	1	0	1	0	CONTRACT.INCLUSIVE1
LEASEVIEW	INCLUSIVE2	37	YORN	1	0	1	0	CONTRACT.INCLUSIVE2
LEASEVIEW	INCLUSIVE3	38	YORN	1	0	1	0	CONTRACT.INCLUSIVE3
LEASEVIEW	INCLUSIVE4	39	YORN	1	0	1	0	CONTRACT.INCLUSIVE4
LEASEVIEW	INCLUSIVE5	40	YORN	1	0	1	0	CONTRACT.INCLUSIVE5
LEASEVIEW	EXTERNALREFID	41	ALN	10	0	0	0	CONTRACT.EXTERNALREFID
LEASEVIEW	OWNERSYSID	42	ALN	10	0	0	0	CONTRACT.OWNERSYSID
LEASEVIEW	SENDERSYSID	43	ALN	50	0	0	0	CONTRACT.SENDERSYSID
LEASEVIEW	ORGID	44	UPPER	8	0	0	0	ORGANIZATION.ORGID
LEASEVIEW	TOTALBASECOST	45	DECIMAL	10	2	0	0	CONTRACT.TOTALBASECOST
LEASEVIEW	POREQUIRED	48	YORN	1	0	1	0	CONTRACT.POREQUIRED
LEASEVIEW	PAYMENTSCHED	49	YORN	1	0	1	0	CONTRACT.PAYMENTSCHED
LEASEVIEW	HASINSURANCE	50	YORN	1	0	1	0	CONTRACT.HASINSURANCE
LEASEVIEW	INSURANCEEXPDATE	51	DATE	4	0	0	0	CONTRACT.INSURANCEEXPDATE
LEASEVIEW	CONTRACTID	52	INTEGER	12	0	1	1	CONTRACT.CONTRACTID
LEASEVIEW	REVCOMMENTS	53	ALN	100	0	0	0	PR.DESCRPTION
LEASEVIEW	SHIPPINGLOSS	54	YORN	1	0	1	0	CONTRACTLEASE.SHIPPINGLOSS
LEASEVIEW	TECHREFRESH	55	YORN	1	0	1	0	CONTRACTLEASE.TECHREFRESH
LEASEVIEW	OUTSIDEMAINT	56	YORN	1	0	1	0	CONTRACTLEASE.OUTSIDEMAINT
LEASEVIEW	INTERIMCHG	57	AMOUNT	10	2	0	0	CONTRACTLEASE.INTERIMCHG
LEASEVIEW	INSURANCEREQ	58	YORN	1	0	1	0	CONTRACTLEASE.INSURANCEREQ
LEASEVIEW	SELFINSURED	59	YORN	1	0	1	0	CONTRACTLEASE.SELFINSURED
LEASEVIEW	BUYOUT	60	YORN	1	0	1	0	CONTRACTLEASE.BUYOUT
LEASEVIEW	CASUALTYBUYOUT	61	YORN	1	0	1	0	CONTRACTLEASE.CASUALTYBUYOUT
LEASEVIEW	SUBONRETURN	62	YORN	1	0	1	0	CONTRACTLEASE.SUBONRETURN
LEASEVIEW	TRANSFERWARRANTY	63	YORN	1	0	1	0	CONTRACTLEASE.TRANSFERWARRANTY
LEASEVIEW	WARRANTYSTART	64	DATE	4	0	0	0	CONTRACTLEASE.WARRANTYSTART
LEASEVIEW	NOTIFYONMOVE	65	YORN	1	0	1	0	CONTRACTLEASE.NOTIFYONMOVE
LEASEVIEW	CASUALTYNOTIFY	66	YORN	1	0	1	0	CONTRACTLEASE.CASUALTYNOTIFY
LEASEVIEW	CONFIGURENOTIFY	67	YORN	1	0	1	0	CONTRACTLEASE.CONFIGURENOTIFY
LEASEVIEW	CANAUDIT	68	YORN	1	0	1	0	CONTRACTLEASE.CANAUDIT
LEASEVIEW	ENFORCEBUNDLE	69	YORN	1	0	1	0	CONTRACTLEASE.ENFORCEBUNDLE
LEASEVIEW	LASTSCHEDULEDATE	70	DATE	4	0	0	0	CONTRACTLEASE.LASTSCHEDULEDATE
LEASEVIEW	TERM	71	INTEGER	12	0	0	0	CONTRACTLEASE.TERM
LEASEVIEW	LEASERATEFACTOR	72	DECIMAL	10	4	0	0	CONTRACTLEASE.LEASERATEFACTOR
LEASEVIEW	NOTIFYCONTACT	73	ALN	50	0	0	0	CONTRACTLEASE.NOTIFYCONTACT
LEASEVIEW	DAYSTONOTIFY	74	INTEGER	12	0	0	0	CONTRACTLEASE.DAYSTONOTIFY
LEASEVIEW	ACCEPTANCELOSS	75	YORN	1	0	1	0	CONTRACTLEASE.ACCEPTANCELOSS

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
LEASEVIEW	ACCEPTPERIOD	76	INTEGER	12	0	0	0	CONTRACTLEASE.ACCEPTPERIOD
LEASEVIEW	WARRANTYDURATION	77	INTEGER	12	0	0	0	CONTRACTLEASE.WARRANTYDURATION
LEASEVIEW	LEASESUSPACCT	78	GL	23	0	0	1	.
LEASEVIEW	INCLUDESMAINT	79	YORN	1	0	1	0	CONTRACTLEASE.INCLUDESMAINT
LEASEVIEW	TIMEUNIT	80	UPPER	8	0	0	0	CONTRACTLEASE.TIMEUNIT
LEASEVIEW	FINANCETYPE	81	ALN	25	0	0	0	CONTRACTLEASE.FINANCETYPE
LEASEVIEW	CONTRACTLEASEID	82	INTEGER	12	0	1	1	CONTRACTLEASE.CONTRACTLEASEID
LEASEVIEW	PERIODICPAYMNT	83	AMOUNT	10	2	0	0	CONTRACTLEASE.PERIODICPAYMNT
LEASEVIEW	SCHEDULE	84	ALN	80	0	0	1	CONTRACTLEASE.SCHEDULE
LEASEVIEW	LANGCODE	85	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
LEASEVIEW	MASTERREVNUM	88	INTEGER	12	0	0	1	CONTRACT.REVISIONNUM
LEASEVIEW	PROCESSCLAIM	89	YORN	1	0	1	0	.
LEASEVIEW	INSPECTIONREQUIRED	91	YORN	1	0	1	0	COMPANIES.INSPECTIONREQUIRED
LEASEVIEW	MAINTHIERCHY	92	YORN	1	0	1	0	ASSET.MAINTHIERCHY
LEASEVIEW	NUMOFPAYMENTS	93	INTEGER	12	0	0	0	.
LEASEVIEW	HASLD	94	YORN	1	0	1	1	.
LEASEVIEWLINE	CONTRACTNUM	1	UPPER	8	0	1	0	CONTRACT.CONTRACTNUM
LEASEVIEWLINE	CONTRACTLINENUM	2	INTEGER	12	0	1	0	CONTRACTLINE.CONTRACTLINENUM
LEASEVIEWLINE	CONTRACTLINEID	3	INTEGER	12	0	1	0	CONTRACTLINE.CONTRACTLINEID
LEASEVIEWLINE	LINETYPE	4	UPPER	15	0	1	1	PRLINE.LINETYPE
LEASEVIEWLINE	ITEMNUM	5	UPPER	30	0	0	0	ITEM.ITEMNUM
LEASEVIEWLINE	ITEMSETID	6	UPPER	8	0	0	0	SETS.SETID
LEASEVIEWLINE	CONDITIONCODE	7	UPPER	30	0	0	0	ITEMCONDITION.CONDITIONCODE
LEASEVIEWLINE	DESCRIPTION	8	ALN	100	0	0	0	ITEM.DESCRPTION
LEASEVIEWLINE	CATALOGCODE	9	ALN	30	0	0	0	INVENTORY.CATALOGCODE
LEASEVIEWLINE	MANUFACTURER	10	UPPER	12	0	0	0	COMPANIES.COMPANY
LEASEVIEWLINE	MODELNUM	11	ALN	8	0	0	0	INVENTORY.MODELNUM
LEASEVIEWLINE	ORDERUNIT	12	UPPER	8	0	1	0	MEASUREUNIT.MEASUREUNITID
LEASEVIEWLINE	ORDERQTY	13	DECIMAL	15	2	0	1	INVENTORY.ORDERQTY
LEASEVIEWLINE	UNITCOST	14	DECIMAL	10	2	0	0	CONTRACTLINE.UNITCOST
LEASEVIEWLINE	LINECOST	15	DECIMAL	10	2	0	0	CONTRACTLINE.LINECOST
LEASEVIEWLINE	LINECOST2	16	DECIMAL	10	2	0	0	CONTRACTLINE.LINECOST2
LEASEVIEWLINE	INSPECTIONREQUIRED	17	YORN	1	0	1	1	ITEM.INSPECTIONREQUIRED
LEASEVIEWLINE	ENTERBY	18	UPPER	30	0	1	0	PERSON.PERSONID
LEASEVIEWLINE	ENTERDATE	19	DATETIME	10	0	1	0	CONTRACTLINE.ENTERDATE
LEASEVIEWLINE	REMARK	20	ALN	50	0	0	0	PRLINE.REMARK
LEASEVIEWLINE	ORGID	21	UPPER	8	0	0	0	ORGANIZATION.ORGID
LEASEVIEWLINE	LINSTATUS	25	UPPER	6	0	1	0	CONTRACT.STATUS
LEASEVIEWLINE	COMMODITY	26	UPPER	8	0	0	1	COMMODITIES.COMMODITY
LEASEVIEWLINE	COMMODITYGROUP	27	UPPER	8	0	0	1	COMMODITIES.COMMODITY
LEASEVIEWLINE	REVISIONNUM	28	INTEGER	12	0	1	1	CONTRACT.REVISIONNUM
LEASEVIEWLINE	REVSTATUS	29	UPPER	7	0	0	0	CONTRACTLINE.REVSTATUS
LEASEVIEWLINE	CHGQTYONUSE	30	YORN	1	0	1	0	CONTRACTPURCH.CHGQTYONUSE
LEASEVIEWLINE	CHGPRICEONUSE	31	YORN	1	0	1	0	CONTRACTPURCH.CHGPRICEONUSE
LEASEVIEWLINE	LEADTIME	32	INTEGER	12	0	0	1	INVENTORY.DELIVERYTIME
LEASEVIEWLINE	HASPAYMENTSCHED	33	YORN	1	0	1	0	CONTRACTLINE.HASPAYMENTSCHED

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
LEASEVIEWLINE	POREQUIRED	34	YORN	1	0	1	0	CONTRACT.POREQUIRED
LEASEVIEWLINE	CONTRACTTYPE	35	UPPER	25	0	1	0	CONTRACT.CONTRACTTYPE
LEASEVIEWLINE	LEASEENDVALUE	36	AMOUNT	10	2	0	0	.
LEASEVIEWLINE	LANGCODE	37	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
LEASEVIEWLINE	HASLD	38	YORN	1	0	1	1	.
LNKCLAUSEATRNAME	CLASSTRUCTUREID	1	UPPER	20	0	1	1	CLASSTRUCTURE.CLASSTRUCTUREID
LNKCLAUSEATRNAME	MEASUREUNITID	3	UPPER	8	0	0	0	MEASUREUNIT.MEASUREUNITID
LNKCLAUSEATRNAME	DOMAINID	4	UPPER	18	0	0	1	MAXDOMAIN.DOMAINID
LNKCLAUSEATRNAME	DEFAULTNUMVALUE	5	DECIMAL	10	2	0	1	NUMERICDOMAIN.VALUE
LNKCLAUSEATRNAME	DEFAULTALNVALUE	6	ALN	25	0	0	1	ALNDOMAIN.VALUE
LNKCLAUSEATRNAME	ATTRDESCPREFIX	7	ALN	8	0	0	0	ASSETATTRIBUTE.ATTRDESCPREFIX
LNKCLAUSEATRNAME	USEINITEMSPEC	8	YORN	1	0	1	1	CLASSSPEC.USEINITEMSPEC
LNKCLAUSEATRNAME	ITEMSEQUENCE	9	SMALLINT	10	0	1	1	CLASSSPEC.ITEMSEQUENCE
LNKCLAUSEATRNAME	ITEMREQUIREVALUE	10	YORN	1	0	1	1	CLASSSPEC.ITEMREQUIREVALUE
LNKCLAUSEATRNAME	USEINITEMDESC	11	YORN	1	0	1	1	CLASSSPEC.USEINITEMDESC
LNKCLAUSEATRNAME	USEINASSETSPEC	12	YORN	1	0	1	1	CLASSSPEC.USEINASSETSPEC
LNKCLAUSEATRNAME	ASSETSEQUENCE	13	SMALLINT	10	0	1	1	CLASSSPEC.ASSETSEQUENCE
LNKCLAUSEATRNAME	ASSETREQUIREVALUE	14	YORN	1	0	1	1	CLASSSPEC.ASSETREQUIREVALUE
LNKCLAUSEATRNAME	USEINASSETDESC	15	YORN	1	0	1	1	CLASSSPEC.USEINASSETDESC
LNKCLAUSEATRNAME	USEINLOCSPEC	16	YORN	1	0	1	1	CLASSSPEC.USEINLOCSPEC
LNKCLAUSEATRNAME	LOCSEQUENCE	17	SMALLINT	10	0	1	1	CLASSSPEC.LOCSEQUENCE
LNKCLAUSEATRNAME	LOCREQUIREVALUE	18	YORN	1	0	1	1	CLASSSPEC.LOCREQUIREVALUE
LNKCLAUSEATRNAME	USEINLOCDESC	19	YORN	1	0	1	1	CLASSSPEC.USEINLOCDESC
LNKCLAUSEATRNAME	CS01	20	ALN	10	0	0	0	CLASSSPEC.CS01
LNKCLAUSEATRNAME	CS02	21	ALN	10	0	0	0	CLASSSPEC.CS02
LNKCLAUSEATRNAME	CS03	22	ALN	10	0	0	0	CLASSSPEC.CS03
LNKCLAUSEATRNAME	CS04	23	DATETIME	10	0	0	0	CLASSSPEC.CS04
LNKCLAUSEATRNAME	CS05	24	DECIMAL	15	2	0	0	CLASSSPEC.CS05
LNKCLAUSEATRNAME	ORGID	25	UPPER	8	0	0	0	ORGANIZATION.ORGID
LNKCLAUSEATRNAME	SECTION	28	UPPER	10	0	0	0	CLASSSPEC.SECTION
LNKCLAUSEATRNAME	SITEID	29	UPPER	8	0	0	0	SITE.SITEID
LNKCLAUSEATRNAME	CLASSSPECID	30	INTEGER	12	0	1	1	CLASSSPEC.CLASSSPECID
LNKCLAUSEATRNAME	ASSETATTRIBUTEID	31	INTEGER	12	0	1	1	ASSETATTRIBUTE.ASSETATTRIBUTEID
LNKCLAUSEATRNAME	ATTRIBUTENAME	32	UPPER	8	0	1	0	ASSETATTRIBUTE.ASSETATTRID
LNKCLAUSEATRNAME	DATATYPE1	33	UPPER	8	0	1	0	ASSETATTRIBUTE.DATATYPE
LNKCLAUSEATRNAME	MEASUREUNITID1	34	UPPER	8	0	0	0	MEASUREUNIT.MEASUREUNITID
LNKCLAUSEATRNAME	DOMAINID1	35	UPPER	18	0	0	1	MAXDOMAIN.DOMAINID
LNKCLAUSEATRNAME	ATTRDESCPREFIX1	36	ALN	8	0	0	0	ASSETATTRIBUTE.ATTRDESCPREFIX
LNKCLAUSEATRNAME	ORGID1	37	UPPER	8	0	0	0	ORGANIZATION.ORGID
LNKCLAUSEATRNAME	SITEID1	38	UPPER	8	0	0	0	SITE.SITEID
LNKCLAUSEATRNAME	TITLE	39	ALN	100	0	0	0	ASSETATTRIBUTE.DESCRPTION
LOCANCESTOR	LOCATION	1	UPPER	12	0	1	0	LOCATIONS.LOCATION
LOCANCESTOR	ANCESTOR	2	UPPER	12	0	1	0	LOCATIONS.LOCATION
LOCANCESTOR	SYSTEMID	3	UPPER	8	0	1	0	LOCSYSTEM.SYSTEMID
LOCANCESTOR	SITEID	4	UPPER	8	0	1	0	SITE.SITEID
LOCANCESTOR	ORGID	5	UPPER	8	0	1	0	ORGANIZATION.ORGID

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
LOCANCESTOR	LOCANCESTORID	6	INTEGER	12	0	1	1	.
LOCATIONMETER	LOCATION	1	UPPER	12	0	1	0	LOCATIONS.LOCATION
LOCATIONMETER	METERNAME	2	UPPER	10	0	1	0	METER.METERNAME
LOCATIONMETER	ACTIVE	3	YORN	1	0	1	1	.
LOCATIONMETER	MEASUREUNITID	4	UPPER	8	0	0	0	MEASUREUNIT.MEASUREUNITID
LOCATIONMETER	ROLLOVER	5	DECIMAL	15	2	0	1	METERINGROUP.ROLLOVER
LOCATIONMETER	AVGCALCMETHOD	6	UPPER	25	0	0	0	.
LOCATIONMETER	SLIDINGWINDOWSIZE	7	INTEGER	12	0	0	1	.
LOCATIONMETER	SINCELASTREPAIR	8	DECIMAL	15	2	1	1	ASSETMETER.SINCELASTREPAIR
LOCATIONMETER	SINCELASTOVERHAUL	9	DECIMAL	15	2	1	1	ASSETMETER.SINCELASTOVERHAUL
LOCATIONMETER	SINCELASTINSPECT	10	DECIMAL	15	2	1	1	ASSETMETER.SINCELASTINSPECT
LOCATIONMETER	SINCEINSTALL	11	DECIMAL	15	2	1	1	ASSETMETER.SINCEINSTALL
LOCATIONMETER	LIFETODATE	12	DECIMAL	15	2	1	1	.
LOCATIONMETER	CHANGEBY	13	UPPER	30	0	1	0	PERSON.PERSONID
LOCATIONMETER	CHANGEDATE	14	DATETIME	10	0	1	1	.
LOCATIONMETER	REMARKS	15	ALN	50	0	0	0	.
LOCATIONMETER	SITEID	16	UPPER	8	0	1	0	SITE.SITEID
LOCATIONMETER	ORGID	17	UPPER	8	0	1	0	ORGANIZATION.ORGID
LOCATIONMETER	LASTREADINGDATE	21	DATETIME	10	0	0	1	ASSETMETER.NEWREADINGDATE
LOCATIONMETER	LASTREADING	22	ALN	16	0	0	0	ASSETMETER.NEWREADING
LOCATIONMETER	POINTNUM	27	UPPER	8	0	0	0	MEASUREPOINT.POINTNUM
LOCATIONMETER	AVERAGE	28	DECIMAL	15	2	0	1	ASSETMETER.AVERAGE
LOCATIONMETER	READINGTYPE	29	UPPER	10	0	0	1	METER.READINGTYPE
LOCATIONMETER	LASTREADINGINSPCTR	32	UPPER	30	0	0	0	PERSON.PERSONID
LOCATIONMETER	LOCATIONMETERID	35	INTEGER	12	0	1	1	.
LOCATIONMETER	LANGCODE	45	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
LOCATIONMETER	HASLD	47	YORN	1	0	1	1	.
LOCATIONS	LOCATION	1	UPPER	12	0	1	0	.
LOCATIONS	DESCRIPTION	2	ALN	100	0	0	0	ITEM.DESCRPTION
LOCATIONS	TYPE	3	UPPER	16	0	1	1	.
LOCATIONS	CONTROLACC	4	GL	23	0	0	1	.
LOCATIONS	GLACOUNT	5	GL	23	0	0	1	.
LOCATIONS	PURCHVARACC	6	GL	23	0	0	1	.
LOCATIONS	INVOICEVARACC	7	GL	23	0	0	1	.
LOCATIONS	CURVARACC	8	GL	23	0	0	1	.
LOCATIONS	SHRINKAGEACC	9	GL	23	0	0	1	.
LOCATIONS	INVCOSTADJACC	10	GL	23	0	0	1	.
LOCATIONS	RECEIPTVARACC	11	GL	23	0	0	1	.
LOCATIONS	CHANGEBY	12	UPPER	30	0	1	0	PERSON.PERSONID
LOCATIONS	CHANGEDATE	13	DATETIME	10	0	1	1	.
LOCATIONS	DISABLED	14	YORN	1	0	1	1	.
LOCATIONS	OLDCONTROLACC	15	GL	23	0	0	1	.
LOCATIONS	OLDSHRINKAGEACC	16	GL	23	0	0	1	.
LOCATIONS	OLDINVCOSTADJACC	17	GL	23	0	0	1	.
LOCATIONS	CLASSSTRUCTUREID	18	UPPER	20	0	0	1	CLASSSTRUCTURE.CLASSSTRUCTUREID
LOCATIONS	GISPARAM1	19	ALN	1	0	0	0	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
LOCATIONS	GISPARAM2	20	ALN	1	0	0	0	.
LOCATIONS	GISPARAM3	21	ALN	1	0	0	0	.
LOCATIONS	SOURCESYSID	22	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
LOCATIONS	OWNERSYSID	23	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
LOCATIONS	EXTERNALREFID	24	ALN	10	0	0	0	.
LOCATIONS	SENDERSYSID	25	ALN	50	0	0	0	.
LOCATIONS	SITEID	26	UPPER	8	0	0	0	SITE.SITEID
LOCATIONS	ORGID	27	UPPER	8	0	1	0	ORGANIZATION.ORGID
LOCATIONS	INTLABREC	28	GL	23	0	0	1	.
LOCATIONS	ISDEFAULT	29	YORN	1	0	1	0	.
LOCATIONS	SHIPTOADDRESSCODE	30	UPPER	30	0	0	0	ADDRESS.ADDRESSCODE
LOCATIONS	SHIPTOLABORCODE	31	UPPER	30	0	0	0	PERSON.PERSONID
LOCATIONS	BILLTOADDRESSCODE	32	UPPER	30	0	0	0	ADDRESS.ADDRESSCODE
LOCATIONS	BILLTOLABORCODE	33	UPPER	30	0	0	0	PERSON.PERSONID
LOCATIONS	STATUS	43	ALN	14	0	0	0	.
LOCATIONS	SERVICEADDRESSCODE	48	UPPER	12	0	0	0	.
LOCATIONS	LOCATIONSID	50	INTEGER	12	0	1	1	.
LOCATIONS	USEINPOPR	54	YORN	1	0	1	0	.
LOCATIONS	TOOLCONTROLACC	55	GL	23	0	0	1	.
LOCATIONS	LANGCODE	56	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
LOCATIONS	HASLD	58	YORN	1	0	1	1	.
LOCATIONS	AUTOWOGEN	59	YORN	1	0	1	1	.
LOCATIONSPEC	LOCATION	1	UPPER	12	0	1	0	LOCATIONS.LOCATION
LOCATIONSPEC	ASSETATTRID	2	UPPER	8	0	1	0	ASSETATTRIBUTE.ASSETATTRID
LOCATIONSPEC	CLASSSTRUCTUREID	3	UPPER	20	0	1	1	CLASSSTRUCTURE.CLASSSTRUCTUREID
LOCATIONSPEC	INHERITEDFROMITEM	4	YORN	1	0	1	1	.
LOCATIONSPEC	ITEMSPECVALCHANGED	5	YORN	1	0	1	1	.
LOCATIONSPEC	DISPLAYSEQUENCE	6	SMALLINT	10	0	1	1	.
LOCATIONSPEC	NUMVALUE	7	DECIMAL	10	2	0	1	NUMERICDOMAIN.VALUE
LOCATIONSPEC	MEASUREUNITID	8	UPPER	8	0	0	0	MEASUREUNIT.MEASUREUNITID
LOCATIONSPEC	ALNVALUE	9	ALN	25	0	0	1	ALNDOMAIN.VALUE
LOCATIONSPEC	CHANGEDATE	10	DATETIME	10	0	1	1	.
LOCATIONSPEC	CHANGEBY	11	UPPER	30	0	1	0	PERSON.PERSONID
LOCATIONSPEC	LS01	12	ALN	10	0	0	0	.
LOCATIONSPEC	LS02	13	ALN	10	0	0	0	.
LOCATIONSPEC	LS03	14	ALN	10	0	0	0	.
LOCATIONSPEC	LS04	15	DATETIME	10	0	0	0	.
LOCATIONSPEC	LS05	16	DECIMAL	15	2	0	0	.
LOCATIONSPEC	SITEID	17	UPPER	8	0	1	0	SITE.SITEID
LOCATIONSPEC	ORGID	18	UPPER	8	0	1	0	ORGANIZATION.ORGID
LOCATIONSPEC	SECTION	19	UPPER	10	0	0	0	CLASSSPEC.SECTION
LOCATIONSPEC	LOCATIONSPECID	20	INTEGER	12	0	1	1	.
LOCATIONUSERCUST	LOCATIONUSERCUSTID	1	INTEGER	12	0	1	1	.
LOCATIONUSERCUST	LOCATION	2	UPPER	12	0	1	0	LOCATIONS.LOCATION
LOCATIONUSERCUST	SITEID	3	UPPER	8	0	1	0	SITE.SITEID
LOCATIONUSERCUST	PERSONID	4	UPPER	30	0	1	0	PERSON.PERSONID

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
LOCATIONUSERCUST	ISPRIMARY	5	YORN	1	0	1	0	.
LOCATIONUSERCUST	ISUSER	6	YORN	1	0	1	0	.
LOCATIONUSERCUST	ISCUSTODIAN	7	YORN	1	0	1	0	.
LOCATIONUSERCUST	ORGID	8	UPPER	8	0	1	0	ORGANIZATION.ORGID
LOCAUTH	LOCATION	1	UPPER	12	0	1	0	LOCATIONS.LOCATION
LOCAUTH	SITEID	2	UPPER	8	0	1	0	SITE.SITEID
LOCAUTH	ORGID	3	UPPER	8	0	1	0	ORGANIZATION.ORGID
LOCAUTH	GROUPNAME	4	UPPER	30	0	0	1	MAXGROUP.GROUPNAME
LOCAUTH	LOCAUTHID	5	INTEGER	12	0	1	1	.
LOCHIERARCHY	LOCATION	1	UPPER	12	0	1	0	LOCATIONS.LOCATION
LOCHIERARCHY	PARENT	2	UPPER	12	0	0	0	LOCATIONS.LOCATION
LOCHIERARCHY	SYSTEMID	3	UPPER	8	0	1	0	LOCSYSTEM.SYSTEMID
LOCHIERARCHY	CHILDREN	4	YORN	1	0	1	1	.
LOCHIERARCHY	GISPARAM1	5	ALN	1	0	0	0	LOCATIONS.GISPARAM1
LOCHIERARCHY	GISPARAM2	6	ALN	1	0	0	0	LOCATIONS.GISPARAM2
LOCHIERARCHY	GISPARAM3	7	ALN	1	0	0	0	LOCATIONS.GISPARAM3
LOCHIERARCHY	SITEID	8	UPPER	8	0	1	0	SITE.SITEID
LOCHIERARCHY	ORGID	9	UPPER	8	0	1	0	ORGANIZATION.ORGID
LOCHIERARCHY	LOCHIERARCHYID	11	INTEGER	12	0	1	1	.
LOCKOUT	LOCKOUTID	1	INTEGER	12	0	1	0	.
LOCKOUT	DESCRIPTION	2	ALN	100	0	0	0	.
LOCKOUT	LOCATION	3	UPPER	12	0	0	0	LOCATIONS.LOCATION
LOCKOUT	ASSETNUM	4	UPPER	12	0	0	0	ASSET.ASSETNUM
LOCKOUT	DEVICEDESCRIPTION	5	ALN	50	0	0	0	.
LOCKOUT	REQUIREDSTATE	6	UPPER	16	0	0	0	.
LOCKOUT	LCK01	7	ALN	10	0	0	0	.
LOCKOUT	LCK02	8	ALN	10	0	0	0	.
LOCKOUT	LCK03	9	ALN	10	0	0	0	.
LOCKOUT	LCK04	10	ALN	10	0	0	0	.
LOCKOUT	LCK05	11	ALN	10	0	0	0	.
LOCKOUT	LCK06	12	AMOUNT	10	2	0	0	.
LOCKOUT	LCK07	13	DATETIME	10	0	0	0	.
LOCKOUT	LCK08	14	DECIMAL	15	2	0	0	.
LOCKOUT	LCK09	15	ALN	10	0	0	0	.
LOCKOUT	LCK10	16	INTEGER	12	0	0	0	.
LOCKOUT	ORGID	17	UPPER	8	0	1	0	ORGANIZATION.ORGID
LOCKOUT	SITEID	18	UPPER	8	0	1	0	SITE.SITEID
LOCKOUT	LANGCODE	23	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
LOCKOUT	HASLD	24	YORN	1	0	1	1	.
LOCLEADTIME	LOCATION	1	UPPER	12	0	1	0	LOCATIONS.LOCATION
LOCLEADTIME	NEWPERCENT	2	INTEGER	12	0	1	1	.
LOCLEADTIME	SITEID	3	UPPER	8	0	1	0	SITE.SITEID
LOCLEADTIME	ORGID	4	UPPER	8	0	1	0	ORGANIZATION.ORGID
LOCLEADTIME	LOCLEADTIMEID	5	INTEGER	12	0	1	1	.
LOCMETERREADING	METERREADINGID	1	INTEGER	12	0	1	1	.
LOCMETERREADING	LOCATION	2	UPPER	12	0	1	0	LOCATIONS.LOCATION

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
LOCMETERREADING	METERNAME	3	UPPER	10	0	1	0	METER.METERNAME
LOCMETERREADING	READINGTYPE	4	UPPER	10	0	0	1	METER.READINGTYPE
LOCMETERREADING	DELTA	5	DECIMAL	15	2	0	1	METERREADING.READING
LOCMETERREADING	READING	6	DECIMAL	15	2	0	1	METERREADING.READING
LOCMETERREADING	ROLLOVER	7	DECIMAL	15	2	0	1	METERINGROUP.ROLLOVER
LOCMETERREADING	MEASUREUNITID	8	UPPER	8	0	0	0	MEASUREUNIT.MEASUREUNITID
LOCMETERREADING	READINGDATE	9	DATETIME	10	0	1	1	.
LOCMETERREADING	INSPECTOR	10	UPPER	30	0	1	0	PERSON.PERSONID
LOCMETERREADING	ENTERBY	11	UPPER	30	0	1	0	PERSON.PERSONID
LOCMETERREADING	ENTERDATE	12	DATETIME	10	0	1	1	.
LOCMETERREADING	MODIFIED	13	YORN	1	0	1	1	.
LOCMETERREADING	SITEID	14	UPPER	8	0	1	0	SITE.SITEID
LOCMETERREADING	ORGID	15	UPPER	8	0	1	0	ORGANIZATION.ORGID
LOCMETERREADING	DIDROLLOVER	20	YORN	1	0	1	1	.
LOCMETERREADING	REASON	22	ALN	254	0	0	0	.
LOCOPER	LOCATION	1	UPPER	12	0	1	0	LOCATIONS.LOCATION
LOCOPER	CALNUM	2	UPPER	8	0	0	0	CALENDAR.CALNUM
LOCOPER	LOCPRIORITY	3	INTEGER	12	0	0	1	.
LOCOPER	ITEMNUM	4	UPPER	30	0	0	0	ITEM.ITEMNUM
LOCOPER	FAILURECODE	5	UPPER	8	0	0	0	FAILURECODE.FAILURECODE
LOCOPER	CLASSIFICATION	6	ALN	10	0	0	0	.
LOCOPER	FLO1	7	ALN	10	0	0	0	WORKORDER.WOLO1
LOCOPER	FLO2	8	ALN	10	0	0	0	WORKORDER.WOLO2
LOCOPER	FLO3	9	ALN	10	0	0	0	WORKORDER.WOLO3
LOCOPER	FLO4	10	ALN	10	0	0	0	WORKORDER.WOLO4
LOCOPER	FLO5	11	ALN	10	0	0	0	WORKORDER.WOLO5
LOCOPER	FLO6	12	AMOUNT	10	2	0	0	WORKORDER.WOLO6
LOCOPER	FLO7	13	DATETIME	10	0	0	0	WORKORDER.WOLO7
LOCOPER	FLO8	14	DECIMAL	15	2	0	0	WORKORDER.WOLO8
LOCOPER	FLO9	15	ALN	10	0	0	0	WORKORDER.WOLO9
LOCOPER	FLO10	16	INTEGER	12	0	0	0	WORKORDER.WOLO10
LOCOPER	WARRANTYEXPDATE	17	DATE	4	0	0	1	.
LOCOPER	SITEID	18	UPPER	8	0	1	0	SITE.SITEID
LOCOPER	ORGID	19	UPPER	8	0	1	0	ORGANIZATION.ORGID
LOCOPER	ITEMSETID	20	UPPER	8	0	0	0	SETS.SETID
LOCOPER	SHIFTNUM	21	UPPER	8	0	0	0	SHIFT.SHIFTNUM
LOCOPER	GROUPNAME	22	UPPER	10	0	0	0	METERGROUP.GROUPNAME
LOCOPER	LOCOPERID	23	INTEGER	12	0	1	1	.
LOCSTATUS	LOCATION	1	UPPER	12	0	1	0	LOCATIONS.LOCATION
LOCSTATUS	STATUS	2	UPPER	14	0	1	0	.
LOCSTATUS	CHANGEBY	3	UPPER	30	0	1	0	PERSON.PERSONID
LOCSTATUS	CHANGEDATE	4	DATETIME	10	0	1	1	.
LOCSTATUS	MEMO	5	ALN	25	0	0	0	.
LOCSTATUS	SITEID	6	UPPER	8	0	1	0	SITE.SITEID
LOCSTATUS	ORGID	7	UPPER	8	0	1	0	ORGANIZATION.ORGID
LOCSTATUS	LOCSTATUSID	8	INTEGER	12	0	1	1	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
LOCSYSTEM	SYSTEMID	1	UPPER	8	0	1	0	.
LOCSYSTEM	DESCRIPTION	2	ALN	100	0	0	0	.
LOCSYSTEM	NETWORK	3	YORN	1	0	1	0	.
LOCSYSTEM	DOCTYPE	4	ALN	16	0	0	0	DOCTYPES.DOCTYPE
LOCSYSTEM	GISPARAM1	5	ALN	1	0	0	0	LOCATIONS.GISPARAM1
LOCSYSTEM	GISPARAM2	6	ALN	1	0	0	0	LOCATIONS.GISPARAM2
LOCSYSTEM	GISPARAM3	7	ALN	1	0	0	0	LOCATIONS.GISPARAM3
LOCSYSTEM	SOURCESYSID	8	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
LOCSYSTEM	OWNERSYSID	9	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
LOCSYSTEM	EXTERNALREFID	10	ALN	10	0	0	0	.
LOCSYSTEM	SITEID	11	UPPER	8	0	1	0	SITE.SITEID
LOCSYSTEM	ORGID	12	UPPER	8	0	1	0	ORGANIZATION.ORGID
LOCSYSTEM	PRIMARYSYSTEM	15	YORN	1	0	1	0	.
LOCSYSTEM	LOCSYSTEMID	16	INTEGER	12	0	1	1	.
LOCSYSTEM	LANGCODE	17	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
LOCSYSTEM	HASLD	18	YORN	1	0	1	1	.
LOGINTRACKING	ATTEMPTDATE	1	DATETIME	10	0	1	0	.
LOGINTRACKING	ATTEMPTRESULT	2	YORN	1	0	1	0	.
LOGINTRACKING	NAME	3	ALN	62	0	0	0	PERSON.DISPLAYNAME
LOGINTRACKING	APP	4	UPPER	10	0	0	1	MAXAPPS.APP
LOGINTRACKING	REASON	5	ALN	50	0	0	0	.
LOGINTRACKING	TRANSID	6	ALN	40	0	0	0	.
LOGINTRACKING	KEYVALUE1	7	ALN	50	0	0	0	.
LOGINTRACKING	KEYVALUE2	8	ALN	50	0	0	0	.
LOGINTRACKING	KEYVALUE3	9	ALN	50	0	0	0	.
LOGINTRACKING	KEYVALUE4	10	ALN	50	0	0	0	.
LOGINTRACKING	KEYVALUE5	11	ALN	50	0	0	0	.
LOGINTRACKING	KEYVALUE6	12	ALN	50	0	0	0	.
LOGINTRACKING	KEYVALUE7	13	ALN	50	0	0	0	.
LOGINTRACKING	USERID	14	UPPER	30	0	1	0	PERSON.PERSONID
LOGINTRACKING	LOGINTRACKINGID	15	INTEGER	12	0	1	1	.
LOGINTRACKING	OWNERTABLE	16	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
LOGINTRACKING	OWNERID	17	INTEGER	12	0	0	0	.
LONGDESCRIPTION	LDKEY	1	INTEGER	12	0	1	1	.
LONGDESCRIPTION	LDOWNERTABLE	2	UPPER	18	0	1	1	MAXOBJECT.OBJECTNAME
LONGDESCRIPTION	LDOWNERCOL	3	UPPER	18	0	1	1	MAXOBJECT.OBJECTNAME
LONGDESCRIPTION	LDTEXT	4	CLOB	32000	0	0	1	.
LONGDESCRIPTION	LANGCODE	5	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
LONGDESCRIPTION	LONGDESCRIPTIONID	6	INTEGER	12	0	1	1	.
L_ALNDOMAIN	OWNERID	1	INTEGER	12	0	1	1	ALNDOMAIN.ALNDOMAINID
L_ALNDOMAIN	DESCRIPTION	2	ALN	100	0	0	0	ALNDOMAIN.DESCRPTION
L_ALNDOMAIN	LANGCODE	3	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
L_ALNDOMAIN	L_ALNDOMAINID	4	INTEGER	12	0	1	1	.
L_COMPANIES	OWNERID	1	INTEGER	12	0	1	1	COMPANIES.COMPANIESID
L_COMPANIES	LANGCODE	2	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
L_COMPANIES	NAME	3	ALN	50	0	0	0	COMPANIES.NAME

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
L_COMPANIES	L_COMPANIESID	4	INTEGER	12	0	1	1	.
L_ITEM	OWNERID	1	INTEGER	12	0	1	1	ITEM.ITEMID
L_ITEM	LANGCODE	2	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
L_ITEM	DESCRIPTION	3	ALN	100	0	0	0	ITEM.DESCRPTION
L_ITEM	L_ITEMID	4	INTEGER	12	0	1	1	.
L_MAXAPPS	OWNERID	1	INTEGER	12	0	1	1	MAXAPPS.MAXAPPSID
L_MAXAPPS	LANGCODE	2	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
L_MAXAPPS	DESCRIPTION	3	ALN	100	0	0	1	MAXAPPS.DESCRPTION
L_MAXAPPS	L_MAXAPPSID	4	INTEGER	12	0	1	1	.
L_MAXATTRCFG	L_MAXATTRCFGID	1	INTEGER	12	0	1	1	.
L_MAXATTRCFG	LANGCODE	2	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
L_MAXATTRCFG	OWNERID	3	INTEGER	12	0	1	1	MAXATTRIBUTECFG.MAXATTRIBUTEID
L_MAXATTRCFG	REMARKS	4	ALN	4000	0	0	0	MAXATTRIBUTE.REMARKS
L_MAXATTRCFG	TITLE	5	ALN	80	0	0	0	MAXATTRIBUTE.TITLE
L_MAXATTRIBUTE	REMARKS	1	ALN	4000	0	0	0	MAXATTRIBUTE.REMARKS
L_MAXATTRIBUTE	TITLE	2	ALN	80	0	0	0	MAXATTRIBUTE.TITLE
L_MAXATTRIBUTE	OWNERID	3	INTEGER	12	0	1	1	MAXATTRIBUTE.MAXATTRIBUTEID
L_MAXATTRIBUTE	LANGCODE	4	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
L_MAXATTRIBUTE	L_MAXATTRIBUTEID	5	INTEGER	12	0	1	1	.
L_MAXDOMAIN	DESCRIPTION	1	ALN	100	0	0	0	MAXDOMAIN.DESCRPTION
L_MAXDOMAIN	OWNERID	2	INTEGER	12	0	1	1	MAXDOMAIN.MAXDOMAINID
L_MAXDOMAIN	LANGCODE	3	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
L_MAXDOMAIN	L_MAXDOMAINID	4	INTEGER	12	0	1	1	.
L_MAXLABELS	L_MAXLABELSID	1	INTEGER	12	0	1	1	.
L_MAXLABELS	OWNERID	2	INTEGER	12	0	1	1	MAXLABELS.MAXLABELSID
L_MAXLABELS	LANGCODE	3	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
L_MAXLABELS	VALUE	4	ALN	4000	0	0	0	MAXLABELS.VALUE
L_MAXMENU	HEADERDESCRIPTION	1	ALN	50	0	0	0	MAXMENU.HEADERDESCRIPTION
L_MAXMENU	OWNERID	2	INTEGER	12	0	1	1	MAXMENU.MAXMENUID
L_MAXMENU	LANGCODE	3	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
L_MAXMENU	L_MAXMENUID	4	INTEGER	12	0	1	1	.
L_MAXMESSAGES	L_MAXMESSAGESID	1	INTEGER	12	0	1	1	.
L_MAXMESSAGES	OWNERID	2	INTEGER	12	0	1	1	MAXMESSAGES.MAXMESSAGESID
L_MAXMESSAGES	LANGCODE	3	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
L_MAXMESSAGES	VALUE	4	ALN	500	0	0	0	MAXMESSAGES.VALUE
L_MAXMESSAGES	BUTTONTEXT	5	ALN	100	0	0	0	MAXMESSAGES.BUTTONTEXT
L_MAXMODULES	DESCRIPTION	1	ALN	100	0	0	1	MAXMODULES.DESCRPTION
L_MAXMODULES	OWNERID	2	INTEGER	12	0	1	1	MAXMODULES.MAXMODULESID
L_MAXMODULES	LANGCODE	3	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
L_MAXMODULES	L_MAXMODULESID	4	INTEGER	12	0	1	1	.
L_MAXOBJECT	DESCRIPTION	1	ALN	100	0	0	0	MAXOBJECT.DESCRPTION
L_MAXOBJECT	LANGCODE	2	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
L_MAXOBJECT	OWNERID	3	INTEGER	12	0	1	1	MAXOBJECT.MAXOBJECTID
L_MAXOBJECT	L_MAXOBJECTID	4	INTEGER	12	0	1	1	.
L_MAXOBJECTCFG	L_MAXOBJECTCFGID	1	INTEGER	12	0	1	1	.
L_MAXOBJECTCFG	LANGCODE	2	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
L_MAXOBJECTCFG	OWNERID	3	INTEGER	12	0	1	1	MAXOBJECTCFG.MAXOBJECTID
L_MAXOBJECTCFG	DESCRIPTION	4	ALN	100	0	0	0	MAXOBJECT.DESCRPTION
L_MAXSERVICE	DESCRIPTION	1	ALN	100	0	0	0	MAXSERVICE.DESCRPTION
L_MAXSERVICE	OWNERID	2	INTEGER	12	0	1	1	MAXSERVICE.MAXSERVICEID
L_MAXSERVICE	LANGCODE	3	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
L_MAXSERVICE	L_MAXSERVICEID	4	INTEGER	12	0	1	1	.
L_REPORT	L_REPORTID	1	INTEGER	12	0	1	1	.
L_REPORT	DESCRIPTION	2	ALN	254	0	0	0	REPORT.DESCRPTION
L_REPORT	LANGCODE	3	UPPER	4	0	0	1	LANGUAGE.MAXLANGCODE
L_REPORT	OWNERID	4	INTEGER	12	0	0	1	REPORT.REPORTID
L_REPORTLABEL	L_REPORTLABELID	1	INTEGER	12	0	1	1	.
L_REPORTLABEL	LABELVALUE	2	ALN	4000	0	0	0	REPORTLABEL.LABELVALUE
L_REPORTLABEL	LANGCODE	3	UPPER	4	0	0	1	LANGUAGE.MAXLANGCODE
L_REPORTLABEL	OWNERID	4	INTEGER	12	0	1	1	REPORTLABEL.REPORTLABELID
L_REPORTLABEL	FONTSIZE	5	INTEGER	12	0	0	0	REPORTLABEL.FONTSIZE
L_REPORTLABEL	FONTNAME	6	ALN	254	0	0	0	REPORTLABEL.FONTNAME
L_REPORTLABEL	COLUMNWIDTH	7	INTEGER	12	0	0	0	REPORTLABEL.COLUMNWIDTH
L_SIGOPTION	DESCRIPTION	1	ALN	100	0	0	1	SIGOPTION.DESCRPTION
L_SIGOPTION	OWNERID	2	INTEGER	12	0	1	1	SIGOPTION.SIGOPTIONID
L_SIGOPTION	LANGCODE	3	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
L_SIGOPTION	L_SIGOPTIONID	4	INTEGER	12	0	1	1	.
L_SYNONYMDOMAIN	L_SYNONYMDOMAINID	1	INTEGER	12	0	1	1	.
L_SYNONYMDOMAIN	DESCRIPTION	2	ALN	256	0	0	1	SYNONYMDOMAIN.DESCRPTION
L_SYNONYMDOMAIN	OWNERID	3	INTEGER	12	0	1	1	SYNONYMDOMAIN.SYNONYMDOMAINID
L_SYNONYMDOMAIN	LANGCODE	4	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
MASTERPM	MASTERPMNUM	1	UPPER	8	0	1	0	PM.PMNUM
MASTERPM	ITEMNUM	2	UPPER	30	0	0	0	ITEM.ITEMNUM
MASTERPM	APPLYMPMTOASSET	3	YORN	1	0	1	1	.
MASTERPM	APPLYMPMTOLOC	4	YORN	1	0	1	1	.
MASTERPM	WOSTATUS	5	UPPER	16	0	1	1	WORKORDER.STATUS
MASTERPM	PRIORITY	6	INTEGER	12	0	1	1	PM.PRIORITY
MASTERPM	WORKTYPE	7	UPPER	5	0	0	0	WORKTYPE.WORKTYPE
MASTERPM	LEADTIME	8	INTEGER	12	0	0	1	PM.LEADTIME
MASTERPM	USETARGETDATE	9	YORN	1	0	1	1	PM.USETARGETDATE
MASTERPM	ADJNEXTDUE	10	YORN	1	0	1	1	PM.ADJNEXTDUE
MASTERPM	EXTDATE	11	DATE	4	0	0	1	PM.EXTDATE
MASTERPM	ALERTLEAD	12	INTEGER	12	0	0	0	.
MASTERPM	FREQUENCY	13	INTEGER	12	0	1	1	PM.FREQUENCY
MASTERPM	FREQUNIT	14	UPPER	8	0	1	0	PM.FREQUNIT
MASTERPM	NEXTDATE	15	DATE	4	0	0	1	PM.NEXTDATE
MASTERPM	DESCRIPTION	17	ALN	100	0	0	0	WORKORDER.DESCRPTION
MASTERPM	ITEMSETID	19	UPPER	8	0	0	0	SETS.SETID
MASTERPM	UPDEXTDATE	20	YORN	1	0	1	1	.
MASTERPM	UPDSEASONALDATES	21	YORN	1	0	1	1	.
MASTERPM	UPDTIMEBASEDFREQ	22	YORN	1	0	1	1	.
MASTERPM	USEFREQUENCY	23	YORN	1	0	1	1	PM.USEFREQUENCY

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
MASTERPM	UPDJPSEQUENCE	24	YORN	1	0	1	1	.
MASTERPM	MASTERPMID	25	INTEGER	12	0	1	1	.
MASTERPM	SUNDAY	26	YORN	1	0	1	1	.
MASTERPM	MONDAY	27	YORN	1	0	1	1	.
MASTERPM	TUESDAY	28	YORN	1	0	1	1	.
MASTERPM	WEDNESDAY	29	YORN	1	0	1	1	.
MASTERPM	THURSDAY	30	YORN	1	0	1	1	.
MASTERPM	FRIDAY	31	YORN	1	0	1	1	.
MASTERPM	SATURDAY	32	YORN	1	0	1	1	.
MASTERPM	LANGCODE	33	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
MASTERPM	INTERRUPTIBLE	34	YORN	1	0	1	1	PM.INTERRUPTIBLE
MASTERPM	CHANGEDATE	35	DATETIME	10	0	1	1	.
MASTERPM	CHANGEBY	36	UPPER	30	0	1	0	PERSON.PERSONID
MASTERPM	HASLD	37	YORN	1	0	1	1	.
MASTERPMMETER	MASTERPMNUM	1	UPPER	8	0	1	0	PM.PMNUM
MASTERPMMETER	METERNAME	2	UPPER	10	0	1	0	METER.METERNAME
MASTERPMMETER	ALERTLEAD	3	DECIMAL	15	2	0	0	PMMETER.ALERTLEAD
MASTERPMMETER	FREQUENCY	4	DECIMAL	15	2	0	0	PMMETER.FREQUENCY
MASTERPMMETER	TOLERANCE	5	DECIMAL	15	2	0	0	PMMETER.FREQUENCY
MASTERPMMETER	INITIALREADING	6	DECIMAL	15	2	0	0	.
MASTERPMMETER	UPDMETERBASEDFREQ	7	YORN	1	0	1	1	.
MASTERPMMETER	MASTERPMMETERID	8	INTEGER	12	0	1	1	.
MASTERPMSEASONS	MASTERPMSEASONSID	1	INTEGER	12	0	1	1	.
MASTERPMSEASONS	MASTERPMNUM	2	UPPER	8	0	1	0	PM.PMNUM
MASTERPMSEASONS	STARTMONTH	3	UPPER	16	0	1	1	PMSEASONS.STARTMONTH
MASTERPMSEASONS	STARTDAY	4	SMALLINT	10	0	1	1	PMSEASONS.STARTDAY
MASTERPMSEASONS	ENDMONTH	5	UPPER	16	0	1	1	PMSEASONS.ENDMONTH
MASTERPMSEASONS	ENDDAY	6	SMALLINT	10	0	1	1	PMSEASONS.ENDDAY
MASTERPMSEQ	MASTERPMNUM	1	UPPER	8	0	1	0	PM.PMNUM
MASTERPMSEQ	JPNUM	2	UPPER	10	0	0	0	JOBPLAN.JPNUM
MASTERPMSEQ	INTERVAL	3	INTEGER	12	0	1	1	PMSEQUENCE.INTERVAL
MASTERPMSEQ	MASTERPMSEQID	4	INTEGER	12	0	1	1	.
MASTERSVIEW	CONTRACTNUM	1	UPPER	8	0	1	0	CONTRACT.CONTRACTNUM
MASTERSVIEW	DESCRIPTION	2	ALN	100	0	0	0	PR.DESCRPTION
MASTERSVIEW	MASTERNUM	3	UPPER	8	0	0	0	CONTRACT.MASTERNUM
MASTERSVIEW	VENDORREFNUM	4	ALN	12	0	0	0	CONTRACT.VENDORREFNUM
MASTERSVIEW	CONTRACTTYPE	5	UPPER	25	0	1	0	CONTRACT.CONTRACTTYPE
MASTERSVIEW	REVISIONNUM	6	INTEGER	12	0	1	1	CONTRACT.REVISIONNUM
MASTERSVIEW	PURCHASEAGENT	7	UPPER	30	0	0	0	PERSON.PERSONID
MASTERSVIEW	STATUS	8	UPPER	6	0	1	0	CONTRACT.STATUS
MASTERSVIEW	STATUSDATE	9	DATETIME	10	0	0	0	CONTRACT.STATUSDATE
MASTERSVIEW	STARTDATE	10	DATE	4	0	0	0	CONTRACT.STARTDATE
MASTERSVIEW	ENDDATE	11	DATE	4	0	0	0	CONTRACT.ENDDATE
MASTERSVIEW	RENEWALDATE	12	DATE	4	0	0	0	CONTRACT.RENEWALDATE
MASTERSVIEW	EXTENDABLE	13	YORN	1	0	1	0	CONTRACT.EXTENDABLE
MASTERSVIEW	AUTOEXTENDPERIOD	14	INTEGER	12	0	0	0	CONTRACT.AUTOEXTENDPERIOD

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
MASTerview	CONDFOREXT	15	ALN	20	0	0	0	CONTRACT.CONDFOREXT
MASTerview	CUSTTERMALLOWED	16	YORN	1	0	1	0	CONTRACT.CUSTTERMALLOWED
MASTerview	CUSTNOTIFYPERIOD	17	INTEGER	12	0	0	0	CONTRACT.CUSTNOTIFYPERIOD
MASTerview	VENDTERMALLOWED	18	YORN	1	0	1	0	CONTRACT.VENDTERMALLOWED
MASTerview	VENDNOTIFYPERIOD	19	INTEGER	12	0	0	0	CONTRACT.VENDNOTIFYPERIOD
MASTerview	VENDOR	20	UPPER	12	0	0	0	COMPANIES.COMPANY
MASTerview	CONTACT	21	ALN	50	0	0	0	COMPANIES.CONTACT
MASTerview	FREIGHTTERMS	22	ALN	50	0	0	0	COMPANIES.FREIGHTTERMS
MASTerview	PAYMENTTERMS	23	ALN	20	0	0	0	COMPANIES.PAYMENTTERMS
MASTerview	SHIPVIA	24	ALN	20	0	0	0	COMPANIES.SHIPVIA
MASTerview	CUSTOMERNUM	25	ALN	16	0	0	0	COMPANIES.CUSTOMERNUM
MASTerview	FOB	26	ALN	20	0	0	0	COMPANIES.FOB
MASTerview	TOTALCOST	27	DECIMAL	10	2	0	1	PO.TOTALCOST
MASTerview	CHANGEBY	28	UPPER	30	0	0	0	PERSON.PERSONID
MASTerview	CHANGEDATE	29	DATETIME	10	0	1	0	CONTRACT.CHANGEDATE
MASTerview	HISTORYFLAG	30	YORN	1	0	1	0	CONTRACT.HISTORYFLAG
MASTerview	CURRENCYCODE	31	UPPER	8	0	1	0	CURRENCY.CURRENCYCODE
MASTerview	EXCHANGERATE	32	DECIMAL	14	7	0	1	EXCHANGE.EXCHANGERATE
MASTerview	EXCHANGERATE2	33	DECIMAL	14	7	0	1	EXCHANGE.EXCHANGERATE
MASTerview	EXCHANGEDATE	34	DATE	4	0	0	0	CONTRACT.EXCHANGEDATE
MASTerview	BUYAHEAD	35	YORN	1	0	1	0	CONTRACT.BUYAHEAD
MASTerview	INCLUSIVE1	36	YORN	1	0	1	0	CONTRACT.INCLUSIVE1
MASTerview	INCLUSIVE2	37	YORN	1	0	1	0	CONTRACT.INCLUSIVE2
MASTerview	INCLUSIVE3	38	YORN	1	0	1	0	CONTRACT.INCLUSIVE3
MASTerview	INCLUSIVE4	39	YORN	1	0	1	0	CONTRACT.INCLUSIVE4
MASTerview	INCLUSIVE5	40	YORN	1	0	1	0	CONTRACT.INCLUSIVE5
MASTerview	EXTERNALREFID	41	ALN	10	0	0	0	CONTRACT.EXTERNALREFID
MASTerview	OWNERSYSID	42	ALN	10	0	0	0	CONTRACT.OWNERSYSID
MASTerview	SENDERSYSID	43	ALN	50	0	0	0	CONTRACT.SENDERSYSID
MASTerview	ORGID	44	UPPER	8	0	0	0	ORGANIZATION.ORGID
MASTerview	TOTALBASECOST	45	DECIMAL	10	2	1	0	CONTRACT.TOTALBASECOST
MASTerview	POREQUIRED	48	YORN	1	0	1	0	CONTRACT.POREQUIRED
MASTerview	PAYMENTSCHED	49	YORN	1	0	1	0	CONTRACT.PAYMENTSCHED
MASTerview	HASINSURANCE	50	YORN	1	0	1	0	CONTRACT.HASINSURANCE
MASTerview	INSURANCEEXPDATE	51	DATE	4	0	0	0	CONTRACT.INSURANCEEXPDATE
MASTerview	CONTRACTID	52	INTEGER	12	0	1	1	CONTRACT.CONTRACTID
MASTerview	REVCOMMENTS	53	ALN	100	0	0	0	PR.DESCRPTION
MASTerview	LANGCODE	54	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
MASTerview	CONTRACTMASTERID	55	INTEGER	12	0	1	1	CONTRACTMASTER.CONTRACTMASTERID
MASTerview	ACCEPTPERIOD	56	INTEGER	12	0	0	0	CONTRACTPURCH.ACCEPTPERIOD
MASTerview	MAXVOL	57	DECIMAL	10	2	0	0	CONTRACTPURCH.MAXVOL
MASTerview	CANEXCEEDVOLUME	58	YORN	1	0	1	0	CONTRACTPURCH.CANEXCEEDVOLUME
MASTerview	LASTASSOCDATE	59	DATE	4	0	0	0	CONTRACTMASTER.LASTASSOCDATE
MASTerview	MASTERREVENUM	61	INTEGER	12	0	0	1	CONTRACT.REVISIONNUM
MASTerview	SHIPPINGLOSS	62	YORN	1	0	1	0	CONTRACTLEASE.SHIPPINGLOSS
MASTerview	ACCEPTANCELOSS	63	YORN	1	0	1	0	CONTRACTPURCH.ACCEPTANCELOSS

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
MASTerview	PROCESSCLAIM	64	YORN	1	0	1	0	.
MASTerview	INSPECTIONREQUIRED	66	YORN	1	0	1	0	COMPANIES.INSPECTIONREQUIRED
MASTerview	HASLD	67	YORN	1	0	1	1	.
MATRECTrans	ITEMNUM	1	UPPER	30	0	0	0	ITEM.ITEMNUM
MATRECTrans	TOSTORELOC	2	UPPER	12	0	0	0	LOCATIONS.LOCATION
MATRECTrans	TRANSDATE	3	DATETIME	10	0	1	1	.
MATRECTrans	ACTUALDATE	4	DATETIME	10	0	1	1	.
MATRECTrans	QUANTITY	5	DECIMAL	15	2	0	1	.
MATRECTrans	RECEIVEDUNIT	6	UPPER	8	0	0	0	MEASUREUNIT.MEASUREUNITID
MATRECTrans	ISSUETYPE	7	UPPER	20	0	0	1	MATUSETrans.ISSUETYPE
MATRECTrans	UNITCOST	8	AMOUNT	10	2	1	1	.
MATRECTrans	ACTUALCOST	9	AMOUNT	10	2	1	1	.
MATRECTrans	PONUM	10	UPPER	8	0	0	0	PO.PONUM
MATRECTrans	INVOICENUM	11	UPPER	8	0	0	0	INVOICE.INVOICENUM
MATRECTrans	REJECTCODE	12	UPPER	6	0	0	0	.
MATRECTrans	REJECTQTY	13	DECIMAL	15	2	1	1	.
MATRECTrans	CONVERSION	14	DECIMAL	15	2	0	1	CONVERSION.CONVERSION
MATRECTrans	ASSETNUM	15	UPPER	12	0	0	0	ASSET.ASSETNUM
MATRECTrans	ENTERBY	16	UPPER	30	0	1	0	PERSON.PERSONID
MATRECTrans	IT1	17	ALN	10	0	0	0	PRLINE.RL1
MATRECTrans	IT2	18	ALN	10	0	0	0	PRLINE.RL2
MATRECTrans	IT3	19	ALN	10	0	0	0	PRLINE.RL3
MATRECTrans	IT4	20	DECIMAL	15	2	0	0	PRLINE.RL4
MATRECTrans	IT5	21	ALN	10	0	0	0	PRLINE.RL5
MATRECTrans	OUTSIDE	22	YORN	1	0	1	1	ITEM.OUTSIDE
MATRECTrans	ISSUETO	23	UPPER	30	0	0	0	PERSON.PERSONID
MATRECTrans	PACKINGSLIPNUM	24	ALN	20	0	0	0	.
MATRECTrans	POLINENUM	25	INTEGER	12	0	0	1	PRLINE.PRLINENUM
MATRECTrans	ISSUE	26	YORN	1	0	1	1	.
MATRECTrans	REQUESTEDBY	27	ALN	20	0	0	0	.
MATRECTrans	TOTALCURBAL	28	DECIMAL	15	2	0	1	INVBALANCES.CURBAL
MATRECTrans	OLDAVGCOST	29	AMOUNT	10	2	0	1	.
MATRECTrans	ITIN1	30	ALN	10	0	0	0	ITEM.IN19
MATRECTrans	ITIN2	31	ALN	10	0	0	0	ITEM.IN20
MATRECTrans	ITIN3	32	ALN	10	0	0	0	ITEM.IN21
MATRECTrans	TOBIN	33	ALN	8	0	0	0	INVENTORY.BINNUM
MATRECTrans	GLDEBITACCT	34	GL	23	0	0	1	.
MATRECTrans	GLCREDITACCT	35	GL	23	0	0	1	.
MATRECTrans	LINECOST	36	AMOUNT	10	2	1	1	.
MATRECTrans	FINANCIALPERIOD	37	ALN	6	0	0	0	FINANCIALPERIODS.FINANCIALPERIOD
MATRECTrans	CURRENCYCODE	38	UPPER	8	0	1	0	CURRENCY.CURRENCYCODE
MATRECTrans	EXCHANGERATE	39	DECIMAL	14	7	0	1	EXCHANGE.EXCHANGERATE
MATRECTrans	CURRENCYUNITCOST	40	DECIMAL	10	2	0	1	.
MATRECTrans	MANUFACTURER	41	UPPER	12	0	0	0	COMPANIES.COMPANY
MATRECTrans	MODELNUM	42	ALN	8	0	0	0	INVENTORY.MODELNUM
MATRECTrans	CURRENCYLINECOST	43	DECIMAL	10	2	0	1	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
MATRECTRANS	LOCATION	44	UPPER	12	0	0	0	LOCATIONS.LOCATION
MATRECTRANS	DESCRIPTION	45	ALN	100	0	0	0	ITEM.DESCRPTION
MATRECTRANS	REMARK	46	ALN	50	0	0	0	PRLINE.REMARK
MATRECTRANS	FROMSTORELOC	47	UPPER	12	0	0	0	LOCATIONS.LOCATION
MATRECTRANS	FROMBIN	48	ALN	8	0	0	0	INVENTORY.BINNUM
MATRECTRANS	QTYHELD	49	DECIMAL	15	2	0	1	.
MATRECTRANS	FROMLOT	50	UPPER	8	0	0	0	INVLOT.LOTNUM
MATRECTRANS	TOLOT	51	UPPER	8	0	0	0	INVLOT.LOTNUM
MATRECTRANS	LOADED COST	52	DECIMAL	10	2	1	1	.
MATRECTRANS	TAX1CODE	53	UPPER	8	0	0	0	TAX.TAXCODE
MATRECTRANS	TAX1	54	DECIMAL	10	2	0	1	.
MATRECTRANS	TAX2CODE	55	UPPER	8	0	0	0	TAX.TAXCODE
MATRECTRANS	TAX2	56	DECIMAL	10	2	0	1	.
MATRECTRANS	TAX3CODE	57	UPPER	8	0	0	0	TAX.TAXCODE
MATRECTRANS	TAX3	58	DECIMAL	10	2	0	1	.
MATRECTRANS	TAX4CODE	59	UPPER	8	0	0	0	TAX.TAXCODE
MATRECTRANS	TAX4	60	DECIMAL	10	2	0	1	.
MATRECTRANS	TAX5CODE	61	UPPER	8	0	0	0	TAX.TAXCODE
MATRECTRANS	TAX5	62	DECIMAL	10	2	0	1	.
MATRECTRANS	PRORATED	63	YORN	1	0	1	1	.
MATRECTRANS	PRORATE COST	64	DECIMAL	10	2	0	1	.
MATRECTRANS	STATUS	65	UPPER	12	0	0	0	.
MATRECTRANS	STATUSDATE	66	DATETIME	10	0	0	1	.
MATRECTRANS	STATUSCHANGEBY	67	UPPER	30	0	0	0	PERSON.PERSONID
MATRECTRANS	SOURCESYSID	68	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
MATRECTRANS	QTYREQUESTED	69	DECIMAL	15	2	0	1	.
MATRECTRANS	CURBAL	70	DECIMAL	15	2	1	1	INVBALANCES.CURBAL
MATRECTRANS	EXCHANGERATE2	71	DECIMAL	14	7	0	1	EXCHANGE.EXCHANGERATE
MATRECTRANS	LINECOST2	72	DECIMAL	10	2	0	1	.
MATRECTRANS	MRNUM	73	UPPER	8	0	0	0	MR.MRNUM
MATRECTRANS	MRLINENUM	74	INTEGER	12	0	0	1	MRLINE.MRLINENUM
MATRECTRANS	MATRECTRANSID	75	INTEGER	12	0	1	1	.
MATRECTRANS	OWNERSYSID	76	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
MATRECTRANS	EXTERNALREFID	77	ALN	10	0	0	0	.
MATRECTRANS	IT6	78	ALN	10	0	0	0	PRLINE.RL6
MATRECTRANS	IT7	79	ALN	10	0	0	0	PRLINE.RL7
MATRECTRANS	IT8	80	ALN	10	0	0	0	PRLINE.RL8
MATRECTRANS	IT9	81	ALN	10	0	0	0	PRLINE.RL9
MATRECTRANS	IT10	82	ALN	10	0	0	0	PRLINE.RL10
MATRECTRANS	ITIN4	83	ALN	10	0	0	0	ITEM.IN24
MATRECTRANS	ITIN5	84	ALN	10	0	0	0	ITEM.IN25
MATRECTRANS	ITIN6	85	ALN	10	0	0	0	ITEM.IN26
MATRECTRANS	ITIN7	86	ALN	10	0	0	0	ITEM.IN27
MATRECTRANS	SENDERSYSID	87	ALN	50	0	0	0	.
MATRECTRANS	FINCNTRLID	88	UPPER	8	0	0	0	FINCNTRL.FINCNTRLID
MATRECTRANS	ORGID	89	UPPER	8	0	1	0	ORGANIZATION.ORGID

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
MATRECTRANS	SITEID	90	UPPER	8	0	1	0	SITE.SITEID
MATRECTRANS	COSTINFO	91	YORN	1	0	1	0	.
MATRECTRANS	BELONGSTO	92	INTEGER	12	0	0	1	MATRECTRANS.MATRECTRANSID
MATRECTRANS	REFWO	93	UPPER	10	0	0	0	WORKORDER.WONUM
MATRECTRANS	ENTEREDASTASK	94	YORN	1	0	1	1	.
MATRECTRANS	FROMSITEID	95	UPPER	8	0	1	0	SITE.SITEID
MATRECTRANS	RECEIPTREF	96	INTEGER	12	0	0	1	MATRECTRANS.MATRECTRANSID
MATRECTRANS	LINETYPE	97	UPPER	15	0	1	1	PRLINE.LINETYPE
MATRECTRANS	ITEMSETID	98	UPPER	8	0	0	0	SETS.SETID
MATRECTRANS	CONDITIONCODE	130	UPPER	30	0	0	0	ITEMCONDITION.CONDITIONCODE
MATRECTRANS	FROMCONDITIONCODE	131	UPPER	30	0	0	0	ITEMCONDITION.CONDITIONCODE
MATRECTRANS	CONDRATE	132	INTEGER	12	0	0	1	INVCOST.CONDRATE
MATRECTRANS	COMMODITYGROUP	133	UPPER	8	0	0	1	COMMODITIES.COMMODITY
MATRECTRANS	COMMODITY	134	UPPER	8	0	0	1	COMMODITIES.COMMODITY
MATRECTRANS	MATUSETRANSID	137	INTEGER	12	0	0	1	MATUSETRANS.MATUSETRANSID
MATRECTRANS	COURIER	138	ALN	30	0	0	0	.
MATRECTRANS	LANGCODE	139	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
MATRECTRANS	INSPECTEDQTY	140	DECIMAL	15	2	0	1	.
MATRECTRANS	POSITEID	142	UPPER	8	0	0	0	SITE.SITEID
MATRECTRANS	HASLD	145	YORN	1	0	1	1	.
MATRECTRANS	ROTASSETNUM	146	UPPER	12	0	0	0	ASSET.ASSETNUM
MATUSETRANS	ITEMNUM	1	UPPER	30	0	0	0	ITEM.ITEMNUM
MATUSETRANS	STORELOC	2	UPPER	12	0	0	0	LOCATIONS.LOCATION
MATUSETRANS	TRANSDATE	3	DATETIME	10	0	1	1	.
MATUSETRANS	ACTUALDATE	4	DATETIME	10	0	1	1	.
MATUSETRANS	QUANTITY	5	DECIMAL	15	2	1	1	.
MATUSETRANS	CURBAL	6	DECIMAL	15	2	1	1	INVBALANCES.CURBAL
MATUSETRANS	PHYSCNT	7	DECIMAL	15	2	1	1	.
MATUSETRANS	UNITCOST	8	AMOUNT	10	2	1	1	.
MATUSETRANS	ACTUALCOST	9	AMOUNT	10	2	1	1	.
MATUSETRANS	PONUM	10	UPPER	8	0	0	0	PO.PONUM
MATUSETRANS	CONVERSION	11	DECIMAL	15	2	0	1	CONVERSION.CONVERSION
MATUSETRANS	ASSETNUM	12	UPPER	12	0	0	0	ASSET.ASSETNUM
MATUSETRANS	ENTERBY	13	UPPER	30	0	1	0	PERSON.PERSONID
MATUSETRANS	IT1	14	ALN	10	0	0	0	PRLINE.RL1
MATUSETRANS	IT2	15	ALN	10	0	0	0	PRLINE.RL2
MATUSETRANS	IT3	16	ALN	10	0	0	0	PRLINE.RL3
MATUSETRANS	IT4	17	DECIMAL	15	2	0	0	PRLINE.RL4
MATUSETRANS	IT5	18	ALN	10	0	0	0	PRLINE.RL5
MATUSETRANS	MEMO	19	ALN	254	0	0	0	.
MATUSETRANS	OUTSIDE	20	YORN	1	0	1	1	ITEM.OUTSIDE
MATUSETRANS	ISSUETO	21	UPPER	30	0	0	0	PERSON.PERSONID
MATUSETRANS	PACKINGSLIPNUM	22	ALN	20	0	0	0	.
MATUSETRANS	POLINENUM	23	INTEGER	12	0	0	1	PRLINE.PRLINENUM
MATUSETRANS	ROLLUP	24	YORN	1	0	1	1	.
MATUSETRANS	ITIN1	25	ALN	10	0	0	0	ITEM.IN19

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
MATUSETRANS	ITIN2	26	ALN	10	0	0	0	ITEM.IN20
MATUSETRANS	ITIN3	27	ALN	10	0	0	0	ITEM.IN21
MATUSETRANS	BINNUM	28	ALN	8	0	0	0	INVENTORY.BINNUM
MATUSETRANS	LOTNUM	29	UPPER	8	0	0	0	INVLOT.LOTNUM
MATUSETRANS	ISSUETYPE	30	UPPER	20	0	1	1	.
MATUSETRANS	GLDEBITACCT	31	GL	23	0	0	1	.
MATUSETRANS	GLCREDITACCT	32	GL	23	0	0	1	.
MATUSETRANS	LINECOST	33	AMOUNT	10	2	1	1	.
MATUSETRANS	FINANCIALPERIOD	34	ALN	6	0	0	0	FINANCIALPERIODS.FINANCIALPERIOD
MATUSETRANS	CURRENCYCODE	35	UPPER	8	0	1	0	CURRENCY.CURRENCYCODE
MATUSETRANS	CURRENCYUNITCOST	36	DECIMAL	10	2	0	1	.
MATUSETRANS	ROTASSETNUM	37	UPPER	12	0	0	0	ASSET.ASSETNUM
MATUSETRANS	CURRENCYLINECOST	38	DECIMAL	10	2	0	1	.
MATUSETRANS	LOCATION	39	UPPER	12	0	0	0	LOCATIONS.LOCATION
MATUSETRANS	DESCRIPTION	40	ALN	100	0	0	0	ITEM.DESCRPTION
MATUSETRANS	EXCHANGERATE	41	DECIMAL	14	7	0	1	EXCHANGE.EXCHANGERATE
MATUSETRANS	SPAREPARTADDED	42	YORN	1	0	1	1	.
MATUSETRANS	QTYREQUESTED	43	DECIMAL	15	2	0	1	.
MATUSETRANS	EXCHANGERATE2	44	DECIMAL	14	7	0	1	EXCHANGE.EXCHANGERATE
MATUSETRANS	LINECOST2	45	DECIMAL	10	2	0	1	.
MATUSETRANS	MRNUM	46	UPPER	8	0	0	0	MR.MRNUM
MATUSETRANS	MRLINENUM	47	INTEGER	12	0	0	1	MRLINE.MRLINENUM
MATUSETRANS	MATUSETRANSID	48	INTEGER	12	0	1	1	.
MATUSETRANS	MATRECTRANSID	49	INTEGER	12	0	0	1	MATRECTRANS.MATRECTRANSID
MATUSETRANS	IT6	50	ALN	10	0	0	0	PRLINE.RL6
MATUSETRANS	IT7	51	ALN	10	0	0	0	PRLINE.RL7
MATUSETRANS	IT8	52	ALN	10	0	0	0	PRLINE.RL8
MATUSETRANS	IT9	53	ALN	10	0	0	0	PRLINE.RL9
MATUSETRANS	IT10	54	ALN	10	0	0	0	PRLINE.RL10
MATUSETRANS	ITIN4	55	ALN	10	0	0	0	ITEM.IN24
MATUSETRANS	ITIN5	56	ALN	10	0	0	0	ITEM.IN25
MATUSETRANS	ITIN6	57	ALN	10	0	0	0	ITEM.IN26
MATUSETRANS	ITIN7	58	ALN	10	0	0	0	ITEM.IN27
MATUSETRANS	SOURCESYSID	59	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
MATUSETRANS	OWNERSYSID	60	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
MATUSETRANS	EXTERNALREFID	61	ALN	10	0	0	0	.
MATUSETRANS	SENDERSYSID	62	ALN	50	0	0	0	.
MATUSETRANS	FINCNTRLID	63	UPPER	8	0	0	0	FINCNTRL.FINCNTRLID
MATUSETRANS	ISSUEID	64	INTEGER	12	0	0	1	MATUSETRANS.MATUSETRANSID
MATUSETRANS	QTYRETURNED	65	DECIMAL	15	2	0	1	.
MATUSETRANS	ORGID	66	UPPER	8	0	1	0	ORGANIZATION.ORGID
MATUSETRANS	SITEID	67	UPPER	8	0	1	0	SITE.SITEID
MATUSETRANS	REFWO	68	UPPER	10	0	0	0	WORKORDER.WONUM
MATUSETRANS	ENTEREDASTASK	69	YORN	1	0	1	1	.
MATUSETRANS	LINETYPE	70	UPPER	15	0	1	1	PRLINE.LINETYPE
MATUSETRANS	ITEMSETID	71	UPPER	8	0	0	0	SETS.SETID

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
MATUSETRANS	CONDITIONCODE	81	UPPER	30	0	0	0	ITEMCONDITION.CONDITIONCODE
MATUSETRANS	CONDRATE	82	INTEGER	12	0	0	1	INVCOST.CONDRATE
MATUSETRANS	COMMODITYGROUP	83	UPPER	8	0	0	1	COMMODITIES.COMMODITY
MATUSETRANS	COMMODITY	84	UPPER	8	0	0	1	COMMODITIES.COMMODITY
MATUSETRANS	TOSITEID	85	UPPER	8	0	1	0	SITE.SITEID
MATUSETRANS	LANGCODE	88	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
MATUSETRANS	HASLD	89	YORN	1	0	1	1	.
MAXAPPS	APP	1	UPPER	10	0	1	1	.
MAXAPPS	DESCRIPTION	2	ALN	100	0	1	1	.
MAXAPPS	APPTYPE	3	UPPER	5	0	1	1	.
MAXAPPS	RESTRICTIONS	4	ALN	254	0	0	1	.
MAXAPPS	ORDERBY	5	ALN	254	0	0	1	.
MAXAPPS	ORIGINALAPP	6	UPPER	10	0	0	1	MAXAPPS.APP
MAXAPPS	CUSTAPPTYPE	7	UPPER	10	0	0	1	.
MAXAPPS	MAINTBNAME	8	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
MAXAPPS	MAXAPPSID	9	INTEGER	12	0	1	1	.
MAXATTRIBUTE	OBJECTNAME	1	UPPER	18	0	1	1	MAXOBJECT.OBJECTNAME
MAXATTRIBUTE	ATTRIBUTENAME	2	UPPER	50	0	1	0	.
MAXATTRIBUTE	ALIAS	3	ALN	50	0	0	0	.
MAXATTRIBUTE	AUTOKEYNAME	4	UPPER	40	0	0	0	AUTOKEY.AUTOKEYNAME
MAXATTRIBUTE	ATTRIBUTENO	5	INTEGER	12	0	1	1	.
MAXATTRIBUTE	CANAUTONUM	6	YORN	1	0	1	1	.
MAXATTRIBUTE	CLASSNAME	7	ALN	80	0	0	0	MAXOBJECT.CLASSNAME
MAXATTRIBUTE	COLUMNNAME	8	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
MAXATTRIBUTE	DEFAULTVALUE	9	ALN	50	0	0	0	.
MAXATTRIBUTE	DOMAINID	10	UPPER	18	0	0	1	MAXDOMAIN.DOMAINID
MAXATTRIBUTE	EAUDITENABLED	11	YORN	1	0	1	1	.
MAXATTRIBUTE	ENTITYNAME	12	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
MAXATTRIBUTE	ESIGENABLED	13	YORN	1	0	1	1	.
MAXATTRIBUTE	ISLDOWNER	14	YORN	1	0	1	1	.
MAXATTRIBUTE	ISPOSITIVE	15	YORN	1	0	1	1	.
MAXATTRIBUTE	LENGTH	16	INTEGER	12	0	1	1	.
MAXATTRIBUTE	MAXTYPE	17	UPPER	8	0	1	1	.
MAXATTRIBUTE	MUSTBE	18	YORN	1	0	1	1	.
MAXATTRIBUTE	REQUIRED	19	YORN	1	0	1	1	.
MAXATTRIBUTE	PERSISTENT	20	YORN	1	0	1	1	.
MAXATTRIBUTE	PRIMARYKEYCOLSEQ	21	INTEGER	12	0	0	1	.
MAXATTRIBUTE	REMARKS	22	ALN	4000	0	1	0	.
MAXATTRIBUTE	SAMEASATTRIBUTE	23	UPPER	50	0	0	0	MAXATTRIBUTE.ATTRIBUTENAME
MAXATTRIBUTE	SAMEASOBJECT	24	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
MAXATTRIBUTE	SCALE	25	INTEGER	12	0	1	1	.
MAXATTRIBUTE	TITLE	26	ALN	80	0	1	0	.
MAXATTRIBUTE	USERDEFINED	27	YORN	1	0	1	1	.
MAXATTRIBUTE	SEARCHTYPE	28	ALN	20	0	1	0	.
MAXATTRIBUTE	MLSUPPORTED	29	YORN	1	0	1	1	.
MAXATTRIBUTE	MLINUSE	30	YORN	1	0	1	1	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
MAXATTRIBUTE	HANDLECOLUMNNAME	31	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
MAXATTRIBUTE	MAXATTRIBUTEID	32	INTEGER	12	0	1	1	.
MAXATTRIBUTECFG	OBJECTNAME	1	UPPER	18	0	1	1	MAXOBJECT.OBJECTNAME
MAXATTRIBUTECFG	ATTRIBUTENAME	2	UPPER	50	0	1	0	MAXATTRIBUTE.ATTRIBUTENAME
MAXATTRIBUTECFG	ALIAS	3	ALN	50	0	0	0	MAXATTRIBUTE.ALIAS
MAXATTRIBUTECFG	AUTOKEYNAME	4	UPPER	40	0	0	0	AUTOKEY.AUTOKEYNAME
MAXATTRIBUTECFG	ATTRIBUTENO	5	INTEGER	12	0	1	1	MAXATTRIBUTE.ATTRIBUTENO
MAXATTRIBUTECFG	CANAUTONUM	6	YORN	1	0	1	1	MAXATTRIBUTE.CANAUTONUM
MAXATTRIBUTECFG	CLASSNAME	7	ALN	80	0	0	0	MAXOBJECT.CLASSNAME
MAXATTRIBUTECFG	COLUMNNAME	8	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
MAXATTRIBUTECFG	DEFAULTVALUE	9	ALN	50	0	0	0	MAXATTRIBUTE.DEFAULTVALUE
MAXATTRIBUTECFG	DOMAINID	10	UPPER	18	0	0	1	MAXDOMAIN.DOMAINID
MAXATTRIBUTECFG	EAUDITENABLED	11	YORN	1	0	1	1	MAXATTRIBUTE.EAUDITENABLED
MAXATTRIBUTECFG	ENTITYNAME	12	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
MAXATTRIBUTECFG	ESIGENABLED	13	YORN	1	0	1	1	MAXATTRIBUTE.ESIGENABLED
MAXATTRIBUTECFG	ISLDOWNER	14	YORN	1	0	1	1	MAXATTRIBUTE.ISLDOWNER
MAXATTRIBUTECFG	ISPOSITIVE	15	YORN	1	0	1	1	MAXATTRIBUTE.ISPOSITIVE
MAXATTRIBUTECFG	LENGTH	16	INTEGER	12	0	1	1	MAXATTRIBUTE.LENGTH
MAXATTRIBUTECFG	MAXTYPE	17	UPPER	8	0	1	1	MAXATTRIBUTE.MAXTYPE
MAXATTRIBUTECFG	MUSTBE	18	YORN	1	0	1	1	MAXATTRIBUTE.MUSTBE
MAXATTRIBUTECFG	REQUIRED	19	YORN	1	0	1	1	MAXATTRIBUTE.REQUIRED
MAXATTRIBUTECFG	PERSISTENT	20	YORN	1	0	1	1	MAXATTRIBUTE.PERSISTENT
MAXATTRIBUTECFG	PRIMARYKEYCOLSEQ	21	INTEGER	12	0	0	1	MAXATTRIBUTE.PRIMARYKEYCOLSEQ
MAXATTRIBUTECFG	REMARKS	22	ALN	4000	0	1	0	MAXATTRIBUTE.REMARKS
MAXATTRIBUTECFG	SAMEASATTRIBUTE	23	UPPER	50	0	0	0	MAXATTRIBUTE.ATTRIBUTENAME
MAXATTRIBUTECFG	SAMEASOBJECT	24	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
MAXATTRIBUTECFG	SCALE	25	INTEGER	12	0	1	1	MAXATTRIBUTE.SCALE
MAXATTRIBUTECFG	TITLE	26	ALN	80	0	1	0	MAXATTRIBUTE.TITLE
MAXATTRIBUTECFG	USERDEFINED	27	YORN	1	0	1	1	MAXATTRIBUTE.USERDEFINED
MAXATTRIBUTECFG	CHANGED	28	ALN	1	0	1	1	MAXOBJECTCFG.CHANGED
MAXATTRIBUTECFG	SEARCHTYPE	31	ALN	20	0	1	0	MAXATTRIBUTE.SEARCHTYPE
MAXATTRIBUTECFG	MLSUPPORTED	32	YORN	1	0	1	1	.
MAXATTRIBUTECFG	MLINUSE	33	YORN	1	0	1	1	.
MAXATTRIBUTECFG	HANDLECOLUMNNAME	34	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
MAXATTRIBUTECFG	MAXATTRIBUTEID	37	INTEGER	12	0	1	1	.
MAXCONDDETAIL	MBOCOLUMNNAME	1	UPPER	50	0	0	0	MAXATTRIBUTE.ATTRIBUTENAME
MAXCONDDETAIL	CONDITION	2	INTEGER	12	0	1	1	MAXIFACECOND.CONDITION
MAXCONDDETAIL	COLUMNNAME	3	UPPER	50	0	0	0	MAXATTRIBUTE.ATTRIBUTENAME
MAXCONDDETAIL	EVALTYPE	4	ALN	25	0	1	1	SYNONYMDOMAIN.VALUE
MAXCONDDETAIL	COMPARETYPE	5	ALN	25	0	0	1	.
MAXCONDDETAIL	CHANGETYPE	6	ALN	25	0	1	1	SYNONYMDOMAIN.VALUE
MAXCONDDETAIL	VALUE	7	ALN	25	0	0	0	.
MAXCONDDETAIL	RELATION	8	UPPER	50	0	0	0	MAXATTRIBUTE.ATTRIBUTENAME
MAXCONDDETAIL	CONDTYPE	9	ALN	20	0	1	1	.
MAXCONDDETAIL	GLORDER	10	INTEGER	12	0	0	0	.
MAXCONDDETAIL	CHANGEBY	11	UPPER	30	0	1	0	PERSON.PERSONID

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
MAXCONDDETAIL	CHANGEDATE	12	DATETIME	10	0	1	1	.
MAXCONDDETAIL	PROCNAME	26	UPPER	20	0	1	1	MAXIFACEPROC.PROCNAME
MAXCONDDETAIL	IFACENAME	27	ALN	20	0	1	1	MAXIFACE.IFACENAME
MAXCONDDETAIL	IFACETYPE	29	UPPER	10	0	1	1	MAXIFACETYPE.IFACETYPE
MAXCONDDETAIL	CONDSEQUENCE	31	INTEGER	12	0	1	1	.
MAXCONDDETAIL	MBOName	32	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
MAXCONDDETAIL	MAXCONDDETAILID	34	INTEGER	12	0	1	1	.
MAXCONTROLVALUE	IFACECONTROL	1	UPPER	20	0	1	1	.
MAXCONTROLVALUE	VALUE	2	ALN	30	0	0	1	.
MAXCONTROLVALUE	CHANGEBy	3	UPPER	30	0	1	0	PERSON.PERSONID
MAXCONTROLVALUE	CHANGEDATE	4	DATETIME	10	0	1	1	.
MAXCONTROLVALUE	NEWVALUE	5	ALN	100	0	0	1	MAXIFACECONTROL.VALUE
MAXCONTROLVALUE	MAXCONTROLVALUEID	6	INTEGER	12	0	1	1	.
MAXCONTROLVALUE	IFACETYPE	7	UPPER	10	0	1	1	MAXIFACETYPE.IFACETYPE
MAXDOMAIN	DOMAINID	1	UPPER	18	0	1	1	.
MAXDOMAIN	DESCRIPTION	2	ALN	100	0	0	0	.
MAXDOMAIN	DOMAINTYPE	3	UPPER	20	0	1	1	.
MAXDOMAIN	MAXTYPE	4	UPPER	8	0	0	1	MAXATTRIBUTE.MAXTYPE
MAXDOMAIN	LENGTH	5	INTEGER	12	0	0	1	MAXATTRIBUTE.LENGTH
MAXDOMAIN	SCALE	6	INTEGER	12	0	0	1	MAXATTRIBUTE.SCALE
MAXDOMAIN	MAXDOMAINID	7	INTEGER	12	0	1	1	.
MAXENDPOINT	MAXENDPOINTID	1	INTEGER	12	0	1	1	.
MAXENDPOINT	ENDPOINTNAME	2	UPPER	20	0	1	1	.
MAXENDPOINT	HANDLERNAME	3	UPPER	20	0	1	1	MAXHANDLER.HANDLERNAME
MAXENDPOINT	DESCRIPTION	4	ALN	100	0	0	0	.
MAXENDPOINT	CHANGEBy	6	UPPER	30	0	1	0	PERSON.PERSONID
MAXENDPOINT	CHANGEDATE	7	DATETIME	10	0	1	1	.
MAXENDPOINT	LANGCODE	8	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
MAXENDPOINT	HASLD	9	YORN	1	0	1	1	.
MAXENDPOINTDTL	MAXENDPOINTDTLID	1	INTEGER	12	0	1	1	.
MAXENDPOINTDTL	ENDPOINTNAME	2	UPPER	20	0	1	1	MAXENDPOINT.ENDPOINTNAME
MAXENDPOINTDTL	PROPERTY	3	ALN	50	0	1	1	.
MAXENDPOINTDTL	VALUE	4	ALN	500	0	0	1	.
MAXENDPOINTDTL	CHANGEBy	5	UPPER	30	0	1	0	PERSON.PERSONID
MAXENDPOINTDTL	CHANGEDATE	6	DATETIME	10	0	1	1	.
MAXENDPOINTDTL	PASSWORD	7	CRYPTO	2000	0	0	1	.
MAXEXTBOOLVAL	EXTSYSNAME	1	ALN	20	0	1	1	MAXEXTSYSTEM.EXTSYSNAME
MAXEXTBOOLVAL	IFACECONTROL	2	UPPER	20	0	1	1	MAXIFACECONTROL.IFACECONTROL
MAXEXTBOOLVAL	ORGID	3	UPPER	8	0	0	0	ORGANIZATION.ORGID
MAXEXTBOOLVAL	SITEID	4	UPPER	8	0	0	0	SITE.SITEID
MAXEXTBOOLVAL	ISTRUE	5	YORN	1	0	1	1	.
MAXEXTBOOLVAL	CHANGEBy	6	UPPER	30	0	1	0	PERSON.PERSONID
MAXEXTBOOLVAL	CHANGEDATE	7	DATETIME	10	0	1	1	.
MAXEXTBOOLVAL	MAXEXTBOOLVALID	8	INTEGER	12	0	1	1	.
MAXEXTCTLVAL	EXTSYSNAME	1	ALN	20	0	1	1	MAXEXTSYSTEM.EXTSYSNAME
MAXEXTCTLVAL	IFACECONTROL	2	UPPER	20	0	1	1	MAXIFACECONTROL.IFACECONTROL

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
MAXEXTCTLVAL	ORGID	3	UPPER	8	0	0	0	ORGANIZATION.ORGID
MAXEXTCTLVAL	SITEID	4	UPPER	8	0	0	0	SITE.SITEID
MAXEXTCTLVAL	VALUE	5	ALN	100	0	0	1	.
MAXEXTCTLVAL	CHANGEBY	6	UPPER	30	0	1	0	PERSON.PERSONID
MAXEXTCTLVAL	CHANGEDATE	7	DATETIME	10	0	1	1	.
MAXEXTCTLVAL	MAXEXTCTLVALID	8	INTEGER	12	0	1	1	.
MAXEXTIFACEIN	EXTSYSNAME	1	ALN	20	0	1	1	MAXEXTSYSTEM.EXTSYSNAME
MAXEXTIFACEIN	ISCONTINUOUSQUEUE	2	YORN	1	0	1	1	.
MAXEXTIFACEIN	ENABLED	3	YORN	1	0	1	1	.
MAXEXTIFACEIN	CHANGEBY	4	UPPER	30	0	1	0	PERSON.PERSONID
MAXEXTIFACEIN	CHANGEDATE	5	DATETIME	10	0	1	1	.
MAXEXTIFACEIN	IFACENAME	7	ALN	20	0	1	1	MAXIFACE.IFACENAME
MAXEXTIFACEIN	MAXEXTIFACEINID	8	INTEGER	12	0	1	1	.
MAXEXTIFACEOUT	EXTSYSNAME	1	ALN	20	0	1	1	MAXEXTSYSTEM.EXTSYSNAME
MAXEXTIFACEOUT	ENABLED	2	YORN	1	0	1	1	.
MAXEXTIFACEOUT	CHANGEBY	3	UPPER	30	0	1	0	PERSON.PERSONID
MAXEXTIFACEOUT	CHANGEDATE	4	DATETIME	10	0	1	1	.
MAXEXTIFACEOUT	IFACENAME	6	ALN	20	0	1	1	MAXIFACE.IFACENAME
MAXEXTIFACEOUT	MAXEXTIFACEOUTID	7	INTEGER	12	0	1	1	.
MAXEXTLISTVAL	EXTSYSNAME	1	ALN	20	0	1	1	MAXEXTSYSTEM.EXTSYSNAME
MAXEXTLISTVAL	IFACECONTROL	2	UPPER	20	0	1	1	MAXIFACECONTROL.IFACECONTROL
MAXEXTLISTVAL	VALUE	3	ALN	100	0	1	1	MAXIFACECONTROL.VALUE
MAXEXTLISTVAL	CHANGEBY	4	UPPER	30	0	1	0	PERSON.PERSONID
MAXEXTLISTVAL	CHANGEDATE	5	DATETIME	10	0	1	1	.
MAXEXTLISTVAL	MAXEXTLISTVALID	6	INTEGER	12	0	1	1	.
MAXEXTOVER	EXTSYSNAME	1	ALN	20	0	1	1	MAXEXTSYSTEM.EXTSYSNAME
MAXEXTOVER	IFACECONTROL	2	UPPER	20	0	1	1	MAXIFACECONTROL.IFACECONTROL
MAXEXTOVER	ORGID	3	UPPER	8	0	0	0	ORGANIZATION.ORGID
MAXEXTOVER	SITEID	4	UPPER	8	0	0	0	SITE.SITEID
MAXEXTOVER	CHANGEBY	5	UPPER	30	0	1	0	PERSON.PERSONID
MAXEXTOVER	CHANGEDATE	6	DATETIME	10	0	1	1	.
MAXEXTOVER	MAXEXTOVERID	7	INTEGER	12	0	1	1	.
MAXEXTSYSCONTROL	IFACECONTROL	1	UPPER	20	0	1	1	MAXIFACECONTROL.IFACECONTROL
MAXEXTSYSCONTROL	EXTSYSNAME	2	ALN	20	0	1	1	MAXEXTSYSTEM.EXTSYSNAME
MAXEXTSYSCONTROL	CHANGEBY	3	UPPER	30	0	1	0	PERSON.PERSONID
MAXEXTSYSCONTROL	CHANGEDATE	4	DATETIME	10	0	1	1	.
MAXEXTSYSCONTROL	VALUE	5	ALN	100	0	0	1	.
MAXEXTSYSCONTROL	ISTRUE	6	YORN	1	0	1	1	.
MAXEXTSYSCONTROL	CONTROLTYPE	13	ALN	20	0	1	1	MAXIFACECONTROL.CONTROLTYPE
MAXEXTSYSCONTROL	MAXEXTSYSCONTROLID	14	INTEGER	12	0	1	1	.
MAXEXTSYSTEM	EXTSYSNAME	1	ALN	20	0	1	1	.
MAXEXTSYSTEM	DESCRIPTION	2	ALN	100	0	0	1	.
MAXEXTSYSTEM	ENABLED	3	YORN	1	0	1	1	.
MAXEXTSYSTEM	INSEQQUEUEENAME	4	ALN	50	0	0	1	MAXQUEUE.QUEUEENAME
MAXEXTSYSTEM	INCONTQUEUEENAME	5	ALN	50	0	0	1	MAXQUEUE.QUEUEENAME
MAXEXTSYSTEM	OUTSEQQUEUEENAME	6	ALN	50	0	0	1	MAXQUEUE.QUEUEENAME

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
MAXEXTSYSTEM	CHANGEBY	7	UPPER	30	0	1	0	PERSON.PERSONID
MAXEXTSYSTEM	CHANGEDATE	8	DATETIME	10	0	1	1	.
MAXEXTSYSTEM	IFACETYPE	10	UPPER	10	0	1	1	MAXIFACETYPE.IFACETYPE
MAXEXTSYSTEM	MAXEXTSYSTEMID	11	INTEGER	12	0	1	1	.
MAXEXTSYSTEM	ENDPOINTNAME	12	UPPER	20	0	0	1	MAXENDPOINT.ENDPOINTNAME
MAXEXTSYSTEM	LANGCODE	13	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
MAXEXTSYSTEM	HASLD	14	YORN	1	0	1	1	.
MAXEXTXREFVAL	EXTSYSNAME	1	ALN	20	0	1	1	MAXEXTSYSTEM.EXTSYSNAME
MAXEXTXREFVAL	IFACECONTROL	2	UPPER	20	0	1	1	MAXIFACECONTROL.IFACECONTROL
MAXEXTXREFVAL	VALUE	3	ALN	100	0	0	1	MAXIFACECONTROL.VALUE
MAXEXTXREFVAL	NEWVALUE	4	ALN	100	0	0	1	MAXIFACECONTROL.VALUE
MAXEXTXREFVAL	CHANGEBY	5	UPPER	30	0	1	0	PERSON.PERSONID
MAXEXTXREFVAL	CHANGEDATE	6	DATETIME	10	0	1	1	.
MAXEXTXREFVAL	MAXEXTXREFVALID	7	INTEGER	12	0	1	1	.
MAXGROUP	MAXGROUPID	1	INTEGER	12	0	1	1	.
MAXGROUP	GROUPNAME	2	UPPER	30	0	1	1	.
MAXGROUP	DESCRIPTION	3	ALN	100	0	0	0	.
MAXGROUP	PASSWORDDURATION	4	INTEGER	12	0	0	1	.
MAXGROUP	PASSWORDWARNING	5	INTEGER	12	0	0	0	.
MAXGROUP	INDEPENDENT	6	YORN	1	0	1	1	.
MAXGROUP	AUTHALLSITES	7	YORN	1	0	1	1	.
MAXGROUP	AUTHALLGLS	8	YORN	1	0	1	1	.
MAXGROUP	AUTHALLSTOREROOMS	9	YORN	1	0	1	1	.
MAXGROUP	AUTHLABORALL	10	YORN	1	0	1	1	.
MAXGROUP	AUTHLABORCREW	11	YORN	1	0	1	1	.
MAXGROUP	AUTHLABORSELF	12	YORN	1	0	1	1	.
MAXGROUP	AUTHLABORSUPER	13	YORN	1	0	1	1	.
MAXGROUP	LOWERINVOICEAMT	14	AMOUNT	10	2	0	0	.
MAXGROUP	LOWERINVOICEPCT	15	DECIMAL	10	4	0	0	.
MAXGROUP	LOWERSERVICEAMT	16	AMOUNT	10	2	0	0	.
MAXGROUP	LOWERSERVICEPCT	17	DECIMAL	10	4	0	0	.
MAXGROUP	LOWERTAXAMT	18	AMOUNT	10	2	0	0	.
MAXGROUP	LOWERTAXPCT	19	DECIMAL	10	4	0	0	.
MAXGROUP	UPPERINVOICEAMT	20	AMOUNT	10	2	0	0	.
MAXGROUP	UPPERINVOICEPCT	21	DECIMAL	10	4	0	0	.
MAXGROUP	UPPERSERVICEAMT	22	AMOUNT	10	2	0	0	.
MAXGROUP	UPPERSERVICEPCT	23	DECIMAL	10	4	0	0	.
MAXGROUP	UPPERTAXAMT	24	AMOUNT	10	2	0	0	.
MAXGROUP	UPPERTAXPCT	25	DECIMAL	10	4	0	0	.
MAXGROUP	INVOICELIMIT	26	DECIMAL	8	0	0	0	.
MAXGROUP	MRLIMIT	27	DECIMAL	8	0	0	0	.
MAXGROUP	POLIMIT	28	DECIMAL	8	0	0	0	.
MAXGROUP	PRLIMIT	29	DECIMAL	8	0	0	0	.
MAXGROUP	CONTRACTLIMIT	30	DECIMAL	8	0	0	0	.
MAXGROUP	LANGCODE	32	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
MAXGROUP	SCTEMPLATEID	33	INTEGER	12	0	0	1	SCTEMPLATE.SCTEMPLATEID

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
MAXGROUP	AUTHPERSONGROUP	34	YORN	1	0	1	1	.
MAXGROUP	LIMITORGID	35	UPPER	8	0	0	0	ORGANIZATION.ORGID
MAXGROUP	HASLD	36	YORN	1	0	1	1	.
MAXHANDLER	HANDLERNAME	1	UPPER	20	0	1	1	.
MAXHANDLER	HANDLERCLASSNAME	2	ALN	80	0	1	0	MAXOBJECT.CLASSNAME
MAXHANDLER	CHANGEBY	3	UPPER	30	0	1	0	PERSON.PERSONID
MAXHANDLER	CHANGEDATE	4	DATETIME	10	0	1	1	.
MAXHANDLER	USERDEFINED	5	YORN	1	0	1	1	.
MAXHANDLER	MAXHANDLERID	6	INTEGER	12	0	1	1	.
MAXIFACE	IFACENAME	1	ALN	20	0	1	1	.
MAXIFACE	IFACETYPE	2	UPPER	10	0	1	1	MAXIFACETYPE.IFACETYPE
MAXIFACE	DESCRIPTION	3	ALN	100	0	0	1	.
MAXIFACE	MESSAGETYPE	4	ALN	25	0	1	1	.
MAXIFACE	ISWSDEPLOYED	5	YORN	1	0	1	1	.
MAXIFACE	USERDEFINED	6	YORN	1	0	1	1	.
MAXIFACE	CHANGEBY	7	UPPER	30	0	1	0	PERSON.PERSONID
MAXIFACE	CHANGEDATE	8	DATETIME	10	0	1	1	.
MAXIFACE	REPLYIFACENAME	11	ALN	30	0	0	0	.
MAXIFACE	IFACETBNAME	12	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
MAXIFACE	INTOBJECTNAME	13	UPPER	20	0	0	1	MAXINTOBJECT.INTOBJECTNAME
MAXIFACE	MAXIFACEID	16	INTEGER	12	0	1	1	.
MAXIFACE	LANGCODE	20	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
MAXIFACE	HASLD	21	YORN	1	0	1	1	.
MAXIFACECOND	CONDITION	1	INTEGER	12	0	1	1	.
MAXIFACECOND	CHANGEBY	2	UPPER	30	0	1	0	PERSON.PERSONID
MAXIFACECOND	CHANGEDATE	3	DATETIME	10	0	1	1	.
MAXIFACECOND	PROCNAME	7	UPPER	20	0	1	1	MAXIFACEPROC.PROCNAME
MAXIFACECOND	IFACENAME	8	ALN	20	0	1	1	MAXIFACE.IFACENAME
MAXIFACECOND	IFACETYPE	9	UPPER	10	0	1	1	MAXIFACETYPE.IFACETYPE
MAXIFACECOND	MAXIFACECONDID	12	INTEGER	12	0	1	1	.
MAXIFACECONTROL	IFACECONTROL	1	UPPER	20	0	1	1	.
MAXIFACECONTROL	DESCRIPTION	2	ALN	100	0	0	1	.
MAXIFACECONTROL	CONTROLTYPE	3	ALN	20	0	1	1	.
MAXIFACECONTROL	VALUE	4	ALN	100	0	0	1	.
MAXIFACECONTROL	USERDEFINED	5	YORN	1	0	1	1	.
MAXIFACECONTROL	CHANGEBY	6	UPPER	30	0	1	0	PERSON.PERSONID
MAXIFACECONTROL	CHANGEDATE	7	DATETIME	10	0	1	1	.
MAXIFACECONTROL	ORGOVERRIDE	9	YORN	1	0	1	1	.
MAXIFACECONTROL	SITEOVERRIDE	10	YORN	1	0	1	1	.
MAXIFACECONTROL	USESISTEMVALUE	11	YORN	1	0	1	1	.
MAXIFACECONTROL	ISTRUE	12	YORN	1	0	1	1	.
MAXIFACECONTROL	DOMAINID	13	UPPER	18	0	0	1	MAXDOMAIN.DOMAINID
MAXIFACECONTROL	IFACETYPE	14	UPPER	10	0	1	1	MAXIFACETYPE.IFACETYPE
MAXIFACECONTROL	MAXIFACECONTROLID	15	INTEGER	12	0	1	1	.
MAXIFACECONTROL	LANGCODE	16	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
MAXIFACECONTROL	HASLD	17	YORN	1	0	1	1	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
MAXIFACEIN	IFACEMAPORDER	1	INTEGER	12	0	0	1	.
MAXIFACEIN	CHANGEGBY	2	UPPER	30	0	1	0	PERSON.PERSONID
MAXIFACEIN	CHANGEDATE	3	DATETIME	10	0	1	1	.
MAXIFACEIN	USERDEFINED	4	YORN	1	0	1	1	.
MAXIFACEIN	IFACENAME	7	ALN	20	0	1	1	MAXIFACE.IFACENAME
MAXIFACEIN	IFACETYPE	8	UPPER	10	0	1	1	MAXIFACETYPE.IFACETYPE
MAXIFACEIN	INTPOINTNAME	9	UPPER	20	0	1	1	MAXINTPOINT.INTPOINTNAME
MAXIFACEIN	IFACEEXITCLASS	10	ALN	80	0	0	0	MAXOBJECT.CLASSNAME
MAXIFACEIN	IFACEUSEREXITCLASS	11	ALN	80	0	0	0	MAXOBJECT.CLASSNAME
MAXIFACEIN	IFACEMAPNAME	12	ALN	80	0	0	1	.
MAXIFACEIN	IFACECONTROL	14	UPPER	20	0	0	1	MAXIFACECONTROL.IFACECONTROL
MAXIFACEIN	MAXIFACEINID	15	INTEGER	12	0	1	1	.
MAXIFACEOUT	CHANGEGBY	1	UPPER	30	0	1	0	PERSON.PERSONID
MAXIFACEOUT	CHANGEDATE	2	DATETIME	10	0	1	1	.
MAXIFACEOUT	USERDEFINED	3	YORN	1	0	1	1	.
MAXIFACEOUT	IFACENAME	6	ALN	25	0	1	0	.
MAXIFACEOUT	IFACETYPE	7	UPPER	10	0	1	1	MAXIFACETYPE.IFACETYPE
MAXIFACEOUT	INTPOINTNAME	9	UPPER	20	0	1	1	MAXINTPOINT.INTPOINTNAME
MAXIFACEOUT	IFACEEXITCLASS	10	ALN	80	0	0	0	MAXOBJECT.CLASSNAME
MAXIFACEOUT	IFACEUSEREXITCLASS	11	ALN	80	0	0	0	MAXOBJECT.CLASSNAME
MAXIFACEOUT	IFACEMAPNAME	12	ALN	80	0	0	0	.
MAXIFACEOUT	MAXIFACEOUTID	13	INTEGER	12	0	1	1	.
MAXIFACEPROC	PROCNAME	1	UPPER	20	0	1	1	.
MAXIFACEPROC	DESCRIPTION	2	ALN	100	0	0	1	.
MAXIFACEPROC	PROCTYPE	3	ALN	25	0	1	1	.
MAXIFACEPROC	CLASSNAME	4	ALN	80	0	0	0	MAXOBJECT.CLASSNAME
MAXIFACEPROC	ISINBOUND	5	YORN	1	0	1	1	.
MAXIFACEPROC	APPLYONUPDATE	6	YORN	1	0	1	1	.
MAXIFACEPROC	APPLYONINSERT	7	YORN	1	0	1	1	.
MAXIFACEPROC	APPLYONDELETE	8	YORN	1	0	1	1	.
MAXIFACEPROC	ENABLED	9	YORN	1	0	1	1	.
MAXIFACEPROC	PROCSEQUENCE	10	INTEGER	12	0	1	1	.
MAXIFACEPROC	CHANGEGBY	11	UPPER	30	0	1	0	PERSON.PERSONID
MAXIFACEPROC	CHANGEDATE	12	DATETIME	10	0	1	1	.
MAXIFACEPROC	USERDEFINED	13	YORN	1	0	1	1	.
MAXIFACEPROC	INTPOINTNAME	15	UPPER	20	0	1	1	MAXINTPOINT.INTPOINTNAME
MAXIFACEPROC	IFACENAME	16	ALN	20	0	1	1	MAXIFACE.IFACENAME
MAXIFACEPROC	OBJECTNAME	17	UPPER	18	0	1	1	MAXOBJECT.OBJECTNAME
MAXIFACEPROC	CHILDSEQUENCE	18	INTEGER	12	0	0	1	.
MAXIFACEPROC	PROCMESSAGE	19	ALN	40	0	0	0	MAXMESSAGES.MSGKEY
MAXIFACEPROC	IFACETYPE	20	UPPER	10	0	1	1	MAXIFACETYPE.IFACETYPE
MAXIFACEPROC	ISOBJECTPROC	21	YORN	1	0	1	1	.
MAXIFACEPROC	PARENTPROCNAME	22	UPPER	20	0	0	1	MAXIFACEPROC.PROCNAME
MAXIFACEPROC	ISPARENTAPPLIED	23	YORN	1	0	1	1	.
MAXIFACEPROC	MAXIFACEPROCID	25	INTEGER	12	0	1	1	.
MAXIFACEPROC	LANGCODE	26	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
MAXIFACEPROC	HASLD	28	YORN	1	0	1	1	.
MAXIFACETYPE	IFACETYPE	1	UPPER	10	0	1	1	.
MAXIFACETYPE	DESCRIPTION	2	ALN	100	0	0	1	.
MAXIFACETYPE	CHANGEBY	3	UPPER	30	0	1	0	PERSON.PERSONID
MAXIFACETYPE	CHANGEDATE	4	DATETIME	10	0	1	1	.
MAXIFACETYPE	USERDEFINED	5	YORN	1	0	1	1	.
MAXIFACETYPE	MAXIFACETYPEID	7	INTEGER	12	0	1	1	.
MAXIFACETYPE	ISINTERNAL	8	YORN	1	0	1	1	.
MAXIFACETYPE	LANGCODE	9	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
MAXIFACETYPE	INTERPRETERCLASS	10	ALN	80	0	0	0	MAXOBJECT.CLASSNAME
MAXIFACETYPE	EXPORTALLOWED	11	YORN	1	0	1	1	.
MAXIFACETYPE	HASLD	12	YORN	1	0	1	1	.
MAXIFACETYPE	VERSION	13	DECIMAL	5	0	0	0	.
MAXIFACETYPE	VERSIONCLASS	14	ALN	100	0	0	0	.
MAXIFACETYPEPROP	MAXIFACETYPEPROPID	1	INTEGER	12	0	1	1	.
MAXIFACETYPEPROP	IFACETYPE	2	UPPER	10	0	1	1	MAXIFACETYPE.IFACETYPE
MAXIFACETYPEPROP	PARAM	3	ALN	40	0	1	1	.
MAXIFACETYPEPROP	ISXMLTAG	4	YORN	1	0	1	1	.
MAXIFACETYPEPROP	VALUE	5	ALN	150	0	0	1	.
MAXINTMSGTYPE	MAXINTMSGTYPEID	1	INTEGER	12	0	1	1	.
MAXINTMSGTYPE	MESSAGETYPE	2	ALN	25	0	1	1	.
MAXINTOBJCOLS	INTOBJECTNAME	1	UPPER	20	0	1	1	MAXINTOBJECT.INTOBJECTNAME
MAXINTOBJCOLS	OBJECTNAME	2	UPPER	18	0	1	1	MAXOBJECT.OBJECTNAME
MAXINTOBJCOLS	NAME	3	UPPER	50	0	1	0	MAXATTRIBUTE.ATTRIBUTENAME
MAXINTOBJCOLS	INTOBJFLDTYPE	4	ALN	15	0	1	1	.
MAXINTOBJCOLS	CHANGEBY	5	UPPER	30	0	1	0	PERSON.PERSONID
MAXINTOBJCOLS	CHANGEDATE	6	DATETIME	10	0	1	1	.
MAXINTOBJCOLS	MAXINTOBJCOLSID	7	INTEGER	12	0	1	1	.
MAXINTOBJDETAIL	INTOBJECTNAME	1	UPPER	20	0	1	1	MAXINTOBJECT.INTOBJECTNAME
MAXINTOBJDETAIL	OBJECTNAME	2	UPPER	18	0	1	1	MAXOBJECT.OBJECTNAME
MAXINTOBJDETAIL	PARENTOBJNAME	3	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
MAXINTOBJDETAIL	RELATION	4	UPPER	50	0	0	0	MAXATTRIBUTE.ATTRIBUTENAME
MAXINTOBJDETAIL	OBJECTORDER	5	INTEGER	12	0	1	1	.
MAXINTOBJDETAIL	PROCESSORDER	6	INTEGER	12	0	1	1	.
MAXINTOBJDETAIL	USERDEFINED	8	YORN	1	0	1	1	.
MAXINTOBJDETAIL	CHANGEBY	9	UPPER	30	0	1	0	PERSON.PERSONID
MAXINTOBJDETAIL	ALTKEY	10	UPPER	18	0	0	1	MAXSYSINDEXES.NAME
MAXINTOBJDETAIL	CHANGEDATE	11	DATETIME	10	0	1	1	.
MAXINTOBJDETAIL	MAXINTOBJDETAILID	15	INTEGER	12	0	1	1	.
MAXINTOBJECT	INTOBJECTNAME	1	UPPER	20	0	1	1	.
MAXINTOBJECT	DESCRIPTION	2	ALN	100	0	0	1	.
MAXINTOBJECT	ISMERGE	3	YORN	1	0	1	1	.
MAXINTOBJECT	SELFREFERENCING	4	YORN	1	0	1	1	.
MAXINTOBJECT	USERDEFINED	5	YORN	1	0	1	1	.
MAXINTOBJECT	CHANGEBY	6	UPPER	30	0	1	0	PERSON.PERSONID
MAXINTOBJECT	CHANGEDATE	7	DATETIME	10	0	1	1	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
MAXINTOBJECT	MAXINTOBJECTID	9	INTEGER	12	0	1	1	.
MAXINTOBJECT	LANGCODE	13	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
MAXINTOBJECT	HASLD	14	YORN	1	0	1	1	.
MAXINTPOINT	INTPOINTNAME	1	UPPER	20	0	1	1	.
MAXINTPOINT	INTOBJECTNAME	2	UPPER	20	0	1	1	MAXINTOBJECT.INTOBJECTNAME
MAXINTPOINT	DESCRIPTION	3	ALN	100	0	0	0	.
MAXINTPOINT	ISINBOUND	5	YORN	1	0	1	1	.
MAXINTPOINT	MESSAGETYPE	6	ALN	25	0	1	1	.
MAXINTPOINT	UPDATESONLY	7	YORN	1	0	1	1	.
MAXINTPOINT	LISTENER	8	YORN	1	0	1	1	.
MAXINTPOINT	USERDEFINED	9	YORN	1	0	1	1	.
MAXINTPOINT	CHANGEBY	10	UPPER	30	0	1	0	PERSON.PERSONID
MAXINTPOINT	INTPOINTCLASS	11	ALN	80	0	0	0	MAXOBJECT.CLASSNAME
MAXINTPOINT	CHANGEDATE	12	DATETIME	10	0	1	1	.
MAXINTPOINT	MAXINTPOINTID	13	INTEGER	12	0	1	1	.
MAXINTPOINT	LANGCODE	14	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
MAXINTPOINT	HASLD	15	YORN	1	0	1	1	.
MAXINTWSPROPS	PROPERTY	1	ALN	30	0	1	1	.
MAXINTWSPROPS	MAXINTWSPROPSID	2	INTEGER	12	0	1	1	.
MAXINTWSPROPS	DESCRIPTION	3	ALN	100	0	0	0	.
MAXINTWSPROPS	ISPROPSECURE	4	YORN	1	0	1	1	.
MAXINTWSPROPS	VALUE	5	ALN	200	0	0	1	.
MAXINTWSPROPS	SECUREVALUE	6	CRYPTO	2000	0	0	1	.
MAXINTWSPROPS	CHANGEBY	7	UPPER	30	0	1	0	PERSON.PERSONID
MAXINTWSPROPS	CHANGEDATE	8	DATETIME	10	0	1	1	.
MAXLABELS	APP	1	UPPER	10	0	1	1	MAXAPPS.APP
MAXLABELS	ID	2	ALN	128	0	1	0	.
MAXLABELS	PROPERTY	3	LOWER	24	0	1	0	.
MAXLABELS	VALUE	4	ALN	4000	0	1	0	.
MAXLABELS	MAXLABELSID	5	INTEGER	12	0	1	1	.
MAXLISTOVERRIDE	EXTSYSNAME	1	ALN	20	0	1	1	MAXEXTSYSTEM.EXTSYSNAME
MAXLISTOVERRIDE	IFACECONTROL	2	UPPER	20	0	1	1	MAXIFACECONTROL.IFACECONTROL
MAXLISTOVERRIDE	ORGID	3	UPPER	8	0	0	0	ORGANIZATION.ORGID
MAXLISTOVERRIDE	SITEID	4	UPPER	8	0	0	0	SITE.SITEID
MAXLISTOVERRIDE	VALUE	5	ALN	100	0	1	1	MAXIFACECONTROL.VALUE
MAXLISTOVERRIDE	CHANGEDATE	6	DATETIME	10	0	1	1	.
MAXLISTOVERRIDE	CHANGEBY	7	UPPER	30	0	1	0	PERSON.PERSONID
MAXLISTOVERRIDE	MAXLISTOVERRIDEVALID	8	INTEGER	12	0	1	1	.
MAXLOOKUPMAP	TARGET	1	UPPER	18	0	1	1	MAXOBJECT.OBJECTNAME
MAXLOOKUPMAP	LOOKUPATTR	2	UPPER	50	0	1	0	MAXATTRIBUTE.ATTRIBUTENAME
MAXLOOKUPMAP	TARGETATTR	3	UPPER	50	0	1	0	MAXATTRIBUTE.ATTRIBUTENAME
MAXLOOKUPMAP	SOURCEKEY	4	UPPER	50	0	1	0	MAXATTRIBUTE.ATTRIBUTENAME
MAXLOOKUPMAP	SEQNUM	5	SMALLINT	10	0	1	1	.
MAXLOOKUPMAP	ALLOWNULL	6	YORN	1	0	1	0	.
MAXLOOKUPMAP	MAXLOOKUPMAPID	7	INTEGER	12	0	1	1	.
MAXLOOKUPMAP	SOURCE	8	UPPER	18	0	1	1	MAXOBJECT.OBJECTNAME

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
MAXMENU	MENUTYPE	1	UPPER	10	0	1	1	.
MAXMENU	MODULEAPP	2	UPPER	10	0	1	1	MAXAPPS.APP
MAXMENU	POSITION	3	INTEGER	12	0	1	1	.
MAXMENU	SUBPOSITION	4	INTEGER	12	0	1	0	.
MAXMENU	ELEMENTTYPE	5	UPPER	6	0	1	1	.
MAXMENU	KEYVALUE	6	UPPER	10	0	0	1	MAXAPPS.APP
MAXMENU	HEADERDESCRIPTION	7	ALN	50	0	0	0	.
MAXMENU	URL	8	ALN	250	0	0	1	DOCINFO.URLNAME
MAXMENU	VISIBLE	9	YORN	1	0	1	1	.
MAXMENU	IMAGE	10	ALN	50	0	0	0	.
MAXMENU	ACCESSKEY	11	ALN	30	0	0	0	.
MAXMENU	TABDISPLAY	12	UPPER	10	0	0	0	.
MAXMENU	MAXMENUID	13	INTEGER	12	0	1	1	.
MAXMESSAGES	MSGKEY	1	ALN	40	0	1	0	.
MAXMESSAGES	MSGGROUP	2	ALN	25	0	1	0	.
MAXMESSAGES	LOCALE	3	ALN	7	0	1	0	.
MAXMESSAGES	VALUE	4	ALN	500	0	1	0	.
MAXMESSAGES	TITLE	5	ALN	100	0	0	0	.
MAXMESSAGES	DISPLAYMETHOD	6	UPPER	10	0	1	0	.
MAXMESSAGES	OPTIONS	7	INTEGER	12	0	1	0	.
MAXMESSAGES	BUTTONTEXT	8	ALN	100	0	0	0	.
MAXMESSAGES	MAXMESSAGESID	9	INTEGER	12	0	1	1	.
MAXMODULES	MODULE	1	UPPER	10	0	1	1	.
MAXMODULES	DESCRIPTION	2	ALN	100	0	1	1	.
MAXMODULES	MAXMODULESID	3	INTEGER	12	0	1	1	.
MAXOBJECT	OBJECTNAME	1	UPPER	18	0	1	1	.
MAXOBJECT	CLASSNAME	2	ALN	80	0	0	0	.
MAXOBJECT	DESCRIPTION	3	ALN	100	0	1	0	.
MAXOBJECT	EAUDITENABLED	4	YORN	1	0	1	1	.
MAXOBJECT	EAUDITFILTER	5	ALN	254	0	0	0	.
MAXOBJECT	ENTITYNAME	6	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
MAXOBJECT	ESIGFILTER	7	ALN	254	0	0	0	.
MAXOBJECT	EXTENDSOBJECT	8	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
MAXOBJECT	IMPORTED	9	YORN	1	0	1	1	.
MAXOBJECT	ISVIEW	10	YORN	1	0	1	0	.
MAXOBJECT	PERSISTENT	11	YORN	1	0	1	0	.
MAXOBJECT	SERVICENAME	12	UPPER	18	0	1	0	MAXSERVICE.SERVICENAME
MAXOBJECT	SITEORGTTYPE	13	UPPER	18	0	1	1	.
MAXOBJECT	USERDEFINED	14	YORN	1	0	1	0	.
MAXOBJECT	MAINOBJECT	15	YORN	1	0	1	1	.
MAXOBJECT	INTERNAL	16	YORN	1	0	1	1	.
MAXOBJECT	MAXOBJECTID	17	INTEGER	12	0	1	1	.
MAXOBJECTCFG	OBJECTNAME	1	UPPER	18	0	1	1	MAXOBJECT.OBJECTNAME
MAXOBJECTCFG	CLASSNAME	2	ALN	80	0	0	0	MAXOBJECT.CLASSNAME
MAXOBJECTCFG	DESCRIPTION	3	ALN	100	0	1	0	MAXOBJECT.DESCRPTION
MAXOBJECTCFG	EAUDITENABLED	4	YORN	1	0	1	1	MAXOBJECT.EAUDITENABLED

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
MAXOBJECTCFG	EAUDITFILTER	5	ALN	254	0	0	0	MAXOBJECT.EAUDITFILTER
MAXOBJECTCFG	ENTITYNAME	6	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
MAXOBJECTCFG	ESIGFILTER	7	ALN	254	0	0	0	MAXOBJECT.ESIGFILTER
MAXOBJECTCFG	EXTENDSOBJECT	8	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
MAXOBJECTCFG	IMPORTED	9	YORN	1	0	1	1	.
MAXOBJECTCFG	ISVIEW	10	YORN	1	0	1	0	MAXOBJECT.ISVIEW
MAXOBJECTCFG	PERSISTENT	11	YORN	1	0	1	0	MAXOBJECT.PERSISTENT
MAXOBJECTCFG	SERVICENAME	12	UPPER	18	0	1	0	MAXSERVICE.SERVICENAME
MAXOBJECTCFG	SITEORGTTYPE	13	UPPER	18	0	1	1	MAXOBJECT.SITEORGTTYPE
MAXOBJECTCFG	USERDEFINED	14	YORN	1	0	1	0	MAXOBJECT.USERDEFINED
MAXOBJECTCFG	CHANGED	15	ALN	1	0	1	1	.
MAXOBJECTCFG	MAINOBJECT	16	YORN	1	0	1	1	MAXOBJECT.MAINOBJECT
MAXOBJECTCFG	INTERNAL	20	YORN	1	0	1	1	MAXOBJECT.INTERNAL
MAXOBJECTCFG	MAXOBJECTID	33	INTEGER	12	0	1	1	.
MAXPRESENTATION	APP	1	UPPER	10	0	1	1	MAXAPPS.APP
MAXPRESENTATION	PRESENTATION	2	CLOB	99999	0	1	0	.
MAXPRESENTATION	MAXPRESENTATIONID	3	INTEGER	12	0	1	1	.
MAXPROCCOLS	FIELDNAME	1	UPPER	50	0	1	0	MAXATTRIBUTE.ATTRIBUTENAME
MAXPROCCOLS	IFACECONTROL	2	UPPER	20	0	0	1	MAXIFACECONTROL.IFACECONTROL
MAXPROCCOLS	CHANGEBY	3	UPPER	30	0	1	0	PERSON.PERSONID
MAXPROCCOLS	CHANGEDATE	4	DATETIME	10	0	1	1	.
MAXPROCCOLS	PROCNAME	5	UPPER	20	0	0	1	MAXIFACEPROC.PROCNAME
MAXPROCCOLS	IFACENAME	6	ALN	20	0	1	1	MAXIFACE.IFACENAME
MAXPROCCOLS	IFACETYPE	7	UPPER	10	0	1	1	MAXIFACETYPE.IFACETYPE
MAXPROCCOLS	MAXPROCCOLSID	9	INTEGER	12	0	1	1	.
MAXQUEUE	QUEUENAME	1	ALN	50	0	1	1	.
MAXQUEUE	QCONFACJNDINAME	2	ALN	50	0	1	1	.
MAXQUEUE	INCONFATORY	3	ALN	80	0	0	1	.
MAXQUEUE	PROVIDERURL	4	ALN	80	0	0	1	.
MAXQUEUE	ISSEQUENTIAL	5	YORN	1	0	1	1	.
MAXQUEUE	ISINBOUND	6	YORN	1	0	1	1	.
MAXQUEUE	EMAILADDR	7	ALN	80	0	0	1	.
MAXQUEUE	USERDEFINED	8	YORN	1	0	1	1	.
MAXQUEUE	CHANGEBY	9	UPPER	30	0	1	0	PERSON.PERSONID
MAXQUEUE	CHANGEDATE	10	DATETIME	10	0	1	1	.
MAXQUEUE	MAXTRYCOUNT	11	INTEGER	12	0	1	1	.
MAXQUEUE	MAXQUEUEID	12	INTEGER	12	0	1	1	.
MAXQUEUE	USERID	13	ALN	18	0	0	1	.
MAXQUEUE	PASSWORD	14	CRYPTO	2000	0	0	1	.
MAXRELATIONSHIP	NAME	1	UPPER	50	0	1	0	MAXATTRIBUTE.ATTRIBUTENAME
MAXRELATIONSHIP	PARENT	2	UPPER	18	0	1	1	MAXOBJECT.OBJECTNAME
MAXRELATIONSHIP	CHILD	3	UPPER	18	0	1	1	MAXOBJECT.OBJECTNAME
MAXRELATIONSHIP	WHERECLAUSE	4	ALN	4000	0	0	1	QUERY.CLAUSE
MAXRELATIONSHIP	REMARKS	5	ALN	4000	0	0	0	.
MAXRELATIONSHIP	MAXRELATIONSHIPID	6	INTEGER	12	0	1	1	.
MAXREPLACEPROC	VALUE	1	ALN	25	0	0	1	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
MAXREPLACEPROC	RELATION	2	UPPER	50	0	0	0	MAXATTRIBUTE.ATTRIBUTENAME
MAXREPLACEPROC	FIELDNAME	3	UPPER	50	0	1	0	MAXATTRIBUTE.ATTRIBUTENAME
MAXREPLACEPROC	REPLACENULL	4	YORN	1	0	1	1	.
MAXREPLACEPROC	VALUETYPE	5	ALN	25	0	1	1	SYNONYMDOMAIN.VALUE
MAXREPLACEPROC	CHANGEBY	6	UPPER	30	0	1	0	PERSON.PERSONID
MAXREPLACEPROC	CHANGEDATE	7	DATETIME	10	0	1	1	.
MAXREPLACEPROC	PROCNAME	13	UPPER	20	0	1	1	MAXIFACEPROC.PROCNAME
MAXREPLACEPROC	IFACENAME	14	ALN	20	0	1	1	MAXIFACE.IFACENAME
MAXREPLACEPROC	IFACETYPE	15	UPPER	10	0	1	1	MAXIFACETYPE.IFACETYPE
MAXREPLACEPROC	MBOBJECT	16	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
MAXREPLACEPROC	MAXREPLACEPROCID	17	INTEGER	12	0	1	1	.
MAXROLE	MAXROLE	1	UPPER	10	0	1	0	.
MAXROLE	DESCRIPTION	2	ALN	100	0	0	0	.
MAXROLE	PERSONID	3	UPPER	30	0	0	0	PERSON.PERSONID
MAXROLE	PERSONGROUP	4	UPPER	8	0	0	0	PERSONGROUP.PERSONGROUP
MAXROLE	DATASET	5	ALN	254	0	0	0	.
MAXROLE	ISEMAILDATASET	6	YORN	1	0	1	0	.
MAXROLE	CLASSNAME	7	ALN	80	0	0	0	MAXOBJECT.CLASSNAME
MAXROLE	PARAMETER	8	ALN	254	0	0	0	.
MAXROLE	EMAILADDRESS	9	ALN	50	0	0	1	EMAIL.EMAILADDRESS
MAXROLE	ISBROADCAST	10	YORN	1	0	1	0	.
MAXROLE	OBJECTNAME	11	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
MAXROLE	MAXROLEID	12	INTEGER	12	0	1	1	.
MAXROLE	LANGCODE	19	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
MAXROLE	USERDATA	21	ALN	254	0	0	0	.
MAXROLE	HASLD	22	YORN	1	0	1	1	.
MAXROLE	SENDERSYSID	23	ALN	50	0	0	0	.
MAXSEQUENCE	TBNAME	1	UPPER	18	0	1	1	MAXOBJECT.OBJECTNAME
MAXSEQUENCE	NAME	2	UPPER	18	0	1	1	MAXOBJECT.OBJECTNAME
MAXSEQUENCE	MAXRESERVED	3	DECIMAL	15	0	1	1	.
MAXSEQUENCE	MAXVALUE	4	DECIMAL	15	0	0	0	.
MAXSEQUENCE	RANGE	5	DECIMAL	15	0	0	0	.
MAXSEQUENCE	SEQUENCENAME	6	UPPER	21	0	1	0	.
MAXSERVICE	SERVICENAME	1	UPPER	18	0	1	0	.
MAXSERVICE	DESCRIPTION	2	ALN	100	0	0	0	.
MAXSERVICE	CLASSNAME	3	ALN	80	0	1	0	MAXOBJECT.CLASSNAME
MAXSERVICE	MAXSERVICEID	4	INTEGER	12	0	1	1	.
MAXSESSION	MAXSESSIONID	1	INTEGER	12	0	1	1	.
MAXSESSION	SERVERHOST	2	ALN	100	0	1	0	.
MAXSESSION	SERVERNAME	3	ALN	100	0	1	0	.
MAXSESSION	USERID	4	UPPER	30	0	1	0	PERSON.PERSONID
MAXSESSION	DISPLAYNAME	5	ALN	62	0	0	0	PERSON.DISPLAYNAME
MAXSESSION	CLIENTHOST	6	ALN	100	0	1	0	.
MAXSESSION	LOGINDATETIME	7	DATETIME	10	0	1	1	.
MAXSESSION	ISSYSTEM	8	YORN	1	0	1	1	.
MAXSESSION	APPLICATION	9	ALN	30	0	0	0	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
MAXSESSION	RELOADCACHE	10	ALN	1024	0	0	1	.
MAXSESSION	MAXSESSIONUID	11	INTEGER	12	0	1	1	.
MAXSESSION	SERVERTIMESTAMP	12	DATETIME	10	0	0	1	.
MAXSYSINDEXES	NAME	1	UPPER	18	0	1	1	.
MAXSYSINDEXES	TBNAME	2	UPPER	18	0	1	1	MAXOBJECT.OBJECTNAME
MAXSYSINDEXES	UNIQUERULE	3	UPPER	1	0	1	1	.
MAXSYSINDEXES	CHANGED	4	ALN	1	0	0	1	MAXOBJECTCFG.CHANGED
MAXSYSINDEXES	CLUSTERRULE	5	YORN	1	0	1	1	.
MAXSYSINDEXES	STORAGEPARTITION	6	ALN	30	0	0	0	MAXTABLE.STORAGEPARTITION
MAXSYSINDEXES	REQUIRED	9	YORN	1	0	1	1	.
MAXSYSINDEXES	TEXTSEARCH	10	YORN	1	0	1	1	.
MAXSYSKEYS	IXNAME	1	UPPER	18	0	1	1	MAXSYSINDEXES.NAME
MAXSYSKEYS	COLNAME	2	UPPER	18	0	1	1	MAXOBJECT.OBJECTNAME
MAXSYSKEYS	COLSEQ	3	SMALLINT	10	0	1	1	.
MAXSYSKEYS	ORDERING	4	UPPER	1	0	1	1	.
MAXSYSKEYS	CHANGED	5	ALN	1	0	0	1	MAXOBJECTCFG.CHANGED
MAXTABLE	TABLENAME	1	UPPER	18	0	1	1	MAXOBJECT.OBJECTNAME
MAXTABLE	ADDROWSTAMP	2	YORN	1	0	1	0	.
MAXTABLE	EAUDITTBNAME	3	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
MAXTABLE	ISAUDITTABLE	4	YORN	1	0	1	1	.
MAXTABLE	RESTOREDATA	5	UPPER	1	0	1	0	.
MAXTABLE	STORAGEPARTITION	6	ALN	30	0	0	0	.
MAXTABLE	TEXTSEARCHENABLED	7	YORN	1	0	1	1	.
MAXTABLE	LANGTABLENAME	8	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
MAXTABLE	LANGCOLUMNNAME	9	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
MAXTABLE	UNIQUECOLUMNNAME	10	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
MAXTABLE	ISLANGTABLE	11	YORN	1	0	1	1	.
MAXTABLE	MAXTABLEID	12	INTEGER	12	0	1	1	.
MAXTABLECFG	TABLENAME	1	UPPER	18	0	1	1	MAXOBJECT.OBJECTNAME
MAXTABLECFG	ADDROWSTAMP	2	YORN	1	0	1	0	MAXTABLE.ADDROWSTAMP
MAXTABLECFG	EAUDITTBNAME	3	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
MAXTABLECFG	ISAUDITTABLE	4	YORN	1	0	1	1	MAXTABLE.ISAUDITTABLE
MAXTABLECFG	RESTOREDATA	5	UPPER	1	0	1	0	MAXTABLE.RESTOREDATA
MAXTABLECFG	STORAGEPARTITION	6	ALN	30	0	0	0	MAXTABLE.STORAGEPARTITION
MAXTABLECFG	TEXTSEARCHENABLED	7	YORN	1	0	1	1	MAXTABLE.TEXTSEARCHENABLED
MAXTABLECFG	LANGTABLENAME	8	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
MAXTABLECFG	LANGCOLUMNNAME	9	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
MAXTABLECFG	UNIQUECOLUMNNAME	10	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
MAXTABLECFG	ISLANGTABLE	11	YORN	1	0	1	1	.
MAXTABLECFG	MAXTABLEID	12	INTEGER	12	0	1	1	.
MAXTABLEDOMAIN	DOMAINID	1	UPPER	18	0	1	1	MAXDOMAIN.DOMAINID
MAXTABLEDOMAIN	VALIDTNWHERECLAUSE	2	ALN	4000	0	0	1	QUERY.CLAUSE
MAXTABLEDOMAIN	LISTWHERECLAUSE	3	ALN	4000	0	0	1	QUERY.CLAUSE
MAXTABLEDOMAIN	ERRORRESOURCBUNDLE	4	ALN	50	0	0	1	.
MAXTABLEDOMAIN	ERRORACCESSKEY	5	ALN	50	0	0	1	.
MAXTABLEDOMAIN	OBJECTNAME	6	UPPER	18	0	1	1	MAXOBJECT.OBJECTNAME

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
MAXTABLEDOMAIN	SITEID	7	UPPER	8	0	0	0	SITE.SITEID
MAXTABLEDOMAIN	ORGID	8	UPPER	8	0	0	0	ORGANIZATION.ORGID
MAXTABLEDOMAIN	MAXTABLEDOMAINID	9	INTEGER	12	0	1	1	.
MAXTRANSFORMPROC	FIELDNAME	1	UPPER	50	0	1	0	MAXATTRIBUTE.ATTRIBUTENAME
MAXTRANSFORMPROC	TRANSSEQUENCE	2	INTEGER	12	0	1	1	.
MAXTRANSFORMPROC	TRANSFIELDNAME	3	UPPER	50	0	0	0	MAXATTRIBUTE.ATTRIBUTENAME
MAXTRANSFORMPROC	FIELDLENGTH	4	INTEGER	12	0	0	1	.
MAXTRANSFORMPROC	CHANGEBY	5	UPPER	30	0	1	0	PERSON.PERSONID
MAXTRANSFORMPROC	CHANGEDATE	6	DATETIME	10	0	1	1	.
MAXTRANSFORMPROC	PROCNAME	7	UPPER	20	0	1	1	MAXIFACEPROC.PROCNAME
MAXTRANSFORMPROC	IFACENAME	8	ALN	20	0	1	1	MAXIFACE.IFACENAME
MAXTRANSFORMPROC	IFACETYPE	9	UPPER	10	0	1	1	MAXIFACETYPE.IFACETYPE
MAXTRANSFORMPROC	IFACECONTROL	10	UPPER	20	0	0	1	MAXIFACECONTROL.IFACECONTROL
MAXTRANSFORMPROC	COMBINETYPE	11	ALN	25	0	0	0	.
MAXTRANSFORMPROC	MAXTRANSFORMPROCID	12	INTEGER	12	0	1	1	.
MAXUSER	USERID	1	UPPER	30	0	1	0	PERSON.PERSONID
MAXUSER	PERSONID	2	UPPER	30	0	1	0	PERSON.PERSONID
MAXUSER	STATUS	3	UPPER	10	0	1	1	.
MAXUSER	TYPE	4	UPPER	10	0	1	0	.
MAXUSER	DEFSITE	5	UPPER	8	0	0	0	SITE.SITEID
MAXUSER	QUERYWITHSITE	6	YORN	1	0	1	1	.
MAXUSER	DEFSTOREROOM	7	UPPER	12	0	0	0	LOCATIONS.LOCATION
MAXUSER	STOREROOMSITE	8	UPPER	8	0	0	0	SITE.SITEID
MAXUSER	PWHINTQUESTION	9	UPPER	25	0	0	0	.
MAXUSER	PWHINTANSWER	10	CRYPTO	2000	0	0	0	.
MAXUSER	FORCEEXPIRATION	11	YORN	1	0	1	1	.
MAXUSER	PWEXPIRATION	12	DATETIME	10	0	0	0	.
MAXUSER	FAILEDLOGINS	13	INTEGER	12	0	1	1	.
MAXUSER	DATABASEUSERID	14	ALN	18	0	0	0	.
MAXUSER	PASSWORD	15	CRYPTOX	50	0	1	0	.
MAXUSER	LOGINID	18	ALN	50	0	1	0	.
MAXUSER	MAXUSERID	19	INTEGER	12	0	1	1	.
MAXUSER	MEMO	24	ALN	256	0	0	0	.
MAXUSER	SYSUSER	26	YORN	1	0	1	1	.
MAXUSERSTATUS	STATUS	1	UPPER	10	0	1	1	MAXUSER.STATUS
MAXUSERSTATUS	CHANGEDATE	2	DATETIME	10	0	1	1	.
MAXUSERSTATUS	CHANGEBY	3	UPPER	30	0	1	0	PERSON.PERSONID
MAXUSERSTATUS	MEMO	4	ALN	50	0	0	0	WFTRANSACTION.MEMO
MAXUSERSTATUS	USERID	5	UPPER	30	0	1	0	PERSON.PERSONID
MAXUSERSTATUS	MAXUSERSTATUSID	6	INTEGER	12	0	1	1	.
MAXVARS	VARNAME	1	ALN	18	0	1	1	.
MAXVARS	VARVALUE	2	ALN	254	0	0	1	.
MAXVARS	ORGID	3	UPPER	8	0	0	0	ORGANIZATION.ORGID
MAXVARS	SITEID	4	UPPER	8	0	0	0	SITE.SITEID
MAXVARS	MAXVARSID	5	INTEGER	12	0	1	1	.
MAXVARTYPE	VARNAME	1	ALN	18	0	1	1	MAXVARS.VARNAME

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
MAXVARTYPE	VARTYPE	2	ALN	6	0	1	0	.
MAXVARTYPE	DEFAULTVALUE	3	ALN	254	0	0	1	MAXVARS.VARVALUE
MAXVARTYPE	DESCRIPTION	4	ALN	150	0	0	0	.
MAXVARTYPE	MAXVARTYPEID	5	INTEGER	12	0	1	1	.
MAXVIEW	VIEWNAME	1	UPPER	18	0	1	1	MAXOBJECT.OBJECTNAME
MAXVIEW	VIEWSELECT	2	ALN	4000	0	0	0	.
MAXVIEW	VIEWWHERE	3	ALN	4000	0	0	0	.
MAXVIEW	AUTOSELECT	4	YORN	1	0	1	1	.
MAXVIEW	MAXVIEWID	5	INTEGER	12	0	1	1	.
MAXVIEW	VIEWFROM	6	ALN	500	0	0	0	.
MAXVIEWCFG	VIEWNAME	1	UPPER	18	0	1	1	MAXOBJECT.OBJECTNAME
MAXVIEWCFG	VIEWSELECT	2	ALN	4000	0	0	0	MAXVIEW.VIEWSELECT
MAXVIEWCFG	VIEWWHERE	3	ALN	4000	0	0	0	MAXVIEW.VIEWWHERE
MAXVIEWCFG	AUTOSELECT	4	YORN	1	0	1	1	MAXVIEW.AUTOSELECT
MAXVIEWCFG	MAXVIEWID	5	INTEGER	12	0	1	1	.
MAXVIEWCFG	VIEWFROM	6	ALN	500	0	0	0	MAXVIEW.VIEWFROM
MAXVIEWCOLUMN	VIEWNAME	1	UPPER	18	0	1	1	MAXOBJECT.OBJECTNAME
MAXVIEWCOLUMN	VIEWCOLUMNNAME	2	UPPER	18	0	1	1	MAXOBJECT.OBJECTNAME
MAXVIEWCOLUMN	SAMESTORAGEAS	3	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
MAXVIEWCOLUMN	TABLERNAME	4	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
MAXVIEWCOLUMN	TABLECOLUMNNAME	5	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
MAXVIEWCOLUMN	MAXVIEWCOLUMNID	6	INTEGER	12	0	1	1	.
MAXVIEWCOLUMNCFG	VIEWNAME	1	UPPER	18	0	1	1	MAXOBJECT.OBJECTNAME
MAXVIEWCOLUMNCFG	VIEWCOLUMNNAME	2	UPPER	18	0	1	1	MAXOBJECT.OBJECTNAME
MAXVIEWCOLUMNCFG	SAMESTORAGEAS	3	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
MAXVIEWCOLUMNCFG	TABLERNAME	4	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
MAXVIEWCOLUMNCFG	TABLECOLUMNNAME	5	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
MAXVIEWCOLUMNCFG	CHANGED	6	ALN	1	0	1	1	MAXOBJECTCFG.CHANGED
MAXVIEWCOLUMNCFG	MAXVIEWCOLUMNID	8	INTEGER	12	0	1	1	.
MAXXREFOVERVAL	EXTSYSNAME	1	ALN	20	0	1	1	MAXEXTSYSTEM.EXTSYSNAME
MAXXREFOVERVAL	IFACECONTROL	2	UPPER	20	0	1	1	MAXIFACECONTROL.IFACECONTROL
MAXXREFOVERVAL	ORGID	3	UPPER	8	0	0	0	ORGANIZATION.ORGID
MAXXREFOVERVAL	SITEID	4	UPPER	8	0	0	0	SITE.SITEID
MAXXREFOVERVAL	VALUE	5	ALN	100	0	0	1	MAXIFACECONTROL.VALUE
MAXXREFOVERVAL	NEWVALUE	6	ALN	100	0	0	1	MAXIFACECONTROL.VALUE
MAXXREFOVERVAL	CHANGEDATE	7	DATETIME	10	0	1	1	.
MAXXREFOVERVAL	CHANGEBY	8	UPPER	30	0	1	0	PERSON.PERSONID
MAXXREFOVERVAL	MAXXREFOVERVALID	9	INTEGER	12	0	1	1	.
MEASUREMENT	POINTNUM	1	UPPER	8	0	0	0	MEASUREPOINT.POINTNUM
MEASUREMENT	MEASUREDATE	2	DATETIME	10	0	1	1	.
MEASUREMENT	MEASUREMENTVALUE	3	DECIMAL	15	3	0	1	.
MEASUREMENT	SITEID	4	UPPER	8	0	1	0	SITE.SITEID
MEASUREMENT	ORGID	5	UPPER	8	0	1	0	ORGANIZATION.ORGID
MEASUREMENT	OBSERVATION	6	ALN	25	0	0	1	ALNDOMAIN.VALUE
MEASUREMENT	MEASUREMENTID	8	INTEGER	12	0	1	1	.
MEASUREMENT	ASSETNUM	9	UPPER	12	0	0	0	ASSET.ASSETNUM

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
MEASUREMENT	LOCATION	10	UPPER	12	0	0	0	LOCATIONS.LOCATION
MEASUREMENT	METERNAME	11	UPPER	10	0	0	0	METER.METERNAME
MEASUREMENT	INSPECTOR	12	UPPER	30	0	0	0	PERSON.PERSONID
MEASUREMENT	ASSETID	13	INTEGER	12	0	0	0	ASSET.ASSETID
MEASUREPOINT	POINTNUM	1	UPPER	8	0	1	0	.
MEASUREPOINT	ASSETNUM	2	UPPER	12	0	0	0	ASSET.ASSETNUM
MEASUREPOINT	DESCRIPTION	3	ALN	100	0	0	0	.
MEASUREPOINT	LOWERWARNING	4	DECIMAL	15	3	0	1	.
MEASUREPOINT	LOWERACTION	5	DECIMAL	15	3	0	1	.
MEASUREPOINT	UPPERWARNING	6	DECIMAL	15	3	0	1	.
MEASUREPOINT	UPPERACTION	7	DECIMAL	15	3	0	1	.
MEASUREPOINT	SITEID	8	UPPER	8	0	1	0	SITE.SITEID
MEASUREPOINT	ORGID	9	UPPER	8	0	1	0	ORGANIZATION.ORGID
MEASUREPOINT	LOCATION	11	UPPER	12	0	0	0	LOCATIONS.LOCATION
MEASUREPOINT	METERNAME	12	UPPER	10	0	1	0	METER.METERNAME
MEASUREPOINT	LLPMNUM	13	UPPER	8	0	0	0	PM.PMNUM
MEASUREPOINT	LLJPNUM	14	UPPER	10	0	0	0	JOBPLAN.JPNUM
MEASUREPOINT	LLPRIORITY	15	INTEGER	12	0	0	1	.
MEASUREPOINT	ULPMNUM	16	UPPER	8	0	0	0	PM.PMNUM
MEASUREPOINT	ULJPNUM	17	UPPER	10	0	0	0	JOBPLAN.JPNUM
MEASUREPOINT	ULPRIORITY	18	INTEGER	12	0	0	1	.
MEASUREPOINT	MEASUREPOINTID	19	INTEGER	12	0	1	1	.
MEASUREPOINT	LANGCODE	20	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
MEASUREPOINT	HASLD	22	YORN	1	0	1	1	.
MEASUREUNIT	MEASUREUNITID	1	UPPER	8	0	1	0	.
MEASUREUNIT	ABBREVIATION	2	ALN	8	0	0	0	.
MEASUREUNIT	DESCRIPTION	3	ALN	100	0	0	0	.
MEASUREUNIT	ORGID	4	UPPER	8	0	0	0	ORGANIZATION.ORGID
MEASUREUNIT	SITEID	5	UPPER	8	0	0	0	SITE.SITEID
MEASUREUNIT	MEASUREUNITUID	6	INTEGER	12	0	1	1	.
MEA_DUMMY_TABLE	DUMMY_ALN	1	ALN	1	0	1	1	.
MEA_DUMMY_TABLE	MEA_DUMMY_TABLEID	2	INTEGER	12	0	1	1	.
METER	METERNAME	1	UPPER	10	0	1	0	.
METER	METERTYPE	2	UPPER	25	0	1	1	.
METER	DESCRIPTION	3	ALN	100	0	0	0	.
METER	READINGTYPE	4	UPPER	10	0	0	1	.
METER	MEASUREUNITID	5	UPPER	8	0	0	0	MEASUREUNIT.MEASUREUNITID
METER	DOMAINID	6	UPPER	18	0	0	1	MAXDOMAIN.DOMAINID
METER	METERID	8	INTEGER	12	0	1	1	.
METER	LANGCODE	9	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
METER	HASLD	10	YORN	1	0	1	1	.
METERGROUP	GROUPNAME	1	UPPER	10	0	1	0	.
METERGROUP	DESCRIPTION	2	ALN	100	0	0	0	.
METERGROUP	METERGROUPID	5	INTEGER	12	0	1	1	.
METERGROUP	LANGCODE	6	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
METERGROUP	HASLD	7	YORN	1	0	1	1	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
METERINGROUP	GROUPNAME	1	UPPER	10	0	1	0	METERGROUP.GROUPNAME
METERINGROUP	METERNAME	2	UPPER	10	0	1	0	METER.METERNAME
METERINGROUP	ROLLOVER	3	DECIMAL	15	2	0	1	.
METERINGROUP	AVGCALCMETHOD	5	UPPER	25	0	0	0	.
METERINGROUP	METERINGROUPID	6	INTEGER	12	0	1	1	.
METERINGROUP	STATICAVERAGE	7	DECIMAL	15	2	0	1	.
METERINGROUP	SLIDINGWINDOWSIZE	8	INTEGER	12	0	0	1	.
METERREADING	METERREADINGID	1	INTEGER	12	0	1	1	.
METERREADING	ASSETNUM	2	UPPER	12	0	1	0	ASSET.ASSETNUM
METERREADING	METERNAME	3	UPPER	10	0	1	0	METER.METERNAME
METERREADING	READINGSOURCE	4	UPPER	25	0	0	0	.
METERREADING	READINGTYPE	5	UPPER	10	0	0	1	METER.READINGTYPE
METERREADING	DELTA	6	DECIMAL	15	2	0	1	METERREADING.READING
METERREADING	READING	7	DECIMAL	15	2	0	1	.
METERREADING	ROLLOVER	8	DECIMAL	15	2	0	1	METERINGROUP.ROLLOVER
METERREADING	MEASUREUNITID	9	UPPER	8	0	0	0	MEASUREUNIT.MEASUREUNITID
METERREADING	READINGDATE	10	DATETIME	10	0	1	1	.
METERREADING	INSPECTOR	11	UPPER	30	0	1	0	PERSON.PERSONID
METERREADING	ROLLDOWNSOURCE	12	UPPER	10	0	0	0	ASSETMETER.ROLLDOWNSOURCE
METERREADING	ENTERBY	13	UPPER	30	0	1	0	PERSON.PERSONID
METERREADING	ENTERDATE	14	DATETIME	10	0	1	1	.
METERREADING	SITEID	15	UPPER	8	0	1	0	SITE.SITEID
METERREADING	ORGID	16	UPPER	8	0	1	0	ORGANIZATION.ORGID
METERREADING	ROLLDOWNID	17	INTEGER	12	0	0	1	METERREADING.METERREADINGID
METERREADING	MODIFIED	18	YORN	1	0	1	1	.
METERREADING	INHERITEDFROMASSET	19	UPPER	12	0	0	0	ASSET.ASSETNUM
METERREADING	LOCMETERREADINGID	24	FLOAT	8	0	0	1	.
METERREADING	MATUSETTRANSID	25	INTEGER	12	0	0	1	MATUSETTRANS.MATUSETTRANSID
METERREADING	ASSETID	26	INTEGER	12	0	1	0	ASSET.ASSETID
METERREADING	DIDROLLOVER	27	YORN	1	0	1	1	.
METERREADING	REASON	29	ALN	254	0	0	0	.
MODAVAIL	PERSONID	1	UPPER	30	0	1	0	PERSON.PERSONID
MODAVAIL	STARTTIME	2	TIME	3	0	0	0	.
MODAVAIL	ENDTIME	3	TIME	3	0	0	0	.
MODAVAIL	WORKHOURS	4	DURATION	8	0	0	0	.
MODAVAIL	REASONCODE	5	UPPER	16	0	0	0	.
MODAVAIL	MODAVAILID	6	INTEGER	12	0	1	1	.
MODAVAIL	WORKDATE	7	DATE	4	0	0	0	.
MR	MRNUM	1	UPPER	8	0	1	0	.
MR	TYPE	2	UPPER	12	0	1	1	.
MR	DESCRIPTION	3	ALN	100	0	0	0	PR.DESCRPTION
MR	STATUS	4	UPPER	12	0	1	1	.
MR	STATUSDATE	5	DATETIME	10	0	1	1	.
MR	CHANGEDATE	6	DATETIME	10	0	1	1	.
MR	CHANGEBY	7	UPPER	30	0	1	0	PERSON.PERSONID
MR	PRIORITY	8	INTEGER	12	0	1	1	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
MR	REQUESTEDBY	9	UPPER	30	0	0	0	PERSON.PERSONID
MR	PHONE	10	ALN	20	0	0	0	.
MR	MRDATE	11	DATETIME	10	0	1	1	.
MR	REQUIREDDATE	12	DATETIME	10	0	0	1	.
MR	SHIPTO	13	UPPER	30	0	0	0	ADDRESS.ADDRESSCODE
MR	DROPPPOINT	14	ALN	12	0	0	0	.
MR	TOTALCOST	15	DECIMAL	10	2	1	1	.
MR	WONUM	16	UPPER	10	0	0	0	WORKORDER.WONUM
MR	ASSETNUM	17	UPPER	12	0	0	0	ASSET.ASSETNUM
MR	LOCATION	18	UPPER	12	0	0	0	LOCATIONS.LOCATION
MR	GLDEBITACCT	19	GL	23	0	0	1	.
MR	HISTORYFLAG	20	YORN	1	0	1	0	.
MR	ENTERDATE	21	DATETIME	10	0	1	1	.
MR	ENTERBY	22	UPPER	30	0	1	0	PERSON.PERSONID
MR	MRSTATUSSEQ	23	INTEGER	12	0	0	1	.
MR	MR1	24	ALN	1	0	0	0	.
MR	MR2	25	ALN	1	0	0	0	.
MR	MR3	26	ALN	1	0	0	0	.
MR	MR4	27	ALN	1	0	0	0	.
MR	MR5	28	ALN	1	0	0	0	.
MR	MR6	29	ALN	1	0	0	0	.
MR	MR7	30	ALN	1	0	0	0	.
MR	MR8	31	ALN	1	0	0	0	.
MR	MR9	32	ALN	1	0	0	0	.
MR	MR10	33	ALN	1	0	0	0	.
MR	MRLA1	34	ALN	10	0	0	0	.
MR	MRLA2	35	ALN	10	0	0	0	.
MR	MRLA3	36	ALN	10	0	0	0	.
MR	MRLA4	37	ALN	10	0	0	0	.
MR	MRLA5	38	ALN	10	0	0	0	.
MR	PCARDNUM	39	ALN	30	0	0	0	PERSON.PCARDNUM
MR	PCARDTYPE	40	ALN	20	0	0	0	PERSON.PCARDTYPE
MR	PCARDEXPDATE	41	ALN	7	0	0	0	PERSON.PCARDEXPDATE
MR	FINCNTRLID	42	UPPER	8	0	0	0	FINCNTRL.FINCNTRLID
MR	PCARDVERIFICATION	43	ALN	4	0	0	0	PERSON.PCARDVERIFICATION
MR	BASETOTALCOST	44	DECIMAL	10	2	0	1	.
MR	BASETOTALCOST2	45	DECIMAL	10	2	0	1	.
MR	SITEID	46	UPPER	8	0	1	0	SITE.SITEID
MR	ORGID	47	UPPER	8	0	1	0	ORGANIZATION.ORGID
MR	MRID	51	INTEGER	12	0	1	1	.
MR	LANGCODE	55	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
MR	REQUESTEDFOR	56	UPPER	30	0	0	0	PERSON.PERSONID
MR	HASLD	59	YORN	1	0	1	1	.
MRCOST	MRCOSTID	1	INTEGER	12	0	1	1	.
MRCOST	MRNUM	2	UPPER	8	0	1	0	MR.MRNUM
MRCOST	PERCENTAGE	3	DECIMAL	5	2	1	0	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
MRCOST	GLDEBITACCT	4	GL	23	0	0	1	.
MRCOST	FINCNTRLID	5	UPPER	8	0	0	0	FINCNTRL.FINCNTRLID
MRCOST	SITEID	6	UPPER	8	0	1	0	SITE.SITEID
MRCOST	LINECOST	7	DECIMAL	10	2	1	1	MRLINE.LINECOST
MRCOST	MRLINEID	8	INTEGER	12	0	1	1	MRLINE.MRLINEID
MRCOST	ORGID	9	UPPER	8	0	1	0	ORGANIZATION.ORGID
MRCOST	COSTLINENUM	12	INTEGER	12	0	1	1	.
MRCOST	QUANTITY	13	DECIMAL	15	2	0	1	INVENTORY.ORDERQTY
MRLINE	MRNUM	1	UPPER	8	0	1	0	MR.MRNUM
MRLINE	MRLINENUM	2	INTEGER	12	0	1	1	.
MRLINE	MRLINEID	3	INTEGER	12	0	1	1	.
MRLINE	ITEMNUM	4	UPPER	30	0	0	0	ITEM.ITEMNUM
MRLINE	DESCRIPTION	5	ALN	100	0	0	0	ITEM.DESCRPTION
MRLINE	STORELOC	6	UPPER	12	0	0	0	LOCATIONS.LOCATION
MRLINE	QTY	7	DECIMAL	15	2	0	1	.
MRLINE	UNITCOST	8	DECIMAL	10	2	0	1	.
MRLINE	LINECOST	9	DECIMAL	10	2	1	1	.
MRLINE	DIRECTREQ	10	YORN	1	0	1	1	.
MRLINE	ASSETNUM	11	UPPER	12	0	0	0	ASSET.ASSETNUM
MRLINE	LOCATION	12	UPPER	12	0	0	0	LOCATIONS.LOCATION
MRLINE	GLDEBITACCT	13	GL	23	0	0	1	.
MRLINE	REQUIREDDATE	14	DATETIME	10	0	0	1	.
MRLINE	AVAILDATE	15	DATETIME	10	0	0	1	.
MRLINE	VENDOR	16	UPPER	12	0	0	0	COMPANIES.COMPANY
MRLINE	MANUFACTURER	17	UPPER	12	0	0	0	COMPANIES.COMPANY
MRLINE	MODELNUM	18	ALN	8	0	0	0	INVENTORY.MODELNUM
MRLINE	CATALOGCODE	19	ALN	30	0	0	0	INVENTORY.CATALOGCODE
MRLINE	DROPPPOINT	20	ALN	12	0	0	0	.
MRLINE	REMARKS	21	ALN	50	0	0	0	.
MRLINE	COMPLETE	22	YORN	1	0	1	1	.
MRLINE	PRNUM	23	UPPER	8	0	0	0	PR.PRNUM
MRLINE	PARTIALISSUE	24	YORN	1	0	1	1	.
MRLINE	CATEGORY	25	UPPER	16	0	0	1	INVENTORY.CATEGORY
MRLINE	MRLIN1	26	ALN	1	0	0	0	.
MRLINE	MRLIN2	27	ALN	1	0	0	0	.
MRLINE	MRLIN3	28	ALN	1	0	0	0	.
MRLINE	MRLIN4	29	ALN	1	0	0	0	.
MRLINE	MRLIN5	30	ALN	1	0	0	0	.
MRLINE	ORDERUNIT	31	UPPER	8	0	0	0	MEASUREUNIT.MEASUREUNITID
MRLINE	CHARGESTORE	32	YORN	1	0	1	0	.
MRLINE	MRLALN1	33	ALN	10	0	0	0	.
MRLINE	MRLALN2	34	ALN	10	0	0	0	.
MRLINE	MRLALN3	35	ALN	10	0	0	0	.
MRLINE	MRLALN4	36	ALN	10	0	0	0	.
MRLINE	MRLALN5	37	ALN	10	0	0	0	.
MRLINE	PCARDNUM	38	ALN	30	0	0	0	PERSON.PCARDNUM

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
MRLINE	PCARDTYPE	39	ALN	20	0	0	0	PERSON.PCARDTYPE
MRLINE	PCARDEXPDATE	40	ALN	7	0	0	0	PERSON.PCARDEXPDATE
MRLINE	CLASSIFICATIONID	41	UPPER	80	0	0	0	.
MRLINE	FINCNTRLID	42	UPPER	8	0	0	0	FINCNTRL.FINCNTRLID
MRLINE	PCARDVERIFICATION	43	ALN	4	0	0	0	PERSON.PCARDVERIFICATION
MRLINE	VENDORPACKCODE	44	ALN	12	0	0	0	.
MRLINE	VENDORPACKQUANTITY	45	ALN	12	0	0	0	.
MRLINE	VENDORWAREHOUSE	46	ALN	12	0	0	0	.
MRLINE	CURRENCYCODE	47	UPPER	8	0	1	0	CURRENCY.CURRENCYCODE
MRLINE	LINECOST1	48	DECIMAL	10	2	0	1	.
MRLINE	LINECOST2	49	DECIMAL	10	2	0	1	.
MRLINE	EXCHANGERATE	50	DECIMAL	14	7	0	1	EXCHANGE.EXCHANGERATE
MRLINE	EXCHANGERATE2	51	DECIMAL	14	7	0	1	EXCHANGE.EXCHANGERATE
MRLINE	INSPECTIONREQUIRED	52	YORN	1	0	1	1	ITEM.INSPECTIONREQUIRED
MRLINE	SITEID	53	UPPER	8	0	1	0	SITE.SITEID
MRLINE	ORGID	54	UPPER	8	0	1	0	ORGANIZATION.ORGID
MRLINE	ISDISTRIBUTED	55	YORN	1	0	1	0	.
MRLINE	REFWO	56	UPPER	10	0	0	0	WORKORDER.WONUM
MRLINE	ENTEREDASTASK	57	YORN	1	0	1	1	.
MRLINE	LINETYPE	58	UPPER	15	0	1	1	PRLINE.LINETYPE
MRLINE	ITEMSETID	59	UPPER	8	0	0	0	SETS.SETID
MRLINE	CONDITIONCODE	63	UPPER	30	0	0	0	ITEMCONDITION.CONDITIONCODE
MRLINE	COMMODITYGROUP	64	UPPER	8	0	0	1	COMMODITIES.COMMODITY
MRLINE	COMMODITY	65	UPPER	8	0	0	1	COMMODITIES.COMMODITY
MRLINE	CONTRACTREFNUM	66	UPPER	8	0	0	0	CONTRACT.CONTRACTNUM
MRLINE	CONTRACTREFREV	67	INTEGER	12	0	0	1	CONTRACT.REVISIONNUM
MRLINE	CONTRACTREFID	68	INTEGER	12	0	0	1	CONTRACT.CONTRACTID
MRLINE	LANGCODE	71	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
MRLINE	CONVERSION	74	DECIMAL	15	2	0	1	CONVERSION.CONVERSION
MRLINE	STORELOCSITE	75	UPPER	8	0	0	0	SITE.SITEID
MRLINE	HASLD	76	YORN	1	0	1	1	.
MRLINE	MKTPLCITEM	77	YORN	1	0	1	0	.
MRSTATUS	MRNUM	1	UPPER	8	0	1	0	.
MRSTATUS	STATUS	2	UPPER	8	0	1	0	.
MRSTATUS	CHANGEDATE	3	DATETIME	10	0	1	1	.
MRSTATUS	CHANGEBY	4	UPPER	30	0	1	0	PERSON.PERSONID
MRSTATUS	MEMO	5	ALN	50	0	0	0	WFTRANSACTION.MEMO
MRSTATUS	MRSTATUSSEQ	6	INTEGER	12	0	1	1	.
MRSTATUS	SITEID	7	UPPER	8	0	1	0	SITE.SITEID
MRSTATUS	ORGID	8	UPPER	8	0	1	0	ORGANIZATION.ORGID
MXCOLLAB	OWNER1SYSID	1	ALN	10	0	1	0	.
MXCOLLAB	OWNER2SYSID	2	ALN	10	0	1	0	.
MXCOLLAB	PCID	3	ALN	10	0	1	0	.
MXCOLLAB	PCVALUE	4	YORN	1	0	1	0	.
MXCOLLAB	MXCOLLABID	5	INTEGER	12	0	1	1	.
MXCOLLABREF	PCID	1	ALN	10	0	1	0	MXCOLLAB.PCID

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
MXCOLLABREF	DESCRIPTION	2	ALN	100	0	0	0	.
MXCOLLABREF	PROCESS	3	ALN	20	0	0	0	.
MXCOLLABREF	MXCOLLABREFID	4	INTEGER	12	0	1	1	.
NAMEDUSERS	NAMEDUSERSID	1	INTEGER	12	0	1	1	.
NAMEDUSERS	CONTRACTNUM	2	UPPER	8	0	1	0	CONTRACT.CONTRACTNUM
NAMEDUSERS	REVISIONNUM	3	INTEGER	12	0	1	1	CONTRACT.REVISIONNUM
NAMEDUSERS	ORGID	4	UPPER	8	0	1	0	ORGANIZATION.ORGID
NAMEDUSERS	PERSONID	5	UPPER	30	0	0	0	PERSON.PERSONID
NAMEDUSERS	ASSETNUM	6	UPPER	12	0	0	0	ASSET.ASSETNUM
NAMEDUSERS	LOCATION	7	UPPER	12	0	0	0	LOCATIONS.LOCATION
NAMEDUSERS	USERNAME	8	ALN	50	0	0	0	.
NAMEDUSERS	SITEID	9	UPPER	8	0	0	0	SITE.SITEID
NETDEVICE	NODEID	1	INTEGER	12	0	1	0	DEPLOYEDASSET.NODEID
NETDEVICE	NETWORKADDRESS	2	ALN	32	0	0	0	DPANETDEVICE.NETWORKADDRESS
NETDEVICE	NETMACADDR	3	ALN	16	0	0	0	DPANETDEVICE.NETMACADDR
NETDEVICE	FIRMWAREVERSION	4	ALN	128	0	0	0	DPANETDEVICE.FIRMWAREVERSION
NETDEVICE	OSVERSION	5	ALN	128	0	0	0	DPANETDEVICE.OSVERSION
NETDEVICE	RAMSIZE	6	DECIMAL	10	2	0	0	DPANETDEVICE.RAMSIZE
NETDEVICE	RAMUNIT	7	ALN	16	0	0	0	DPANETDEVICE.RAMUNIT
NETDEVICE	NODENAME	8	ALN	128	0	1	0	DEPLOYEDASSET.NODENAME
NETDEVICE	DOMAINNAME	9	ALN	128	0	1	0	DEPLOYEDASSET.DOMAINNAME
NETDEVICE	SERIALNUMBER	10	ALN	64	0	0	0	DEPLOYEDASSET.SERIALNUMBER
NETDEVICE	ASSETTAG	11	ALN	64	0	0	0	DEPLOYEDASSET.ASSETTAG
NETDEVICE	MAKEMODEL	12	ALN	128	0	0	0	DEPLOYEDASSET.MAKEMODEL
NETDEVICE	DESCRIPTION	13	ALN	256	0	0	0	DEPLOYEDASSET.DESCRPTION
NETDEVICE	HWLASTSCANDATE	14	DATETIME	10	0	0	0	DEPLOYEDASSET.HWLASTSCANDATE
NETDEVICE	HWDETECTIONTOOL	15	ALN	256	0	0	0	DEPLOYEDASSET.HWDETECTIONTOOL
NETDEVICE	SUPPORTSSNMP	16	YORN	1	0	1	0	DEPLOYEDASSET.SUPPORTSSNMP
NETDEVICE	SOURCEID	17	ALN	128	0	0	0	DEPLOYEDASSET.SOURCEID
NETDEVICE	SYSTEMROLE	18	ALN	32	0	0	0	DEPLOYEDASSET.SYSTEMROLE
NETDEVICE	ASSETCLASS	19	ALN	32	0	1	0	DEPLOYEDASSET.ASSETCLASS
NETDEVICE	SITEID	20	UPPER	8	0	0	0	SITE.SITEID
NETDEVICE	ORGID	21	UPPER	8	0	0	0	ORGANIZATION.ORGID
NETDEVICE	CREATEDATE	22	DATETIME	10	0	1	0	.
NETDEVICE	CHANGEDATE	23	DATETIME	10	0	1	0	.
NETDEVICE	CREATEDATE1	25	DATETIME	10	0	1	0	.
NETDEVICE	CHANGEDATE1	26	DATETIME	10	0	1	0	.
NETDEVICE	CMANUFACTURER	27	ALN	128	0	1	0	DPAMMANUVARIANT.MANUFACTURERNAME
NETDEVICE	MANUFACTURERVAR	28	ALN	128	0	1	0	DPAMMANUVARIANT.MANUFACTURERVAR
NETDEVICE	DPAMMANUVARIANTID	29	INTEGER	12	0	1	1	DPAMMANUVARIANT.DPAMMANUVARIANTID
NETPRINTER	NODEID	1	INTEGER	12	0	1	0	DEPLOYEDASSET.NODEID
NETPRINTER	NETWORKADDRESS	2	ALN	32	0	0	0	DPANETPRINTER.NETWORKADDRESS
NETPRINTER	NETMACADDR	3	ALN	16	0	0	0	DPANETPRINTER.NETMACADDR
NETPRINTER	CURRENTRAM	4	DECIMAL	10	2	0	0	DPANETPRINTER.CURRENTRAM
NETPRINTER	MAXRAM	5	DECIMAL	10	2	0	0	DPANETPRINTER.MAXRAM
NETPRINTER	RAMUNIT	6	ALN	16	0	0	0	DPANETPRINTER.RAMUNIT

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
NETPRINTER	COLORDEPTHBIT	7	INTEGER	12	0	0	0	DPANETPRINTER.COLORDEPTHBIT
NETPRINTER	MAXWIDTH	8	DECIMAL	10	2	0	0	DPANETPRINTER.MAXWIDTH
NETPRINTER	MAXLENGTH	9	DECIMAL	10	2	0	0	DPANETPRINTER.MAXLENGTH
NETPRINTER	SIZEUNIT	10	ALN	16	0	0	0	DPANETPRINTER.SIZEUNIT
NETPRINTER	VERTICALDPI	11	INTEGER	12	0	0	0	DPANETPRINTER.VERTICALDPI
NETPRINTER	HORIZONTALDPI	12	INTEGER	12	0	0	0	DPANETPRINTER.HORIZONTALDPI
NETPRINTER	NUMBEROFTRAYS	13	INTEGER	12	0	0	0	DPANETPRINTER.NUMBEROFTRAYS
NETPRINTER	NODENAME	14	ALN	128	0	1	0	DEPLOYEDASSET.NODENAME
NETPRINTER	DOMAINNAME	15	ALN	128	0	1	0	DEPLOYEDASSET.DOMAINNAME
NETPRINTER	SERIALNUMBER	16	ALN	64	0	0	0	DEPLOYEDASSET.SERIALNUMBER
NETPRINTER	ASSETTAG	17	ALN	64	0	0	0	DEPLOYEDASSET.ASSETTAG
NETPRINTER	MAKEMODEL	18	ALN	128	0	0	0	DEPLOYEDASSET.MAKEMODEL
NETPRINTER	DESCRIPTION	19	ALN	256	0	0	0	DEPLOYEDASSET.DESCRPTION
NETPRINTER	HWLASTSCANDATE	20	DATETIME	10	0	0	0	DEPLOYEDASSET.HWLASTSCANDATE
NETPRINTER	HWDETECTIONTOOL	21	ALN	256	0	0	0	DEPLOYEDASSET.HWDETECTIONTOOL
NETPRINTER	SUPPORTSSNMP	22	YORN	1	0	1	0	DEPLOYEDASSET.SUPPORTSSNMP
NETPRINTER	SOURCEID	23	ALN	128	0	0	0	DEPLOYEDASSET.SOURCEID
NETPRINTER	SYSTEMROLE	24	ALN	32	0	0	0	DEPLOYEDASSET.SYSTEMROLE
NETPRINTER	ASSETCLASS	25	ALN	32	0	1	0	DEPLOYEDASSET.ASSETCLASS
NETPRINTER	SITEID	26	UPPER	8	0	0	0	SITE.SITEID
NETPRINTER	ORGID	27	UPPER	8	0	0	0	ORGANIZATION.ORGID
NETPRINTER	CREATEDATE	28	DATETIME	10	0	1	0	.
NETPRINTER	CHANGEDATE	29	DATETIME	10	0	1	0	.
NETPRINTER	CREATEDATE1	34	DATETIME	10	0	1	0	.
NETPRINTER	CHANGEDATE1	35	DATETIME	10	0	1	0	.
NETPRINTER	CMANUFACTURER	36	ALN	128	0	1	0	DPAMMANUVARIANT.MANUFACTURERNAME
NETPRINTER	MANUFACTURERVAR	37	ALN	128	0	1	0	DPAMMANUVARIANT.MANUFACTURERVAR
NETPRINTER	DPAMMANUVARIANTID	38	INTEGER	12	0	1	1	DPAMMANUVARIANT.DPAMMANUVARIANTID
NONWORKTIME	NONWORKTIMEID	1	INTEGER	12	0	1	1	.
NONWORKTIME	STARTDATE	2	DATE	4	0	1	1	.
NONWORKTIME	ENDDATE	3	DATE	4	0	1	1	.
NONWORKTIME	TYPE	4	UPPER	8	0	1	0	.
NONWORKTIME	DESCRIPTION	5	ALN	100	0	0	0	.
NUMERICDOMAIN	DOMAINID	1	UPPER	18	0	1	1	MAXDOMAIN.DOMAINID
NUMERICDOMAIN	VALUE	2	DECIMAL	10	2	1	1	.
NUMERICDOMAIN	DESCRIPTION	3	ALN	100	0	0	0	.
NUMERICDOMAIN	SITEID	4	UPPER	8	0	0	0	SITE.SITEID
NUMERICDOMAIN	ORGID	5	UPPER	8	0	0	0	ORGANIZATION.ORGID
NUMERICDOMAIN	NUMERICDOMAINID	6	INTEGER	12	0	1	1	.
NUMRANGEDOMAIN	RANGESEGMENT	1	SMALLINT	10	0	1	1	.
NUMRANGEDOMAIN	DOMAINID	2	UPPER	18	0	1	1	MAXDOMAIN.DOMAINID
NUMRANGEDOMAIN	RANGEMINIMUM	3	FLOAT	8	0	0	1	.
NUMRANGEDOMAIN	RANGEMAXIMUM	4	FLOAT	8	0	0	1	.
NUMRANGEDOMAIN	RANGEINTERVAL	5	FLOAT	8	0	0	1	.
NUMRANGEDOMAIN	SITEID	6	UPPER	8	0	0	0	SITE.SITEID
NUMRANGEDOMAIN	ORGID	7	UPPER	8	0	0	0	ORGANIZATION.ORGID

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
NUMRANGEDOMAIN	NUMRANGEDOMAINID	8	INTEGER	12	0	1	1	.
ORGANIZATION	ORGID	1	UPPER	8	0	1	0	.
ORGANIZATION	DESCRIPTION	2	ALN	100	0	0	0	.
ORGANIZATION	BASECURRENCY1	3	UPPER	8	0	1	0	CURRENCY.CURRENCYCODE
ORGANIZATION	BASECURRENCY2	4	UPPER	8	0	0	0	CURRENCY.CURRENCYCODE
ORGANIZATION	ENTERBY	5	UPPER	30	0	1	0	PERSON.PERSONID
ORGANIZATION	ENTERDATE	6	DATETIME	10	0	1	0	.
ORGANIZATION	ITEMSETID	7	UPPER	8	0	1	0	SETS.SETID
ORGANIZATION	ACTIVE	8	YORN	1	0	1	0	.
ORGANIZATION	COMPANYSETID	10	UPPER	8	0	1	0	SETS.SETID
ORGANIZATION	ORGANIZATIONID	11	INTEGER	12	0	1	1	.
ORGANIZATION	CLEARINGACCT	12	GL	23	0	0	1	.
ORGANIZATION	LANGCODE	13	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
ORGANIZATION	HASLD	14	YORN	1	0	1	1	.
PALETTEITEM	PALETTEITEMID	1	INTEGER	12	0	1	1	.
PALETTEITEM	CONTROL	2	UPPER	30	0	1	0	.
PALETTEITEM	OBJECTNAME	3	UPPER	18	0	1	0	.
PALETTEITEM	DESCRIPTION	4	ALN	100	0	0	0	.
PASSWORDHISTORY	USERID	1	UPPER	30	0	1	0	PERSON.PERSONID
PASSWORDHISTORY	CHANGEDATE	2	DATETIME	10	0	1	1	.
PASSWORDHISTORY	PASSWORD	3	CRYPTOX	50	0	1	0	MAXUSER.PASSWORD
PASSWORDHISTORY	CHANGEBY	4	UPPER	30	0	1	0	PERSON.PERSONID
PASSWORDHISTORY	PASSWORDHISTORYID	5	INTEGER	12	0	1	1	.
PERSON	PERSONID	1	UPPER	30	0	1	0	.
PERSON	STATUS	2	UPPER	10	0	1	0	.
PERSON	DISPLAYNAME	3	ALN	62	0	0	0	.
PERSON	FIRSTNAME	4	ALN	30	0	0	0	.
PERSON	LASTNAME	5	ALN	30	0	0	0	.
PERSON	DEPARTMENT	6	ALN	30	0	0	0	.
PERSON	TITLE	7	ALN	30	0	0	0	.
PERSON	EMPLOYEEYPE	8	UPPER	10	0	0	0	.
PERSON	JOBCODE	9	UPPER	10	0	0	0	.
PERSON	SUPERVISOR	10	UPPER	30	0	0	0	PERSON.PERSONID
PERSON	BIRTHDATE	11	DATE	4	0	0	1	.
PERSON	LASTEVALDATE	12	DATE	4	0	0	1	.
PERSON	NEXTEVALDATE	13	DATE	4	0	0	1	.
PERSON	HIREDATE	14	DATE	4	0	0	1	.
PERSON	TERMINATIONDATE	15	DATE	4	0	0	1	.
PERSON	LOCATION	16	UPPER	12	0	0	0	LOCATIONS.LOCATION
PERSON	LOCATIONSITE	17	UPPER	8	0	0	0	SITE.SITEID
PERSON	LOCATIONORG	18	UPPER	8	0	0	0	ORGANIZATION.ORGID
PERSON	SHIPTOADDRESS	19	UPPER	30	0	0	0	ADDRESS.ADDRESSCODE
PERSON	BILLTOADDRESS	20	UPPER	30	0	0	0	ADDRESS.ADDRESSCODE
PERSON	DROPPPOINT	21	ALN	12	0	0	0	MR.DROPPPOINT
PERSON	WFMAILELECTION	22	UPPER	15	0	0	0	.
PERSON	TRANSEMAILELECTION	23	ALN	15	0	1	0	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
PERSON	DELEGATE	24	UPPER	30	0	0	0	PERSON.PERSONID
PERSON	DELEGATEFROMDATE	25	DATE	4	0	0	1	.
PERSON	DELEGATETODATE	26	DATE	4	0	0	1	.
PERSON	PCARDNUM	27	ALN	30	0	0	0	.
PERSON	PCARDTYPE	28	ALN	20	0	0	0	.
PERSON	PCARDEXPDATE	29	ALN	7	0	0	0	.
PERSON	PCARDVERIFICATION	30	ALN	4	0	0	0	.
PERSON	ADDRESSLINE1	31	ALN	55	0	0	0	.
PERSON	ADDRESSLINE2	32	ALN	55	0	0	0	.
PERSON	ADDRESSLINE3	33	ALN	55	0	0	0	.
PERSON	CITY	34	ALN	36	0	0	0	.
PERSON	REGIONDISTRICT	35	ALN	36	0	0	0	.
PERSON	COUNTY	36	ALN	36	0	0	0	.
PERSON	STATEPROVINCE	37	ALN	36	0	0	0	.
PERSON	COUNTRY	38	ALN	36	0	0	0	.
PERSON	POSTALCODE	39	ALN	12	0	0	0	.
PERSON	VIP	40	INTEGER	12	0	0	0	.
PERSON	STATUSDATE	41	DATETIME	10	0	1	1	.
PERSON	ACCEPTINGWFMAIL	42	YORN	1	0	1	1	.
PERSON	WOPRIORITY	43	INTEGER	12	0	0	1	WORKORDER.WOPRIORITY
PERSON	LOCTOSERVREQ	44	YORN	1	0	1	0	.
PERSON	PERSONUID	45	INTEGER	12	0	1	1	.
PERSON	LANGCODE	48	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
PERSON	SENDERSYSID	49	ALN	50	0	0	0	.
PERSON	SOURCESYSID	50	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
PERSON	OWNERSYSID	51	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
PERSON	EXTERNALREFID	52	ALN	10	0	0	0	.
PERSON	LANGUAGE	54	UPPER	4	0	0	1	LANGUAGE.MAXLANGCODE
PERSON	LOCALE	55	ALN	10	0	0	0	.
PERSON	TIMEZONE	56	ALN	22	0	0	0	.
PERSON	HASLD	62	YORN	1	0	1	1	.
PERSONCAL	PERSONID	1	UPPER	30	0	1	0	PERSON.PERSONID
PERSONCAL	ORGID	2	UPPER	8	0	1	0	ORGANIZATION.ORGID
PERSONCAL	CALNUM	3	UPPER	8	0	1	0	CALENDAR.CALNUM
PERSONCAL	SHIFTNUM	4	UPPER	8	0	0	0	SHIFT.SHIFTNUM
PERSONCAL	PERSONCALID	5	INTEGER	12	0	1	1	.
PERSONCAL	ISPRIMARY	6	YORN	1	0	1	0	.
PERSONGROUP	PERSONGROUPID	1	INTEGER	12	0	1	1	.
PERSONGROUP	PERSONGROUP	2	UPPER	8	0	1	0	.
PERSONGROUP	DESCRIPTION	3	ALN	100	0	0	0	.
PERSONGROUP	LANGCODE	8	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
PERSONGROUP	HASLD	9	YORN	1	0	1	1	.
PERSONGROUPTEAM	RESPPARTYGROUP	1	UPPER	30	0	1	0	PERSON.PERSONID
PERSONGROUPTEAM	RESPPARTY	2	UPPER	30	0	1	0	PERSON.PERSONID
PERSONGROUPTEAM	RESPPARTYGROUPSEQ	3	SMALLINT	10	0	0	0	.
PERSONGROUPTEAM	RESPPARTYSEQ	4	SMALLINT	10	0	1	1	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
PERSONGROUPTeam	USEFORORG	5	UPPER	8	0	0	0	ORGANIZATION.ORGID
PERSONGROUPTeam	USEFORSITE	6	UPPER	8	0	0	0	SITE.SITEID
PERSONGROUPTeam	GROUPDEFAULT	7	YORN	1	0	1	0	.
PERSONGROUPTeam	ORGDEFAULT	8	YORN	1	0	1	0	.
PERSONGROUPTeam	SITEDEFAULT	9	YORN	1	0	1	0	.
PERSONGROUPTeam	PERSONGROUPTeamID	10	INTEGER	12	0	1	1	.
PERSONGROUPTeam	PERSONGROUP	11	UPPER	8	0	0	0	PERSONGROUP.PERSONGROUP
PERSONSTATUS	PERSONID	1	UPPER	30	0	1	0	PERSON.PERSONID
PERSONSTATUS	STATUS	2	UPPER	10	0	1	0	PERSON.STATUS
PERSONSTATUS	CHANGEBY	3	UPPER	30	0	1	0	PERSON.PERSONID
PERSONSTATUS	CHANGEDATE	4	DATETIME	10	0	1	1	.
PERSONSTATUS	MEMO	5	ALN	50	0	0	1	.
PERSONSTATUS	PERSONSTATUSID	6	INTEGER	12	0	1	1	.
PHONE	PHONEID	1	INTEGER	12	0	1	1	.
PHONE	PERSONID	2	UPPER	30	0	1	0	PERSON.PERSONID
PHONE	PHONENUM	3	ALN	20	0	1	1	.
PHONE	TYPE	4	UPPER	10	0	0	1	.
PHONE	ISPRIMARY	5	YORN	1	0	1	0	.
PM	PMNUM	1	UPPER	8	0	1	0	.
PM	DESCRIPTION	2	ALN	100	0	0	0	WORKORDER.DESCRPTION
PM	ASSETNUM	3	UPPER	12	0	0	0	ASSET.ASSETNUM
PM	FIRSTDATE	4	DATE	4	0	0	1	.
PM	LASTCOMPDATE	5	DATE	4	0	0	1	.
PM	LASTSTARTDATE	6	DATE	4	0	0	1	.
PM	USETARGETDATE	7	YORN	1	0	1	1	.
PM	FREQUENCY	8	INTEGER	12	0	1	1	.
PM	PMCOUNTER	9	INTEGER	12	0	1	1	.
PM	PRIORITY	10	INTEGER	12	0	0	1	.
PM	WORKTYPE	11	UPPER	5	0	0	0	WORKTYPE.WORKTYPE
PM	JPNUM	12	UPPER	10	0	0	0	JOBPLAN.JPNUM
PM	JPSEQINUSE	13	YORN	1	0	1	1	.
PM	NEXTDATE	14	DATE	4	0	0	1	.
PM	CHANGEDATE	15	DATETIME	10	0	1	1	.
PM	CHANGEBY	16	UPPER	30	0	1	0	PERSON.PERSONID
PM	PMEQ1	17	ALN	10	0	0	0	ASSET.EQ9
PM	SUPERVISOR	18	UPPER	30	0	0	0	PERSON.PERSONID
PM	CALENDAR	19	UPPER	8	0	0	0	CALENDAR.CALNUM
PM	CREWID	20	ALN	12	0	0	1	LABOR.CREWID
PM	DOWNTIME	21	YORN	1	0	1	1	.
PM	PMEQ2	22	DATETIME	10	0	0	0	ASSET.EQ23
PM	PMEQ3	23	DECIMAL	15	2	0	0	ASSET.EQ24
PM	GLACCOUNT	24	GL	23	0	0	1	.
PM	LOCATION	25	UPPER	12	0	0	0	LOCATIONS.LOCATION
PM	STORELOC	26	UPPER	12	0	0	0	LOCATIONS.LOCATION
PM	PARENT	27	UPPER	8	0	0	0	PM.PMNUM
PM	HASCHILDREN	28	YORN	1	0	1	1	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
PM	WOSEQUENCE	29	INTEGER	12	0	0	1	WORKORDER.WOSEQUENCE
PM	USEFREQUENCY	30	YORN	1	0	1	1	.
PM	ROUTE	31	UPPER	8	0	0	0	ROUTES.ROUTE
PM	FREQUNIT	32	UPPER	8	0	1	0	.
PM	LEADTIME	33	INTEGER	12	0	0	1	.
PM	EXTDATE	34	DATE	4	0	0	1	.
PM	ADJNEXTDUE	35	YORN	1	0	1	1	.
PM	MASTERPM	36	UPPER	8	0	0	0	PM.PMNUM
PM	OVERRIDEMASTERUPD	37	YORN	1	0	1	1	.
PM	WOSTATUS	38	UPPER	16	0	1	1	WORKORDER.STATUS
PM	ORGID	39	UPPER	8	0	1	0	ORGANIZATION.ORGID
PM	SITEID	40	UPPER	8	0	1	0	SITE.SITEID
PM	PMACTMETER	41	YORN	1	0	1	1	PM.USEFREQUENCY
PM	PMASSETWOGEN	42	YORN	1	0	1	1	PM.USEFREQUENCY
PM	OWNER	45	UPPER	30	0	0	0	PERSON.PERSONID
PM	LEAD	46	UPPER	30	0	0	0	PERSON.PERSONID
PM	PARENTCHGSSTATUS	47	YORN	1	0	1	0	.
PM	STATUS	48	UPPER	20	0	0	0	.
PM	PMUID	49	INTEGER	12	0	1	1	.
PM	SUNDAY	50	YORN	1	0	1	1	.
PM	MONDAY	51	YORN	1	0	1	1	.
PM	TUESDAY	52	YORN	1	0	1	1	.
PM	WEDNESDAY	53	YORN	1	0	1	1	.
PM	THURSDAY	54	YORN	1	0	1	1	.
PM	FRIDAY	55	YORN	1	0	1	1	.
PM	SATURDAY	56	YORN	1	0	1	1	.
PM	ALERTLEAD	57	INTEGER	12	0	0	1	PM.LEADTIME
PM	PERSONGROUP	58	UPPER	8	0	0	0	PERSONGROUP.PERSONGROUP
PM	STORELOCSITE	59	UPPER	8	0	0	0	SITE.SITEID
PM	OWNERGROUP	60	UPPER	8	0	0	0	PERSONGROUP.PERSONGROUP
PM	LANGCODE	62	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
PM	INTERRUPTIBLE	63	YORN	1	0	1	1	.
PM	HASLD	66	YORN	1	0	1	1	.
PMANCESTOR	PMNUM	1	UPPER	8	0	1	0	PM.PMNUM
PMANCESTOR	ANCESTOR	2	UPPER	8	0	1	0	PM.PMNUM
PMANCESTOR	HIERARCHYLEVELS	3	INTEGER	12	0	1	1	.
PMANCESTOR	ORGID	4	UPPER	8	0	1	0	ORGANIZATION.ORGID
PMANCESTOR	SITEID	5	UPPER	8	0	1	0	SITE.SITEID
PMANCESTOR	PMANCESTORID	6	INTEGER	12	0	1	1	.
PMMETER	ORGID	1	UPPER	8	0	0	0	ORGANIZATION.ORGID
PMMETER	PMNUM	2	UPPER	8	0	1	0	PM.PMNUM
PMMETER	ASSETNUM	3	UPPER	12	0	0	0	ASSET.ASSETNUM
PMMETER	LOCATION	4	UPPER	12	0	0	0	LOCATIONS.LOCATION
PMMETER	SITEID	5	UPPER	8	0	1	0	SITE.SITEID
PMMETER	METERNAME	6	UPPER	10	0	1	0	METER.METERNAME
PMMETER	FREQUENCY	7	DECIMAL	15	2	0	0	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
PMMETER	ALERTLEAD	8	DECIMAL	15	2	0	0	.
PMMETER	UPDMETER	9	YORN	1	0	1	1	.
PMMETER	READINGATNEXTWO	10	DECIMAL	15	2	0	1	METERREADING.READING
PMMETER	LASTPMWOGENREAD	12	DECIMAL	15	2	0	0	.
PMMETER	TOLERANCE	14	DECIMAL	15	2	0	0	PMMETER.FREQUENCY
PMMETER	LASTPMWOGENREADDT	15	DATETIME	10	0	0	0	.
PMMETER	PMMETERID	16	INTEGER	12	0	1	1	.
PMMETER	LTDREADATNEXTWO	20	DECIMAL	15	2	0	0	PMMETER.LASTPMWOGENREAD
PMMETER	LTDLASTPMWOREAD	21	DECIMAL	15	2	0	0	PMMETER.LASTPMWOGENREAD
PMSEASONS	PMSEASONSID	1	INTEGER	12	0	1	1	.
PMSEASONS	PMNUM	2	UPPER	8	0	1	0	PM.PMNUM
PMSEASONS	STARTMONTH	3	UPPER	16	0	1	1	.
PMSEASONS	STARTDAY	4	SMALLINT	10	0	1	1	.
PMSEASONS	ENDMONTH	5	UPPER	16	0	1	1	.
PMSEASONS	ENDDAY	6	SMALLINT	10	0	1	1	.
PMSEASONS	ORGID	7	UPPER	8	0	1	0	ORGANIZATION.ORGID
PMSEASONS	SITEID	8	UPPER	8	0	1	0	SITE.SITEID
PMSEQUENCE	PMNUM	1	UPPER	8	0	1	0	PM.PMNUM
PMSEQUENCE	JPNUM	2	UPPER	10	0	0	0	JOBPLAN.JPNUM
PMSEQUENCE	INTERVAL	3	INTEGER	12	0	1	1	.
PMSEQUENCE	ORGID	4	UPPER	8	0	1	0	ORGANIZATION.ORGID
PMSEQUENCE	SITEID	5	UPPER	8	0	1	0	SITE.SITEID
PMSEQUENCE	PMSEQUENCEID	6	INTEGER	12	0	1	1	.
PO	PONUM	1	UPPER	8	0	1	0	.
PO	DESCRIPTION	2	ALN	100	0	0	0	PR.DESCRPTION
PO	PURCHASEAGENT	3	UPPER	30	0	0	0	PERSON.PERSONID
PO	ORDERDATE	4	DATETIME	10	0	0	1	.
PO	REQUIREDDATE	5	DATETIME	10	0	0	1	.
PO	FOLLOWUPDATE	6	DATE	4	0	0	1	.
PO	POTYPE	7	UPPER	12	0	0	1	.
PO	ORIGINALPONUM	8	UPPER	8	0	0	0	PO.PONUM
PO	STATUS	9	UPPER	20	0	1	1	.
PO	STATUSDATE	10	DATETIME	10	0	1	1	.
PO	VENDOR	11	UPPER	12	0	0	0	COMPANIES.COMPANY
PO	CONTACT	12	ALN	50	0	0	0	COMPANIES.CONTACT
PO	FREIGHTTERMS	13	ALN	50	0	0	0	COMPANIES.FREIGHTTERMS
PO	PAYMENTTERMS	14	ALN	20	0	0	0	COMPANIES.PAYMENTTERMS
PO	SHIPVIA	15	ALN	20	0	0	0	COMPANIES.SHIPVIA
PO	CUSTOMERNUM	16	ALN	16	0	0	0	COMPANIES.CUSTOMERNUM
PO	FOB	17	ALN	20	0	0	0	COMPANIES.FOB
PO	SHIPTO	18	UPPER	30	0	0	0	ADDRESS.ADDRESSCODE
PO	SHIPTOATTN	19	UPPER	30	0	0	0	PERSON.PERSONID
PO	BILLTO	20	UPPER	30	0	0	0	ADDRESS.ADDRESSCODE
PO	BILLTOATTN	21	UPPER	30	0	0	0	PERSON.PERSONID
PO	TOTALCOST	22	DECIMAL	10	2	0	1	.
PO	CHANGEBY	23	UPPER	30	0	1	0	PERSON.PERSONID

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
PO	CHANGEDATE	24	DATETIME	10	0	1	1	.
PO	PRIORITY	25	INTEGER	12	0	1	1	.
PO	HISTORYFLAG	26	YORN	1	0	1	1	.
PO	PO1	27	ALN	10	0	0	0	PR.PR1
PO	PO2	28	ALN	10	0	0	0	PR.PR2
PO	PO3	29	ALN	10	0	0	0	PR.PR3
PO	PO4	30	ALN	10	0	0	0	PR.PR4
PO	PO5	31	ALN	10	0	0	0	PR.PR5
PO	PO6	32	AMOUNT	10	2	0	0	PR.PR6
PO	PO7	33	DATETIME	10	0	0	0	PR.PR7
PO	PO8	34	DECIMAL	15	2	0	0	PR.PR8
PO	PO9	35	INTEGER	12	0	0	0	PR.PR9
PO	PO10	36	YORN	1	0	1	0	PR.PR10
PO	VENDELIVERYDATE	37	DATE	4	0	0	0	.
PO	RECEIPTS	38	ALN	20	0	0	1	.
PO	CURRENCYCODE	39	UPPER	8	0	1	0	CURRENCY.CURRENCYCODE
PO	EXCHANGERATE	40	DECIMAL	14	7	0	1	EXCHANGE.EXCHANGERATE
PO	EXCHANGEDATE	41	DATE	4	0	0	1	.
PO	BUYAHEAD	42	YORN	1	0	1	1	.
PO	TOTALTAX1	43	DECIMAL	10	2	0	1	.
PO	TOTALTAX2	44	DECIMAL	10	2	0	1	.
PO	TOTALTAX3	45	DECIMAL	10	2	0	1	.
PO	INCLUSIVE1	46	YORN	1	0	1	1	.
PO	INCLUSIVE2	47	YORN	1	0	1	1	.
PO	INCLUSIVE3	48	YORN	1	0	1	1	.
PO	INTERNAL	49	YORN	1	0	1	1	.
PO	TOTALTAX4	50	DECIMAL	10	2	0	1	.
PO	TOTALTAX5	51	DECIMAL	10	2	0	1	.
PO	INCLUSIVE4	52	YORN	1	0	1	1	.
PO	INCLUSIVE5	53	YORN	1	0	1	1	.
PO	STARTDATE	54	DATE	4	0	0	0	.
PO	ENDDATE	55	DATE	4	0	0	0	.
PO	PAYONRECEIPT	56	YORN	1	0	1	1	COMPANIES.PAYONRECEIPT
PO	BUYERCOMPANY	57	UPPER	30	0	0	0	ADDRESS.ADDRESSCODE
PO	EXCHANGERATE2	58	DECIMAL	14	7	0	1	EXCHANGE.EXCHANGERATE
PO	MNETSENT	59	ALN	25	0	0	0	.
PO	ECOMSTATUSDATE	60	DATETIME	10	0	0	1	.
PO	SOURCESYSID	61	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
PO	OWNERSYSID	62	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
PO	EXTERNALREFID	63	ALN	10	0	0	0	.
PO	SENDERSYSID	64	ALN	50	0	0	0	.
PO	SITEID	65	UPPER	8	0	1	0	SITE.SITEID
PO	ORGID	66	UPPER	8	0	1	0	ORGANIZATION.ORGID
PO	CONTRACTREFNUM	73	UPPER	8	0	0	0	CONTRACT.CONTRACTNUM
PO	POID	74	INTEGER	12	0	1	1	.
PO	CONTRACTREFID	75	INTEGER	12	0	0	1	CONTRACT.CONTRACTID

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
PO	CONTRACTREFREV	76	INTEGER	12	0	0	1	CONTRACT.REVISIONNUM
PO	CONTRERELEASESEQ	77	INTEGER	12	0	0	1	CONTRACT.REVISIONNUM
PO	STORELOC	78	UPPER	12	0	0	0	LOCATIONS.LOCATION
PO	STORELOCSITEID	79	UPPER	8	0	0	0	SITE.SITEID
PO	INSPECTIONREQUIRED	80	YORN	1	0	1	0	COMPANIES.INSPECTIONREQUIRED
PO	LANGCODE	82	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
PO	HASLD	83	YORN	1	0	1	1	.
POCOST	POCOSTID	1	INTEGER	12	0	1	1	.
POCOST	PONUM	2	UPPER	8	0	1	0	PO.PONUM
POCOST	POLINEID	3	INTEGER	12	0	1	1	POLINE.POLINEID
POCOST	GLDEBITACCT	4	GL	23	0	0	1	.
POCOST	FINCNTRLID	5	UPPER	8	0	0	0	FINCNTRL.FINCNTRLID
POCOST	SITEID	6	UPPER	8	0	1	0	SITE.SITEID
POCOST	ORGID	7	UPPER	8	0	1	0	ORGANIZATION.ORGID
POCOST	LINECOST	8	DECIMAL	10	2	1	1	POLINE.LINECOST
POCOST	LOADED COST	9	DECIMAL	10	2	1	1	POLINE.LOADED COST
POCOST	PERCENTAGE	10	DECIMAL	5	2	1	0	.
POCOST	GLCREDITACCT	11	GL	23	0	0	1	.
POCOST	COSTLINENUM	14	INTEGER	12	0	1	1	.
POCOST	QUANTITY	15	DECIMAL	15	2	0	1	INVENTORY.ORDERQTY
POECOMSTATUS	PONUM	1	UPPER	8	0	1	0	PO.PONUM
POECOMSTATUS	STATUS	2	ALN	25	0	1	0	PO.MNETSENT
POECOMSTATUS	CHANGEDATE	3	DATETIME	10	0	1	0	.
POECOMSTATUS	MEMO	4	ALN	254	0	0	0	.
POECOMSTATUS	SITEID	5	UPPER	8	0	1	0	SITE.SITEID
POECOMSTATUS	ORGID	6	UPPER	8	0	1	0	ORGANIZATION.ORGID
POECOMSTATUS	POECOMSTATUSID	7	INTEGER	12	0	1	1	.
POINTWO	WONUM	1	UPPER	10	0	1	0	WORKORDER.WONUM
POINTWO	POINTNUM	2	UPPER	8	0	1	0	MEASUREPOINT.POINTNUM
POINTWO	EFFECTIVEDATE	3	DATETIME	10	0	1	1	.
POINTWO	DESCRIPTION	4	ALN	100	0	0	0	.
POINTWO	SITEID	5	UPPER	8	0	1	0	SITE.SITEID
POINTWO	ORGID	6	UPPER	8	0	1	0	ORGANIZATION.ORGID
POINTWO	POINTMEASUREMENTID	8	INTEGER	12	0	0	1	MEASUREMENT.MEASUREMENTID
POINTWO	POINTVOID	9	INTEGER	12	0	1	1	.
POINTWO	LANGCODE	10	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
POINTWO	HASLD	11	YORN	1	0	1	1	.
POLINE	PONUM	1	UPPER	8	0	1	0	PO.PONUM
POLINE	ITEMNUM	2	UPPER	30	0	0	0	ITEM.ITEMNUM
POLINE	STORELOC	3	UPPER	12	0	0	0	LOCATIONS.LOCATION
POLINE	MODELNUM	4	ALN	8	0	0	0	INVENTORY.MODELNUM
POLINE	CATALOGCODE	5	ALN	30	0	0	0	INVENTORY.CATALOGCODE
POLINE	ORDERQTY	6	DECIMAL	15	2	0	1	INVENTORY.ORDERQTY
POLINE	ORDERUNIT	7	UPPER	8	0	0	0	MEASUREUNIT.MEASUREUNITID
POLINE	UNITCOST	8	DECIMAL	10	2	0	1	.
POLINE	RECEIVEDQTY	9	DECIMAL	15	2	0	1	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
POLINE	RECEIVEDUNITCOST	10	DECIMAL	10	2	0	1	.
POLINE	RECEIVEDTOTALCOST	11	DECIMAL	10	2	1	1	.
POLINE	REJECTEDQTY	12	DECIMAL	15	2	1	1	INVENTORY.ORDERQTY
POLINE	VENDELIVERYDATE	13	DATE	4	0	0	1	.
POLINE	SUPERVISOR	14	UPPER	30	0	0	0	PERSON.PERSONID
POLINE	ENTERDATE	15	DATETIME	10	0	1	1	.
POLINE	ENTERBY	16	UPPER	30	0	1	0	PERSON.PERSONID
POLINE	DESCRIPTION	17	ALN	100	0	0	0	ITEM.DESCRPTION
POLINE	PL1	18	ALN	10	0	0	0	PRLINE.RL1
POLINE	PL2	19	ALN	10	0	0	0	PRLINE.RL2
POLINE	PL3	20	ALN	10	0	0	0	PRLINE.RL3
POLINE	PL4	21	DECIMAL	15	2	0	0	PRLINE.RL4
POLINE	PL5	22	ALN	10	0	0	0	PRLINE.RL5
POLINE	REQUESTEDBY	23	UPPER	30	0	0	0	PERSON.PERSONID
POLINE	REQDELIVERYDATE	24	DATE	4	0	0	1	.
POLINE	ISSUE	25	YORN	1	0	1	1	.
POLINE	POLINENUM	26	INTEGER	12	0	1	1	PRLINE.PRLINENUM
POLINE	TAXED	27	YORN	1	0	1	1	.
POLINE	PLIN1	28	ALN	10	0	0	0	ITEM.IN19
POLINE	PLIN2	29	ALN	10	0	0	0	ITEM.IN20
POLINE	PLIN3	30	ALN	10	0	0	0	ITEM.IN21
POLINE	PLIN4	31	DATETIME	10	0	0	0	ITEM.IN22
POLINE	PLIN5	32	DECIMAL	15	2	0	0	ITEM.IN23
POLINE	ASSETNUM	33	UPPER	12	0	0	0	ASSET.ASSETNUM
POLINE	CHARGESTORE	34	YORN	1	0	1	1	.
POLINE	GLDEBITACCT	35	GL	23	0	0	1	.
POLINE	GLCREDITACCT	36	GL	23	0	0	1	.
POLINE	LINECOST	37	DECIMAL	10	2	1	1	.
POLINE	TAX1CODE	38	UPPER	8	0	0	0	TAX.TAXCODE
POLINE	TAX1	39	DECIMAL	10	2	1	1	.
POLINE	TAX2CODE	40	UPPER	8	0	0	0	TAX.TAXCODE
POLINE	TAX2	41	DECIMAL	10	2	1	1	.
POLINE	TAX3CODE	42	UPPER	8	0	0	0	TAX.TAXCODE
POLINE	TAX3	43	DECIMAL	10	2	1	1	.
POLINE	RECEIPTREQD	44	YORN	1	0	1	0	.
POLINE	MANUFACTURER	45	UPPER	12	0	0	0	COMPANIES.COMPANY
POLINE	TAX4CODE	46	UPPER	8	0	0	0	TAX.TAXCODE
POLINE	TAX4	47	DECIMAL	10	2	1	1	.
POLINE	TAX5CODE	48	UPPER	8	0	0	0	TAX.TAXCODE
POLINE	TAX5	49	DECIMAL	10	2	1	1	.
POLINE	CATEGORY	50	UPPER	16	0	0	1	INVENTORY.CATEGORY
POLINE	REMARK	51	ALN	50	0	0	0	PRLINE.REMARK
POLINE	LOCATION	52	UPPER	12	0	0	0	LOCATIONS.LOCATION
POLINE	LOADED COST	53	DECIMAL	10	2	1	1	.
POLINE	PRORATESERVICE	54	YORN	1	0	1	1	.
POLINE	RECEIPTS COMPLETE	55	YORN	1	0	1	1	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
POLINE	INSPECTIONREQUIRED	56	YORN	1	0	1	1	ITEM.INSPECTIONREQUIRED
POLINE	PRORATECOST	57	DECIMAL	10	2	0	1	.
POLINE	POLINEID	58	INTEGER	12	0	1	1	.
POLINE	LINECOST2	59	DECIMAL	10	2	0	1	.
POLINE	MRNUM	60	UPPER	8	0	0	0	MR.MRNUM
POLINE	MRLINENUM	61	INTEGER	12	0	0	1	MRLINE.MRLINENUM
POLINE	PL6	62	ALN	10	0	0	0	PRLINE.RL6
POLINE	PL7	63	ALN	10	0	0	0	PRLINE.RL7
POLINE	PL8	64	ALN	10	0	0	0	PRLINE.RL8
POLINE	PL9	65	ALN	10	0	0	0	PRLINE.RL9
POLINE	PL10	66	ALN	10	0	0	0	PRLINE.RL10
POLINE	PLIN6	67	ALN	10	0	0	0	ITEM.IN24
POLINE	PLIN7	68	ALN	10	0	0	0	ITEM.IN25
POLINE	PLIN8	69	ALN	10	0	0	0	ITEM.IN26
POLINE	PLIN9	70	ALN	10	0	0	0	ITEM.IN27
POLINE	POLALN1	71	ALN	10	0	0	0	MRLINE.MRLALN1
POLINE	POLALN2	72	ALN	10	0	0	0	MRLINE.MRLALN2
POLINE	POLALN3	73	ALN	10	0	0	0	MRLINE.MRLALN3
POLINE	POLALN4	74	ALN	10	0	0	0	MRLINE.MRLALN4
POLINE	POLALN5	75	ALN	10	0	0	0	MRLINE.MRLALN5
POLINE	PCARDNUM	76	ALN	30	0	0	0	PERSON.PCARDNUM
POLINE	PCARDTYPE	77	ALN	20	0	0	0	PERSON.PCARDTYPE
POLINE	PCARDEXPDATE	78	ALN	7	0	0	0	PERSON.PCARDEXPDATE
POLINE	FINCNTRLID	79	UPPER	8	0	0	0	FINCNTRL.FINCNTRLID
POLINE	PCARDVERIFICATION	80	ALN	4	0	0	0	PERSON.PCARDVERIFICATION
POLINE	VENDORPACKCODE	81	ALN	12	0	0	0	MRLINE.VENDORPACKCODE
POLINE	VENDORPACKQUANTITY	82	ALN	12	0	0	0	MRLINE.VENDORPACKQUANTITY
POLINE	VENDORWAREHOUSE	83	ALN	12	0	0	0	MRLINE.VENDORWAREHOUSE
POLINE	SITEID	84	UPPER	8	0	1	0	SITE.SITEID
POLINE	ORGID	85	UPPER	8	0	1	0	ORGANIZATION.ORGID
POLINE	ISDISTRIBUTED	86	YORN	1	0	1	0	.
POLINE	REFWO	87	UPPER	10	0	0	0	WORKORDER.WONUM
POLINE	ENTEREDASTASK	88	YORN	1	0	1	1	.
POLINE	LINETYPE	89	UPPER	15	0	1	1	PRLINE.LINETYPE
POLINE	ITEMSETID	90	UPPER	8	0	0	0	SETS.SETID
POLINE	CONDITIONCODE	103	UPPER	30	0	0	0	ITEMCONDITION.CONDITIONCODE
POLINE	CONTRACTREFNUM	104	UPPER	8	0	0	0	CONTRACT.CONTRACTNUM
POLINE	COMMODITYGROUP	105	UPPER	8	0	0	1	COMMODITIES.COMMODITY
POLINE	COMMODITY	106	UPPER	8	0	0	1	COMMODITIES.COMMODITY
POLINE	CONTRACTREFID	107	INTEGER	12	0	0	1	CONTRACT.CONTRACTID
POLINE	CONTRACTREFREV	108	INTEGER	12	0	0	1	CONTRACT.REVISIONNUM
POLINE	SCHEDULEID	109	INTEGER	12	0	0	1	SCHEDULE.SCHEDULEID
POLINE	CONTRFLINEID	112	INTEGER	12	0	0	0	CONTRACTLINE.CONTRACTLINEID
POLINE	TOSITEID	113	UPPER	8	0	1	0	SITE.SITEID
POLINE	SHIPTO	114	UPPER	30	0	0	0	ADDRESS.ADDRESSCODE
POLINE	SHIPTOATTN	115	UPPER	30	0	0	0	PERSON.PERSONID

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
POLINE	LANGCODE	116	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
POLINE	CONVERSION	118	DECIMAL	15	2	1	1	CONVERSION.CONVERSION
POLINE	HASLD	119	YORN	1	0	1	1	.
POLINE	MKTPLCITEM	120	YORN	1	0	1	0	.
PORTLET	PORTLETID	1	UPPER	15	0	0	0	.
PORTLET	DESCRIPTION	2	ALN	100	0	0	0	.
PORTLET	FORMAT	3	ALN	10	0	0	0	.
PORTLET	PORTLETUID	4	INTEGER	12	0	1	1	.
PORTLETDISPLAY	PORTLETDISPLAYID	1	INTEGER	12	0	1	1	.
PORTLETDISPLAY	EXPRESSION	2	ALN	3	0	0	1	.
PORTLETDISPLAY	EXPVALUE	3	ALN	50	0	0	1	.
PORTLETDISPLAY	COLOR	4	ALN	10	0	0	1	.
PORTLETDISPLAY	LAYOUTID	5	INTEGER	12	0	0	0	.
POSTATUS	PONUM	1	UPPER	8	0	1	0	PO.PONUM
POSTATUS	STATUS	2	UPPER	20	0	1	1	PO.STATUS
POSTATUS	CHANGEDATE	3	DATETIME	10	0	1	1	PO.STATUSDATE
POSTATUS	CHANGEBY	4	UPPER	30	0	1	0	PERSON.PERSONID
POSTATUS	MEMO	5	ALN	50	0	0	0	WFTRANSACTION.MEMO
POSTATUS	SITEID	6	UPPER	8	0	1	0	SITE.SITEID
POSTATUS	ORGID	7	UPPER	8	0	1	0	ORGANIZATION.ORGID
POSTATUS	POSTATUSID	8	INTEGER	12	0	1	1	.
POTERM	PONUM	1	UPPER	8	0	1	0	PO.PONUM
POTERM	SEQNUM	2	INTEGER	12	0	0	0	.
POTERM	TERMD	3	UPPER	25	0	0	0	.
POTERM	DESCRIPTION	4	ALN	100	0	0	0	.
POTERM	SITEID	5	UPPER	8	0	1	0	.
POTERM	ORGID	6	UPPER	8	0	1	0	.
POTERM	CANEDIT	8	YORN	1	0	1	0	.
POTERM	SENDTOVENDOR	9	YORN	1	0	1	1	.
POTERM	POTERMID	10	INTEGER	12	0	1	1	.
POTERM	LANGCODE	11	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
POTERM	HASLD	12	YORN	1	0	1	1	.
PPCRAFTRATE	CRAFT	1	UPPER	8	0	1	0	CRAFT.CRAFT
PPCRAFTRATE	ORGID	2	UPPER	8	0	1	0	ORGANIZATION.ORGID
PPCRAFTRATE	RATETYPE	3	UPPER	10	0	0	0	PREMIUMPAY.DEFAULTRATETYPE
PPCRAFTRATE	RATE	4	AMOUNT	10	2	0	0	.
PPCRAFTRATE	INHERIT	5	YORN	1	0	1	0	.
PPCRAFTRATE	PPCRAFTRATEID	9	INTEGER	12	0	1	1	.
PPCRAFTRATE	PREMIUMPAYCODE	10	UPPER	8	0	1	0	PREMIUMPAY.PREMIUMPAYCODE
PPLABORRATE	LABORCODE	1	UPPER	8	0	1	0	LABOR.LABORCODE
PPLABORRATE	ORGID	2	UPPER	8	0	1	0	ORGANIZATION.ORGID
PPLABORRATE	CRAFT	3	UPPER	8	0	1	0	CRAFT.CRAFT
PPLABORRATE	RATE	4	AMOUNT	10	2	0	0	.
PPLABORRATE	PPLABORRATEID	5	INTEGER	12	0	1	1	.
PPLABORRATE	PREMIUMPAYCODE	6	UPPER	8	0	1	0	PREMIUMPAY.PREMIUMPAYCODE
PR	PRNUM	1	UPPER	8	0	1	0	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
PR	ISSUEDATE	2	DATETIME	10	0	0	1	.
PR	REQUIREDDATE	3	DATETIME	10	0	0	1	.
PR	REQUESTEDBY	4	UPPER	30	0	0	0	PERSON.PERSONID
PR	VENDOR	5	UPPER	12	0	0	0	COMPANIES.COMPANY
PR	CONTACT	6	ALN	50	0	0	0	COMPANIES.CONTACT
PR	CUSTOMERNUM	7	ALN	16	0	0	0	COMPANIES.CUSTOMERNUM
PR	FOB	8	ALN	20	0	0	0	COMPANIES.FOB
PR	FREIGHTTERMS	9	ALN	50	0	0	0	COMPANIES.FREIGHTTERMS
PR	SHIPVIA	10	ALN	20	0	0	0	COMPANIES.SHIPVIA
PR	PAYMENTTERMS	11	ALN	20	0	0	0	COMPANIES.PAYMENTTERMS
PR	SHIPTO	12	UPPER	30	0	0	0	ADDRESS.ADDRESSCODE
PR	SHIPTOATTN	13	UPPER	30	0	0	0	PERSON.PERSONID
PR	BILLTO	14	UPPER	30	0	0	0	ADDRESS.ADDRESSCODE
PR	BILLTOATTN	15	UPPER	30	0	0	0	PERSON.PERSONID
PR	DESCRIPTION	16	ALN	100	0	0	0	.
PR	STATUS	17	UPPER	12	0	1	1	.
PR	STATUSDATE	18	DATETIME	10	0	1	1	.
PR	CHANGEDATE	19	DATETIME	10	0	1	1	.
PR	CHANGEBY	20	UPPER	30	0	1	0	PERSON.PERSONID
PR	TOTALCOST	21	DECIMAL	10	2	1	1	.
PR	PRIORITY	22	INTEGER	12	0	1	1	.
PR	HISTORYFLAG	23	YORN	1	0	1	1	.
PR	PR1	24	ALN	10	0	0	0	.
PR	PR2	25	ALN	10	0	0	0	.
PR	PR3	26	ALN	10	0	0	0	.
PR	PR4	27	ALN	10	0	0	0	.
PR	PR5	28	ALN	10	0	0	0	.
PR	PR6	29	AMOUNT	10	2	0	0	.
PR	PR7	30	DATETIME	10	0	0	0	.
PR	PR8	31	DECIMAL	15	2	0	0	.
PR	PR9	32	INTEGER	12	0	0	0	.
PR	PR10	33	YORN	1	0	1	0	.
PR	SUPERVISOR	34	UPPER	30	0	0	0	PERSON.PERSONID
PR	CURRENCYCODE	35	UPPER	8	0	1	0	CURRENCY.CURRENCYCODE
PR	EXCHANGERATE	36	DECIMAL	14	7	0	1	EXCHANGE.EXCHANGERATE
PR	EXCHANGEDATE	37	DATE	4	0	0	1	.
PR	BUYAHEAD	38	YORN	1	0	1	1	.
PR	TOTALTAX1	39	DECIMAL	10	2	0	1	.
PR	TOTALTAX2	40	DECIMAL	10	2	0	1	.
PR	TOTALTAX3	41	DECIMAL	10	2	0	1	.
PR	INCLUSIVE1	42	YORN	1	0	1	1	.
PR	INCLUSIVE2	43	YORN	1	0	1	1	.
PR	INCLUSIVE3	44	YORN	1	0	1	1	.
PR	INTERNAL	45	YORN	1	0	1	1	.
PR	TOTALTAX4	46	DECIMAL	10	2	0	1	.
PR	TOTALTAX5	47	DECIMAL	10	2	0	1	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
PR	INCLUSIVE4	48	YORN	1	0	1	1	.
PR	INCLUSIVE5	49	YORN	1	0	1	1	.
PR	PAYONRECEIPT	50	YORN	1	0	1	1	COMPANIES.PAYONRECEIPT
PR	EXCHANGERATE2	51	DECIMAL	14	7	0	1	EXCHANGE.EXCHANGERATE
PR	SOURCESYSID	52	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
PR	OWNERSYSID	53	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
PR	EXTERNALREFID	54	ALN	10	0	0	0	.
PR	PRLA1	55	ALN	10	0	0	0	.
PR	PRLA2	56	ALN	10	0	0	0	.
PR	PRLA3	57	ALN	10	0	0	0	.
PR	PRLA4	58	ALN	10	0	0	0	.
PR	PRLA5	59	ALN	10	0	0	0	.
PR	PCARDNUM	60	ALN	30	0	0	0	PERSON.PCARDNUM
PR	PCARDTYPE	61	ALN	20	0	0	0	PERSON.PCARDTYPE
PR	PCARDEXPDATE	62	ALN	7	0	0	0	PERSON.PCARDEXPDATE
PR	SENDERSYSID	63	ALN	50	0	0	0	.
PR	PCARDVERIFICATION	64	ALN	4	0	0	0	PERSON.PCARDVERIFICATION
PR	SITEID	65	UPPER	8	0	1	0	SITE.SITEID
PR	ORGID	66	UPPER	8	0	1	0	ORGANIZATION.ORGID
PR	CONTRACTREFNUM	71	UPPER	8	0	0	0	CONTRACT.CONTRACTNUM
PR	NOVENDOR	72	YORN	1	0	1	1	.
PR	PRID	73	INTEGER	12	0	1	1	.
PR	CONTRACTREFID	74	INTEGER	12	0	0	1	CONTRACT.CONTRACTID
PR	CONTRACTREFREV	75	INTEGER	12	0	0	1	CONTRACT.REVISIONNUM
PR	STORELOC	76	UPPER	12	0	0	0	LOCATIONS.LOCATION
PR	STORELOCSITEID	77	UPPER	8	0	0	0	SITE.SITEID
PR	INSPECTIONREQUIRED	78	YORN	1	0	1	0	COMPANIES.INSPECTIONREQUIRED
PR	LANGCODE	80	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
PR	HASLD	81	YORN	1	0	1	1	.
PRCOST	PRCOSTID	1	INTEGER	12	0	1	1	.
PRCOST	PRNUM	2	UPPER	8	0	1	0	PR.PRNUM
PRCOST	PERCENTAGE	3	DECIMAL	5	2	1	0	.
PRCOST	GLDEBITACCT	4	GL	23	0	0	1	.
PRCOST	FINCNTRLID	5	UPPER	8	0	0	0	FINCNTRL.FINCNTRLID
PRCOST	SITEID	6	UPPER	8	0	1	0	SITE.SITEID
PRCOST	ORGID	7	UPPER	8	0	1	0	ORGANIZATION.ORGID
PRCOST	LINECOST	8	DECIMAL	10	2	1	1	PRLINE.LINECOST
PRCOST	LOADED COST	9	DECIMAL	10	2	1	1	PRLINE.LOADEDCOST
PRCOST	PRLINEID	10	INTEGER	12	0	1	0	PRLINE.PRLINEID
PRCOST	GLCREDITACCT	11	GL	23	0	0	1	.
PRCOST	COSTLINENUM	14	INTEGER	12	0	1	1	.
PRCOST	QUANTITY	15	DECIMAL	15	2	0	1	INVENTORY.ORDERQTY
PRECAUTION	PRECAUTIONID	1	UPPER	8	0	1	0	.
PRECAUTION	DESCRIPTION	2	ALN	100	0	0	0	.
PRECAUTION	PREC01	3	ALN	10	0	0	0	.
PRECAUTION	PREC02	4	ALN	10	0	0	0	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
PRECAUTION	PREC03	5	ALN	10	0	0	0	.
PRECAUTION	PREC04	6	ALN	10	0	0	0	.
PRECAUTION	PREC05	7	ALN	10	0	0	0	.
PRECAUTION	PREC06	8	AMOUNT	10	2	0	0	.
PRECAUTION	PREC07	9	DATETIME	10	0	0	0	.
PRECAUTION	PREC08	10	DECIMAL	15	2	0	0	.
PRECAUTION	PREC09	11	ALN	10	0	0	0	.
PRECAUTION	PREC10	12	YORN	1	0	1	0	.
PRECAUTION	ORGID	13	UPPER	8	0	1	0	ORGANIZATION.ORGID
PRECAUTION	SITEID	14	UPPER	8	0	1	0	SITE.SITEID
PRECAUTION	PRECAUTIONUID	16	INTEGER	12	0	1	1	.
PRECAUTION	LANGCODE	17	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
PRECAUTION	HASLD	18	YORN	1	0	1	1	.
PREMIUMPAY	ORGID	1	UPPER	8	0	1	0	ORGANIZATION.ORGID
PREMIUMPAY	DESCRIPTION	2	ALN	100	0	0	0	.
PREMIUMPAY	DEFAULTRATETYPE	3	UPPER	10	0	1	0	.
PREMIUMPAY	DEFAULTRATE	4	DECIMAL	10	2	0	0	.
PREMIUMPAY	GLOBALPPCODE	5	YORN	1	0	1	0	.
PREMIUMPAY	PREMIUMPAYID	7	INTEGER	12	0	1	1	.
PREMIUMPAY	PREMIUMPAYCODE	8	UPPER	8	0	1	0	.
PREMIUMPAY	LANGCODE	9	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
PREMIUMPAY	HASLD	10	YORN	1	0	1	1	.
PRICALC	FINDEX	1	SMALLINT	10	0	1	1	.
PRICALC	FORMULA	2	ALN	254	0	1	1	.
PRICALC	SELECTED	3	YORN	1	0	1	1	.
PRICALC	ORGID	4	UPPER	8	0	1	0	ORGANIZATION.ORGID
PRICALC	SITEID	5	UPPER	8	0	1	0	SITE.SITEID
PRICALC	PRICALCID	6	INTEGER	12	0	1	1	.
PRLINE	PRNUM	1	UPPER	8	0	1	0	PR.PRNUM
PRLINE	ITEMNUM	2	UPPER	30	0	0	0	ITEM.ITEMNUM
PRLINE	STORELOC	3	UPPER	12	0	0	0	LOCATIONS.LOCATION
PRLINE	ORDERQTY	4	DECIMAL	15	2	0	1	INVENTORY.ORDERQTY
PRLINE	ORDERUNIT	5	UPPER	8	0	0	0	MEASUREUNIT.MEASUREUNITID
PRLINE	UNITCOST	6	DECIMAL	10	2	0	1	.
PRLINE	PONUM	7	UPPER	8	0	0	0	PO.PONUM
PRLINE	REQDELIVERYDATE	8	DATE	4	0	0	1	.
PRLINE	VENDELIVERYDATE	9	DATE	4	0	0	1	.
PRLINE	ENTERDATE	10	DATETIME	10	0	1	1	.
PRLINE	ENTERBY	11	UPPER	30	0	1	0	PERSON.PERSONID
PRLINE	DESCRIPTION	12	ALN	100	0	0	0	ITEM.DESCRPTION
PRLINE	RL1	13	ALN	10	0	0	0	.
PRLINE	RL2	14	ALN	10	0	0	0	.
PRLINE	RL3	15	ALN	10	0	0	0	.
PRLINE	RL4	16	DECIMAL	15	2	0	0	.
PRLINE	RL5	17	ALN	10	0	0	0	.
PRLINE	REQUESTEDBY	18	UPPER	30	0	0	0	PERSON.PERSONID

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
PRLINE	ISSUE	19	YORN	1	0	1	1	.
PRLINE	RLIN1	20	ALN	10	0	0	0	ITEM.IN19
PRLINE	RLIN2	21	ALN	10	0	0	0	ITEM.IN20
PRLINE	RLIN3	22	ALN	10	0	0	0	ITEM.IN21
PRLINE	RLIN4	23	DATETIME	10	0	0	0	ITEM.IN22
PRLINE	RLIN5	24	DECIMAL	15	2	0	0	ITEM.IN23
PRLINE	ASSETNUM	25	UPPER	12	0	0	0	ASSET.ASSETNUM
PRLINE	CHARGESTORE	26	YORN	1	0	1	1	.
PRLINE	GLDEBITACCT	27	GL	23	0	0	1	.
PRLINE	GLCREDITACCT	28	GL	23	0	0	1	.
PRLINE	LINECOST	29	DECIMAL	10	2	1	1	.
PRLINE	TAX1CODE	30	UPPER	8	0	0	0	TAX.TAXCODE
PRLINE	TAX1	31	DECIMAL	10	2	1	1	.
PRLINE	TAX2CODE	32	UPPER	8	0	0	0	TAX.TAXCODE
PRLINE	TAX2	33	DECIMAL	10	2	1	1	.
PRLINE	TAX3CODE	34	UPPER	8	0	0	0	TAX.TAXCODE
PRLINE	TAX3	35	DECIMAL	10	2	1	1	.
PRLINE	RECEIPTREQD	36	YORN	1	0	1	0	.
PRLINE	MANUFACTURER	37	UPPER	12	0	0	0	COMPANIES.COMPANY
PRLINE	MODELNUM	38	ALN	8	0	0	0	INVENTORY.MODELNUM
PRLINE	CATALOGCODE	39	ALN	30	0	0	0	INVENTORY.CATALOGCODE
PRLINE	TAX4CODE	40	UPPER	8	0	0	0	TAX.TAXCODE
PRLINE	TAX4	41	DECIMAL	10	2	1	1	.
PRLINE	TAX5CODE	42	UPPER	8	0	0	0	TAX.TAXCODE
PRLINE	TAX5	43	DECIMAL	10	2	1	1	.
PRLINE	PRLINENUM	44	INTEGER	12	0	1	1	.
PRLINE	POLINENUM	45	INTEGER	12	0	0	1	PRLINE.PRLINENUM
PRLINE	CATEGORY	46	UPPER	16	0	0	1	INVENTORY.CATEGORY
PRLINE	REMARK	47	ALN	50	0	0	0	.
PRLINE	LOCATION	48	UPPER	12	0	0	0	LOCATIONS.LOCATION
PRLINE	LOADED COST	49	DECIMAL	10	2	1	1	.
PRLINE	PRORATESERVICE	50	YORN	1	0	1	1	.
PRLINE	CONVERTTORFQ	51	YORN	1	0	1	1	.
PRLINE	RFQNUM	52	UPPER	8	0	0	0	RFQ.RFQNUM
PRLINE	RFQLINENUM	53	INTEGER	12	0	0	1	RFQLINE.RFQLINENUM
PRLINE	INSPECTIONREQUIRED	54	YORN	1	0	1	1	ITEM.INSPECTIONREQUIRED
PRLINE	RFQLINEID	55	INTEGER	12	0	0	1	.
PRLINE	POLINEID	56	INTEGER	12	0	0	1	.
PRLINE	LINECOST2	57	DECIMAL	10	2	0	1	.
PRLINE	MRNUM	58	UPPER	8	0	0	0	MR.MRNUM
PRLINE	MRLINENUM	59	INTEGER	12	0	0	1	MRLINE.MRLINENUM
PRLINE	RL6	60	ALN	10	0	0	0	.
PRLINE	RL7	61	ALN	10	0	0	0	.
PRLINE	RL8	62	ALN	10	0	0	0	.
PRLINE	RL9	63	ALN	10	0	0	0	.
PRLINE	RL10	64	ALN	10	0	0	0	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
PRLINE	RLIN6	65	ALN	10	0	0	0	ITEM.IN24
PRLINE	RLIN7	66	ALN	10	0	0	0	ITEM.IN25
PRLINE	RLIN8	67	ALN	10	0	0	0	ITEM.IN26
PRLINE	RLIN9	68	ALN	10	0	0	0	ITEM.IN27
PRLINE	PRLALN1	69	ALN	10	0	0	0	MRLINE.MRLALN1
PRLINE	PRLALN2	70	ALN	10	0	0	0	MRLINE.MRLALN2
PRLINE	PRLALN3	71	ALN	10	0	0	0	MRLINE.MRLALN3
PRLINE	PRLALN4	72	ALN	10	0	0	0	MRLINE.MRLALN4
PRLINE	PRLALN5	73	ALN	10	0	0	0	MRLINE.MRLALN5
PRLINE	PCARDNUM	74	ALN	30	0	0	0	PERSON.PCARDNUM
PRLINE	PCARDTYPE	75	ALN	20	0	0	0	PERSON.PCARDTYPE
PRLINE	PCARDEXPDATE	76	ALN	7	0	0	0	PERSON.PCARDEXPDATE
PRLINE	FINCNTRLID	77	UPPER	8	0	0	0	FINCNTRL.FINCNTRLID
PRLINE	PCARDVERIFICATION	78	ALN	4	0	0	0	PERSON.PCARDVERIFICATION
PRLINE	VENDORPACKCODE	79	ALN	12	0	0	0	MRLINE.VENDORPACKCODE
PRLINE	VENDORPACKQUANTITY	80	ALN	12	0	0	0	MRLINE.VENDORPACKQUANTITY
PRLINE	VENDORWAREHOUSE	81	ALN	12	0	0	0	MRLINE.VENDORWAREHOUSE
PRLINE	SITEID	82	UPPER	8	0	1	0	SITE.SITEID
PRLINE	ORGID	83	UPPER	8	0	1	0	ORGANIZATION.ORGID
PRLINE	PRLINEID	84	INTEGER	12	0	1	0	.
PRLINE	ISDISTRIBUTED	85	YORN	1	0	1	0	.
PRLINE	REFWO	86	UPPER	10	0	0	0	WORKORDER.WONUM
PRLINE	ENTEREDASTASK	87	YORN	1	0	1	1	.
PRLINE	LINETYPE	88	UPPER	15	0	1	1	.
PRLINE	ITEMSETID	89	UPPER	8	0	0	0	SETS.SETID
PRLINE	CONDITIONCODE	94	UPPER	30	0	0	0	ITEMCONDITION.CONDITIONCODE
PRLINE	CONTRACTNUM	95	UPPER	8	0	0	0	CONTRACT.CONTRACTNUM
PRLINE	CONTRACTLINENUM	96	INTEGER	12	0	0	0	CONTRACTLINE.CONTRACTLINENUM
PRLINE	CONTRACTLINEID	97	INTEGER	12	0	0	0	CONTRACTLINE.CONTRACTLINEID
PRLINE	CONTRACTREFNUM	98	UPPER	8	0	0	0	CONTRACT.CONTRACTNUM
PRLINE	COMMODITYGROUP	99	UPPER	8	0	0	1	COMMODITIES.COMMODITY
PRLINE	COMMODITY	100	UPPER	8	0	0	1	COMMODITIES.COMMODITY
PRLINE	CONVERTTOCONTRACT	101	YORN	1	0	1	1	.
PRLINE	CONTRACTREFID	102	INTEGER	12	0	0	1	CONTRACT.CONTRACTID
PRLINE	CONTRACTREFREV	103	INTEGER	12	0	0	1	CONTRACT.REVISIONNUM
PRLINE	CONTRACTREV	104	INTEGER	12	0	0	1	CONTRACT.REVISIONNUM
PRLINE	SCHEDULEID	105	INTEGER	12	0	0	1	SCHEDULE.SCHEDULEID
PRLINE	CONTRREFLINEID	108	INTEGER	12	0	0	0	CONTRACTLINE.CONTRACTLINEID
PRLINE	LANGCODE	109	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
PRLINE	CONVERSION	110	DECIMAL	15	2	1	1	CONVERSION.CONVERSION
PRLINE	CONTRACTID	111	INTEGER	12	0	0	1	CONTRACT.CONTRACTID
PRLINE	HASLD	112	YORN	1	0	1	1	.
PRLINE	MKTPLCITEM	113	YORN	1	0	1	0	.
PROBLEM	TICKETID	1	UPPER	10	0	1	0	TICKET.TICKETID
PROBLEM	CLASS	2	UPPER	10	0	1	1	TICKET.CLASS
PROBLEM	DESCRIPTION	3	ALN	100	0	0	1	TICKET.DESCRPTION

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
PROBLEM	STATUS	4	UPPER	8	0	1	1	TICKET.STATUS
PROBLEM	STATUSDATE	5	DATETIME	10	0	1	1	TICKET.STATUSDATE
PROBLEM	REPORTEDPRIORITY	6	INTEGER	12	0	0	1	TICKET.REPORTEDPRIORITY
PROBLEM	INTERNALPRIORITY	7	INTEGER	12	0	0	1	TICKET.INTERNALPRIORITY
PROBLEM	IMPACT	8	INTEGER	12	0	0	1	TICKET.IMPACT
PROBLEM	URGENCY	9	INTEGER	12	0	0	1	TICKET.URGENCY
PROBLEM	REPORTEDBY	10	ALN	62	0	0	0	PERSON.DISPLAYNAME
PROBLEM	REPORTDATE	11	DATETIME	10	0	0	1	TICKET.REPORTDATE
PROBLEM	AFFECTEDPERSON	12	ALN	62	0	0	0	PERSON.DISPLAYNAME
PROBLEM	AFFECTEDDATE	13	DATETIME	10	0	0	1	TICKET.AFFECTEDDATE
PROBLEM	SOURCE	14	ALN	20	0	0	1	TICKET.SOURCE
PROBLEM	SUPERVISOR	15	UPPER	8	0	0	1	TICKET.SUPERVISOR
PROBLEM	OWNER	16	UPPER	30	0	0	0	PERSON.PERSONID
PROBLEM	OWNERGROUP	17	UPPER	8	0	0	0	PERSONGROUP.PERSONGROUP
PROBLEM	ISGLOBAL	18	YORN	1	0	1	1	TICKET.ISGLOBAL
PROBLEM	RELATEDTOGLOBAL	19	YORN	1	0	1	1	TICKET.RELATEDTOGLOBAL
PROBLEM	GLOBALTICKETID	20	UPPER	10	0	0	1	TICKET.GLOBALTICKETID
PROBLEM	GLOBALTICKETCLASS	21	UPPER	10	0	0	1	TICKET.GLOBALTICKETCLASS
PROBLEM	EXTERNALRECID	22	ALN	20	0	0	1	TICKET.EXTERNALRECID
PROBLEM	SITEVISIT	23	YORN	1	0	1	1	TICKET.SITEVISIT
PROBLEM	ORIGRECORDID	24	UPPER	10	0	0	1	TICKET.ORIGRECORDID
PROBLEM	ORIGRECORDCLASS	25	UPPER	10	0	0	1	TICKET.ORIGRECORDCLASS
PROBLEM	GLACCOUNT	26	GL	23	0	0	1	.
PROBLEM	COMMODITYGROUP	27	UPPER	8	0	0	1	COMMODITIES.COMMODITY
PROBLEM	COMMODITY	28	UPPER	8	0	0	1	COMMODITIES.COMMODITY
PROBLEM	INHERITSTATUS	29	YORN	1	0	1	1	TICKET.INHERITSTATUS
PROBLEM	ISKNOWNERERROR	30	YORN	1	0	1	1	TICKET.ISKNOWNERERROR
PROBLEM	TARGETSTART	31	DATETIME	10	0	0	1	TICKET.TARGETSTART
PROBLEM	TARGETFINISH	32	DATETIME	10	0	0	1	TICKET.TARGETFINISH
PROBLEM	ACTUALSTART	33	DATETIME	10	0	0	1	TICKET.ACTUALSTART
PROBLEM	ACTUALFINISH	34	DATETIME	10	0	0	1	TICKET.ACTUALFINISH
PROBLEM	ORIGRECSITEID	35	UPPER	8	0	0	1	TICKET.ORIGRECSITEID
PROBLEM	ORIGREORGID	36	UPPER	8	0	0	1	TICKET.ORIGREORGID
PROBLEM	SITEID	37	UPPER	8	0	0	0	SITE.SITEID
PROBLEM	ORGID	38	UPPER	8	0	0	0	ORGANIZATION.ORGID
PROBLEM	CHANGEDATE	39	DATETIME	10	0	1	1	TICKET.CHANGEDATE
PROBLEM	CHANGEBY	40	UPPER	30	0	1	0	PERSON.PERSONID
PROBLEM	HISTORYFLAG	41	YORN	1	0	1	1	TICKET.HISTORYFLAG
PROBLEM	TEMPLATE	42	YORN	1	0	1	1	TICKET.TEMPLATE
PROBLEM	HASACTIVITY	43	YORN	1	0	1	1	TICKET.HASACTIVITY
PROBLEM	FAILURECODE	44	UPPER	8	0	0	0	FAILURECODE.FAILURECODE
PROBLEM	PROBLEMCODE	45	UPPER	8	0	0	0	FAILURECODE.FAILURECODE
PROBLEM	ACTLABHRS	46	DURATION	8	0	1	1	TICKET.ACTLABHRS
PROBLEM	ACTLABCOST	47	AMOUNT	10	2	1	1	TICKET.ACTLABCOST
PROBLEM	AFFECTEDPHONE	48	ALN	20	0	0	0	TICKET.AFFECTEDPHONE
PROBLEM	REPORTEDPHONE	49	ALN	20	0	0	0	TICKET.REPORTEDPHONE

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
PROBLEM	AFFECTEEMAIL	50	ALN	50	0	0	1	EMAIL.EMAILADDRESS
PROBLEM	REPORTEMAIL	51	ALN	50	0	0	1	EMAIL.EMAILADDRESS
PROBLEM	ASSETSITID	52	UPPER	8	0	0	0	SITE.SITID
PROBLEM	TEMPLATEID	53	UPPER	10	0	0	0	TICKET.TEMPLATEID
PROBLEM	VENDOR	54	UPPER	12	0	0	0	COMPANIES.COMPANY
PROBLEM	ASSETNUM	59	UPPER	12	0	0	0	ASSET.ASSETNUM
PROBLEM	LOCATION	60	UPPER	12	0	0	0	LOCATIONS.LOCATION
PROBLEM	CLASSSTRUCTUREID	62	UPPER	20	0	0	1	CLASSSTRUCTURE.CLASSSTRUCTUREID
PROBLEM	ISKNOWNERRORDATE	63	DATETIME	10	0	0	0	TICKET.ISKNOWNERRORDATE
PROBLEM	TARGETCONTACTDATE	64	DATETIME	10	0	0	0	TICKET.TARGETCONTACTDATE
PROBLEM	ACTUALCONTACTDATE	65	DATETIME	10	0	0	0	TICKET.ACTUALCONTACTDATE
PROBLEM	CREATEWORELASSET	66	YORN	1	0	1	0	TICKET.CREATEWORELASSET
PROBLEM	FR1CODE	69	UPPER	8	0	0	0	FAILURECODE.FAILURECODE
PROBLEM	FR2CODE	71	UPPER	8	0	0	0	FAILURECODE.FAILURECODE
PROBLEM	TICKETUID	73	INTEGER	12	0	0	1	.
PROBLEM	SOLUTION	74	UPPER	8	0	0	1	SOLUTION.SOLUTION
PROBLEM	ASSETORGID	78	UPPER	8	0	0	0	ORGANIZATION.ORGID
PROBLEM	LANGCODE	80	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
PROBLEM	HASLD	88	YORN	1	0	1	1	.
PROPERTYASSOC	MAXCONTRACTTYPE	1	ALN	25	0	1	1	SYNONYMDOMAIN.MAXVALUE
PROPERTYASSOC	PROPERTYID	2	UPPER	18	0	1	1	MAXOBJECT.OBJECTNAME
PROPERTYASSOC	PROPERTYASSOCID	3	INTEGER	12	0	1	1	.
PROPERTYDEFAULT	PROPERTYID	1	UPPER	18	0	1	1	MAXOBJECT.OBJECTNAME
PROPERTYDEFAULT	DEFAULTVALUE	2	ALN	50	0	0	1	.
PROPERTYDEFAULT	EDITABLE	3	YORN	1	0	1	1	.
PROPERTYDEFAULT	ORGID	4	UPPER	8	0	1	0	ORGANIZATION.ORGID
PROPERTYDEFAULT	CONTRACTTYPEID	5	UPPER	25	0	1	1	CONTRACTTYPE.CONTRACTTYPEID
PROPERTYDEFAULT	PROPERTYDEFAULTID	6	INTEGER	12	0	1	1	.
PRSTATUS	PRNUM	1	UPPER	8	0	1	0	PR.PRNUM
PRSTATUS	CHANGEDATE	2	DATETIME	10	0	1	1	PR.STATUSDATE
PRSTATUS	STATUS	3	UPPER	12	0	1	1	PR.STATUS
PRSTATUS	CHANGEBY	4	UPPER	30	0	1	0	PERSON.PERSONID
PRSTATUS	MEMO	5	ALN	50	0	0	0	WFTRANSACTION.MEMO
PRSTATUS	SITID	6	UPPER	8	0	1	0	SITE.SITID
PRSTATUS	ORGID	7	UPPER	8	0	1	0	ORGANIZATION.ORGID
PRSTATUS	PRSTATUSID	8	INTEGER	12	0	1	1	.
PRTERM	PRNUM	1	UPPER	8	0	1	0	PR.PRNUM
PRTERM	SEQNUM	2	INTEGER	12	0	0	0	.
PRTERM	TERMIN	3	UPPER	25	0	0	0	.
PRTERM	DESCRIPTION	4	ALN	100	0	0	0	.
PRTERM	SITID	5	UPPER	8	0	1	0	.
PRTERM	ORGID	6	UPPER	8	0	1	0	.
PRTERM	CANEDIT	8	YORN	1	0	1	0	.
PRTERM	SENDTOVENDOR	9	YORN	1	0	1	1	.
PRTERM	PRTERMIN	10	INTEGER	12	0	1	1	.
PRTERM	LANGCODE	11	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
PRTERM	HASLD	12	YORN	1	0	1	1	.
PURCHVIEW	CONTRACTNUM	1	UPPER	8	0	0	0	CONTRACT.CONTRACTNUM
PURCHVIEW	DESCRIPTION	2	ALN	100	0	0	0	PR.DESCRPTION
PURCHVIEW	MASTERNUM	3	UPPER	8	0	0	0	CONTRACT.MASTERNUM
PURCHVIEW	VENDORREFNUM	4	ALN	12	0	0	0	CONTRACT.VENDORREFNUM
PURCHVIEW	CONTRACTTYPE	5	UPPER	25	0	1	0	CONTRACT.CONTRACTTYPE
PURCHVIEW	REVISIONNUM	6	INTEGER	12	0	0	1	CONTRACT.REVISIONNUM
PURCHVIEW	PURCHASEAGENT	7	UPPER	30	0	0	0	PERSON.PERSONID
PURCHVIEW	STATUS	8	UPPER	6	0	1	0	CONTRACT.STATUS
PURCHVIEW	STATUSDATE	9	DATETIME	10	0	0	0	CONTRACT.STATUSDATE
PURCHVIEW	STARTDATE	10	DATE	4	0	0	0	CONTRACT.STARTDATE
PURCHVIEW	ENDDATE	11	DATE	4	0	0	0	CONTRACT.ENDDATE
PURCHVIEW	RENEWALDATE	12	DATE	4	0	0	0	CONTRACT.RENEWALDATE
PURCHVIEW	EXTENDABLE	13	YORN	1	0	1	0	CONTRACT.EXTENDABLE
PURCHVIEW	AUTOEXTENDPERIOD	14	INTEGER	12	0	0	0	CONTRACT.AUTOEXTENDPERIOD
PURCHVIEW	CONDFOREXT	15	ALN	20	0	0	0	CONTRACT.CONDFOREXT
PURCHVIEW	CUSTTERMALLOWED	16	YORN	1	0	1	0	CONTRACT.CUSTTERMALLOWED
PURCHVIEW	CUSTNOTIFYPERIOD	17	INTEGER	12	0	0	0	CONTRACT.CUSTNOTIFYPERIOD
PURCHVIEW	VENDTERMALLOWED	18	YORN	1	0	1	0	CONTRACT.VENDTERMALLOWED
PURCHVIEW	VENDNOTIFYPERIOD	19	INTEGER	12	0	0	0	CONTRACT.VENDNOTIFYPERIOD
PURCHVIEW	VENDOR	20	UPPER	12	0	0	0	COMPANIES.COMPANY
PURCHVIEW	CONTACT	21	ALN	50	0	0	0	COMPANIES.CONTACT
PURCHVIEW	FREIGHTTERMS	22	ALN	50	0	0	0	COMPANIES.FREIGHTTERMS
PURCHVIEW	PAYMENTTERMS	23	ALN	20	0	0	0	COMPANIES.PAYMENTTERMS
PURCHVIEW	SHIPVIA	24	ALN	20	0	0	0	COMPANIES.SHIPVIA
PURCHVIEW	CUSTOMERNUM	25	ALN	16	0	0	0	COMPANIES.CUSTOMERNUM
PURCHVIEW	FOB	26	ALN	20	0	0	0	COMPANIES.FOB
PURCHVIEW	TOTALCOST	27	DECIMAL	10	2	0	1	PO.TOTALCOST
PURCHVIEW	CHANGEBY	28	UPPER	30	0	0	0	PERSON.PERSONID
PURCHVIEW	CHANGEDATE	29	DATETIME	10	0	1	0	CONTRACT.CHANGEDATE
PURCHVIEW	HISTORYFLAG	30	YORN	1	0	1	0	CONTRACT.HISTORYFLAG
PURCHVIEW	CURRENCYCODE	31	UPPER	8	0	1	0	CURRENCY.CURRENCYCODE
PURCHVIEW	EXCHANGERATE	32	DECIMAL	14	7	0	1	EXCHANGE.EXCHANGERATE
PURCHVIEW	EXCHANGERATE2	33	DECIMAL	14	7	0	1	EXCHANGE.EXCHANGERATE
PURCHVIEW	EXCHANGEDATE	34	DATE	4	0	0	0	CONTRACT.EXCHANGEDATE
PURCHVIEW	BUYAHEAD	35	YORN	1	0	1	0	CONTRACT.BUYAHEAD
PURCHVIEW	INCLUSIVE1	36	YORN	1	0	1	0	CONTRACT.INCLUSIVE1
PURCHVIEW	INCLUSIVE2	37	YORN	1	0	1	0	CONTRACT.INCLUSIVE2
PURCHVIEW	INCLUSIVE3	38	YORN	1	0	1	0	CONTRACT.INCLUSIVE3
PURCHVIEW	INCLUSIVE4	39	YORN	1	0	1	0	CONTRACT.INCLUSIVE4
PURCHVIEW	INCLUSIVE5	40	YORN	1	0	1	0	CONTRACT.INCLUSIVE5
PURCHVIEW	EXTERNALREFID	41	ALN	10	0	0	0	CONTRACT.EXTERNALREFID
PURCHVIEW	OWNERSYSID	42	ALN	10	0	0	0	CONTRACT.OWNERSYSID
PURCHVIEW	SENDERSYSID	43	ALN	50	0	0	0	CONTRACT.SENDERSYSID
PURCHVIEW	ORGID	44	UPPER	8	0	0	0	ORGANIZATION.ORGID
PURCHVIEW	TOTALBASECOST	45	DECIMAL	10	2	1	0	CONTRACT.TOTALBASECOST

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
PURCHVIEW	POREQUIRED	46	YORN	1	0	1	0	CONTRACT.POREQUIRED
PURCHVIEW	PAYMENTSCHED	47	YORN	1	0	1	0	CONTRACT.PAYMENTSCHED
PURCHVIEW	ADDLINESONUSE	48	YORN	1	0	1	0	CONTRACTPURCH.ADDLINESONUSE
PURCHVIEW	CHGPRICEONUSE	49	YORN	1	0	1	0	CONTRACTPURCH.CHGPRICEONUSE
PURCHVIEW	CHGQTYONUSE	50	YORN	1	0	1	0	CONTRACTPURCH.CHGQTYONUSE
PURCHVIEW	MAXVOL	51	DECIMAL	10	2	0	0	CONTRACTPURCH.MAXVOL
PURCHVIEW	MAXRELVOL	52	DECIMAL	10	2	0	0	CONTRACTPURCH.MAXRELVOL
PURCHVIEW	SHIPPINGLOSS	53	YORN	1	0	1	0	CONTRACTPURCH.SHIPPINGLOSS
PURCHVIEW	DELIVERYLOSS	54	YORN	1	0	1	0	CONTRACTPURCH.DELIVERYLOSS
PURCHVIEW	ACCEPTANCELOSS	55	YORN	1	0	1	0	CONTRACTPURCH.ACCEPTANCELOSS
PURCHVIEW	ACCEPTPERIOD	56	INTEGER	12	0	0	0	CONTRACTPURCH.ACCEPTPERIOD
PURCHVIEW	ENFORCEBUNDLE	57	YORN	1	0	1	0	CONTRACTPURCH.ENFORCEBUNDLE
PURCHVIEW	AMTREMAINING	58	DECIMAL	10	2	0	0	CONTRACTPURCH.AMTREMAINING
PURCHVIEW	CREATEREL	63	YORN	1	0	1	0	CONTRACTPURCH.CREATEREL
PURCHVIEW	HASINSURANCE	64	YORN	1	0	1	0	CONTRACT.HASINSURANCE
PURCHVIEW	INSURANCEEXPDATE	65	DATE	4	0	0	0	CONTRACT.INSURANCEEXPDATE
PURCHVIEW	CANEXCEEDVOLUME	67	YORN	1	0	1	0	.
PURCHVIEW	CONTRACTPURCHID	68	INTEGER	12	0	0	1	.
PURCHVIEW	CONTRACTID	69	INTEGER	12	0	0	1	.
PURCHVIEW	REVCOMMENTS	70	ALN	100	0	0	0	PR.DESCRPTION
PURCHVIEW	LANGCODE	71	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
PURCHVIEW	MASTERREVNUM	73	INTEGER	12	0	0	1	CONTRACT.REVISIONNUM
PURCHVIEW	PROCESSCLAIM	74	YORN	1	0	1	0	.
PURCHVIEW	INSPECTIONREQUIRED	76	YORN	1	0	1	0	COMPANIES.INSPECTIONREQUIRED
PURCHVIEW	MAINTHIERCHY	77	YORN	1	0	1	0	ASSET.MAINTHIERCHY
PURCHVIEW	SWLICTYPE	78	UPPER	25	0	0	0	.
PURCHVIEW	HASLD	79	YORN	1	0	1	1	.
QUALCRAFTSKILL	QUALIFICATIONID	1	UPPER	8	0	1	0	QUALIFICATION.QUALIFICATIONID
QUALCRAFTSKILL	ORGID	2	UPPER	8	0	1	0	ORGANIZATION.ORGID
QUALCRAFTSKILL	CRAFT	3	UPPER	8	0	1	0	CRAFT.CRAFT
QUALCRAFTSKILL	SKILLLEVEL	4	UPPER	12	0	0	0	CRAFTSKILL.SKILLLEVEL
QUALCRAFTSKILL	QUALCRAFTSKILLID	5	INTEGER	12	0	1	1	.
QUALCRAFTSKILL	LANGCODE	6	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
QUALIFICATION	QUALIFICATIONID	1	UPPER	8	0	1	0	.
QUALIFICATION	ORGID	2	UPPER	8	0	1	0	ORGANIZATION.ORGID
QUALIFICATION	DESCRIPTION	3	ALN	100	0	0	0	.
QUALIFICATION	QUALTYPE	5	UPPER	8	0	1	0	.
QUALIFICATION	CERTIFICATEREQ	6	YORN	1	0	1	0	.
QUALIFICATION	DURATION	7	INTEGER	12	0	0	0	.
QUALIFICATION	DURATIONPERIOD	8	UPPER	8	0	0	0	.
QUALIFICATION	REQUIREDUSELENGTH	9	INTEGER	12	0	0	0	.
QUALIFICATION	REQUIREDUSEPERIOD	10	UPPER	8	0	0	0	.
QUALIFICATION	EVALUATIONMETHOD	11	ALN	50	0	0	0	.
QUALIFICATION	ISSUINGAUTHORITY	13	ALN	50	0	0	0	.
QUALIFICATION	STATUS	15	UPPER	8	0	1	0	LABOR.STATUS
QUALIFICATION	STATUSDATE	16	DATETIME	10	0	0	0	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
QUALIFICATION	QUALIFICATIONUID	17	INTEGER	12	0	1	1	.
QUALIFICATION	LANGCODE	19	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
QUALIFICATION	HASLD	20	YORN	1	0	1	1	.
QUALSTATUS	QUALIFICATIONID	1	UPPER	8	0	1	0	QUALIFICATION.QUALIFICATIONID
QUALSTATUS	ORGID	2	UPPER	8	0	1	0	ORGANIZATION.ORGID
QUALSTATUS	STATUS	3	UPPER	8	0	1	0	LABOR.STATUS
QUALSTATUS	STATUSDATE	4	DATETIME	10	0	1	0	LABORQUALSTATUS.STATUSDATE
QUALSTATUS	MEMO	5	ALN	50	0	0	0	.
QUALSTATUS	CHANGEDATE	6	DATETIME	10	0	1	0	.
QUALSTATUS	CHANGEDBY	7	UPPER	30	0	1	0	PERSON.PERSONID
QUALSTATUS	QUALSTATUSID	8	INTEGER	12	0	1	1	.
QUERY	APP	1	UPPER	10	0	1	1	MAXAPPS.APP
QUERY	CLAUSENAME	2	UPPER	15	0	1	0	.
QUERY	OWNER	3	UPPER	30	0	1	0	PERSON.PERSONID
QUERY	DESCRIPTION	4	ALN	100	0	0	0	.
QUERY	CLAUSE	5	ALN	4000	0	1	1	.
QUERY	ISPUBLIC	6	YORN	1	0	1	1	.
QUERY	QUERYID	8	INTEGER	12	0	1	1	.
QUOTATIONLINE	RFQNUM	1	UPPER	8	0	1	0	RFQ.RFQNUM
QUOTATIONLINE	RFQLINENUM	2	INTEGER	12	0	1	1	RFQLINE.RFQLINENUM
QUOTATIONLINE	VENDOR	3	UPPER	12	0	1	0	COMPANIES.COMPANY
QUOTATIONLINE	QUOTATIONLINEID	4	INTEGER	12	0	1	1	.
QUOTATIONLINE	ITEMNUM	5	UPPER	30	0	0	0	ITEM.ITEMNUM
QUOTATIONLINE	MANUFACTURER	6	UPPER	12	0	0	0	COMPANIES.COMPANY
QUOTATIONLINE	MODELNUM	7	ALN	8	0	0	0	INVENTORY.MODELNUM
QUOTATIONLINE	ORDERQTY	8	DECIMAL	15	2	0	1	INVENTORY.ORDERQTY
QUOTATIONLINE	ORDERUNIT	9	UPPER	8	0	0	0	MEASUREUNIT.MEASUREUNITID
QUOTATIONLINE	UNITCOST	10	DECIMAL	10	2	0	1	.
QUOTATIONLINE	LINECOST	11	DECIMAL	10	2	0	1	.
QUOTATIONLINE	EOQ	12	DECIMAL	15	2	1	1	INVENTORY.ORDERQTY
QUOTATIONLINE	DELIVERYTIME	13	INTEGER	12	0	0	1	INVENTORY.DELIVERYTIME
QUOTATIONLINE	DELIVERYDATE	14	DATE	4	0	0	1	.
QUOTATIONLINE	ENTERDATE	15	DATETIME	10	0	1	1	.
QUOTATIONLINE	ENTERBY	16	UPPER	30	0	1	0	PERSON.PERSONID
QUOTATIONLINE	ISAWARDED	17	YORN	1	0	1	1	.
QUOTATIONLINE	SELECTEDFORDISPLAY	18	YORN	1	0	1	1	.
QUOTATIONLINE	GLCREDITACCT	19	GL	23	0	0	1	.
QUOTATIONLINE	TAX1CODE	20	UPPER	8	0	0	0	TAX.TAXCODE
QUOTATIONLINE	TAX1	21	DECIMAL	10	2	1	1	.
QUOTATIONLINE	TAX2CODE	22	UPPER	8	0	0	0	TAX.TAXCODE
QUOTATIONLINE	TAX2	23	DECIMAL	10	2	1	1	.
QUOTATIONLINE	TAX3CODE	24	UPPER	8	0	0	0	TAX.TAXCODE
QUOTATIONLINE	TAX3	25	DECIMAL	10	2	1	1	.
QUOTATIONLINE	TAX4CODE	26	UPPER	8	0	0	0	TAX.TAXCODE
QUOTATIONLINE	TAX4	27	DECIMAL	10	2	1	1	.
QUOTATIONLINE	TAX5CODE	28	UPPER	8	0	0	0	TAX.TAXCODE

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
QUOTATIONLINE	TAX5	29	DECIMAL	10	2	1	1	.
QUOTATIONLINE	CATALOGCODE	30	ALN	30	0	0	0	INVENTORY.CATALOGCODE
QUOTATIONLINE	MEMO	31	ALN	30	0	0	0	.
QUOTATIONLINE	DESCRIPTION	32	ALN	100	0	0	0	ITEM.DESCRPTION
QUOTATIONLINE	QUOTESTARTDATE	33	DATE	4	0	0	1	.
QUOTATIONLINE	QUOTEENDDATE	34	DATE	4	0	0	1	.
QUOTATIONLINE	LINECOST2	35	DECIMAL	10	2	0	1	.
QUOTATIONLINE	VENDORPACKCODE	36	ALN	12	0	0	0	MRLINE.VENDORPACKCODE
QUOTATIONLINE	VENDORPACKQUANTITY	37	ALN	12	0	0	0	MRLINE.VENDORPACKQUANTITY
QUOTATIONLINE	VENDORWAREHOUSE	38	ALN	12	0	0	0	MRLINE.VENDORWAREHOUSE
QUOTATIONLINE	SITEID	39	UPPER	8	0	1	0	SITE.SITEID
QUOTATIONLINE	ORGID	40	UPPER	8	0	1	0	ORGANIZATION.ORGID
QUOTATIONLINE	LINETYPE	41	UPPER	15	0	1	1	PRLINE.LINETYPE
QUOTATIONLINE	ITEMSETID	42	UPPER	8	0	0	0	SETS.SETID
QUOTATIONLINE	CONDITIONCODE	45	UPPER	30	0	0	0	ITEMCONDITION.CONDITIONCODE
QUOTATIONLINE	COMMODITYGROUP	46	UPPER	8	0	0	1	COMMODITIES.COMMODITY
QUOTATIONLINE	COMMODITY	47	UPPER	8	0	0	1	COMMODITIES.COMMODITY
QUOTATIONLINE	LANGCODE	48	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
QUOTATIONLINE	HASLD	49	YORN	1	0	1	1	.
QUOTATIONLINE	MKTPLCITEM	50	YORN	1	0	1	0	.
RECONATTRCLAUSE	RECONRULECLAUSEID	1	INTEGER	12	0	1	1	RECONRULECLAUSE.RECONRULECLAUSEID
RECONATTRCLAUSE	RULENAME	2	ALN	32	0	1	0	RECONRULE.RULENAME
RECONATTRCLAUSE	RULETYPE	3	ALN	25	0	1	0	RECONRULECLAUSE.RULETYPE
RECONATTRCLAUSE	SEQUENCENUM	4	SMALLINT	10	0	1	0	RECONRULECLAUSE.SEQUENCENUM
RECONATTRCLAUSE	RECORDCOMPOPERATOR	5	ALN	25	0	1	0	RECONRULECLAUSE.RECORDCOMPOPERATOR
RECONATTRCLAUSE	ASSETOBJECTNAME	6	UPPER	18	0	1	1	MAXOBJECT.OBJECTNAME
RECONATTRCLAUSE	ASSETCLASSSTRUCTID	7	UPPER	20	0	0	1	CLASSSTRUCTURE.CLASSSTRUCTUREID
RECONATTRCLAUSE	ASSETATTRIBUTENAME	8	UPPER	50	0	1	0	MAXATTRIBUTE.ATTRIBUTENAME
RECONATTRCLAUSE	DPAOBJECTNAME	9	UPPER	18	0	1	1	MAXOBJECT.OBJECTNAME
RECONATTRCLAUSE	DPAATTRIBUTENAME	10	UPPER	50	0	1	0	MAXATTRIBUTE.ATTRIBUTENAME
RECONATTRCLAUSE	ANDOR	11	ALN	3	0	0	0	RECONRULECLAUSE.ANDOR
RECONATTRCLAUSE	OPENPARENTHESES	12	ALN	8	0	0	0	RECONRULECLAUSE.OPENPARENTHESES
RECONATTRCLAUSE	CLOSEPARENTHESES	13	ALN	8	0	0	0	RECONRULECLAUSE.CLOSEPARENTHESES
RECONATTRCLAUSE	DPAUNITATTRIBUTE	15	UPPER	50	0	0	0	MAXATTRIBUTE.ATTRIBUTENAME
RECONCOMPFILTER	RECONCOMPFILTERID	1	INTEGER	12	0	1	1	.
RECONCOMPFILTER	RULENAME	2	ALN	32	0	1	0	.
RECONCOMPFILTER	SEQUENCENUM	3	SMALLINT	10	0	1	0	.
RECONCOMPFILTER	FILTERTYPE	4	ALN	25	0	1	0	.
RECONCOMPFILTER	ASSETOBJECTNAME	5	UPPER	18	0	0	0	.
RECONCOMPFILTER	ASSETCLASSSTRUCTID	6	ALN	20	0	0	0	.
RECONCOMPFILTER	ASSETATTRIBUTENAME	7	ALN	50	0	0	0	.
RECONCOMPFILTER	DPAOBJECTNAME	8	UPPER	18	0	0	0	.
RECONCOMPFILTER	DPAATTRIBUTENAME	9	ALN	50	0	0	0	.
RECONCOMPFILTER	OPERATOR	10	ALN	25	0	0	0	.
RECONCOMPFILTER	ALNVALUE	11	ALN	4000	0	0	0	.
RECONCOMPFILTER	ANDOR	12	ALN	3	0	0	0	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
RECONCOMPFILTER	OPENPARENTHESES	13	ALN	8	0	0	0	.
RECONCOMPFILTER	CLOSEPARENTHESES	14	ALN	8	0	0	0	.
RECONCOMPFLTRAST	RECONCOMPFILTERID	1	INTEGER	12	0	1	1	RECONCOMPFILTER.RECONCOMPFILTERID
RECONCOMPFLTRAST	RULENAME	2	ALN	32	0	1	0	RECONCOMPFILTER.RULENAME
RECONCOMPFLTRAST	SEQUENCENUM	3	SMALLINT	10	0	1	0	RECONCOMPFILTER.SEQUENCENUM
RECONCOMPFLTRAST	FILTERTYPE	4	ALN	25	0	1	0	RECONCOMPFILTER.FILTERTYPE
RECONCOMPFLTRAST	ASSETOBJECTNAME	5	UPPER	18	0	1	0	RECONCOMPFILTER.ASSETOBJECTNAME
RECONCOMPFLTRAST	ASSETCLASSSTRUCTID	6	ALN	20	0	0	0	RECONCOMPFILTER.ASSETCLASSSTRUCTID
RECONCOMPFLTRAST	ASSETATTRIBUTENAME	7	ALN	50	0	0	0	RECONCOMPFILTER.ASSETATTRIBUTENAME
RECONCOMPFLTRAST	DPAOBJECTNAME	8	UPPER	18	0	0	0	RECONCOMPFILTER.DPAOBJECTNAME
RECONCOMPFLTRAST	DPAATTRIBUTENAME	9	ALN	50	0	0	0	RECONCOMPFILTER.DPAATTRIBUTENAME
RECONCOMPFLTRAST	OPERATOR	10	ALN	25	0	0	0	RECONCOMPFILTER.OPERATOR
RECONCOMPFLTRAST	ALNVALUE	11	ALN	4000	0	0	0	RECONCOMPFILTER.ALNVALUE
RECONCOMPFLTRAST	ANDOR	12	ALN	3	0	0	0	RECONCOMPFILTER.ANDOR
RECONCOMPFLTRAST	OPENPARENTHESES	13	ALN	8	0	0	0	RECONCOMPFILTER.OPENPARENTHESES
RECONCOMPFLTRAST	CLOSEPARENTHESES	14	ALN	8	0	0	0	RECONCOMPFILTER.CLOSEPARENTHESES
RECONCOMPFLTRDPA	RECONCOMPFILTERID	1	INTEGER	12	0	1	1	RECONCOMPFILTER.RECONCOMPFILTERID
RECONCOMPFLTRDPA	RULENAME	2	ALN	32	0	1	0	RECONCOMPFILTER.RULENAME
RECONCOMPFLTRDPA	SEQUENCENUM	3	SMALLINT	10	0	1	0	RECONCOMPFILTER.SEQUENCENUM
RECONCOMPFLTRDPA	FILTERTYPE	4	ALN	25	0	1	0	RECONCOMPFILTER.FILTERTYPE
RECONCOMPFLTRDPA	ASSETOBJECTNAME	5	UPPER	18	0	0	0	RECONCOMPFILTER.ASSETOBJECTNAME
RECONCOMPFLTRDPA	ASSETCLASSSTRUCTID	6	ALN	20	0	0	0	RECONCOMPFILTER.ASSETCLASSSTRUCTID
RECONCOMPFLTRDPA	ASSETATTRIBUTENAME	7	ALN	50	0	0	0	RECONCOMPFILTER.ASSETATTRIBUTENAME
RECONCOMPFLTRDPA	DPAOBJECTNAME	8	UPPER	18	0	1	0	RECONCOMPFILTER.DPAOBJECTNAME
RECONCOMPFLTRDPA	DPAATTRIBUTENAME	9	ALN	50	0	0	0	RECONCOMPFILTER.DPAATTRIBUTENAME
RECONCOMPFLTRDPA	OPERATOR	10	ALN	25	0	0	0	RECONCOMPFILTER.OPERATOR
RECONCOMPFLTRDPA	ALNVALUE	11	ALN	4000	0	0	0	RECONCOMPFILTER.ALNVALUE
RECONCOMPFLTRDPA	ANDOR	12	ALN	3	0	0	0	RECONCOMPFILTER.ANDOR
RECONCOMPFLTRDPA	OPENPARENTHESES	13	ALN	8	0	0	0	RECONCOMPFILTER.OPENPARENTHESES
RECONCOMPFLTRDPA	CLOSEPARENTHESES	14	ALN	8	0	0	0	RECONCOMPFILTER.CLOSEPARENTHESES
RECONCOMPRULE	RECONRULEID	1	INTEGER	12	0	1	1	RECONRULE.RECONRULEID
RECONCOMPRULE	RULENAME	2	ALN	32	0	1	0	RECONRULE.RULENAME
RECONCOMPRULE	DESCRIPTION	3	ALN	256	0	0	0	RECONRULE.DESCRPTION
RECONCOMPRULE	RULETYPE	4	ALN	25	0	1	0	RECONRULE.RULETYPE
RECONCOMPRULE	LANGCODE	6	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
RECONCOMPRULE	HASLD	8	YORN	1	0	1	1	.
RECONLINK	RECONLINKID	1	INTEGER	12	0	1	1	.
RECONLINK	SITEID	2	UPPER	8	0	1	0	SITE.SITEID
RECONLINK	NODEID	3	INTEGER	12	0	0	0	DEPLOYEDASSET.NODEID
RECONLINK	LINKDATE	4	DATETIME	10	0	1	0	.
RECONLINK	ASSETID	5	INTEGER	12	0	1	0	ASSET.ASSETID
RECONLINK	LINKRULENAME	6	ALN	32	0	0	0	.
RECONLINKCLAUSE	RECONRULECLAUSEID	1	INTEGER	12	0	1	1	RECONRULECLAUSE.RECONRULECLAUSEID
RECONLINKCLAUSE	RULENAME	2	ALN	32	0	1	0	RECONRULE.RULENAME
RECONLINKCLAUSE	RULETYPE	3	ALN	25	0	1	0	RECONRULECLAUSE.RULETYPE
RECONLINKCLAUSE	SEQUENCENUM	4	SMALLINT	10	0	1	0	RECONRULECLAUSE.SEQUENCENUM

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
RECONLINKCLAUSE	RECORDCOMPOPERATOR	5	ALN	25	0	0	0	RECONRULECLAUSE.RECORDCOMPOPERATOR
RECONLINKCLAUSE	ASSETOBJECTNAME	6	UPPER	18	0	1	1	MAXOBJECT.OBJECTNAME
RECONLINKCLAUSE	ASSETCLASSSTRUCTID	7	UPPER	20	0	0	1	CLASSSTRUCTURE.CLASSSTRUCTUREID
RECONLINKCLAUSE	ASSETATTRIBUTENAME	8	UPPER	50	0	1	0	MAXATTRIBUTE.ATTRIBUTENAME
RECONLINKCLAUSE	DPAOBJECTNAME	9	UPPER	18	0	1	1	MAXOBJECT.OBJECTNAME
RECONLINKCLAUSE	DPAATTRIBUTENAME	10	UPPER	50	0	1	0	MAXATTRIBUTE.ATTRIBUTENAME
RECONLINKCLAUSE	ANDOR	11	ALN	3	0	0	0	RECONRULECLAUSE.ANDOR
RECONLINKCLAUSE	OPENPARENTHESES	12	ALN	8	0	0	0	RECONRULECLAUSE.OPENPARENTHESES
RECONLINKCLAUSE	CLOSEPARENTHESES	13	ALN	8	0	0	0	RECONRULECLAUSE.CLOSEPARENTHESES
RECONLINKCLAUSE	DPAUNITATTRIBUTE	15	UPPER	50	0	0	0	MAXATTRIBUTE.ATTRIBUTENAME
RECONLINKRULE	RECONRULEID	1	INTEGER	12	0	1	1	RECONRULE.RECONRULEID
RECONLINKRULE	RULENAME	2	ALN	32	0	1	0	RECONRULE.RULENAME
RECONLINKRULE	DESCRIPTION	3	ALN	256	0	0	0	RECONRULE.DESCRPTION
RECONLINKRULE	RULETYPE	4	ALN	25	0	1	0	RECONRULE.RULETYPE
RECONLINKRULE	LANGCODE	6	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
RECONLINKRULE	HASLD	8	YORN	1	0	1	1	.
RECONRCDCLAUSE	RECONRULECLAUSEID	1	INTEGER	12	0	1	1	RECONRULECLAUSE.RECONRULECLAUSEID
RECONRCDCLAUSE	RULENAME	2	ALN	32	0	1	0	RECONRULE.RULENAME
RECONRCDCLAUSE	RULETYPE	3	ALN	25	0	1	0	RECONRULECLAUSE.RULETYPE
RECONRCDCLAUSE	SEQUENCENUM	4	SMALLINT	10	0	1	0	RECONRULECLAUSE.SEQUENCENUM
RECONRCDCLAUSE	RECORDCOMPOPERATOR	5	ALN	25	0	1	0	RECONRULECLAUSE.RECORDCOMPOPERATOR
RECONRCDCLAUSE	ASSETOBJECTNAME	6	UPPER	18	0	1	1	MAXOBJECT.OBJECTNAME
RECONRCDCLAUSE	ASSETCLASSSTRUCTID	7	UPPER	20	0	0	1	CLASSSTRUCTURE.CLASSSTRUCTUREID
RECONRCDCLAUSE	ASSETATTRIBUTENAME	8	UPPER	50	0	0	0	MAXATTRIBUTE.ATTRIBUTENAME
RECONRCDCLAUSE	DPAOBJECTNAME	9	UPPER	18	0	1	1	MAXOBJECT.OBJECTNAME
RECONRCDCLAUSE	DPAATTRIBUTENAME	10	UPPER	50	0	0	0	MAXATTRIBUTE.ATTRIBUTENAME
RECONRCDCLAUSE	ANDOR	11	ALN	3	0	0	0	RECONRULECLAUSE.ANDOR
RECONRCDCLAUSE	OPENPARENTHESES	12	ALN	8	0	0	0	RECONRULECLAUSE.OPENPARENTHESES
RECONRCDCLAUSE	CLOSEPARENTHESES	13	ALN	8	0	0	0	RECONRULECLAUSE.CLOSEPARENTHESES
RECONRCDCLAUSE	DPAUNITATTRIBUTE	14	UPPER	50	0	0	0	MAXATTRIBUTE.ATTRIBUTENAME
RECONRESULT	RECONRESULTID	1	INTEGER	12	0	1	1	.
RECONRESULT	RULENAME	2	ALN	32	0	1	0	.
RECONRESULT	DATECREATED	3	DATETIME	10	0	1	0	.
RECONRESULT	SITEID	4	UPPER	8	0	0	0	SITE.SITEID
RECONRESULT	NODEID	5	INTEGER	12	0	0	0	DEPLOYEDASSET.NODEID
RECONRESULT	AUTHOBJECT	6	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
RECONRESULT	AUTHATTRIBUTE	7	UPPER	50	0	0	0	MAXATTRIBUTE.ATTRIBUTENAME
RECONRESULT	ASSETMEASUREUNITID	8	ALN	8	0	0	0	.
RECONRESULT	ASSETDATETIMEVALUE	9	DATETIME	10	0	0	0	.
RECONRESULT	DPAOBJECT	10	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
RECONRESULT	DPAKEYFIELD	11	UPPER	50	0	0	0	MAXATTRIBUTE.ATTRIBUTENAME
RECONRESULT	DPAKEYVALUE	12	INTEGER	12	0	0	0	.
RECONRESULT	DPAATTRIBUTE	13	UPPER	50	0	0	0	MAXATTRIBUTE.ATTRIBUTENAME
RECONRESULT	DPAMEASUREUNITID	14	ALN	8	0	0	0	.
RECONRESULT	DPADATETIMEVALUE	15	DATETIME	10	0	0	0	.
RECONRESULT	CODE	16	ALN	25	0	0	0	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
RECONRESULT	MESSAGE	17	ALN	512	0	0	0	.
RECONRESULT	ANCESTORASSETNUM	18	UPPER	12	0	0	0	ASSET.ASSETNUM
RECONRESULT	ANCESTORSITEID	19	UPPER	8	0	0	0	SITE.SITEID
RECONRESULT	ASSETNUM	20	UPPER	12	0	0	0	ASSET.ASSETNUM
RECONRESULT	ASSETVALUE	21	ALN	4000	0	0	0	.
RECONRESULT	DPAVALUE	22	ALN	4000	0	0	0	.
RECONRULE	RECONRULEID	1	INTEGER	12	0	1	1	.
RECONRULE	RULENAME	2	ALN	32	0	1	0	.
RECONRULE	DESCRIPTION	3	ALN	256	0	0	0	.
RECONRULE	RULETYPE	4	ALN	25	0	1	0	.
RECONRULE	LANGCODE	6	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
RECONRULE	HASLD	8	YORN	1	0	1	1	.
RECONRULECLAUSE	RECONRULECLAUSEID	1	INTEGER	12	0	1	1	.
RECONRULECLAUSE	RULENAME	2	ALN	32	0	1	0	RECONRULE.RULENAME
RECONRULECLAUSE	RULETYPE	3	ALN	25	0	1	0	.
RECONRULECLAUSE	SEQUENCENUM	4	SMALLINT	10	0	1	0	.
RECONRULECLAUSE	RECORDCOMPOPERATOR	5	ALN	25	0	0	0	.
RECONRULECLAUSE	ASSETOBJECTNAME	6	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
RECONRULECLAUSE	ASSETCLASSSTRUCTID	7	UPPER	20	0	0	1	CLASSSTRUCTURE.CLASSSTRUCTUREID
RECONRULECLAUSE	ASSETATTRIBUTENAME	8	UPPER	50	0	0	0	MAXATTRIBUTE.ATTRIBUTENAME
RECONRULECLAUSE	DPAOBJECTNAME	9	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
RECONRULECLAUSE	DPAATTRIBUTENAME	10	UPPER	50	0	0	0	MAXATTRIBUTE.ATTRIBUTENAME
RECONRULECLAUSE	ANDOR	11	ALN	3	0	0	0	.
RECONRULECLAUSE	OPENPARENTHESES	12	ALN	8	0	0	0	.
RECONRULECLAUSE	CLOSEPARENTHESES	13	ALN	8	0	0	0	.
RECONRULECLAUSE	DPAUNITATTRIBUTE	14	UPPER	50	0	0	0	MAXATTRIBUTE.ATTRIBUTENAME
RECONTASK	RECONTASKID	1	INTEGER	12	0	1	1	.
RECONTASK	TASKNAME	2	ALN	32	0	1	0	.
RECONTASK	DESCRIPTION	3	ALN	256	0	0	0	.
RECONTASK	FILTERNAME	4	ALN	32	0	0	0	RECONTASKFILTER.FILTERNAME
RECONTASK	ISCASESENSITIVE	5	YORN	1	0	1	0	.
RECONTASK	LANGCODE	6	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
RECONTASK	RESULTOPTION	8	ALN	15	0	0	0	.
RECONTASK	HASLD	9	YORN	1	0	1	1	.
RECONTASKCOMP	RECONTASKCOMPID	1	INTEGER	12	0	1	1	.
RECONTASKCOMP	TASKNAME	2	ALN	32	0	1	0	.
RECONTASKCOMP	COMPRULENAME	3	ALN	32	0	1	0	RECONRULE.RULENAME
RECONTASKFILTER	RECONTASKFILTERID	1	INTEGER	12	0	1	1	.
RECONTASKFILTER	FILTERNAME	2	ALN	32	0	1	0	.
RECONTASKFILTER	FILTERTYPE	3	ALN	25	0	1	0	.
RECONTASKFILTER	DESCRIPTION	4	ALN	256	0	0	0	.
RECONTASKFILTER	LANGCODE	5	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
RECONTASKFILTER	HASLD	7	YORN	1	0	1	1	.
RECONTASKFLTRVAL	RECONTASKFLTRVALID	1	INTEGER	12	0	1	1	.
RECONTASKFLTRVAL	FILTERNAME	2	ALN	32	0	1	0	RECONTASKFILTER.FILTERNAME
RECONTASKFLTRVAL	ATTRIBUTE	3	ALN	50	0	1	0	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
RECONTASKFLTRVAL	FILTERVALUE	4	ALN	64	0	1	0	.
RECONTASKLINK	RECONTASKLINKID	1	INTEGER	12	0	1	1	.
RECONTASKLINK	TASKNAME	2	ALN	32	0	1	0	RECONTASK.TASKNAME
RECONTASKLINK	LINKRULENAME	3	ALN	32	0	1	0	RECONRULE.RULENAME
RECONTASKLINK	CASCADEPOSITION	4	INTEGER	12	0	1	0	.
RELATEDRECORD	RECORDKEY	1	UPPER	10	0	1	0	WORKORDER.WONUM
RELATEDRECORD	CLASS	2	UPPER	10	0	1	1	TICKET.CLASS
RELATEDRECORD	RELATEDRECKEY	3	UPPER	10	0	1	1	.
RELATEDRECORD	RELATEDRECCLASS	4	UPPER	10	0	1	1	.
RELATEDRECORD	RELATEDRECSITEID	5	UPPER	8	0	0	1	.
RELATEDRECORD	RELATEDRECORDGID	6	UPPER	8	0	0	1	.
RELATEDRECORD	SITEID	7	UPPER	8	0	0	1	.
RELATEDRECORD	ORGID	8	UPPER	8	0	0	1	.
RELATEDRECORD	RELATETYPE	11	UPPER	18	0	1	0	.
RELATEDRECORD	RELATEDRECORDID	12	INTEGER	12	0	1	1	.
RELATEDSLA	PARENTSLANUM	1	UPPER	10	0	1	0	SLA.SLANUM
RELATEDSLA	CHILDSLANUM	2	UPPER	10	0	1	0	SLA.SLANUM
RELATEDSLA	RELATEDSLAID	3	INTEGER	12	0	1	1	.
REORDERMUTEX	TYPE	1	UPPER	20	0	1	0	.
REORDERMUTEX	LOCATION	2	UPPER	12	0	0	0	LOCATIONS.LOCATION
REORDERMUTEX	STATUS	3	UPPER	10	0	0	0	.
REORDERMUTEX	INSERTDATE	4	DATETIME	10	0	0	0	.
REORDERMUTEX	MRNUM	5	UPPER	8	0	0	0	MR.MRNUM
REORDERMUTEX	ORGID	6	UPPER	8	0	1	0	ORGANIZATION.ORGID
REORDERMUTEX	SITEID	7	UPPER	8	0	1	0	SITE.SITEID
REORDERMUTEX	MXSERVERID	8	ALN	50	0	0	1	.
REORDERMUTEX	REORDERRUNNING	9	YORN	1	0	1	1	.
REORDERMUTEX	USERNAME	10	UPPER	30	0	0	0	PERSON.PERSONID
REORDERPAD	USRNAME	1	UPPER	30	0	1	0	PERSON.PERSONID
REORDERPAD	PRNUM	2	UPPER	8	0	0	0	PR.PRNUM
REORDERPAD	PONUM	3	UPPER	8	0	0	0	PO.PONUM
REORDERPAD	ITEMNUM	4	UPPER	30	0	0	0	ITEM.ITEMNUM
REORDERPAD	LOCATION	5	UPPER	12	0	0	0	LOCATIONS.LOCATION
REORDERPAD	VENDOR	6	UPPER	12	0	0	0	COMPANIES.COMPANY
REORDERPAD	MINLEVEL	7	DECIMAL	15	2	0	1	INVENTORY.MINLEVEL
REORDERPAD	MAXLEVEL	8	DECIMAL	15	2	0	1	INVENTORY.MAXLEVEL
REORDERPAD	CATEGORY	9	UPPER	16	0	0	1	INVENTORY.CATEGORY
REORDERPAD	ORDERQTY	10	DECIMAL	15	2	0	1	INVENTORY.ORDERQTY
REORDERPAD	ORDERUNIT	11	UPPER	8	0	0	0	MEASUREUNIT.MEASUREUNITID
REORDERPAD	UNITCOST	12	AMOUNT	10	2	0	1	.
REORDERPAD	IN19	13	ALN	10	0	0	0	ITEM.IN19
REORDERPAD	IN20	14	ALN	10	0	0	0	ITEM.IN20
REORDERPAD	IN21	15	ALN	10	0	0	0	ITEM.IN21
REORDERPAD	IN22	16	DATETIME	10	0	0	0	ITEM.IN22
REORDERPAD	IN23	17	DECIMAL	15	2	0	0	ITEM.IN23
REORDERPAD	CURBAL	18	DECIMAL	15	2	0	1	INVBALANCES.CURBAL

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
REORDERPAD	WONUM	19	UPPER	10	0	0	0	WORKORDER.WONUM
REORDERPAD	REQUIREDATE	20	DATETIME	10	0	0	0	WPMATERIAL.REQUIREDATE
REORDERPAD	REQUESTBY	21	UPPER	30	0	0	0	PERSON.PERSONID
REORDERPAD	SCHEDSTART	22	DATETIME	10	0	0	1	WORKORDER.SCHEDSTART
REORDERPAD	TARGSTARTDATE	23	DATETIME	10	0	0	1	WORKORDER.TARGSTARTDATE
REORDERPAD	GLCREDITACCT	24	GL	23	0	0	1	.
REORDERPAD	GLACCOUNT	25	GL	23	0	0	1	.
REORDERPAD	DELIVERYTIME	26	INTEGER	12	0	0	1	INVENTORY.DELIVERYTIME
REORDERPAD	LOTTYPE	27	UPPER	16	0	0	1	ITEM.LOTTYPE
REORDERPAD	MANUFACTURER	28	UPPER	12	0	0	0	COMPANIES.COMPANY
REORDERPAD	MODELNUM	29	ALN	8	0	0	0	INVENTORY.MODELNUM
REORDERPAD	CATALOGCODE	30	ALN	30	0	0	0	INVENTORY.CATALOGCODE
REORDERPAD	GLDEBITACCT	31	GL	23	0	0	1	.
REORDERPAD	ASSETNUM	32	UPPER	12	0	0	0	ASSET.ASSETNUM
REORDERPAD	ASSETLOCATION	33	UPPER	12	0	0	0	LOCATIONS.LOCATION
REORDERPAD	RESERVEDQTY	34	DECIMAL	15	2	0	1	INVRESERVE.RESERVEDQTY
REORDERPAD	PRQTY	35	DECIMAL	15	2	0	1	INVENTORY.ORDERQTY
REORDERPAD	POQTY	36	DECIMAL	15	2	0	1	INVENTORY.ORDERQTY
REORDERPAD	MRNUM	37	UPPER	8	0	0	0	MR.MRNUM
REORDERPAD	MRLINENUM	38	INTEGER	12	0	0	1	MRLINE.MRLINENUM
REORDERPAD	EXPLQTQTY	39	DECIMAL	15	2	0	1	INVBALANCES.CURBAL
REORDERPAD	REORDERQTY	40	DECIMAL	15	2	0	1	INVBALANCES.CURBAL
REORDERPAD	DESCRIPTION	41	ALN	100	0	0	0	ITEM.DESCRPTION
REORDERPAD	ORGID	42	UPPER	8	0	1	0	ORGANIZATION.ORGID
REORDERPAD	SITEID	43	UPPER	8	0	1	0	SITE.SITEID
REORDERPAD	SHIPTO	44	UPPER	30	0	0	0	ADDRESS.ADDRESSCODE
REORDERPAD	VENDORPACKCODE	45	ALN	12	0	0	0	MRLINE.VENDORPACKCODE
REORDERPAD	VENDORWAREHOUSE	46	ALN	12	0	0	0	MRLINE.VENDORWAREHOUSE
REORDERPAD	VENDORPACKQUANTITY	47	ALN	12	0	0	0	MRLINE.VENDORPACKQUANTITY
REORDERPAD	CURRENCYCODE	48	UPPER	8	0	0	0	CURRENCY.CURRENCYCODE
REORDERPAD	LINETYPE	49	UPPER	15	0	1	1	PRLINE.LINETYPE
REORDERPAD	ITEMSETID	50	UPPER	8	0	0	0	SETS.SETID
REORDERPAD	CONDITIONCODE	52	UPPER	30	0	0	0	ITEMCONDITION.CONDITIONCODE
REORDERPAD	COMMODITY	53	UPPER	8	0	0	1	COMMODITIES.COMMODITY
REORDERPAD	COMMODITYGROUP	54	UPPER	8	0	0	1	COMMODITIES.COMMODITY
REORDERPAD	CONTRACTREFNUM	55	UPPER	8	0	0	0	CONTRACT.CONTRACTNUM
REORDERPAD	CONTRACTREFREV	56	INTEGER	12	0	0	1	CONTRACT.REVISIONNUM
REORDERPAD	CONTRACTREFID	57	INTEGER	12	0	0	1	CONTRACT.CONTRACTID
REORDERPAD	CONTRACTLINEID	58	INTEGER	12	0	0	0	CONTRACTLINE.CONTRACTLINEID
REORDERPAD	INSPECTIONREQUIRED	59	YORN	1	0	1	1	ITEM.INSPECTIONREQUIRED
REORDERPAD	STORELOC	60	UPPER	12	0	0	0	LOCATIONS.LOCATION
REORDERPAD	STORELOCSITE	61	UPPER	8	0	0	0	SITE.SITEID
REORDERPAD	WPITEMID	62	INTEGER	12	0	0	1	WPITEM.WPITEMID
REORDERPAD	MKTPLCITEM	63	YORN	1	0	1	0	.
REPORT	REPORTID	1	INTEGER	12	0	1	1	.
REPORT	REPORTNUM	2	INTEGER	12	0	1	0	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
REPORT	BASETABLENAME	3	UPPER	18	0	1	0	.
REPORT	REPORTFOLDER	4	ALN	50	0	1	0	.
REPORT	REPORTNAME	5	ALN	50	0	1	0	.
REPORT	DESCRIPTION	6	ALN	254	0	0	0	.
REPORT	APPNAME	7	ALN	18	0	1	0	.
REPORT	RUNTYPE	8	ALN	15	0	1	0	.
REPORT	ATTACHEDDOC	9	YORN	1	0	1	0	.
REPORT	TOOLBARLOCATION	10	ALN	20	0	1	0	.
REPORT	TOOLBARICON	11	ALN	50	0	1	0	.
REPORT	TOOLBARSEQUENCE	12	INTEGER	12	0	0	0	.
REPORT	DESTINATIONFOLDER	13	ALN	50	0	0	0	.
REPORT	NOREQUESTPAGE	14	YORN	1	0	1	0	.
REPORT	DETAIL	15	YORN	1	0	1	0	.
REPORT	LANGCODE	16	UPPER	4	0	0	1	LANGUAGE.MAXLANGCODE
REPORTLABEL	REPORTLABELID	1	INTEGER	12	0	1	1	.
REPORTLABEL	LABELKEY	2	ALN	254	0	1	0	.
REPORTLABEL	LABELVALUE	3	ALN	4000	0	0	0	.
REPORTLABEL	SIZEDYNAMIC	4	YORN	1	0	1	0	.
REPORTLABEL	FONTNAME	5	ALN	254	0	0	0	.
REPORTLABEL	FONTSIZE	6	INTEGER	12	0	0	0	.
REPORTLABEL	USEATTRIBUTE	7	YORN	1	0	1	0	.
REPORTLABEL	OBJECTNAME	8	ALN	18	0	0	0	.
REPORTLABEL	REPORTNAME	9	ALN	50	0	0	0	.
REPORTLABEL	ATTRIBUTENAME	10	ALN	50	0	0	0	.
REPORTLABEL	COLUMNWIDTH	11	INTEGER	12	0	0	0	.
REPORTLABEL	LANGCODE	12	UPPER	4	0	0	1	LANGUAGE.MAXLANGCODE
REPORTLOOKUP	REPORTLOOKUPID	1	INTEGER	12	0	1	1	.
REPORTLOOKUP	PARAMETERNAME	2	ALN	254	0	0	0	.
REPORTLOOKUP	ATTRIBUTENAME	3	ALN	101	0	0	0	.
REPORTLOOKUP	LOOKUPNAME	4	ALN	200	0	0	0	.
REPORTLOOKUP	SEQUENCE	5	INTEGER	12	0	0	0	.
REPORTLOOKUP	LABELOVERRIDE	6	ALN	80	0	0	0	.
REPORTLOOKUP	DEFAULTVALUE	7	ALN	254	0	0	0	.
REPORTLOOKUP	REQUIRED	8	YORN	1	0	1	0	.
REPORTLOOKUP	HIDDEN	9	YORN	1	0	1	0	.
REPORTLOOKUP	REPORTNAME	10	ALN	50	0	0	0	.
REPORTLOOKUP	OPERATOR	11	ALN	10	0	0	0	.
REPORTLOOKUP	MULTILOOKUP	12	YORN	1	0	1	0	.
REPORTLOOKUP	REPORTNUM	13	INTEGER	12	0	0	0	.
RESULTSETCOLS	APP	1	UPPER	10	0	0	0	.
RESULTSETCOLS	ATTRIBUTE	2	UPPER	50	0	0	0	.
RESULTSETCOLS	RESULTSETCOLSID	3	INTEGER	12	0	1	1	.
RESULTSETCOLS	MAINTABLE	4	UPPER	50	0	0	0	.
RFQ	RFQNUM	1	UPPER	8	0	1	0	.
RFQ	DESCRIPTION	2	ALN	100	0	0	0	PR.DESCRPTION
RFQ	STATUS	3	UPPER	12	0	1	1	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
RFQ	STATUSDATE	4	DATETIME	10	0	1	1	.
RFQ	ENTERDATE	5	DATETIME	10	0	0	1	.
RFQ	ENTERBY	6	UPPER	30	0	0	0	PERSON.PERSONID
RFQ	REPLYDATE	7	DATE	4	0	0	1	.
RFQ	CLOSEONDATE	8	DATE	4	0	0	1	.
RFQ	PURCHASEAGENT	9	UPPER	30	0	0	0	PERSON.PERSONID
RFQ	RFQTYPE	10	ALN	16	0	0	0	.
RFQ	REQUIREDDATE	11	DATETIME	10	0	0	1	PR.REQUIREDDATE
RFQ	REQUESTEDBY	12	UPPER	30	0	0	0	PERSON.PERSONID
RFQ	SHIPTO	13	UPPER	30	0	0	0	ADDRESS.ADDRESSCODE
RFQ	SHIPTOATTN	14	UPPER	30	0	0	0	PERSON.PERSONID
RFQ	BILLTO	15	UPPER	30	0	0	0	ADDRESS.ADDRESSCODE
RFQ	BILLTOATTN	16	UPPER	30	0	0	0	PERSON.PERSONID
RFQ	REPLYTO	17	UPPER	30	0	0	0	ADDRESS.ADDRESSCODE
RFQ	REPLYTOATTN	18	UPPER	30	0	0	0	PERSON.PERSONID
RFQ	FOB	19	ALN	20	0	0	0	COMPANIES.FOB
RFQ	FREIGHTTERMS	20	ALN	50	0	0	0	COMPANIES.FREIGHTTERMS
RFQ	SHIPVIA	21	ALN	20	0	0	0	COMPANIES.SHIPVIA
RFQ	PAYMENTTERMS	22	ALN	20	0	0	0	COMPANIES.PAYMENTTERMS
RFQ	CHANGEBY	23	UPPER	30	0	1	0	PERSON.PERSONID
RFQ	CHANGEDATE	24	DATETIME	10	0	1	1	.
RFQ	PRIORITY	25	INTEGER	12	0	1	1	PR.PRIORITY
RFQ	HISTORYFLAG	26	YORN	1	0	1	1	.
RFQ	RFQ1	27	ALN	10	0	0	0	PR.PR1
RFQ	RFQ2	28	ALN	10	0	0	0	PR.PR2
RFQ	RFQ3	29	ALN	10	0	0	0	PR.PR3
RFQ	RFQ4	30	ALN	10	0	0	0	PR.PR4
RFQ	RFQ5	31	ALN	10	0	0	0	PR.PR5
RFQ	RFQ6	32	AMOUNT	10	2	0	0	PR.PR6
RFQ	RFQ7	33	DATETIME	10	0	0	0	PR.PR7
RFQ	RFQ8	34	DECIMAL	15	2	0	0	PR.PR8
RFQ	RFQ9	35	INTEGER	12	0	0	0	PR.PR9
RFQ	RFQ10	36	YORN	1	0	1	0	PR.PR10
RFQ	PRINTDATE	37	DATETIME	10	0	0	1	.
RFQ	BUYERCOMPANY	38	UPPER	30	0	0	0	ADDRESS.ADDRESSCODE
RFQ	ORGID	39	UPPER	8	0	1	0	ORGANIZATION.ORGID
RFQ	SITEID	40	UPPER	8	0	1	0	SITE.SITEID
RFQ	RFQID	43	INTEGER	12	0	1	1	.
RFQ	LANGCODE	45	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
RFQ	HASLD	46	YORN	1	0	1	1	.
RFQLINE	RFQNUM	1	UPPER	8	0	1	0	RFQ.RFQNUM
RFQLINE	RFQLINENUM	2	INTEGER	12	0	1	1	.
RFQLINE	ITEMNUM	3	UPPER	30	0	0	0	ITEM.ITEMNUM
RFQLINE	STORELOC	4	UPPER	12	0	0	0	LOCATIONS.LOCATION
RFQLINE	DESCRIPTION	5	ALN	100	0	0	0	ITEM.DESCRPTION
RFQLINE	ORDERQTY	6	DECIMAL	15	2	0	1	INVENTORY.ORDERQTY

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
RFQLINE	ORDERUNIT	7	UPPER	8	0	0	0	MEASUREUNIT.MEASUREUNITID
RFQLINE	REQDELIVERYDATE	8	DATE	4	0	0	1	.
RFQLINE	ENTERDATE	9	DATETIME	10	0	1	1	.
RFQLINE	ENTERBY	10	UPPER	30	0	1	0	PERSON.PERSONID
RFQLINE	RFQL1	11	ALN	10	0	0	0	PRLINE.RL1
RFQLINE	RFQL2	12	ALN	10	0	0	0	PRLINE.RL2
RFQLINE	RFQL3	13	ALN	10	0	0	0	PRLINE.RL3
RFQLINE	RFQL4	14	DECIMAL	15	2	0	0	PRLINE.RL4
RFQLINE	RFQL5	15	ALN	10	0	0	0	PRLINE.RL5
RFQLINE	PONUM	16	UPPER	8	0	0	0	PO.PONUM
RFQLINE	POLINENUM	17	INTEGER	12	0	0	1	PRLINE.PRLINENUM
RFQLINE	ASSETNUM	18	UPPER	12	0	0	0	ASSET.ASSETNUM
RFQLINE	REQUESTEDBY	19	UPPER	30	0	0	0	PERSON.PERSONID
RFQLINE	ISSUE	20	YORN	1	0	1	1	.
RFQLINE	RFQLIN1	21	ALN	10	0	0	0	ITEM.IN19
RFQLINE	RFQLIN2	22	ALN	10	0	0	0	ITEM.IN20
RFQLINE	RFQLIN3	23	ALN	10	0	0	0	ITEM.IN21
RFQLINE	RFQLIN4	24	DATETIME	10	0	0	0	ITEM.IN22
RFQLINE	RFQLIN5	25	DECIMAL	15	2	0	0	ITEM.IN23
RFQLINE	CHARGESTORE	26	YORN	1	0	1	1	.
RFQLINE	GLDEBITACCT	27	GL	23	0	0	1	.
RFQLINE	RECEIPTREQD	28	YORN	1	0	1	0	PRLINE.RECEIPTREQD
RFQLINE	CATEGORY	29	UPPER	16	0	0	1	INVENTORY.CATEGORY
RFQLINE	REMARK	30	ALN	50	0	0	0	PRLINE.REMARK
RFQLINE	LOCATION	31	UPPER	12	0	0	0	LOCATIONS.LOCATION
RFQLINE	MANUFACTURER	32	UPPER	12	0	0	0	COMPANIES.COMPANY
RFQLINE	MODELNUM	33	ALN	8	0	0	0	INVENTORY.MODELNUM
RFQLINE	AWARDDATE	34	DATETIME	10	0	0	1	.
RFQLINE	VENDOR	35	UPPER	12	0	0	0	COMPANIES.COMPANY
RFQLINE	SUPERVISOR	36	UPPER	30	0	0	0	PERSON.PERSONID
RFQLINE	PRORATESERVICE	37	YORN	1	0	1	1	.
RFQLINE	UNITCOST	38	DECIMAL	10	2	0	0	.
RFQLINE	LINECOST	39	DECIMAL	10	2	0	0	.
RFQLINE	RFQLINEID	40	INTEGER	12	0	1	1	.
RFQLINE	INSPECTIONREQUIRED	41	YORN	1	0	1	1	ITEM.INSPECTIONREQUIRED
RFQLINE	POLINEID	42	INTEGER	12	0	0	1	.
RFQLINE	MRNUM	43	UPPER	8	0	0	0	MR.MRNUM
RFQLINE	MRLINENUM	44	INTEGER	12	0	0	1	MRLINE.MRLINENUM
RFQLINE	RFQL6	45	ALN	10	0	0	0	PRLINE.RL6
RFQLINE	RFQL7	46	ALN	10	0	0	0	PRLINE.RL7
RFQLINE	RFQL8	47	ALN	10	0	0	0	PRLINE.RL8
RFQLINE	RFQL9	48	ALN	10	0	0	0	PRLINE.RL9
RFQLINE	RFQL10	49	ALN	10	0	0	0	PRLINE.RL10
RFQLINE	RFQLIN6	50	ALN	10	0	0	0	ITEM.IN24
RFQLINE	RFQLIN7	51	ALN	10	0	0	0	ITEM.IN25
RFQLINE	RFQLIN8	52	ALN	10	0	0	0	ITEM.IN26

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
RFQLINE	RFQLIN9	53	ALN	10	0	0	0	ITEM.IN27
RFQLINE	FINCNTRLID	54	UPPER	8	0	0	0	FINCNTRL.FINCNTRLID
RFQLINE	VENDORPACKCODE	55	ALN	12	0	0	0	MRLINE.VENDORPACKCODE
RFQLINE	VENDORPACKQUANTITY	56	ALN	12	0	0	0	MRLINE.VENDORPACKQUANTITY
RFQLINE	VENDORWAREHOUSE	57	ALN	12	0	0	0	MRLINE.VENDORWAREHOUSE
RFQLINE	ORGID	58	UPPER	8	0	1	0	ORGANIZATION.ORGID
RFQLINE	SITEID	59	UPPER	8	0	1	0	SITE.SITEID
RFQLINE	REFWO	60	UPPER	10	0	0	0	WORKORDER.WONUM
RFQLINE	ENTEREDASTASK	61	YORN	1	0	1	1	.
RFQLINE	LINETYPE	62	UPPER	15	0	1	1	PRLINE.LINETYPE
RFQLINE	ITEMSETID	63	UPPER	8	0	0	0	SETS.SETID
RFQLINE	CONDITIONCODE	68	UPPER	30	0	0	0	ITEMCONDITION.CONDITIONCODE
RFQLINE	CONTRACTNUM	69	UPPER	8	0	0	0	CONTRACT.CONTRACTNUM
RFQLINE	CONTRACTLINENUM	70	INTEGER	12	0	0	0	CONTRACTLINE.CONTRACTLINENUM
RFQLINE	CONTRACTLINEID	71	INTEGER	12	0	0	0	CONTRACTLINE.CONTRACTLINEID
RFQLINE	COMMODITYGROUP	72	UPPER	8	0	0	1	COMMODITIES.COMMODITY
RFQLINE	COMMODITY	73	UPPER	8	0	0	1	COMMODITIES.COMMODITY
RFQLINE	CONVERTTOCONTRACT	74	YORN	1	0	1	1	.
RFQLINE	CONTRACTREV	75	INTEGER	12	0	0	1	CONTRACT.REVISIONNUM
RFQLINE	LANGCODE	78	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
RFQLINE	CONVERSION	79	DECIMAL	15	2	0	1	CONVERSION.CONVERSION
RFQLINE	CONTRACTID	81	INTEGER	12	0	0	1	CONTRACT.CONTRACTID
RFQLINE	HASLD	82	YORN	1	0	1	1	.
RFQLINE	MKTPLCITEM	83	YORN	1	0	1	0	.
RFQSTATUS	RFQNUM	1	UPPER	8	0	1	0	RFQ.RFQNUM
RFQSTATUS	RFQSTATUSSEQ	2	INTEGER	12	0	1	1	.
RFQSTATUS	STATUS	3	UPPER	12	0	1	1	RFQ.STATUS
RFQSTATUS	CHANGEDATE	4	DATETIME	10	0	1	1	RFQ.STATUSDATE
RFQSTATUS	CHANGEBY	5	UPPER	30	0	1	0	PERSON.PERSONID
RFQSTATUS	MEMO	6	ALN	50	0	0	0	WFTRANSACTION.MEMO
RFQSTATUS	ORGID	7	UPPER	8	0	1	0	ORGANIZATION.ORGID
RFQSTATUS	SITEID	8	UPPER	8	0	1	0	SITE.SITEID
RFQTERM	RFQNUM	1	UPPER	8	0	1	0	RFQ.RFQNUM
RFQTERM	SEQNUM	2	INTEGER	12	0	0	0	.
RFQTERM	TERMIN	3	UPPER	25	0	0	0	.
RFQTERM	DESCRIPTION	4	ALN	100	0	0	0	.
RFQTERM	SITEID	5	UPPER	8	0	1	0	.
RFQTERM	ORGID	6	UPPER	8	0	1	0	.
RFQTERM	CANEDIT	8	YORN	1	0	1	0	.
RFQTERM	RFQTERMID	9	INTEGER	12	0	1	1	.
RFQTERM	LANGCODE	10	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
RFQTERM	HASLD	11	YORN	1	0	1	1	.
RFQVENDOR	RFQNUM	1	UPPER	8	0	1	0	RFQ.RFQNUM
RFQVENDOR	VENDOR	2	UPPER	12	0	1	0	COMPANIES.COMPANY
RFQVENDOR	CONTACT	3	ALN	50	0	0	0	COMPANIES.CONTACT
RFQVENDOR	PHONE	4	ALN	20	0	0	0	COMPANIES.PHONE

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
RFQVENDOR	FAXPHONE	5	ALN	20	0	0	0	COMPANIES.FAX
RFQVENDOR	EMAIL	6	ALN	60	0	0	0	COMPCONTACT.EMAIL
RFQVENDOR	CUSTOMERNUM	7	ALN	16	0	0	0	COMPANIES.CUSTOMERNUM
RFQVENDOR	FOB	8	ALN	20	0	0	0	COMPANIES.FOB
RFQVENDOR	FREIGHTTERMS	9	ALN	50	0	0	0	COMPANIES.FREIGHTTERMS
RFQVENDOR	SHIPVIA	10	ALN	20	0	0	0	COMPANIES.SHIPVIA
RFQVENDOR	PAYMENTTERMS	11	ALN	20	0	0	0	COMPANIES.PAYMENTTERMS
RFQVENDOR	CURRENCYCODE	12	UPPER	8	0	1	0	CURRENCY.CURRENCYCODE
RFQVENDOR	EXCHANGERATE	13	DECIMAL	14	7	0	1	EXCHANGE.EXCHANGERATE
RFQVENDOR	EXCHANGEDATE	14	DATE	4	0	0	1	.
RFQVENDOR	BUYAHEAD	15	YORN	1	0	1	1	.
RFQVENDOR	INTERNAL	16	YORN	1	0	1	1	.
RFQVENDOR	REPLIEDDATE	17	DATETIME	10	0	0	1	.
RFQVENDOR	GLCREDITACCT	18	GL	23	0	0	1	.
RFQVENDOR	INCLUSIVE1	19	YORN	1	0	1	1	.
RFQVENDOR	INCLUSIVE2	20	YORN	1	0	1	1	.
RFQVENDOR	INCLUSIVE3	21	YORN	1	0	1	1	.
RFQVENDOR	INCLUSIVE4	22	YORN	1	0	1	1	.
RFQVENDOR	INCLUSIVE5	23	YORN	1	0	1	1	.
RFQVENDOR	VENDORQUOTENUM	24	ALN	15	0	0	0	.
RFQVENDOR	ORGID	25	UPPER	8	0	1	0	ORGANIZATION.ORGID
RFQVENDOR	SITEID	26	UPPER	8	0	1	0	SITE.SITEID
RFQVENDOR	RFQVENDORID	28	INTEGER	12	0	1	1	.
RFQVENDOR	LANGCODE	29	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
RFQVENDOR	HASLD	30	YORN	1	0	1	1	.
RFQVENDORTERM	RFQNUM	1	UPPER	8	0	1	0	RFQ.RFQNUM
RFQVENDORTERM	VENDOR	2	UPPER	12	0	0	0	COMPANIES.COMPANY
RFQVENDORTERM	SEQNUM	3	INTEGER	12	0	0	0	.
RFQVENDORTERM	TERMIN	4	UPPER	25	0	0	1	.
RFQVENDORTERM	DESCRIPTION	5	ALN	100	0	0	0	.
RFQVENDORTERM	ORGID	6	UPPER	8	0	1	0	.
RFQVENDORTERM	SITEID	8	UPPER	8	0	1	0	.
RFQVENDORTERM	CANEDIT	9	YORN	1	0	1	0	.
RFQVENDORTERM	RFQVENDORTERMID	10	INTEGER	12	0	1	1	.
RFQVENDORTERM	LANGCODE	11	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
RFQVENDORTERM	HASLD	12	YORN	1	0	1	1	.
ROUTES	ROUTE	1	UPPER	8	0	1	0	.
ROUTES	DESCRIPTION	2	ALN	100	0	0	0	.
ROUTES	ORGID	3	UPPER	8	0	1	0	ORGANIZATION.ORGID
ROUTES	SITEID	4	UPPER	8	0	1	0	SITE.SITEID
ROUTES	PARENTCHGSSTATUS	6	YORN	1	0	1	0	.
ROUTES	ROUTESID	7	INTEGER	12	0	1	1	.
ROUTES	LANGCODE	8	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
ROUTES	HASLD	9	YORN	1	0	1	1	.
ROUTE_STOP	ROUTE	1	UPPER	8	0	1	0	ROUTES.ROUTE
ROUTE_STOP	ASSETNUM	2	UPPER	12	0	0	0	ASSET.ASSETNUM

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
ROUTE_STOP	LOCATION	3	UPPER	12	0	0	0	LOCATIONS.LOCATION
ROUTE_STOP	JPNUM	4	UPPER	10	0	0	0	JOBPLAN.JPNUM
ROUTE_STOP	STOPSEQUENCE	5	INTEGER	12	0	0	0	.
ROUTE_STOP	ROUTESTOPID	6	INTEGER	12	0	1	1	.
ROUTE_STOP	RTS1	7	ALN	10	0	0	0	.
ROUTE_STOP	RTS2	8	ALN	10	0	0	0	.
ROUTE_STOP	RTS3	9	ALN	10	0	0	0	.
ROUTE_STOP	RTS4	10	DATETIME	10	0	0	0	.
ROUTE_STOP	RTS5	11	DECIMAL	15	2	0	0	.
ROUTE_STOP	ORGID	12	UPPER	8	0	1	0	ORGANIZATION.ORGID
ROUTE_STOP	SITEID	13	UPPER	8	0	1	0	SITE.SITEID
ROUTE_STOP	DESCRIPTION	14	ALN	100	0	0	0	.
ROUTE_STOP	ROUTE_STOPID	17	INTEGER	12	0	1	1	.
RSCONFIG	RSCONFIGID	1	INTEGER	12	0	1	0	.
RSCONFIG	LAYOUTID	2	INTEGER	12	0	0	0	.
RSCONFIG	QUERYCOLUMN	3	UPPER	50	0	0	0	.
RSCONFIG	DESCRIPTION	4	ALN	100	0	0	0	.
RSCONFIG	COLUMNORDER	5	INTEGER	12	0	0	0	.
RSCONFIG	DISPLAY	6	YORN	1	0	1	1	.
RSCONFIG	APP	7	UPPER	10	0	0	0	.
RSCONFIG	QUERYID	8	INTEGER	12	0	0	0	.
RSCONFIG	ISCONDITIONSET	9	YORN	1	0	1	0	.
RSCONFIG	ISGRAPHON	10	YORN	1	0	1	0	.
SAFETYLEXICON	SAFETYLEXICONID	1	INTEGER	12	0	1	1	.
SAFETYLEXICON	LOCATION	2	UPPER	12	0	0	0	LOCATIONS.LOCATION
SAFETYLEXICON	ASSETNUM	3	UPPER	12	0	0	0	ASSET.ASSETNUM
SAFETYLEXICON	HAZARDID	4	UPPER	8	0	0	0	HAZARD.HAZARDID
SAFETYLEXICON	TAGOUTID	5	UPPER	8	0	0	0	TAGOUT.TAGOUTID
SAFETYLEXICON	APPLYSEQ	6	SMALLINT	10	0	0	0	.
SAFETYLEXICON	REMOVESEQ	7	SMALLINT	10	0	0	0	.
SAFETYLEXICON	ORGID	8	UPPER	8	0	1	0	ORGANIZATION.ORGID
SAFETYLEXICON	SITEID	9	UPPER	8	0	1	0	SITE.SITEID
SAFETYLEXICON	SL01	11	ALN	10	0	0	0	.
SAFETYLEXICON	SL02	12	ALN	10	0	0	0	.
SAFETYLEXICON	SL03	13	DATETIME	10	0	0	0	.
SAFETYLEXICON	SL04	14	DECIMAL	15	2	0	0	.
SAFETYLEXICON	SL05	15	INTEGER	12	0	0	0	.
SAFETYPLAN	SAFETYPLANID	1	UPPER	8	0	1	0	.
SAFETYPLAN	DESCRIPTION	2	ALN	100	0	0	0	.
SAFETYPLAN	CHANGEBY	3	UPPER	30	0	1	0	PERSON.PERSONID
SAFETYPLAN	CHANGEDATE	4	DATETIME	10	0	1	1	.
SAFETYPLAN	ORGID	5	UPPER	8	0	1	0	ORGANIZATION.ORGID
SAFETYPLAN	SITEID	6	UPPER	8	0	1	0	SITE.SITEID
SAFETYPLAN	SAFETYPLANUID	8	INTEGER	12	0	1	1	.
SAFETYPLAN	LANGCODE	9	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
SAFETYPLAN	HASLD	10	YORN	1	0	1	1	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
SCCONFIG	LAYOUT	1	ALN	25	0	0	0	.
SCCONFIG	ISDEFAULT	2	YORN	1	0	1	0	.
SCCONFIG	SCCONFIGID	3	INTEGER	12	0	1	1	.
SCCONFIG	DESCRIPTION	4	ALN	100	0	0	1	.
SCCONFIG	USERID	5	UPPER	20	0	0	0	.
SCCONFIG	GROUPNAME	6	UPPER	20	0	0	0	.
SCCONFIG	SCTEMPLATEID	7	INTEGER	12	0	0	0	.
SCCONFIG	DISPLAY	8	YORN	1	0	1	0	.
SCHEDULE	SCHEDULEID	1	INTEGER	12	0	1	1	.
SCHEDULE	SCHEDULENUM	2	INTEGER	12	0	1	0	.
SCHEDULE	CONTRACTNUM	3	UPPER	8	0	0	0	CONTRACT.CONTRACTNUM
SCHEDULE	REVISIONNUM	4	INTEGER	12	0	0	1	CONTRACT.REVISIONNUM
SCHEDULE	CONTRACTLINEID	5	INTEGER	12	0	0	0	CONTRACTLINE.CONTRACTLINEID
SCHEDULE	SCHEDULETYPE	6	UPPER	8	0	0	0	.
SCHEDULE	DESCRIPTION	7	ALN	100	0	0	0	.
SCHEDULE	TAX1	8	DECIMAL	10	2	0	0	.
SCHEDULE	TAX2	9	DECIMAL	10	2	0	0	.
SCHEDULE	TAX3	10	DECIMAL	10	2	0	0	.
SCHEDULE	TAX4	11	DECIMAL	10	2	0	0	.
SCHEDULE	TAX5	12	DECIMAL	10	2	0	0	.
SCHEDULE	TAX1CODE	13	UPPER	8	0	0	0	TAX.TAXCODE
SCHEDULE	TAX2CODE	14	UPPER	8	0	0	0	TAX.TAXCODE
SCHEDULE	TAX3CODE	15	UPPER	8	0	0	0	TAX.TAXCODE
SCHEDULE	TAX4CODE	16	UPPER	8	0	0	0	TAX.TAXCODE
SCHEDULE	TAX5CODE	17	UPPER	8	0	0	0	TAX.TAXCODE
SCHEDULE	STARTDATE	18	DATE	4	0	0	0	CONTRACT.STARTDATE
SCHEDULE	ENDDATE	19	DATE	4	0	0	0	CONTRACT.ENDDATE
SCHEDULE	PERIODICPAYMENT	20	DECIMAL	10	2	0	0	.
SCHEDULE	LEASERATEFACTOR	21	DECIMAL	10	4	0	0	.
SCHEDULE	SINGLELINE	22	YORN	1	0	1	0	.
SCHEDULE	GLDEBITACCT	23	GL	23	0	0	1	.
SCHEDULE	GLCREDITACCT	24	GL	23	0	0	1	.
SCHEDULE	ORGID	25	UPPER	8	0	0	0	ORGANIZATION.ORGID
SCHEDULE	LOADED COST	26	DECIMAL	10	2	0	0	.
SCHEDULE	TARGINVSTATUS	27	UPPER	12	0	0	0	.
SCHEDULE	INCLUSIVE1	28	YORN	1	0	1	0	.
SCHEDULE	INCLUSIVE2	29	YORN	1	0	1	0	.
SCHEDULE	INCLUSIVE3	30	YORN	1	0	1	0	.
SCHEDULE	INCLUSIVE4	31	YORN	1	0	1	0	.
SCHEDULE	INCLUSIVE5	32	YORN	1	0	1	0	.
SCHEDULE	INTERIMCHARGE	33	DECIMAL	10	2	0	0	.
SCHEDULE	SCHEDULE	34	ALN	80	0	0	0	.
SCHEDULE	LINECOST	35	DECIMAL	10	2	0	0	.
SCHEDULE	CONTRACTLINENUM	36	INTEGER	12	0	0	0	CONTRACTLINE.CONTRACTLINENUM
SCHEDULELINE	SCHEDULELINEID	1	INTEGER	12	0	1	1	.
SCHEDULELINE	SCHEDULEID	2	INTEGER	12	0	1	0	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
SCHEDULELINE	SCHEDULELINENUM	3	INTEGER	12	0	1	1	.
SCHEDULELINE	ASSETNUM	4	UPPER	12	0	0	0	.
SCHEDULELINE	ACTION	5	UPPER	12	0	0	1	.
SCHEDULELINE	PAYMENTPERCENT	6	DECIMAL	5	2	0	0	.
SCHEDULELINE	ORGID	7	UPPER	8	0	0	0	ORGANIZATION.ORGID
SCHEDULELINE	TAX1CODE	8	UPPER	8	0	0	0	TAX.TAXCODE
SCHEDULELINE	TAX2CODE	9	UPPER	8	0	0	0	TAX.TAXCODE
SCHEDULELINE	TAX3CODE	10	UPPER	8	0	0	0	TAX.TAXCODE
SCHEDULELINE	TAX4CODE	11	UPPER	8	0	0	0	TAX.TAXCODE
SCHEDULELINE	TAX5CODE	12	UPPER	8	0	0	0	TAX.TAXCODE
SCHEDULELINE	TAX1	13	DECIMAL	10	2	0	0	.
SCHEDULELINE	TAX2	14	DECIMAL	10	2	0	0	.
SCHEDULELINE	TAX3	15	DECIMAL	10	2	0	0	.
SCHEDULELINE	TAX4	16	DECIMAL	10	2	0	0	.
SCHEDULELINE	TAX5	17	DECIMAL	10	2	0	0	.
SCHEDULELINE	INCLUSIVE1	18	YORN	1	0	1	0	.
SCHEDULELINE	INCLUSIVE2	19	YORN	1	0	1	0	.
SCHEDULELINE	INCLUSIVE3	20	YORN	1	0	1	0	.
SCHEDULELINE	INCLUSIVE4	21	YORN	1	0	1	0	.
SCHEDULELINE	INCLUSIVE5	22	YORN	1	0	1	0	.
SCHEDULELINE	PERIODICPAYMENT	23	DECIMAL	10	2	0	0	.
SCHEDULELINE	LEASERATEFACTOR	24	DECIMAL	5	0	0	0	.
SCHEDULELINE	LOADED COST	25	DECIMAL	10	2	0	0	.
SCHEDULELINE	INTERIMCHARGE	26	DECIMAL	10	2	0	0	.
SCHEDULELINE	GLDEBITACCT	27	GL	23	0	0	1	.
SCHEDULELINE	GLCREDITACCT	28	GL	23	0	0	1	.
SCHEDULELINE	TARGINVSTATUS	29	UPPER	7	0	0	0	.
SCHEDULELINE	LINECOST	30	DECIMAL	10	2	0	0	.
SCHEDULELINE	DAYSINTERVAL	31	INTEGER	12	0	0	0	.
SCHEDULELINE	SCHEDULENUM	32	INTEGER	12	0	0	0	SCHEDULE.SCHEDULENUM
SCHEDULELINE	CONTRACTNUM	33	UPPER	8	0	0	0	CONTRACT.CONTRACTNUM
SCHEDULELINE	REVISIONNUM	34	INTEGER	12	0	0	1	CONTRACT.REVISIONNUM
SCHEDULELINE	CONTRACTLINENUM	35	INTEGER	12	0	0	0	CONTRACTLINE.CONTRACTLINENUM
SCHEDULELINE	ASSETID	36	INTEGER	12	0	0	0	ASSET.ASSETID
SCHLEASEVIEW	SCHEDULEID	1	INTEGER	12	0	1	1	SCHEDULE.SCHEDULEID
SCHLEASEVIEW	SCHEDULENUM	2	INTEGER	12	0	1	0	SCHEDULE.SCHEDULENUM
SCHLEASEVIEW	CONTRACTNUM	3	UPPER	8	0	0	0	CONTRACT.CONTRACTNUM
SCHLEASEVIEW	REVISIONNUM	4	INTEGER	12	0	0	1	CONTRACT.REVISIONNUM
SCHLEASEVIEW	CONTRACTLINEID	5	INTEGER	12	0	0	0	CONTRACTLINE.CONTRACTLINEID
SCHLEASEVIEW	SCHEDULETYPE	6	UPPER	8	0	0	0	SCHEDULE.SCHEDULETYPE
SCHLEASEVIEW	DESCRIPTION	7	ALN	100	0	0	0	SCHEDULE.DESCRPTION
SCHLEASEVIEW	TAX1	8	DECIMAL	10	2	0	0	SCHEDULE.TAX1
SCHLEASEVIEW	TAX2	9	DECIMAL	10	2	0	0	SCHEDULE.TAX2
SCHLEASEVIEW	TAX3	10	DECIMAL	10	2	0	0	SCHEDULE.TAX3
SCHLEASEVIEW	TAX4	11	DECIMAL	10	2	0	0	SCHEDULE.TAX4
SCHLEASEVIEW	TAX5	12	DECIMAL	10	2	0	0	SCHEDULE.TAX5

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
SCHLEASEVIEW	TAX1CODE	13	UPPER	8	0	0	0	TAX.TAXCODE
SCHLEASEVIEW	TAX2CODE	14	UPPER	8	0	0	0	TAX.TAXCODE
SCHLEASEVIEW	TAX3CODE	15	UPPER	8	0	0	0	TAX.TAXCODE
SCHLEASEVIEW	TAX4CODE	16	UPPER	8	0	0	0	TAX.TAXCODE
SCHLEASEVIEW	TAX5CODE	17	UPPER	8	0	0	0	TAX.TAXCODE
SCHLEASEVIEW	STARTDATE	18	DATE	4	0	0	0	CONTRACT.STARTDATE
SCHLEASEVIEW	ENDDATE	19	DATE	4	0	0	0	CONTRACT.ENDDATE
SCHLEASEVIEW	PERIODICPAYMENT	20	DECIMAL	10	2	0	0	SCHEDULE.PERIODICPAYMENT
SCHLEASEVIEW	LEASERATEFACTOR	21	DECIMAL	10	4	0	0	SCHEDULE.LEASERATEFACTOR
SCHLEASEVIEW	SINGLELINE	22	YORN	1	0	1	0	SCHEDULE.SINGLELINE
SCHLEASEVIEW	GLDEBITACCT	23	GL	23	0	0	1	.
SCHLEASEVIEW	GLCREDITACCT	24	GL	23	0	0	1	.
SCHLEASEVIEW	ORGID	25	UPPER	8	0	0	0	ORGANIZATION.ORGID
SCHLEASEVIEW	LOADED COST	26	DECIMAL	10	2	0	0	SCHEDULE.LOADED COST
SCHLEASEVIEW	TARGINVSTATUS	27	UPPER	12	0	0	0	SCHEDULE.TARGINVSTATUS
SCHLEASEVIEW	INCLUSIVE1	28	YORN	1	0	1	0	SCHEDULE.INCLUSIVE1
SCHLEASEVIEW	INCLUSIVE2	29	YORN	1	0	1	0	SCHEDULE.INCLUSIVE2
SCHLEASEVIEW	INCLUSIVE3	30	YORN	1	0	1	0	SCHEDULE.INCLUSIVE3
SCHLEASEVIEW	INCLUSIVE4	31	YORN	1	0	1	0	SCHEDULE.INCLUSIVE4
SCHLEASEVIEW	INCLUSIVE5	32	YORN	1	0	1	0	SCHEDULE.INCLUSIVE5
SCHLEASEVIEW	INTERIMCHARGE	33	DECIMAL	10	2	0	0	SCHEDULE.INTERIMCHARGE
SCHLEASEVIEW	SCHEDULE	34	ALN	80	0	0	0	SCHEDULE.SCHEDULE
SCHLEASEVIEW	LINECOST	35	DECIMAL	10	2	0	0	SCHEDULE.LINECOST
SCHLEASEVIEW	CONTRACTLINENUM	40	INTEGER	12	0	0	0	CONTRACTLINE.CONTRACTLINENUM
SCHPURCHVIEW	SCHEDULEID	1	INTEGER	12	0	1	1	SCHEDULE.SCHEDULEID
SCHPURCHVIEW	SCHEDULENUM	2	INTEGER	12	0	1	0	SCHEDULE.SCHEDULENUM
SCHPURCHVIEW	CONTRACTNUM	3	UPPER	8	0	0	0	CONTRACT.CONTRACTNUM
SCHPURCHVIEW	REVISIONNUM	4	INTEGER	12	0	0	1	CONTRACT.REVISIONNUM
SCHPURCHVIEW	CONTRACTLINEID	5	INTEGER	12	0	0	0	CONTRACTLINE.CONTRACTLINEID
SCHPURCHVIEW	SCHEDULETYPE	6	UPPER	8	0	0	0	SCHEDULE.SCHEDULETYPE
SCHPURCHVIEW	DESCRIPTION	7	ALN	100	0	0	0	SCHEDULE.DESCRPTION
SCHPURCHVIEW	TAX1	8	DECIMAL	10	2	0	0	SCHEDULE.TAX1
SCHPURCHVIEW	TAX2	9	DECIMAL	10	2	0	0	SCHEDULE.TAX2
SCHPURCHVIEW	TAX3	10	DECIMAL	10	2	0	0	SCHEDULE.TAX3
SCHPURCHVIEW	TAX4	11	DECIMAL	10	2	0	0	SCHEDULE.TAX4
SCHPURCHVIEW	TAX5	12	DECIMAL	10	2	0	0	SCHEDULE.TAX5
SCHPURCHVIEW	TAX1CODE	13	UPPER	8	0	0	0	TAX.TAXCODE
SCHPURCHVIEW	TAX2CODE	14	UPPER	8	0	0	0	TAX.TAXCODE
SCHPURCHVIEW	TAX3CODE	15	UPPER	8	0	0	0	TAX.TAXCODE
SCHPURCHVIEW	TAX4CODE	16	UPPER	8	0	0	0	TAX.TAXCODE
SCHPURCHVIEW	TAX5CODE	17	UPPER	8	0	0	0	TAX.TAXCODE
SCHPURCHVIEW	STARTDATE	18	DATE	4	0	0	0	CONTRACT.STARTDATE
SCHPURCHVIEW	ENDDATE	19	DATE	4	0	0	0	CONTRACT.ENDDATE
SCHPURCHVIEW	PERIODICPAYMENT	20	DECIMAL	10	2	0	0	SCHEDULE.PERIODICPAYMENT
SCHPURCHVIEW	LEASERATEFACTOR	21	DECIMAL	10	4	0	0	SCHEDULE.LEASERATEFACTOR
SCHPURCHVIEW	SINGLELINE	22	YORN	1	0	1	0	SCHEDULE.SINGLELINE

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
SCHPURCHVIEW	GLDEBITACCT	23	GL	23	0	0	1	.
SCHPURCHVIEW	GLCREDITACCT	24	GL	23	0	0	1	.
SCHPURCHVIEW	ORGID	25	UPPER	8	0	0	0	ORGANIZATION.ORGID
SCHPURCHVIEW	LOADED COST	26	DECIMAL	10	2	0	0	SCHEDULE.LOADED COST
SCHPURCHVIEW	TARGINVSTATUS	27	UPPER	12	0	0	0	SCHEDULE.TARGINVSTATUS
SCHPURCHVIEW	INCLUSIVE1	28	YORN	1	0	1	0	SCHEDULE.INCLUSIVE1
SCHPURCHVIEW	INCLUSIVE2	29	YORN	1	0	1	0	SCHEDULE.INCLUSIVE2
SCHPURCHVIEW	INCLUSIVE3	30	YORN	1	0	1	0	SCHEDULE.INCLUSIVE3
SCHPURCHVIEW	INCLUSIVE4	31	YORN	1	0	1	0	SCHEDULE.INCLUSIVE4
SCHPURCHVIEW	INCLUSIVE5	32	YORN	1	0	1	0	SCHEDULE.INCLUSIVE5
SCHPURCHVIEW	INTERIMCHARGE	33	DECIMAL	10	2	0	0	SCHEDULE.INTERIMCHARGE
SCHPURCHVIEW	SCHEDULE	34	ALN	10	0	0	0	.
SCHPURCHVIEW	LINECOST	35	DECIMAL	10	2	0	0	.
SCHPURCHVIEW	CONTRACTLINENUM	36	INTEGER	12	0	0	0	CONTRACTLINE.CONTRACTLINENUM
SCHWARRANTYVIEW	SCHEDULEID	1	INTEGER	12	0	1	1	SCHEDULE.SCHEDULEID
SCHWARRANTYVIEW	SCHEDULENUM	2	INTEGER	12	0	1	0	SCHEDULE.SCHEDULENUM
SCHWARRANTYVIEW	CONTRACTNUM	3	UPPER	8	0	0	0	CONTRACT.CONTRACTNUM
SCHWARRANTYVIEW	REVISIONNUM	4	INTEGER	12	0	0	1	CONTRACT.REVISIONNUM
SCHWARRANTYVIEW	CONTRACTLINEID	5	INTEGER	12	0	0	0	CONTRACTLINE.CONTRACTLINEID
SCHWARRANTYVIEW	SCHEDULETYPE	6	UPPER	8	0	0	0	SCHEDULE.SCHEDULETYPE
SCHWARRANTYVIEW	DESCRIPTION	7	ALN	100	0	0	0	SCHEDULE.DESCRPTION
SCHWARRANTYVIEW	TAX1	8	DECIMAL	10	2	0	0	SCHEDULE.TAX1
SCHWARRANTYVIEW	TAX2	9	DECIMAL	10	2	0	0	SCHEDULE.TAX2
SCHWARRANTYVIEW	TAX3	10	DECIMAL	10	2	0	0	SCHEDULE.TAX3
SCHWARRANTYVIEW	TAX4	11	DECIMAL	10	2	0	0	SCHEDULE.TAX4
SCHWARRANTYVIEW	TAX5	12	DECIMAL	10	2	0	0	SCHEDULE.TAX5
SCHWARRANTYVIEW	TAX1CODE	13	UPPER	8	0	0	0	TAX.TAXCODE
SCHWARRANTYVIEW	TAX2CODE	14	UPPER	8	0	0	0	TAX.TAXCODE
SCHWARRANTYVIEW	TAX3CODE	15	UPPER	8	0	0	0	TAX.TAXCODE
SCHWARRANTYVIEW	TAX4CODE	16	UPPER	8	0	0	0	TAX.TAXCODE
SCHWARRANTYVIEW	TAX5CODE	17	UPPER	8	0	0	0	TAX.TAXCODE
SCHWARRANTYVIEW	STARTDATE	18	DATE	4	0	0	0	CONTRACT.STARTDATE
SCHWARRANTYVIEW	ENDDATE	19	DATE	4	0	0	0	CONTRACT.ENDDATE
SCHWARRANTYVIEW	PERIODICPAYMENT	20	DECIMAL	10	2	0	0	SCHEDULE.PERIODICPAYMENT
SCHWARRANTYVIEW	LEASERATEFACTOR	21	DECIMAL	10	4	0	0	SCHEDULE.LEASERATEFACTOR
SCHWARRANTYVIEW	SINGLELINE	22	YORN	1	0	1	0	SCHEDULE.SINGLELINE
SCHWARRANTYVIEW	GLDEBITACCT	23	GL	23	0	0	1	.
SCHWARRANTYVIEW	GLCREDITACCT	24	GL	23	0	0	1	.
SCHWARRANTYVIEW	ORGID	25	UPPER	8	0	0	0	ORGANIZATION.ORGID
SCHWARRANTYVIEW	LOADED COST	26	DECIMAL	10	2	0	0	SCHEDULE.LOADED COST
SCHWARRANTYVIEW	TARGINVSTATUS	27	UPPER	12	0	0	0	SCHEDULE.TARGINVSTATUS
SCHWARRANTYVIEW	INCLUSIVE1	28	YORN	1	0	1	0	SCHEDULE.INCLUSIVE1
SCHWARRANTYVIEW	INCLUSIVE2	29	YORN	1	0	1	0	SCHEDULE.INCLUSIVE2
SCHWARRANTYVIEW	INCLUSIVE3	30	YORN	1	0	1	0	SCHEDULE.INCLUSIVE3
SCHWARRANTYVIEW	INCLUSIVE4	31	YORN	1	0	1	0	SCHEDULE.INCLUSIVE4
SCHWARRANTYVIEW	INCLUSIVE5	32	YORN	1	0	1	0	SCHEDULE.INCLUSIVE5

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
SCHWARRANTYVIEW	INTERIMCHARGE	33	DECIMAL	10	2	0	0	SCHEDULE.INTERIMCHARGE
SCHWARRANTYVIEW	SCHEDULE	34	ALN	80	0	0	0	SCHEDULE.SCHEDULE
SCHWARRANTYVIEW	LINECOST	35	DECIMAL	10	2	0	0	SCHEDULE.LINECOST
SCHWARRANTYVIEW	CONTRACTLINENUM	36	INTEGER	12	0	0	0	CONTRACTLINE.CONTRACTLINENUM
SCTEMPLATE	SCTEMPLATEID	1	INTEGER	12	0	1	1	.
SCTEMPLATE	DESCRIPTION	2	ALN	100	0	0	0	.
SCTEMPLATE	PRESENTATION	3	CLOB	99999	0	0	0	.
SCTEMPLATE	CREATEDON	4	DATE	4	0	0	0	.
SCTEMPLATE	NAME	5	ALN	20	0	0	0	.
SERVICEITEMS	ITEMNUM	1	UPPER	30	0	1	0	ITEM.ITEMNUM
SERVICEITEMS	DESCRIPTION	2	ALN	100	0	0	0	ITEM.DESCRPTION
SERVICEITEMS	ROTATING	3	YORN	1	0	1	1	ITEM.ROTATING
SERVICEITEMS	LOTTYPE	4	UPPER	16	0	1	1	ITEM.LOTTYPE
SERVICEITEMS	CAPITALIZED	5	YORN	1	0	1	1	ITEM.CAPITALIZED
SERVICEITEMS	MSDSNUM	6	ALN	10	0	0	0	ITEM.MSDSNUM
SERVICEITEMS	OUTSIDE	7	YORN	1	0	1	1	ITEM.OUTSIDE
SERVICEITEMS	IN19	8	ALN	10	0	0	0	ITEM.IN19
SERVICEITEMS	IN20	9	ALN	10	0	0	0	ITEM.IN20
SERVICEITEMS	IN21	10	ALN	10	0	0	0	ITEM.IN21
SERVICEITEMS	IN22	11	DATETIME	10	0	0	0	ITEM.IN22
SERVICEITEMS	IN23	12	DECIMAL	15	2	0	0	ITEM.IN23
SERVICEITEMS	SPAREPARTAUTOADD	13	YORN	1	0	1	1	ITEM.SPAREPARTAUTOADD
SERVICEITEMS	CLASSSTRUCTUREID	14	UPPER	20	0	0	1	CLASSSTRUCTURE.CLASSSTRUCTUREID
SERVICEITEMS	INSPECTIONREQUIRED	15	YORN	1	0	1	1	ITEM.INSPECTIONREQUIRED
SERVICEITEMS	SOURCESYSID	16	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
SERVICEITEMS	OWNERSYSID	17	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
SERVICEITEMS	EXTERNALREFID	18	ALN	10	0	0	0	ITEM.EXTERNALREFID
SERVICEITEMS	IN24	19	ALN	10	0	0	0	ITEM.IN24
SERVICEITEMS	IN25	20	ALN	10	0	0	0	ITEM.IN25
SERVICEITEMS	IN26	21	ALN	10	0	0	0	ITEM.IN26
SERVICEITEMS	IN27	22	ALN	10	0	0	0	ITEM.IN27
SERVICEITEMS	SENDERSYSID	23	ALN	50	0	0	0	ITEM.SENDERSYSID
SERVICEITEMS	ITEMSETID	24	UPPER	8	0	1	0	SETS.SETID
SERVICEITEMS	ORDERUNIT	25	UPPER	8	0	0	0	MEASUREUNIT.MEASUREUNITID
SERVICEITEMS	ISSUEUNIT	26	UPPER	8	0	0	0	MEASUREUNIT.MEASUREUNITID
SERVICEITEMS	CONDITIONENABLED	33	YORN	1	0	1	0	ITEM.CONDITIONENABLED
SERVICEITEMS	GROUPNAME	34	UPPER	10	0	0	0	METERGROUP.GROUPNAME
SERVICEITEMS	METERNAME	35	UPPER	10	0	0	0	METER.METERNAME
SERVICEITEMS	COMMODITYGROUP	36	UPPER	8	0	0	1	COMMODITIES.COMMODITY
SERVICEITEMS	COMMODITY	37	UPPER	8	0	0	1	COMMODITIES.COMMODITY
SERVICEITEMS	ITEMTYPE	38	UPPER	10	0	1	0	ITEM.ITEMTYPE
SERVICEITEMS	PRORATE	39	YORN	1	0	1	1	ITEM.PRORATE
SERVICEITEMS	ITEMID	40	INTEGER	12	0	0	1	.
SERVICEITEMS	ISKIT	41	YORN	1	0	1	1	.
SERVICEITEMS	LANGCODE	43	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
SERVICEITEMS	ATTACHONISSUE	44	YORN	1	0	1	1	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
SERVICEITEMS	HASLD	45	YORN	1	0	1	1	.
SERVRECTRANS	PONUM	1	UPPER	8	0	0	0	PO.PONUM
SERVRECTRANS	ASSETNUM	2	UPPER	12	0	0	0	ASSET.ASSETNUM
SERVRECTRANS	LOCATION	3	UPPER	12	0	0	0	LOCATIONS.LOCATION
SERVRECTRANS	CLAIMNUM	4	UPPER	8	0	0	0	.
SERVRECTRANS	REJECTQTY	5	DECIMAL	15	2	0	1	.
SERVRECTRANS	QUANTITY	6	DECIMAL	15	2	0	1	.
SERVRECTRANS	UNITCOST	7	AMOUNT	10	2	0	1	.
SERVRECTRANS	REJECTCOST	8	DECIMAL	15	2	0	1	.
SERVRECTRANS	LINECOST	9	AMOUNT	10	2	1	1	.
SERVRECTRANS	GLDEBITACCT	10	GL	23	0	0	1	.
SERVRECTRANS	GLCREDITACCT	11	GL	23	0	0	1	.
SERVRECTRANS	FINANCIALPERIOD	12	ALN	6	0	0	0	FINANCIALPERIODS.FINANCIALPERIOD
SERVRECTRANS	TRANSDATE	13	DATETIME	10	0	1	0	.
SERVRECTRANS	ENTERDATE	14	DATETIME	10	0	1	0	.
SERVRECTRANS	ENTERBY	15	UPPER	30	0	1	0	PERSON.PERSONID
SERVRECTRANS	DESCRIPTION	16	ALN	100	0	0	0	ITEM.DESCRPTION
SERVRECTRANS	CURRENCYUNITCOST	17	DECIMAL	10	2	0	1	.
SERVRECTRANS	CURRENCYLINECOST	18	DECIMAL	10	2	1	1	.
SERVRECTRANS	CURRENCYCODE	19	UPPER	8	0	1	0	CURRENCY.CURRENCYCODE
SERVRECTRANS	POLINENUM	20	INTEGER	12	0	0	1	PRLINE.PRLINENUM
SERVRECTRANS	REMARK	21	ALN	254	0	0	0	.
SERVRECTRANS	SSPL1	22	ALN	10	0	0	0	ITEM.IN19
SERVRECTRANS	ROLLUP	23	YORN	1	0	1	1	.
SERVRECTRANS	SSPL2	24	ALN	10	0	0	0	ITEM.IN20
SERVRECTRANS	SSPL3	25	ALN	10	0	0	0	ITEM.IN21
SERVRECTRANS	INVOICENUM	26	UPPER	8	0	0	0	INVOICE.INVOICENUM
SERVRECTRANS	EXCHANGERATE	27	DECIMAL	14	7	0	1	EXCHANGE.EXCHANGERATE
SERVRECTRANS	LOADED COST	28	DECIMAL	10	2	1	1	.
SERVRECTRANS	TAX1CODE	29	UPPER	8	0	0	0	TAX.TAXCODE
SERVRECTRANS	TAX1	30	DECIMAL	10	2	0	1	.
SERVRECTRANS	TAX2CODE	31	UPPER	8	0	0	0	TAX.TAXCODE
SERVRECTRANS	TAX2	32	DECIMAL	10	2	0	1	.
SERVRECTRANS	TAX3CODE	33	UPPER	8	0	0	0	TAX.TAXCODE
SERVRECTRANS	TAX3	34	DECIMAL	10	2	0	1	.
SERVRECTRANS	TAX4CODE	35	UPPER	8	0	0	0	TAX.TAXCODE
SERVRECTRANS	TAX4	36	DECIMAL	10	2	0	1	.
SERVRECTRANS	TAX5CODE	37	UPPER	8	0	0	0	TAX.TAXCODE
SERVRECTRANS	TAX5	38	DECIMAL	10	2	0	1	.
SERVRECTRANS	PRORATED	39	YORN	1	0	1	1	.
SERVRECTRANS	PRORATECOST	40	DECIMAL	10	2	0	1	.
SERVRECTRANS	SOURCESYSID	41	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
SERVRECTRANS	EXCHANGERATE2	42	DECIMAL	14	7	0	1	EXCHANGE.EXCHANGERATE
SERVRECTRANS	LINECOST2	43	DECIMAL	10	2	0	1	.
SERVRECTRANS	MRNUM	44	UPPER	8	0	0	0	MR.MRNUM
SERVRECTRANS	MRLINENUM	45	INTEGER	12	0	0	1	MRLINE.MRLINENUM

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
SERVRECTRANS	SERVRECTRANSID	46	INTEGER	12	0	1	1	.
SERVRECTRANS	OWNERSYSID	47	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
SERVRECTRANS	EXTERNALREFID	48	ALN	10	0	0	0	.
SERVRECTRANS	SSPL4	49	ALN	10	0	0	0	ITEM.IN24
SERVRECTRANS	SSPL5	50	ALN	10	0	0	0	ITEM.IN25
SERVRECTRANS	SSPL6	51	ALN	10	0	0	0	ITEM.IN26
SERVRECTRANS	SSPL7	52	ALN	10	0	0	0	ITEM.IN27
SERVRECTRANS	SENDERSYSID	53	ALN	50	0	0	0	.
SERVRECTRANS	FINCNTRLID	54	UPPER	8	0	0	0	FINCNTRL.FINCNTRLID
SERVRECTRANS	ORGID	55	UPPER	8	0	1	0	ORGANIZATION.ORGID
SERVRECTRANS	SITEID	56	UPPER	8	0	1	0	SITE.SITEID
SERVRECTRANS	ISSUETYPE	57	UPPER	20	0	1	1	MATUSETRANS.ISSUETYPE
SERVRECTRANS	COSTINFO	58	YORN	1	0	1	0	.
SERVRECTRANS	BELONGSTO	59	INTEGER	12	0	0	1	SERVRECTRANS.SERVRECTRANSID
SERVRECTRANS	REFWO	60	UPPER	10	0	0	0	WORKORDER.WONUM
SERVRECTRANS	ENTEREDASTASK	61	YORN	1	0	1	1	.
SERVRECTRANS	LINETYPE	83	UPPER	15	0	1	1	PRLINE.LINETYPE
SERVRECTRANS	ITEMNUM	84	UPPER	30	0	0	0	ITEM.ITEMNUM
SERVRECTRANS	ITEMSETID	85	UPPER	8	0	0	0	SETS.SETID
SERVRECTRANS	LANGCODE	88	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
SERVRECTRANS	STATUS	89	UPPER	12	0	0	0	MATRECTRANS.STATUS
SERVRECTRANS	CHANGEBY	90	UPPER	30	0	0	0	PERSON.PERSONID
SERVRECTRANS	CHANGEDATE	91	DATE	4	0	0	0	.
SERVRECTRANS	INSPECTEDQTY	93	DECIMAL	15	2	0	0	.
SERVRECTRANS	INSPECTIONCOST	94	DECIMAL	15	2	0	1	.
SERVRECTRANS	ACCEPTEDCOST	95	DECIMAL	15	2	0	1	.
SERVRECTRANS	COMMODITY	96	UPPER	8	0	0	1	COMMODITIES.COMMODITY
SERVRECTRANS	COMMODITYGROUP	97	UPPER	8	0	0	1	COMMODITIES.COMMODITY
SERVRECTRANS	HASLD	100	YORN	1	0	1	1	.
SERVRECTRANS	POSITEID	101	UPPER	8	0	0	0	SITE.SITEID
SETS	SETID	1	UPPER	8	0	1	0	.
SETS	SETTYPE	2	UPPER	8	0	1	0	.
SETS	DESCRIPTION	3	ALN	100	0	0	0	.
SETS	ENTERBY	4	UPPER	30	0	1	0	PERSON.PERSONID
SETS	ENTERDATE	5	DATETIME	10	0	1	0	.
SETS	AUTOUPDATE	6	YORN	1	0	1	0	.
SETS	SETSID	8	INTEGER	12	0	1	1	.
SETS	LANGCODE	9	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
SETS	HASLD	10	YORN	1	0	1	1	.
SHIFT	SHIFTNUM	1	UPPER	8	0	1	0	.
SHIFT	DESCRIPTION	2	ALN	100	0	0	0	.
SHIFT	STARTDAY	3	ALN	10	0	1	0	.
SHIFT	ORGID	4	UPPER	8	0	1	0	ORGANIZATION.ORGID
SHIFT	SHIFTID	7	INTEGER	12	0	1	1	.
SHIFT	LANGCODE	8	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
SHIFT	HASLD	9	YORN	1	0	1	1	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
SHIFTPATTERNDAY	SHIFTNUM	1	UPPER	8	0	1	0	SHIFT.SHIFTNUM
SHIFTPATTERNDAY	PATTERNDAYSEQ	2	ALN	10	0	1	1	.
SHIFTPATTERNDAY	STARTTIME	3	TIME	3	0	0	1	.
SHIFTPATTERNDAY	ENDTIME	4	TIME	3	0	0	1	.
SHIFTPATTERNDAY	WORKHOURS	5	DURATION	8	0	0	1	.
SHIFTPATTERNDAY	ORGID	6	UPPER	8	0	1	0	ORGANIZATION.ORGID
SHIFTPATTERNDAY	SHIFTPATTERNDAYID	7	INTEGER	12	0	1	1	.
SHIPMENT	SHIPMENTID	1	INTEGER	12	0	1	1	.
SHIPMENT	SHIPMENTNUM	2	ALN	50	0	0	0	.
SHIPMENT	STATUS	3	UPPER	8	0	1	0	.
SHIPMENT	SHIPDATE	4	DATETIME	10	0	1	1	.
SHIPMENT	VENDOR	5	UPPER	12	0	0	0	COMPANIES.COMPANY
SHIPMENT	SHIPTO	6	UPPER	30	0	0	0	ADDRESS.ADDRESSCODE
SHIPMENT	BILLTO	7	UPPER	30	0	0	0	ADDRESS.ADDRESSCODE
SHIPMENT	EXPRECEIPTDATE	8	DATETIME	10	0	0	0	.
SHIPMENT	DROPPPOINT	9	ALN	50	0	0	0	.
SHIPMENT	CARRIER	10	ALN	50	0	0	0	.
SHIPMENT	CARRIERMETHOD	11	ALN	50	0	0	0	.
SHIPMENT	CARRIERVEHICLENUM	12	ALN	50	0	0	0	.
SHIPMENT	NUMOFFPACKAGES	13	ALN	50	0	0	0	.
SHIPMENT	GROSSWEIGHT	14	ALN	50	0	0	0	.
SHIPMENT	GROSSWEIGHTUOM	15	ALN	50	0	0	0	.
SHIPMENT	NETWEIGHT	16	ALN	50	0	0	0	.
SHIPMENT	NETWEIGHTUOM	17	ALN	50	0	0	0	.
SHIPMENT	BILLOFLADING	18	ALN	50	0	0	0	.
SHIPMENT	PACKINGSLIPNUM	19	ALN	50	0	0	0	.
SHIPMENT	SPECIALHANDLING	20	ALN	50	0	0	0	.
SHIPMENT	FREIGHTBILLNUM	21	ALN	50	0	0	0	.
SHIPMENT	FREIGHTAMOUNT	22	DECIMAL	10	2	0	0	.
SHIPMENT	FREIGHTTERMS	23	ALN	50	0	0	0	COMPANIES.FREIGHTTERMS
SHIPMENT	PAYMENTTERMS	24	ALN	20	0	0	0	COMPANIES.PAYMENTTERMS
SHIPMENT	WAYBILLNUM	25	ALN	50	0	0	0	.
SHIPMENT	ENTERBY	26	UPPER	30	0	0	0	PERSON.PERSONID
SHIPMENT	ENTERDATE	27	DATETIME	10	0	0	0	.
SHIPMENT	FOB	28	ALN	20	0	0	0	COMPANIES.FOB
SHIPMENT	SITEID	29	UPPER	8	0	1	0	SITE.SITEID
SHIPMENT	ORGID	30	UPPER	8	0	1	0	ORGANIZATION.ORGID
SHIPMENTLINE	SHIPMENTID	1	INTEGER	12	0	1	1	.
SHIPMENTLINE	SHIPMENTLINEID	2	INTEGER	12	0	1	1	.
SHIPMENTLINE	SHIPMENTLINENUM	3	ALN	50	0	0	0	.
SHIPMENTLINE	VENDOR	4	UPPER	12	0	1	0	COMPANIES.COMPANY
SHIPMENTLINE	ITEMNUM	5	UPPER	30	0	0	0	ITEM.ITEMNUM
SHIPMENTLINE	ITEMDESCRIPTION	6	ALN	100	0	0	0	ITEM.DESCRPTION
SHIPMENTLINE	CATALOGCODE	7	ALN	50	0	0	0	.
SHIPMENTLINE	VENDORLOTNUM	8	ALN	50	0	0	0	.
SHIPMENTLINE	ORDERUNIT	9	ALN	50	0	0	0	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
SHIPMENTLINE	PONUM	10	UPPER	8	0	1	0	PO.PONUM
SHIPMENTLINE	POLINEID	11	INTEGER	12	0	0	1	POLINE.POLINEID
SHIPMENTLINE	COUNTRYOFORIGIN	12	ALN	50	0	0	0	.
SHIPMENTLINE	HAZARD	13	ALN	50	0	0	0	.
SHIPMENTLINE	BILLOFLADING	14	ALN	50	0	0	0	.
SHIPMENTLINE	PACKINGCODE	15	ALN	50	0	0	0	.
SHIPMENTLINE	PACKINGSLIPNUM	16	ALN	50	0	0	0	.
SHIPMENTLINE	COMMENTS	17	ALN	254	0	0	0	.
SHIPMENTLINE	SHIPPEDQTY	18	DECIMAL	15	2	1	0	.
SHIPMENTLINE	BACKORDERQTY	19	DECIMAL	15	2	0	0	.
SHIPMENTLINE	INVOICEDQTY	20	DECIMAL	15	2	0	0	.
SHIPMENTLINE	POLINENUM	21	INTEGER	12	0	0	1	PRLINE.PRLINENUM
SHIPMENTLINE	RECTRANSID	22	INTEGER	12	0	0	0	.
SHIPMENTLINE	SITEID	23	UPPER	8	0	1	0	SITE.SITEID
SHIPMENTLINE	ORGID	24	UPPER	8	0	1	0	ORGANIZATION.ORGID
SHIPMENTLINE	TRACKINGID	25	ALN	50	0	0	0	.
SHIPMENTLINE	ITEMSETID	26	UPPER	8	0	0	0	SETS.SETID
SHIPMENTLINE	CONDITIONCODE	27	UPPER	30	0	0	0	ITEMCONDITION.CONDITIONCODE
SIGOPTION	APP	1	UPPER	10	0	1	1	MAXAPPS.APP
SIGOPTION	OPTIONNAME	2	UPPER	10	0	1	1	.
SIGOPTION	DESCRIPTION	3	ALN	100	0	0	1	.
SIGOPTION	ESIGENABLED	4	YORN	1	0	1	1	.
SIGOPTION	VISIBLE	5	YORN	1	0	1	1	.
SIGOPTION	ALSOGRANTS	6	UPPER	254	0	0	0	.
SIGOPTION	ALSOREVOKES	7	UPPER	254	0	0	0	SIGOPTION.ALSOGRANTS
SIGOPTION	PREREQUISITE	8	UPPER	254	0	0	0	SIGOPTION.ALSOGRANTS
SIGOPTION	SIGOPTIONID	10	INTEGER	12	0	1	1	.
SIGOPTION	LANGCODE	13	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
SIGOPTION	HASLD	14	YORN	1	0	1	1	.
SITE	SITEID	1	UPPER	8	0	1	0	.
SITE	DESCRIPTION	2	ALN	100	0	0	0	.
SITE	ENTERBY	3	UPPER	30	0	0	0	PERSON.PERSONID
SITE	ENTERDATE	4	DATETIME	10	0	0	0	.
SITE	CHANGEBY	5	UPPER	30	0	1	0	PERSON.PERSONID
SITE	CHANGEDATE	6	DATETIME	10	0	1	0	.
SITE	ORGID	7	UPPER	8	0	1	0	ORGANIZATION.ORGID
SITE	SHIPTOLABORCODE	8	UPPER	30	0	0	0	PERSON.PERSONID
SITE	BILLTOLABORCODE	9	UPPER	30	0	0	0	PERSON.PERSONID
SITE	SHIPTOADDRESSCODE	10	UPPER	30	0	0	0	ADDRESS.ADDRESSCODE
SITE	BILLTOADDRESSCODE	11	UPPER	30	0	0	0	ADDRESS.ADDRESSCODE
SITE	ACTIVE	13	YORN	1	0	1	1	.
SITE	SITEUID	14	INTEGER	12	0	1	1	.
SITE	CONTACT	15	UPPER	30	0	0	0	PERSON.PERSONID
SITE	CONTACTGROUP	16	UPPER	8	0	0	0	PERSONGROUP.PERSONGROUP
SITE	LANGCODE	17	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
SITE	HASLD	18	YORN	1	0	1	1	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
SITEAUTH	GROUPNAME	1	UPPER	30	0	1	1	MAXGROUP.GROUPNAME
SITEAUTH	SITEID	2	UPPER	8	0	1	0	SITE.SITEID
SITEAUTH	ORGID	3	UPPER	8	0	1	0	ORGANIZATION.ORGID
SITEAUTH	SITEAUTHID	4	INTEGER	12	0	1	1	.
SITEECOM	ORGID	1	UPPER	8	0	1	0	ORGANIZATION.ORGID
SITEECOM	SITEID	2	UPPER	8	0	1	0	SITE.SITEID
SITEECOM	VENDOR	3	UPPER	12	0	1	0	COMPANIES.COMPANY
SITEECOM	MKTPLCID	4	ALN	50	0	1	0	.
SITEECOM	MKTPLCIDDOMAIN	5	ALN	50	0	0	0	.
SITEECOM	CUSTNUM	6	ALN	50	0	0	0	.
SITEECOM	DUNSNUM	7	ALN	16	0	0	0	.
SITEECOM	SITEECOMID	8	INTEGER	12	0	1	1	.
SLA	SLANUM	1	UPPER	10	0	1	0	.
SLA	SLATYPE	2	ALN	10	0	1	0	.
SLA	OBJECTNAME	3	ALN	18	0	1	0	.
SLA	DESCRIPTION	4	ALN	254	0	0	0	.
SLA	STATUS	5	ALN	10	0	1	0	.
SLA	STATUSDATE	6	DATETIME	10	0	0	0	.
SLA	STARTDATE	7	DATETIME	10	0	0	0	.
SLA	ENDDATE	8	DATETIME	10	0	0	0	.
SLA	REVIEWDATE	9	DATETIME	10	0	0	0	.
SLA	RANKING	10	INTEGER	12	0	0	0	.
SLA	COMMODITYGROUP	11	UPPER	8	0	0	1	COMMODITIES.COMMODITY
SLA	COMMODITY	12	UPPER	8	0	0	1	COMMODITIES.COMMODITY
SLA	ORGID	13	UPPER	8	0	0	0	ORGANIZATION.ORGID
SLA	SITEID	14	UPPER	8	0	0	0	SITE.SITEID
SLA	VENDOR	15	UPPER	12	0	0	0	COMPANIES.COMPANY
SLA	SLACALENDAR	16	UPPER	8	0	0	0	CALENDAR.CALNUM
SLA	CREATEBY	17	UPPER	8	0	0	0	.
SLA	CREATEDATE	18	DATETIME	10	0	0	0	.
SLA	CHANGEBY	19	UPPER	30	0	1	0	PERSON.PERSONID
SLA	CHANGEDATE	20	DATETIME	10	0	0	0	.
SLA	ESCALATION	21	UPPER	10	0	0	0	ESCALATION.ESCALATION
SLA	CONDITION	23	ALN	2000	0	0	0	.
SLA	SLAID	27	INTEGER	12	0	1	1	.
SLA	SLASHIFT	28	UPPER	8	0	0	0	SHIFT.SHIFTNUM
SLA	SLAORGID	29	UPPER	8	0	0	0	ORGANIZATION.ORGID
SLA	CALCALENDAR	30	UPPER	8	0	0	0	CALENDAR.CALNUM
SLA	CALCSHIFT	31	UPPER	8	0	0	0	SHIFT.SHIFTNUM
SLA	CALCORGID	32	UPPER	8	0	0	0	ORGANIZATION.ORGID
SLA	SLACONTACT	34	UPPER	30	0	0	0	PERSON.PERSONID
SLA	LANGCODE	36	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
SLA	CUSTVENDORCONTACT	37	UPPER	30	0	0	0	PERSON.PERSONID
SLA	CLASSTRUCTUREID	38	UPPER	20	0	0	1	CLASSTRUCTURE.CLASSTRUCTUREID
SLA	HASLD	39	YORN	1	0	1	1	.
SLAASSETLOC	SLANUM	1	UPPER	10	0	0	0	SLA.SLANUM

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
SLAASSETLOC	ASSETNUM	2	UPPER	12	0	0	0	ASSET.ASSETNUM
SLAASSETLOC	ASSETTYPE	3	ALN	15	0	0	0	.
SLAASSETLOC	LOCATION	4	UPPER	12	0	0	0	LOCATIONS.LOCATION
SLAASSETLOC	SLAASSETLOCID	5	INTEGER	12	0	1	1	.
SLAASSETLOC	SITEID	8	UPPER	8	0	0	0	SITE.SITEID
SLACOMMITMENTS	SLANUM	1	UPPER	10	0	1	0	SLA.SLANUM
SLACOMMITMENTS	COMMITMENTID	2	ALN	10	0	1	0	.
SLACOMMITMENTS	DESCRIPTION	3	ALN	254	0	0	0	.
SLACOMMITMENTS	TYPE	4	UPPER	15	0	1	0	.
SLACOMMITMENTS	VALUE	5	DECIMAL	8	2	0	0	.
SLACOMMITMENTS	TIMEPERIOD	6	INTEGER	12	0	0	0	.
SLACOMMITMENTS	UNITOFMEASURE	8	ALN	15	0	0	0	.
SLACOMMITMENTS	SLACOMMITMENTSID	9	INTEGER	12	0	1	1	.
SLACOMMITMENTS	LANGCODE	10	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
SLACOMMITMENTS	HASLD	11	YORN	1	0	1	1	.
SLACONTRACT	SLACONTRACTID	1	INTEGER	12	0	1	1	.
SLACONTRACT	SLANUM	2	UPPER	10	0	1	0	SLA.SLANUM
SLACONTRACT	CONTRACTNUM	3	UPPER	8	0	1	0	CONTRACT.CONTRACTNUM
SLAKPI	SLAKPIID	1	INTEGER	12	0	1	1	.
SLAKPI	SLANUM	2	UPPER	10	0	1	0	SLA.SLANUM
SLAKPI	KPINAME	3	UPPER	15	0	1	1	KPIMAIN.KPINAME
SLARECORDS	SLANUM	1	UPPER	10	0	1	0	SLA.SLANUM
SLARECORDS	OWNERTABLE	2	UPPER	50	0	1	0	.
SLARECORDS	OWNERID	3	INTEGER	12	0	1	1	.
SLARECORDS	RESPONSEDATE	4	DATETIME	10	0	0	0	.
SLARECORDS	RESOLUTIONDATE	5	DATETIME	10	0	0	0	.
SLARECORDS	CONTACTDATE	6	DATETIME	10	0	0	0	.
SLARECORDS	SLARECORDSID	7	INTEGER	12	0	1	1	.
SOLUTION	SOLUTIONID	1	INTEGER	12	0	1	1	.
SOLUTION	SOLUTION	2	UPPER	8	0	1	1	.
SOLUTION	DESCRIPTION	3	ALN	100	0	0	0	.
SOLUTION	STATUS	4	UPPER	8	0	1	1	.
SOLUTION	STATUSDATE	5	DATETIME	10	0	0	0	.
SOLUTION	CHANGEBY	6	UPPER	30	0	1	0	PERSON.PERSONID
SOLUTION	CHANGEDATE	7	DATETIME	10	0	1	1	.
SOLUTION	SELSERVACCESS	8	YORN	1	0	1	1	.
SOLUTION	CLASSSTRUCTUREID	9	UPPER	20	0	0	1	CLASSSTRUCTURE.CLASSSTRUCTUREID
SOLUTION	PROBLEMCODE	10	UPPER	8	0	0	0	FAILURECODE.FAILURECODE
SOLUTION	FR1CODE	11	UPPER	8	0	0	0	FAILURECODE.FAILURECODE
SOLUTION	FR2CODE	12	UPPER	8	0	0	0	FAILURECODE.FAILURECODE
SOLUTION	ORGID	17	UPPER	8	0	0	0	ORGANIZATION.ORGID
SOLUTION	FAILURECODE	18	UPPER	8	0	0	0	FAILURECODE.FAILURECODE
SOLUTION	LANGCODE	20	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
SOLUTION	TYPE	22	UPPER	10	0	0	0	.
SOLUTION	HASLD	23	YORN	1	0	1	1	.
SOLUTIONSTATUS	SOLUTIONSTATUSID	1	INTEGER	12	0	1	1	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
SOLUTIONSTATUS	SOLUTION	2	UPPER	10	0	1	0	.
SOLUTIONSTATUS	STATUS	3	UPPER	8	0	1	0	.
SOLUTIONSTATUS	CHANGEBY	4	UPPER	8	0	1	0	.
SOLUTIONSTATUS	CHANGEDATE	5	DATETIME	10	0	1	0	.
SOLUTIONSTATUS	MEMO	6	ALN	50	0	0	0	.
SPAREPART	ASSETNUM	1	UPPER	12	0	1	0	ASSET.ASSETNUM
SPAREPART	ITEMNUM	2	UPPER	30	0	1	0	ITEM.ITEMNUM
SPAREPART	QUANTITY	3	DECIMAL	15	2	1	1	.
SPAREPART	DESCRIPTION	4	ALN	100	0	0	0	ITEM.DESCRPTION
SPAREPART	SITEID	5	UPPER	8	0	1	0	SITE.SITEID
SPAREPART	ORGID	6	UPPER	8	0	1	0	ORGANIZATION.ORGID
SPAREPART	ITEMSETID	7	UPPER	8	0	1	0	SETS.SETID
SPAREPART	SPAREPARTID	9	INTEGER	12	0	1	1	.
SPAREPART	LANGCODE	10	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
SPAREPART	HASLD	11	YORN	1	0	1	1	.
SPLXICONLINK	SPWORKASSETID	1	INTEGER	12	0	1	1	SPWORKASSET.SPWORKASSETID
SPLXICONLINK	SAFETYLEXICONID	2	INTEGER	12	0	1	1	SAFETYLEXICON.SAFETYLEXICONID
SPLXICONLINK	APPLYSEQ	3	SMALLINT	10	0	0	0	SAFETYLEXICON.APPLYSEQ
SPLXICONLINK	REMOVESEQ	4	SMALLINT	10	0	0	0	SAFETYLEXICON.REMOVESEQ
SPLXICONLINK	ORGID	5	UPPER	8	0	1	0	ORGANIZATION.ORGID
SPLXICONLINK	SITEID	6	UPPER	8	0	1	0	SITE.SITEID
SPLXICONLINK	SPLXICONLINKID	24	INTEGER	12	0	1	1	.
SPRELATEDASSET	SPRELATEDASSETID	1	INTEGER	12	0	1	1	.
SPRELATEDASSET	LOCATION	2	UPPER	12	0	0	0	LOCATIONS.LOCATION
SPRELATEDASSET	ASSETNUM	3	UPPER	12	0	0	0	ASSET.ASSETNUM
SPRELATEDASSET	RELATEDLOCATION	4	UPPER	12	0	0	0	LOCATIONS.LOCATION
SPRELATEDASSET	RELATEDASSET	5	UPPER	12	0	0	0	ASSET.ASSETNUM
SPRELATEDASSET	ORGID	6	UPPER	8	0	1	0	ORGANIZATION.ORGID
SPRELATEDASSET	SITEID	7	UPPER	8	0	1	0	SITE.SITEID
SPWORKASSET	SPWORKASSETID	1	INTEGER	12	0	1	1	.
SPWORKASSET	SAFETYPLANID	2	UPPER	8	0	1	0	SAFETYPLAN.SAFETYPLANID
SPWORKASSET	WORKASSET	3	UPPER	12	0	0	0	ASSET.ASSETNUM
SPWORKASSET	WORKLOCATION	4	UPPER	12	0	0	0	LOCATIONS.LOCATION
SPWORKASSET	ORGID	5	UPPER	8	0	1	0	ORGANIZATION.ORGID
SPWORKASSET	SITEID	6	UPPER	8	0	1	0	SITE.SITEID
SR	TICKETID	1	UPPER	10	0	1	0	TICKET.TICKETID
SR	CLASS	2	UPPER	10	0	1	1	TICKET.CLASS
SR	DESCRIPTION	3	ALN	100	0	0	1	TICKET.DESCRPTION
SR	STATUS	4	UPPER	8	0	1	1	TICKET.STATUS
SR	STATUSDATE	5	DATETIME	10	0	1	1	TICKET.STATUSDATE
SR	REPORTEDPRIORITY	6	INTEGER	12	0	0	1	TICKET.REPORTEDPRIORITY
SR	INTERNALPRIORITY	7	INTEGER	12	0	0	1	TICKET.INTERNALPRIORITY
SR	IMPACT	8	INTEGER	12	0	0	1	TICKET.IMPACT
SR	URGENCY	9	INTEGER	12	0	0	1	TICKET.URGENCY
SR	REPORTEDBY	10	ALN	62	0	0	0	PERSON.DISPLAYNAME
SR	REPORTDATE	11	DATETIME	10	0	0	1	TICKET.REPORTDATE

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
SR	AFFECTEDPERSON	12	ALN	62	0	0	0	PERSON.DISPLAYNAME
SR	AFFECTEDDATE	13	DATETIME	10	0	0	1	TICKET.AFFECTEDDATE
SR	SOURCE	14	ALN	20	0	0	1	TICKET.SOURCE
SR	SUPERVISOR	15	UPPER	8	0	0	1	TICKET.SUPERVISOR
SR	OWNER	16	UPPER	30	0	0	0	PERSON.PERSONID
SR	OWNERGROUP	17	UPPER	8	0	0	0	PERSONGROUP.PERSONGROUP
SR	ISGLOBAL	18	YORN	1	0	1	1	TICKET.ISGLOBAL
SR	RELATEDTOGLOBAL	19	YORN	1	0	1	1	TICKET.RELATEDTOGLOBAL
SR	GLOBALTICKETID	20	UPPER	10	0	0	1	TICKET.GLOBALTICKETID
SR	GLOBALTICKETCLASS	21	UPPER	10	0	0	1	TICKET.GLOBALTICKETCLASS
SR	EXTERNALRECID	22	ALN	20	0	0	1	TICKET.EXTERNALRECID
SR	SITEVISIT	23	YORN	1	0	1	1	TICKET.SITEVISIT
SR	ORIGRECORDID	24	UPPER	10	0	0	1	TICKET.ORIGRECORDID
SR	ORIGRECORDCLASS	25	UPPER	10	0	0	1	TICKET.ORIGRECORDCLASS
SR	GLACCOUNT	26	GL	23	0	0	1	.
SR	COMMODITYGROUP	27	UPPER	8	0	0	1	COMMODITIES.COMMODITY
SR	COMMODITY	28	UPPER	8	0	0	1	COMMODITIES.COMMODITY
SR	INHERITSTATUS	29	YORN	1	0	1	1	TICKET.INHERITSTATUS
SR	ISKNOWNERROR	30	YORN	1	0	1	1	TICKET.ISKNOWNERROR
SR	TARGETSTART	31	DATETIME	10	0	0	1	TICKET.TARGETSTART
SR	TARGETFINISH	32	DATETIME	10	0	0	1	TICKET.TARGETFINISH
SR	ACTUALSTART	33	DATETIME	10	0	0	1	TICKET.ACTUALSTART
SR	ACTUALFINISH	34	DATETIME	10	0	0	1	TICKET.ACTUALFINISH
SR	ORIGRECSITEID	35	UPPER	8	0	0	1	TICKET.ORIGRECSITEID
SR	ORIGRECORDID	36	UPPER	8	0	0	1	TICKET.ORIGRECORDID
SR	SITEID	37	UPPER	8	0	0	0	SITE.SITEID
SR	ORGID	38	UPPER	8	0	0	0	ORGANIZATION.ORGID
SR	CHANGEDATE	39	DATETIME	10	0	1	1	TICKET.CHANGEDATE
SR	CHANGEBY	40	UPPER	30	0	1	0	PERSON.PERSONID
SR	HISTORYFLAG	41	YORN	1	0	1	1	TICKET.HISTORYFLAG
SR	TEMPLATE	42	YORN	1	0	1	1	TICKET.TEMPLATE
SR	HASACTIVITY	43	YORN	1	0	1	1	TICKET.HASACTIVITY
SR	FAILURECODE	44	UPPER	8	0	0	0	FAILURECODE.FAILURECODE
SR	PROBLEMCODE	45	UPPER	8	0	0	0	FAILURECODE.FAILURECODE
SR	ACTLABHRS	46	DURATION	8	0	1	1	TICKET.ACTLABHRS
SR	ACTLABCOST	47	AMOUNT	10	2	1	1	TICKET.ACTLABCOST
SR	AFFECTEDPHONE	48	ALN	20	0	0	0	TICKET.AFFECTEDPHONE
SR	REPORTEDPHONE	49	ALN	20	0	0	0	TICKET.REPORTEDPHONE
SR	AFFECTEDEMIL	50	ALN	50	0	0	1	EMAIL.EMAILADDRESS
SR	REPORTEDEMIL	51	ALN	50	0	0	1	EMAIL.EMAILADDRESS
SR	ASSETSITID	52	UPPER	8	0	0	0	SITE.SITEID
SR	TEMPLATEID	53	UPPER	10	0	0	0	TICKET.TEMPLATEID
SR	VENDOR	54	UPPER	12	0	0	0	COMPANIES.COMPANY
SR	ASSETNUM	59	UPPER	12	0	0	0	ASSET.ASSETNUM
SR	LOCATION	60	UPPER	12	0	0	0	LOCATIONS.LOCATION
SR	CLASSSTRUCTUREID	62	UPPER	20	0	0	1	CLASSSTRUCTURE.CLASSSTRUCTUREID

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
SR	ISKNOWNERRODATE	63	DATETIME	10	0	0	0	TICKET.ISKNOWNERRODATE
SR	TARGETCONTACTDATE	64	DATETIME	10	0	0	0	TICKET.TARGETCONTACTDATE
SR	ACTUALCONTACTDATE	65	DATETIME	10	0	0	0	TICKET.ACTUALCONTACTDATE
SR	CREATEWORELASSET	66	YORN	1	0	1	0	TICKET.CREATEWORELASSET
SR	FR1CODE	69	UPPER	8	0	0	0	FAILURECODE.FAILURECODE
SR	FR2CODE	71	UPPER	8	0	0	0	FAILURECODE.FAILURECODE
SR	TICKETUID	73	INTEGER	12	0	0	1	.
SR	SOLUTION	74	UPPER	8	0	0	1	SOLUTION.SOLUTION
SR	ASSETORGID	78	UPPER	8	0	0	0	ORGANIZATION.ORGID
SR	LANGCODE	80	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
SR	HASLD	88	YORN	1	0	1	1	.
SYNONYMDOMAIN	DOMAINID	1	UPPER	18	0	1	1	MAXDOMAIN.DOMAINID
SYNONYMDOMAIN	MAXVALUE	2	ALN	25	0	1	1	.
SYNONYMDOMAIN	VALUE	3	ALN	25	0	1	1	.
SYNONYMDOMAIN	DESCRIPTION	4	ALN	256	0	0	1	.
SYNONYMDOMAIN	DEFAULTS	5	YORN	1	0	1	1	.
SYNONYMDOMAIN	SITEID	6	UPPER	8	0	0	0	SITE.SITEID
SYNONYMDOMAIN	ORGID	7	UPPER	8	0	0	0	ORGANIZATION.ORGID
SYNONYMDOMAIN	SYNONYMDOMAINID	8	INTEGER	12	0	1	1	.
TAGLOCK	TAGOUTID	1	UPPER	8	0	1	0	TAGOUT.TAGOUTID
TAGLOCK	LOCKOUTID	2	INTEGER	12	0	1	0	LOCKOUT.LOCKOUTID
TAGLOCK	APPLYSEQ	3	SMALLINT	10	0	0	1	.
TAGLOCK	REMOVESEQ	4	SMALLINT	10	0	0	1	.
TAGLOCK	TL01	5	ALN	10	0	0	0	.
TAGLOCK	TL02	6	ALN	10	0	0	0	.
TAGLOCK	TL03	7	ALN	10	0	0	0	.
TAGLOCK	TL04	8	ALN	10	0	0	0	.
TAGLOCK	TL05	9	ALN	10	0	0	0	.
TAGLOCK	TL06	10	AMOUNT	10	2	0	0	.
TAGLOCK	TL07	11	DATETIME	10	0	0	0	.
TAGLOCK	TL08	12	DECIMAL	15	2	0	0	.
TAGLOCK	TL09	13	ALN	10	0	0	0	.
TAGLOCK	TL10	14	INTEGER	12	0	0	0	.
TAGLOCK	TAGLOCKID	15	INTEGER	12	0	1	1	.
TAGLOCK	ORGID	16	UPPER	8	0	1	0	ORGANIZATION.ORGID
TAGLOCK	SITEID	17	UPPER	8	0	1	0	SITE.SITEID
TAGOUT	TAGOUTID	1	UPPER	8	0	1	0	.
TAGOUT	DESCRIPTION	2	ALN	100	0	0	0	.
TAGOUT	LOCATION	3	UPPER	12	0	0	0	LOCATIONS.LOCATION
TAGOUT	ASSETNUM	4	UPPER	12	0	0	0	ASSET.ASSETNUM
TAGOUT	REQUIREDSTATE	5	UPPER	16	0	0	0	.
TAGOUT	TAG01	6	ALN	10	0	0	0	.
TAGOUT	TAG02	7	ALN	10	0	0	0	.
TAGOUT	TAG03	8	ALN	10	0	0	0	.
TAGOUT	TAG04	9	ALN	10	0	0	0	.
TAGOUT	TAG05	10	AMOUNT	10	2	0	0	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
TAGOUT	TAG06	11	DATETIME	10	0	0	0	.
TAGOUT	TAG07	12	DECIMAL	15	2	0	0	.
TAGOUT	TAG08	13	ALN	10	0	0	0	.
TAGOUT	ORGID	14	UPPER	8	0	1	0	ORGANIZATION.ORGID
TAGOUT	SITEID	15	UPPER	8	0	1	0	SITE.SITEID
TAGOUT	TAGOUTUID	18	INTEGER	12	0	1	1	.
TAGOUT	LANGCODE	19	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
TAGOUT	HASLD	21	YORN	1	0	1	1	.
TASKSCHEDULER	SERVERNAME	1	ALN	100	0	1	0	.
TASKSCHEDULER	TASKNAME	2	ALN	62	0	1	0	.
TASKSCHEDULER	LASTRUN	3	DATETIME	10	0	0	1	.
TASKSCHEDULER	SEED	4	INTEGER	12	0	1	1	.
TASKSCHEDULER	SERVERTIMESTAMP	5	DATETIME	10	0	1	1	.
TAX	TYPECODE	1	UPPER	8	0	1	0	TAXTYPE.TYPECODE
TAX	TAXCODE	2	UPPER	8	0	1	0	.
TAX	TAXRATE	3	DECIMAL	15	2	1	1	.
TAX	EFFECTIVE	4	DATE	4	0	1	1	.
TAX	INCLUSIVEGL	5	GL	23	0	0	1	.
TAX	EXCLUSIVEGL	6	GL	23	0	0	1	.
TAX	CHANGEBY	7	UPPER	30	0	1	0	PERSON.PERSONID
TAX	CHANGEDATE	8	DATETIME	10	0	1	1	.
TAX	ORGID	9	UPPER	8	0	1	0	ORGANIZATION.ORGID
TAX	DESCRIPTION	10	ALN	100	0	0	0	.
TAX	TAXID	12	INTEGER	12	0	1	1	.
TAX	LANGCODE	13	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
TAX	HASLD	14	YORN	1	0	1	1	.
TAXTYPE	TYPECODE	1	UPPER	8	0	1	0	.
TAXTYPE	INCLUDETAX1	2	YORN	1	0	1	1	.
TAXTYPE	INCLUDETAX2	3	YORN	1	0	1	1	.
TAXTYPE	INCLUDETAX3	4	YORN	1	0	1	1	.
TAXTYPE	INCLUSIVEGL	5	GL	23	0	0	1	.
TAXTYPE	EXCLUSIVEGL	6	GL	23	0	0	1	.
TAXTYPE	CHANGEBY	7	UPPER	30	0	1	0	PERSON.PERSONID
TAXTYPE	CHANGEDATE	8	DATETIME	10	0	1	1	.
TAXTYPE	INCLUDETAX4	9	YORN	1	0	1	1	.
TAXTYPE	INCLUDETAX5	10	YORN	1	0	1	1	.
TAXTYPE	ADDTAXINDCR	11	SMALLINT	10	0	1	1	.
TAXTYPE	ORGID	12	UPPER	8	0	1	0	ORGANIZATION.ORGID
TAXTYPE	DESCRIPTION	13	ALN	100	0	0	0	.
TAXTYPE	TAXTYPEID	15	INTEGER	12	0	1	1	.
TAXTYPE	LANGCODE	16	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
TAXTYPE	HASLD	17	YORN	1	0	1	1	.
TEMPLATESTATUS	TEMPLATEID	1	UPPER	10	0	0	0	.
TEMPLATESTATUS	STATUS	2	UPPER	8	0	1	0	.
TEMPLATESTATUS	CHANGEBY	3	UPPER	8	0	0	0	.
TEMPLATESTATUS	CHANGEDATE	4	DATETIME	10	0	0	0	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
TEMPLATESTATUS	MEMO	5	ALN	50	0	0	0	.
TEMPLATESTATUS	TEMPLATESTATUSID	6	INTEGER	12	0	1	1	.
TERM	TERMid	1	UPPER	25	0	1	1	.
TERM	DESCRIPTION	2	ALN	100	0	0	0	.
TERM	DEFAULTPO	3	YORN	1	0	1	0	.
TERM	TYPE	4	ALN	25	0	0	1	.
TERM	ORGID	5	UPPER	8	0	1	0	.
TERM	CANEDIT	7	YORN	1	0	1	0	.
TERM	TERMid	8	INTEGER	12	0	1	1	.
TERM	LANGCODE	9	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
TERM	HASLD	10	YORN	1	0	1	1	.
TICKET	TICKETID	1	UPPER	10	0	1	0	.
TICKET	CLASS	2	UPPER	10	0	1	1	.
TICKET	DESCRIPTION	3	ALN	100	0	0	1	.
TICKET	STATUS	4	UPPER	8	0	1	1	.
TICKET	STATUSDATE	5	DATETIME	10	0	1	1	.
TICKET	REPORTEDPRIORITY	6	INTEGER	12	0	0	1	.
TICKET	INTERNALPRIORITY	7	INTEGER	12	0	0	1	.
TICKET	IMPACT	8	INTEGER	12	0	0	1	.
TICKET	URGENCY	9	INTEGER	12	0	0	1	.
TICKET	REPORTEDBY	10	ALN	62	0	0	0	PERSON.DISPLAYNAME
TICKET	REPORTDATE	11	DATETIME	10	0	0	1	.
TICKET	AFFECTEDPERSON	12	ALN	62	0	0	0	PERSON.DISPLAYNAME
TICKET	AFFECTEDDATE	13	DATETIME	10	0	0	1	.
TICKET	SOURCE	14	ALN	20	0	0	1	.
TICKET	SUPERVISOR	15	UPPER	8	0	0	1	.
TICKET	OWNER	16	UPPER	30	0	0	0	PERSON.PERSONID
TICKET	OWNERGROUP	17	UPPER	8	0	0	0	PERSONGROUP.PERSONGROUP
TICKET	ISGLOBAL	18	YORN	1	0	1	1	.
TICKET	RELATEDTOGLOBAL	19	YORN	1	0	1	1	.
TICKET	GLOBALTICKETID	20	UPPER	10	0	0	1	.
TICKET	GLOBALTICKETCLASS	21	UPPER	10	0	0	1	.
TICKET	EXTERNALRECID	22	ALN	20	0	0	1	.
TICKET	SITEVISIT	23	YORN	1	0	1	1	.
TICKET	ORIGRECORDID	24	UPPER	10	0	0	1	.
TICKET	ORIGRECORDCLASS	25	UPPER	10	0	0	1	.
TICKET	GLACCOUNT	26	GL	23	0	0	1	.
TICKET	COMMODITYGROUP	27	UPPER	8	0	0	1	COMMODITIES.COMMODITY
TICKET	COMMODITY	28	UPPER	8	0	0	1	COMMODITIES.COMMODITY
TICKET	INHERITSTATUS	29	YORN	1	0	1	1	.
TICKET	ISKNOWNERROR	30	YORN	1	0	1	1	.
TICKET	TARGETSTART	31	DATETIME	10	0	0	1	.
TICKET	TARGETFINISH	32	DATETIME	10	0	0	1	.
TICKET	ACTUALSTART	33	DATETIME	10	0	0	1	.
TICKET	ACTUALFINISH	34	DATETIME	10	0	0	1	.
TICKET	ORIGRECSITEID	35	UPPER	8	0	0	1	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
TICKET	ORIGRECORDID	36	UPPER	8	0	0	1	.
TICKET	SITEID	37	UPPER	8	0	0	0	SITE.SITEID
TICKET	ORGID	38	UPPER	8	0	0	0	ORGANIZATION.ORGID
TICKET	CHANGEDATE	39	DATETIME	10	0	1	1	.
TICKET	CHANGEBY	40	UPPER	30	0	1	0	PERSON.PERSONID
TICKET	HISTORYFLAG	41	YORN	1	0	1	1	.
TICKET	TEMPLATE	42	YORN	1	0	1	1	.
TICKET	HASACTIVITY	43	YORN	1	0	1	1	.
TICKET	FAILURECODE	44	UPPER	8	0	0	0	FAILURECODE.FAILURECODE
TICKET	PROBLEMCODE	45	UPPER	8	0	0	0	FAILURECODE.FAILURECODE
TICKET	ACTLABHRS	46	DURATION	8	0	1	1	.
TICKET	ACTLABCOST	47	AMOUNT	10	2	1	1	.
TICKET	AFFECTEDPHONE	48	ALN	20	0	0	0	.
TICKET	REPORTEDPHONE	49	ALN	20	0	0	0	.
TICKET	AFFECTEDEMIL	50	ALN	50	0	0	1	EMAIL.EMAILADDRESS
TICKET	REPORTEDEMIL	51	ALN	50	0	0	1	EMAIL.EMAILADDRESS
TICKET	ASSETSITID	52	UPPER	8	0	0	0	SITE.SITEID
TICKET	TEMPLATEID	53	UPPER	10	0	0	0	.
TICKET	VENDOR	54	UPPER	12	0	0	0	COMPANIES.COMPANY
TICKET	ASSETNUM	59	UPPER	12	0	0	0	ASSET.ASSETNUM
TICKET	LOCATION	60	UPPER	12	0	0	0	LOCATIONS.LOCATION
TICKET	CLASSTRUCTUREID	62	UPPER	20	0	0	1	CLASSTRUCTURE.CLASSTRUCTUREID
TICKET	ISKNOWNERRORDATE	63	DATETIME	10	0	0	0	.
TICKET	TARGETCONTACTDATE	64	DATETIME	10	0	0	0	.
TICKET	ACTUALCONTACTDATE	65	DATETIME	10	0	0	0	.
TICKET	CREATEWORELASSET	66	YORN	1	0	1	0	.
TICKET	FR1CODE	69	UPPER	8	0	0	0	FAILURECODE.FAILURECODE
TICKET	FR2CODE	71	UPPER	8	0	0	0	FAILURECODE.FAILURECODE
TICKET	TICKETUID	73	INTEGER	12	0	1	1	.
TICKET	SOLUTION	74	UPPER	8	0	0	1	SOLUTION.SOLUTION
TICKET	ASSETORGID	78	UPPER	8	0	0	0	ORGANIZATION.ORGID
TICKET	LANGCODE	80	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
TICKET	HASLD	88	YORN	1	0	1	1	.
TICKETASSET	TICKETID	1	UPPER	10	0	1	1	.
TICKETASSET	CLASS	2	UPPER	10	0	1	1	TICKET.CLASS
TICKETASSET	ASSETNUM	3	UPPER	12	0	0	0	ASSET.ASSETNUM
TICKETASSET	LOCATION	4	UPPER	12	0	0	0	LOCATIONS.LOCATION
TICKETASSET	CREATEDATE	5	DATETIME	10	0	1	1	.
TICKETASSET	SITEID	6	UPPER	8	0	1	1	.
TICKETASSET	ORGID	7	UPPER	8	0	1	1	.
TICKETASSET	TICKETASSETID	8	INTEGER	12	0	1	1	.
TKOWNERHISTORY	TICKETID	1	UPPER	10	0	1	0	TICKET.TICKETID
TKOWNERHISTORY	CLASS	2	UPPER	10	0	1	1	TICKET.CLASS
TKOWNERHISTORY	OWNERGROUP	3	UPPER	8	0	0	0	PERSONGROUP.PERSONGROUP
TKOWNERHISTORY	OWNER	4	UPPER	30	0	0	0	PERSON.PERSONID
TKOWNERHISTORY	OWNDATE	5	DATETIME	10	0	0	0	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
TKOWNERHISTORY	SITEID	6	UPPER	8	0	0	0	SITE.SITEID
TKOWNERHISTORY	ORGID	7	UPPER	8	0	0	0	ORGANIZATION.ORGID
TKOWNERHISTORY	TKOWNERHISTORYID	8	INTEGER	12	0	1	1	.
TKOWNERHISTORY	OWNERCHANGEBY	9	UPPER	30	0	0	0	PERSON.PERSONID
TKSTATUS	TICKETID	1	UPPER	10	0	1	1	.
TKSTATUS	CLASS	2	UPPER	10	0	1	1	TICKET.CLASS
TKSTATUS	STATUS	3	UPPER	8	0	1	1	.
TKSTATUS	CHANGEBY	4	UPPER	30	0	1	0	PERSON.PERSONID
TKSTATUS	CHANGEDATE	5	DATETIME	10	0	1	1	.
TKSTATUS	MEMO	6	ALN	50	0	0	1	.
TKSTATUS	SITEID	7	UPPER	8	0	0	1	.
TKSTATUS	ORGID	8	UPPER	8	0	0	1	.
TKSTATUS	TKSTATUSID	9	INTEGER	12	0	1	1	.
TKTEMPLATE	TEMPLATEID	1	UPPER	10	0	1	0	.
TKTEMPLATE	CLASS	2	UPPER	10	0	1	1	TICKET.CLASS
TKTEMPLATE	STATUS	3	UPPER	8	0	1	1	.
TKTEMPLATE	STATUSDATE	4	DATETIME	10	0	0	0	.
TKTEMPLATE	DESCRIPTION	5	ALN	100	0	0	0	.
TKTEMPLATE	INTERNALPRIORITY	6	INTEGER	12	0	0	0	.
TKTEMPLATE	IMPACT	7	INTEGER	12	0	0	0	.
TKTEMPLATE	URGENCY	8	INTEGER	12	0	0	0	.
TKTEMPLATE	OWNER	9	UPPER	30	0	0	0	PERSON.PERSONID
TKTEMPLATE	OWNERGROUP	10	UPPER	8	0	0	0	PERSONGROUP.PERSONGROUP
TKTEMPLATE	CLASSSTRUCTUREID	12	UPPER	20	0	0	1	CLASSSTRUCTURE.CLASSSTRUCTUREID
TKTEMPLATE	COMMODITY	13	UPPER	8	0	0	1	COMMODITIES.COMMODITY
TKTEMPLATE	COMMODITYGROUP	14	UPPER	8	0	0	1	COMMODITIES.COMMODITY
TKTEMPLATE	TKTEMPLATEID	15	INTEGER	12	0	1	1	.
TKTEMPLATE	VENDOR	16	UPPER	12	0	0	0	COMPANIES.COMPANY
TKTEMPLATE	ORGID	17	UPPER	8	0	0	0	ORGANIZATION.ORGID
TKTEMPLATE	LANGCODE	19	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
TKTEMPLATE	HASLD	20	YORN	1	0	1	1	.
TKEMPLTACTIVITY	TEMPLATEID	1	UPPER	10	0	0	0	.
TKEMPLTACTIVITY	JPNUM	2	UPPER	10	0	0	0	JOBPLAN.JPNUM
TKEMPLTACTIVITY	JPSEQUENCE	3	INTEGER	12	0	0	1	.
TKEMPLTACTIVITY	DESCRIPTION	4	ALN	100	0	0	0	JOBPLAN.DESCRPTION
TKEMPLTACTIVITY	PRIORITY	6	INTEGER	12	0	0	1	JOBPLAN.PRIORITY
TKEMPLTACTIVITY	OWNER	7	UPPER	30	0	0	0	PERSON.PERSONID
TKEMPLTACTIVITY	OWNERGROUP	8	UPPER	8	0	0	0	PERSONGROUP.PERSONGROUP
TKEMPLTACTIVITY	TKEMPLTACTIVITYID	9	INTEGER	12	0	1	1	.
TKEMPLTACTIVITY	CLASSSTRUCTUREID	10	UPPER	20	0	0	1	CLASSSTRUCTURE.CLASSSTRUCTUREID
TKEMPLTACTIVITY	VENDOR	11	UPPER	12	0	0	0	COMPANIES.COMPANY
TKEMPLTACTIVITY	SITEID	12	UPPER	8	0	0	0	SITE.SITEID
TKEMPLTACTIVITY	ORGID	13	UPPER	8	0	0	0	ORGANIZATION.ORGID
TKEMPLTACTIVITY	LANGCODE	14	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
TKEMPLTACTIVITY	HASLD	15	YORN	1	0	1	1	.
TOOLINV	ITEMSETID	1	UPPER	8	0	1	0	SETS.SETID

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
TOOLINV	MANUFACTURER	2	UPPER	12	0	0	0	COMPANIES.COMPANY
TOOLINV	MODELNUM	3	ALN	8	0	0	0	INVENTORY.MODELNUM
TOOLINV	ORDERUNIT	4	UPPER	8	0	0	0	MEASUREUNIT.MEASUREUNITID
TOOLINV	SHRINKAGEACC	5	GL	23	0	0	1	.
TOOLINV	SSTOCK	6	DECIMAL	15	2	0	1	INVENTORY.SSTOCK
TOOLINV	VENDOR	7	UPPER	12	0	0	0	COMPANIES.COMPANY
TOOLINV	ABCTYPE	8	UPPER	1	0	0	0	INVENTORY.ABCTYPE
TOOLINV	BINNUM	9	ALN	8	0	0	0	INVENTORY.BINNUM
TOOLINV	CATALOGCODE	10	ALN	30	0	0	0	INVENTORY.CATALOGCODE
TOOLINV	CONTROLACC	11	GL	23	0	0	1	.
TOOLINV	GLACCOUNT	12	GL	23	0	0	1	.
TOOLINV	INVCOSTADJACC	13	GL	23	0	0	1	.
TOOLINV	ISSUEUNIT	14	UPPER	8	0	0	0	MEASUREUNIT.MEASUREUNITID
TOOLINV	LASTISSUEDATE	15	DATETIME	10	0	0	1	INVENTORY.LASTISSUEDATE
TOOLINV	ORGID	16	UPPER	8	0	1	0	ORGANIZATION.ORGID
TOOLINV	SITEID	17	UPPER	8	0	1	0	SITE.SITEID
TOOLINV	SOURCESYSID	18	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
TOOLINV	OWNERSYSID	19	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
TOOLINV	EXTERNALREFID	20	ALN	10	0	0	0	INVENTORY.EXTERNALREFID
TOOLINV	CATEGORY	21	UPPER	16	0	1	1	INVENTORY.CATEGORY
TOOLINV	CCF	22	INTEGER	12	0	1	1	INVENTORY.CCF
TOOLINV	DELIVERYTIME	23	INTEGER	12	0	1	1	INVENTORY.DELIVERYTIME
TOOLINV	ISSUE1YRAGO	24	DECIMAL	15	2	1	1	INVENTORY.ISSUE1YRAGO
TOOLINV	ISSUE2YRAGO	25	DECIMAL	15	2	1	1	INVENTORY.ISSUE2YRAGO
TOOLINV	ISSUE3YRAGO	26	DECIMAL	15	2	1	1	INVENTORY.ISSUE3YRAGO
TOOLINV	ISSUEYTD	27	DECIMAL	15	2	1	1	INVENTORY.ISSUEYTD
TOOLINV	ITEMNUM	28	UPPER	30	0	1	0	ITEM.ITEMNUM
TOOLINV	LOCATION	29	UPPER	12	0	1	0	LOCATIONS.LOCATION
TOOLINV	MAXLEVEL	30	DECIMAL	15	2	1	1	INVENTORY.MAXLEVEL
TOOLINV	MINLEVEL	31	DECIMAL	15	2	1	1	INVENTORY.MINLEVEL
TOOLINV	ORDERQTY	32	DECIMAL	15	2	1	1	INVENTORY.ORDERQTY
TOOLINV	SENDERSYSID	33	ALN	50	0	0	0	INVENTORY.SENDERSYSID
TOOLINV	INVENTORYID	47	INTEGER	12	0	1	1	INVENTORY.INVENTORYID
TOOLINV	DESCRIPTION	48	ALN	100	0	0	0	ITEM.DESCRPTION
TOOLINV	ROTATING	49	YORN	1	0	1	1	ITEM.ROTATING
TOOLINV	LOTTYPE	50	UPPER	16	0	1	1	ITEM.LOTTYPE
TOOLINV	CAPITALIZED	51	YORN	1	0	1	1	ITEM.CAPITALIZED
TOOLINV	MSDSNUM	52	ALN	10	0	0	0	ITEM.MSDSNUM
TOOLINV	OUTSIDE	53	YORN	1	0	1	1	ITEM.OUTSIDE
TOOLINV	IN19	54	ALN	10	0	0	0	ITEM.IN19
TOOLINV	IN20	55	ALN	10	0	0	0	ITEM.IN20
TOOLINV	IN21	56	ALN	10	0	0	0	ITEM.IN21
TOOLINV	IN22	57	DATETIME	10	0	0	0	ITEM.IN22
TOOLINV	IN23	58	DECIMAL	15	2	0	0	ITEM.IN23
TOOLINV	SPAREPARTAUTOADD	59	YORN	1	0	1	1	ITEM.SPAREPARTAUTOADD
TOOLINV	CLASSSTRUCTUREID	60	UPPER	20	0	0	1	CLASSSTRUCTURE.CLASSSTRUCTUREID

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
TOOLINV	INSPECTIONREQUIRED	61	YORN	1	0	1	1	ITEM.INSPECTIONREQUIRED
TOOLINV	IN24	62	ALN	10	0	0	0	ITEM.IN24
TOOLINV	IN25	63	ALN	10	0	0	0	ITEM.IN25
TOOLINV	IN26	64	ALN	10	0	0	0	ITEM.IN26
TOOLINV	IN27	65	ALN	10	0	0	0	ITEM.IN27
TOOLINV	CONDITIONENABLED	71	YORN	1	0	1	0	ITEM.CONDITIONENABLED
TOOLINV	GROUPNAME	72	UPPER	10	0	0	0	METERGROUP.GROUPNAME
TOOLINV	METERNAME	73	UPPER	10	0	0	0	METER.METERNAME
TOOLINV	COMMODITYGROUP	74	UPPER	8	0	0	1	COMMODITIES.COMMODITY
TOOLINV	COMMODITY	75	UPPER	8	0	0	1	COMMODITIES.COMMODITY
TOOLINV	ITEMTYPE	76	UPPER	10	0	1	0	ITEM.ITEMTYPE
TOOLINV	PRORATE	77	YORN	1	0	1	1	ITEM.PRORATE
TOOLINV	ITEMID	78	INTEGER	12	0	1	1	ITEM.ITEMID
TOOLINV	ISKIT	79	YORN	1	0	1	1	.
TOOLINV	LANGCODE	81	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
TOOLINV	ATTACHONISSUE	83	YORN	1	0	1	1	.
TOOLINV	HASLD	84	YORN	1	0	1	1	.
TOOLINV	STORELOC	85	UPPER	12	0	0	0	LOCATIONS.LOCATION
TOOLINV	STORELOCSITEID	86	UPPER	8	0	0	0	SITE.SITEID
TOOLINV	INTERNAL	87	YORN	1	0	1	1	PO.INTERNAL
TOOLITEM	ITEMNUM	1	UPPER	30	0	1	0	ITEM.ITEMNUM
TOOLITEM	DESCRIPTION	2	ALN	100	0	0	0	ITEM.DESCRPTION
TOOLITEM	ROTATING	3	YORN	1	0	1	1	ITEM.ROTATING
TOOLITEM	LOTTYPE	4	UPPER	16	0	1	1	ITEM.LOTTYPE
TOOLITEM	CAPITALIZED	5	YORN	1	0	1	1	ITEM.CAPITALIZED
TOOLITEM	MSDSNUM	6	ALN	10	0	0	0	ITEM.MSDSNUM
TOOLITEM	OUTSIDE	7	YORN	1	0	1	1	ITEM.OUTSIDE
TOOLITEM	IN19	8	ALN	10	0	0	0	ITEM.IN19
TOOLITEM	IN20	9	ALN	10	0	0	0	ITEM.IN20
TOOLITEM	IN21	10	ALN	10	0	0	0	ITEM.IN21
TOOLITEM	IN22	11	DATETIME	10	0	0	0	ITEM.IN22
TOOLITEM	IN23	12	DECIMAL	15	2	0	0	ITEM.IN23
TOOLITEM	SPAREPARTAUTOADD	13	YORN	1	0	1	1	ITEM.SPAREPARTAUTOADD
TOOLITEM	CLASSSTRUCTUREID	14	UPPER	20	0	0	1	CLASSSTRUCTURE.CLASSSTRUCTUREID
TOOLITEM	INSPECTIONREQUIRED	15	YORN	1	0	1	1	ITEM.INSPECTIONREQUIRED
TOOLITEM	SOURCESYSID	16	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
TOOLITEM	OWNERSYSID	17	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
TOOLITEM	EXTERNALREFID	18	ALN	10	0	0	0	ITEM.EXTERNALREFID
TOOLITEM	IN24	19	ALN	10	0	0	0	ITEM.IN24
TOOLITEM	IN25	20	ALN	10	0	0	0	ITEM.IN25
TOOLITEM	IN26	21	ALN	10	0	0	0	ITEM.IN26
TOOLITEM	IN27	22	ALN	10	0	0	0	ITEM.IN27
TOOLITEM	SENDERSYSID	23	ALN	50	0	0	0	ITEM.SENDERSYSID
TOOLITEM	ITEMSETID	24	UPPER	8	0	1	0	SETS.SETID
TOOLITEM	ORDERUNIT	25	UPPER	8	0	0	0	MEASUREUNIT.MEASUREUNITID
TOOLITEM	ISSUEUNIT	26	UPPER	8	0	0	0	MEASUREUNIT.MEASUREUNITID

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
TOOLITEM	CONDITIONENABLED	33	YORN	1	0	1	0	ITEM.CONDITIONENABLED
TOOLITEM	GROUPNAME	34	UPPER	10	0	0	0	METERGROUP.GROUPNAME
TOOLITEM	METERNAME	35	UPPER	10	0	0	0	METER.METERNAME
TOOLITEM	COMMODITYGROUP	36	UPPER	8	0	0	1	COMMODITIES.COMMODITY
TOOLITEM	COMMODITY	37	UPPER	8	0	0	1	COMMODITIES.COMMODITY
TOOLITEM	ITEMTYPE	38	UPPER	10	0	1	0	ITEM.ITEMTYPE
TOOLITEM	PRORATE	39	YORN	1	0	1	1	ITEM.PRORATE
TOOLITEM	ITEMID	40	INTEGER	12	0	0	1	.
TOOLITEM	ISKIT	41	YORN	1	0	1	1	.
TOOLITEM	LANGCODE	43	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
TOOLITEM	ATTACHONISSUE	44	YORN	1	0	1	1	.
TOOLITEM	HASLD	45	YORN	1	0	1	1	.
TOOLQUAL	ITEMNUM	1	UPPER	30	0	1	0	ITEM.ITEMNUM
TOOLQUAL	ITEMSETID	2	UPPER	8	0	1	0	SETS.SETID
TOOLQUAL	QUALIFICATIONID	3	UPPER	8	0	1	0	QUALIFICATION.QUALIFICATIONID
TOOLQUAL	ORGID	4	UPPER	8	0	1	0	ORGANIZATION.ORGID
TOOLQUAL	TOOLQUALID	5	INTEGER	12	0	1	1	.
TOOLTRANS	TRANSDATE	1	DATETIME	10	0	1	1	.
TOOLTRANS	TOOLRATE	2	AMOUNT	10	2	1	1	.
TOOLTRANS	ASSETNUM	3	UPPER	12	0	0	0	ASSET.ASSETNUM
TOOLTRANS	TOOLQTY	4	INTEGER	12	0	1	1	.
TOOLTRANS	TOOLHRS	5	DURATION	8	0	1	1	.
TOOLTRANS	ENTERDATE	6	DATETIME	10	0	1	1	.
TOOLTRANS	ENTERBY	7	UPPER	30	0	1	0	PERSON.PERSONID
TOOLTRANS	OUTSIDE	8	YORN	1	0	1	1	.
TOOLTRANS	ROLLUP	9	YORN	1	0	1	1	.
TOOLTRANS	GLDEBITACCT	10	GL	23	0	0	1	.
TOOLTRANS	LINECOST	11	AMOUNT	10	2	1	1	.
TOOLTRANS	GLCREDITACCT	12	GL	23	0	0	1	.
TOOLTRANS	FINANCIALPERIOD	13	ALN	6	0	0	0	FINANCIALPERIODS.FINANCIALPERIOD
TOOLTRANS	LOCATION	14	UPPER	12	0	0	0	LOCATIONS.LOCATION
TOOLTRANS	EXCHANGERATE2	15	DECIMAL	14	7	0	1	EXCHANGE.EXCHANGERATE
TOOLTRANS	LINECOST2	16	DECIMAL	10	2	0	1	.
TOOLTRANS	SOURCESYSID	17	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
TOOLTRANS	OWNERSYSID	18	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
TOOLTRANS	EXTERNALREFID	19	ALN	10	0	0	0	.
TOOLTRANS	SENDERSYSID	20	ALN	50	0	0	0	.
TOOLTRANS	FINCNTRLID	21	UPPER	8	0	0	0	FINCNTRL.FINCNTRLID
TOOLTRANS	ORGID	22	UPPER	8	0	1	0	ORGANIZATION.ORGID
TOOLTRANS	SITEID	23	UPPER	8	0	1	0	SITE.SITEID
TOOLTRANS	REFWO	24	UPPER	10	0	0	0	WORKORDER.WONUM
TOOLTRANS	ENTEREDASTASK	25	YORN	1	0	1	1	.
TOOLTRANS	TOOLTRANSID	29	INTEGER	12	0	1	1	.
TOOLTRANS	ITEMNUM	32	UPPER	30	0	1	0	ITEM.ITEMNUM
TOOLTRANS	ROTASSETNUM	33	UPPER	12	0	0	0	ASSET.ASSETNUM
TOOLTRANS	ITEMSETID	34	UPPER	8	0	1	0	SETS.SETID

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
TOOLTRANS	ROTASSETSITE	35	UPPER	8	0	0	0	SITE.SITEID
USERPREF	VARNAME	1	UPPER	33	0	1	1	.
USERPREF	VARVALUE	2	ALN	254	0	0	1	.
USERPREF	USERID	3	UPPER	30	0	1	0	PERSON.PERSONID
USERPREF	USERPREFID	4	INTEGER	12	0	1	1	.
USERPURGL	USERID	1	UPPER	30	0	1	0	PERSON.PERSONID
USERPURGL	ORGID	2	UPPER	8	0	1	0	ORGANIZATION.ORGID
USERPURGL	GLACCOUNT	3	GL	23	0	1	1	.
USERPURGL	USERPURGLID	4	INTEGER	12	0	1	1	.
VENDORSTATUS	PONUM	1	UPPER	8	0	1	0	PO.PONUM
VENDORSTATUS	POLINENUM	2	INTEGER	12	0	0	1	PRLINE.PRLINENUM
VENDORSTATUS	STATUS	3	ALN	254	0	1	0	.
VENDORSTATUS	DESCRIPTION	4	ALN	254	0	0	0	.
VENDORSTATUS	STATUSDATE	5	DATETIME	10	0	1	1	.
VENDORSTATUS	SITEID	6	UPPER	8	0	1	0	SITE.SITEID
VENDORSTATUS	ORGID	7	UPPER	8	0	1	0	ORGANIZATION.ORGID
VENDORSTATUS	VENDORSTATUSID	8	INTEGER	12	0	1	1	.
WARRANTYASSET	WARRANTYASSETID	1	INTEGER	12	0	1	1	.
WARRANTYASSET	CONTRACTNUM	2	UPPER	8	0	1	0	CONTRACT.CONTRACTNUM
WARRANTYASSET	REVISIONNUM	3	INTEGER	12	0	1	1	CONTRACT.REVISIONNUM
WARRANTYASSET	ORGID	4	UPPER	8	0	1	0	ORGANIZATION.ORGID
WARRANTYASSET	ASSETID	5	INTEGER	12	0	0	0	ASSET.ASSETID
WARRANTYASSET	LOCATION	6	UPPER	12	0	0	0	LOCATIONS.LOCATION
WARRANTYASSET	ASSETTYPE	9	ALN	15	0	0	0	ASSET.ASSETTYPE
WARRANTYASSET	LOCATIONSITE	10	UPPER	8	0	0	0	SITE.SITEID
WARRANTYLINE	WARRANTYLINEID	1	INTEGER	12	0	1	1	.
WARRANTYLINE	DURATION	2	INTEGER	12	0	0	0	.
WARRANTYLINE	TIMEUNIT	3	UPPER	8	0	0	0	.
WARRANTYLINE	CONTRACTNUM	4	UPPER	8	0	1	0	CONTRACT.CONTRACTNUM
WARRANTYLINE	REVISIONNUM	5	INTEGER	12	0	1	1	CONTRACT.REVISIONNUM
WARRANTYLINE	ORGID	6	UPPER	8	0	0	0	ORGANIZATION.ORGID
WARRANTYLINE	PCTLABORCOVER	7	DECIMAL	5	2	0	0	.
WARRANTYLINE	PCTMATCOVER	8	DECIMAL	5	2	0	0	.
WARRANTYLINE	PCTTOOLS COVER	9	DECIMAL	5	2	0	0	.
WARRANTYLINE	COVERSCHILDREN	10	YORN	1	0	1	0	.
WARRANTYLINE	CONTRACTLINENUM	11	UPPER	8	0	1	0	CONTRACT.CONTRACTNUM
WARRANTYLINE	AMTLABORCOVER	12	AMOUNT	10	2	0	0	.
WARRANTYLINE	AMTMATCOVER	13	AMOUNT	10	2	0	0	.
WARRANTYLINE	AMTTOOLCOVER	14	AMOUNT	10	2	0	0	.
WARRANTYVIEW	CONTRACTNUM	1	UPPER	8	0	1	0	CONTRACT.CONTRACTNUM
WARRANTYVIEW	DESCRIPTION	2	ALN	100	0	0	0	PR.DESCRPTION
WARRANTYVIEW	MASTERNUM	3	UPPER	8	0	0	0	CONTRACT.MASTERNUM
WARRANTYVIEW	VENDORREFNUM	4	ALN	12	0	0	0	CONTRACT.VENDORREFNUM
WARRANTYVIEW	CONTRACTTYPE	5	UPPER	25	0	1	0	CONTRACT.CONTRACTTYPE
WARRANTYVIEW	REVISIONNUM	6	INTEGER	12	0	1	1	CONTRACT.REVISIONNUM
WARRANTYVIEW	PURCHASEAGENT	7	UPPER	30	0	0	0	PERSON.PERSONID

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
WARRANTYVIEW	STATUS	8	UPPER	6	0	1	0	CONTRACT.STATUS
WARRANTYVIEW	STATUSDATE	9	DATETIME	10	0	0	0	CONTRACT.STATUSDATE
WARRANTYVIEW	STARTDATE	10	DATE	4	0	0	0	CONTRACT.STARTDATE
WARRANTYVIEW	ENDDATE	11	DATE	4	0	0	0	CONTRACT.ENDDATE
WARRANTYVIEW	RENEWALDATE	12	DATE	4	0	0	0	CONTRACT.RENEWALDATE
WARRANTYVIEW	EXTENDABLE	13	YORN	1	0	1	0	CONTRACT.EXTENDABLE
WARRANTYVIEW	AUTOEXTENDPERIOD	14	INTEGER	12	0	0	0	CONTRACT.AUTOEXTENDPERIOD
WARRANTYVIEW	CONDFOREXT	15	ALN	20	0	0	0	CONTRACT.CONDFOREXT
WARRANTYVIEW	CUSTTERMALLOWED	16	YORN	1	0	1	0	CONTRACT.CUSTTERMALLOWED
WARRANTYVIEW	CUSTNOTIFYPERIOD	17	INTEGER	12	0	0	0	CONTRACT.CUSTNOTIFYPERIOD
WARRANTYVIEW	VENDTERMALLOWED	18	YORN	1	0	1	0	CONTRACT.VENDTERMALLOWED
WARRANTYVIEW	VENDNOTIFYPERIOD	19	INTEGER	12	0	0	0	CONTRACT.VENDNOTIFYPERIOD
WARRANTYVIEW	VENDOR	20	UPPER	12	0	0	0	COMPANIES.COMPANY
WARRANTYVIEW	CONTACT	21	ALN	50	0	0	0	COMPANIES.CONTACT
WARRANTYVIEW	FREIGHTTERMS	22	ALN	50	0	0	0	COMPANIES.FREIGHTTERMS
WARRANTYVIEW	PAYMENTTERMS	23	ALN	20	0	0	0	COMPANIES.PAYMENTTERMS
WARRANTYVIEW	SHIPVIA	24	ALN	20	0	0	0	COMPANIES.SHIPVIA
WARRANTYVIEW	CUSTOMERNUM	25	ALN	16	0	0	0	COMPANIES.CUSTOMERNUM
WARRANTYVIEW	FOB	26	ALN	20	0	0	0	COMPANIES.FOB
WARRANTYVIEW	TOTALCOST	27	DECIMAL	10	2	0	1	PO.TOTALCOST
WARRANTYVIEW	CHANGEBY	28	UPPER	30	0	0	0	PERSON.PERSONID
WARRANTYVIEW	CHANGEDATE	29	DATETIME	10	0	1	0	CONTRACT.CHANGEDATE
WARRANTYVIEW	HISTORYFLAG	30	YORN	1	0	1	0	CONTRACT.HISTORYFLAG
WARRANTYVIEW	CURRENCYCODE	31	UPPER	8	0	1	0	CURRENCY.CURRENCYCODE
WARRANTYVIEW	EXCHANGERATE	32	DECIMAL	14	7	0	1	EXCHANGE.EXCHANGERATE
WARRANTYVIEW	EXCHANGERATE2	33	DECIMAL	14	7	0	1	EXCHANGE.EXCHANGERATE
WARRANTYVIEW	EXCHANGEDATE	34	DATE	4	0	0	0	CONTRACT.EXCHANGEDATE
WARRANTYVIEW	BUYAHEAD	35	YORN	1	0	1	0	CONTRACT.BUYAHEAD
WARRANTYVIEW	INCLUSIVE1	36	YORN	1	0	1	0	CONTRACT.INCLUSIVE1
WARRANTYVIEW	INCLUSIVE2	37	YORN	1	0	1	0	CONTRACT.INCLUSIVE2
WARRANTYVIEW	INCLUSIVE3	38	YORN	1	0	1	0	CONTRACT.INCLUSIVE3
WARRANTYVIEW	INCLUSIVE4	39	YORN	1	0	1	0	CONTRACT.INCLUSIVE4
WARRANTYVIEW	INCLUSIVE5	40	YORN	1	0	1	0	CONTRACT.INCLUSIVE5
WARRANTYVIEW	EXTERNALREFID	41	ALN	10	0	0	0	CONTRACT.EXTERNALREFID
WARRANTYVIEW	OWNERSYSID	42	ALN	10	0	0	0	CONTRACT.OWNERSYSID
WARRANTYVIEW	SENDERSYSID	43	ALN	50	0	0	0	CONTRACT.SENDERSYSID
WARRANTYVIEW	ORGID	44	UPPER	8	0	0	0	ORGANIZATION.ORGID
WARRANTYVIEW	TOTALBASECOST	45	DECIMAL	10	2	1	0	CONTRACT.TOTALBASECOST
WARRANTYVIEW	POREQUIRED	48	YORN	1	0	1	0	CONTRACT.POREQUIRED
WARRANTYVIEW	PAYMENTSCHED	49	YORN	1	0	1	0	CONTRACT.PAYMENTSCHED
WARRANTYVIEW	HASINSURANCE	50	YORN	1	0	1	0	CONTRACT.HASINSURANCE
WARRANTYVIEW	INSURANCEEXPDATE	51	DATE	4	0	0	0	CONTRACT.INSURANCEEXPDATE
WARRANTYVIEW	CONTRACTID	52	INTEGER	12	0	1	1	CONTRACT.CONTRACTID
WARRANTYVIEW	REVCOMMENTS	53	ALN	100	0	0	0	PR.DESCRPTION
WARRANTYVIEW	LANGCODE	54	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
WARRANTYVIEW	MASTERREVNUM	55	INTEGER	12	0	0	1	CONTRACT.REVISIONNUM

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
WARRANTYVIEW	PROCESSCLAIM	56	YORN	1	0	1	0	.
WARRANTYVIEW	INSPECTIONREQUIRED	58	YORN	1	0	1	0	COMPANIES.INSPECTIONREQUIRED
WARRANTYVIEW	HASLD	59	YORN	1	0	1	1	.
WARRANTYVIEWLINE	CONTRACTNUM	1	UPPER	8	0	1	0	CONTRACT.CONTRACTNUM
WARRANTYVIEWLINE	CONTRACTLINENUM	2	INTEGER	12	0	1	0	CONTRACTLINE.CONTRACTLINENUM
WARRANTYVIEWLINE	CONTRACTLINEID	3	INTEGER	12	0	1	0	CONTRACTLINE.CONTRACTLINEID
WARRANTYVIEWLINE	LINETYPE	4	UPPER	15	0	1	1	PRLINE.LINETYPE
WARRANTYVIEWLINE	ITEMNUM	5	UPPER	30	0	0	0	ITEM.ITEMNUM
WARRANTYVIEWLINE	ITEMSETID	6	UPPER	8	0	0	0	SETS.SETID
WARRANTYVIEWLINE	CONDITIONCODE	7	UPPER	30	0	0	0	ITEMCONDITION.CONDITIONCODE
WARRANTYVIEWLINE	DESCRIPTION	8	ALN	100	0	0	0	ITEM.DESCRPTION
WARRANTYVIEWLINE	CATALOGCODE	9	ALN	30	0	0	0	INVENTORY.CATALOGCODE
WARRANTYVIEWLINE	MANUFACTURER	10	UPPER	12	0	0	0	COMPANIES.COMPANY
WARRANTYVIEWLINE	MODELNUM	11	ALN	8	0	0	0	INVENTORY.MODELNUM
WARRANTYVIEWLINE	ORDERUNIT	12	UPPER	8	0	0	0	MEASUREUNIT.MEASUREUNITID
WARRANTYVIEWLINE	ORDERQTY	13	DECIMAL	15	2	0	1	INVENTORY.ORDERQTY
WARRANTYVIEWLINE	UNITCOST	14	DECIMAL	10	2	0	0	CONTRACTLINE.UNITCOST
WARRANTYVIEWLINE	LINECOST	15	DECIMAL	10	2	0	0	CONTRACTLINE.LINECOST
WARRANTYVIEWLINE	LINECOST2	16	DECIMAL	10	2	0	0	CONTRACTLINE.LINECOST2
WARRANTYVIEWLINE	INSPECTIONREQUIRED	17	YORN	1	0	1	1	ITEM.INSPECTIONREQUIRED
WARRANTYVIEWLINE	ENTERBY	18	UPPER	30	0	1	0	PERSON.PERSONID
WARRANTYVIEWLINE	ENTERDATE	19	DATETIME	10	0	1	0	CONTRACTLINE.ENTERDATE
WARRANTYVIEWLINE	REMARK	20	ALN	50	0	0	0	PRLINE.REMARK
WARRANTYVIEWLINE	ORGID	21	UPPER	8	0	0	0	ORGANIZATION.ORGID
WARRANTYVIEWLINE	LINESTATUS	25	UPPER	6	0	1	0	CONTRACT.STATUS
WARRANTYVIEWLINE	COMMODITY	26	UPPER	8	0	0	1	COMMODITIES.COMMODITY
WARRANTYVIEWLINE	COMMODITYGROUP	27	UPPER	8	0	0	1	COMMODITIES.COMMODITY
WARRANTYVIEWLINE	REVISIONNUM	28	INTEGER	12	0	1	1	CONTRACT.REVISIONNUM
WARRANTYVIEWLINE	REVSTATUS	29	UPPER	7	0	0	0	CONTRACTLINE.REVSTATUS
WARRANTYVIEWLINE	CHGQTYONUSE	30	YORN	1	0	1	0	CONTRACTPURCH.CHGQTYONUSE
WARRANTYVIEWLINE	CHGPRICEONUSE	31	YORN	1	0	1	0	CONTRACTPURCH.CHGPRICEONUSE
WARRANTYVIEWLINE	LEADTIME	32	INTEGER	12	0	0	1	INVENTORY.DELIVERYTIME
WARRANTYVIEWLINE	HASPAYMENTSCHED	33	YORN	1	0	1	0	CONTRACTLINE.HASPAYMENTSCHED
WARRANTYVIEWLINE	POREQUIRED	34	YORN	1	0	1	0	CONTRACT.POREQUIRED
WARRANTYVIEWLINE	CONTRACTTYPE	35	UPPER	25	0	1	0	CONTRACT.CONTRACTTYPE
WARRANTYVIEWLINE	LEASEENDVALUE	36	AMOUNT	10	2	0	0	CONTRACTLINE.LEASEENDVALUE
WARRANTYVIEWLINE	LANGCODE	37	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
WARRANTYVIEWLINE	WARRANTYLINEID	38	INTEGER	12	0	1	1	WARRANTYLINE.WARRANTYLINEID
WARRANTYVIEWLINE	DURATION	39	INTEGER	12	0	1	0	WARRANTYLINE.DURATION
WARRANTYVIEWLINE	TIMEUNIT	40	UPPER	8	0	1	0	WARRANTYLINE.TIMEUNIT
WARRANTYVIEWLINE	PCTLABORCOVER	44	DECIMAL	5	2	0	0	WARRANTYLINE.PCTLABORCOVER
WARRANTYVIEWLINE	PCTMATCOVER	45	DECIMAL	5	2	0	0	WARRANTYLINE.PCTMATCOVER
WARRANTYVIEWLINE	PCTTOOLSCOVER	46	DECIMAL	5	2	0	0	WARRANTYLINE.PCTTOOLSCOVER
WARRANTYVIEWLINE	COVERSCHILDREN	47	YORN	1	0	1	0	WARRANTYLINE.COVERSCHILDREN
WARRANTYVIEWLINE	AMTLABORCOVER	49	AMOUNT	10	2	0	0	WARRANTYLINE.AMTLABORCOVER
WARRANTYVIEWLINE	AMTMATCOVER	50	AMOUNT	10	2	0	0	WARRANTYLINE.AMTMATCOVER

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
WARRANTYVIEWLINE	AMTTOOLCOVER	51	AMOUNT	10	2	0	0	WARRANTYLINE.AMTTOOLCOVER
WARRANTYVIEWLINE	HASLD	52	YORN	1	0	1	1	.
WFACTION	ACTIONID	1	INTEGER	12	0	1	1	.
WFACTION	OWNERNODEID	2	INTEGER	12	0	1	1	WFNODE.NODEID
WFACTION	MEMBERNODEID	3	INTEGER	12	0	1	1	WFNODE.NODEID
WFACTION	ACTION	4	UPPER	30	0	0	0	ACTION.ACTION
WFACTION	INSTRUCTION	5	ALN	254	0	0	0	.
WFACTION	PROCESSREV	6	INTEGER	12	0	1	1	WFPROCESS.PROCESSREV
WFACTION	ISPOSITIVE	7	YORN	1	0	1	1	.
WFACTION	PROCESSNAME	8	UPPER	10	0	1	0	WFPROCESS.PROCESSNAME
WFACTION	WFACTIONID	9	INTEGER	12	0	1	1	.
WFACTION	SEQUENCE	11	INTEGER	12	0	0	0	.
WFACTION	CONDITION	12	ALN	2000	0	0	0	.
WFACTION	CONDITIONCLASS	13	ALN	80	0	0	0	MAXOBJECT.CLASSNAME
WFAPPTOOLBAR	WFAPPTOOLBARID	1	INTEGER	12	0	1	1	.
WFAPPTOOLBAR	APPNAME	2	UPPER	10	0	1	1	MAXAPPS.APP
WFAPPTOOLBAR	TOOLBARLOCATION	3	ALN	10	0	1	0	.
WFAPPTOOLBAR	TOOLBARICON	4	ALN	50	0	0	0	MAXMENU.IMAGE
WFAPPTOOLBAR	TOOLBARSEQUENCE	5	INTEGER	12	0	1	0	.
WFAPPTOOLBAR	PROCESSNAME	6	UPPER	10	0	0	0	WFPROCESS.PROCESSNAME
WFAPPTOOLBAR	OBJECTNAME	7	UPPER	18	0	1	1	MAXOBJECT.OBJECTNAME
WFAPPTOOLBAR	DESCRIPTION	8	ALN	100	0	0	1	SIGOPTION.DESCRPTION
WFAPPTOOLBAR	TOOLBARICONACTIVE	9	ALN	50	0	0	0	MAXMENU.IMAGE
WFASSIGNMENT	ASSIGNID	1	INTEGER	12	0	1	1	.
WFASSIGNMENT	DESCRIPTION	2	ALN	100	0	0	0	.
WFASSIGNMENT	PRIORITY	3	INTEGER	12	0	0	0	.
WFASSIGNMENT	ASSIGNCODE	4	UPPER	30	0	0	0	PERSON.PERSONID
WFASSIGNMENT	APP	5	UPPER	10	0	1	1	MAXAPPS.APP
WFASSIGNMENT	TIMELIMIT	6	DURATION	8	0	0	1	WFTASK.TIMELIMIT
WFASSIGNMENT	STARTDATE	7	DATETIME	10	0	0	1	.
WFASSIGNMENT	DUEDATE	8	DATETIME	10	0	0	1	.
WFASSIGNMENT	EMAILNOTIFICATION	9	YORN	1	0	1	1	.
WFASSIGNMENT	ASSIGNSTATUS	10	UPPER	18	0	0	0	.
WFASSIGNMENT	WFID	11	INTEGER	12	0	1	1	WFINSTANCE.WFID
WFASSIGNMENT	NODEID	12	INTEGER	12	0	1	1	WFNODE.NODEID
WFASSIGNMENT	ASSIGN_01	13	ALN	1	0	0	0	.
WFASSIGNMENT	ASSIGN_02	14	ALN	1	0	0	0	.
WFASSIGNMENT	ASSIGN_03	15	ALN	1	0	0	0	.
WFASSIGNMENT	ASSIGN_04	16	ALN	1	0	0	0	.
WFASSIGNMENT	ASSIGN_05	17	ALN	1	0	0	0	.
WFASSIGNMENT	PROCESSREV	18	INTEGER	12	0	1	1	WFPROCESS.PROCESSREV
WFASSIGNMENT	PROCESSNAME	20	UPPER	10	0	1	0	WFPROCESS.PROCESSNAME
WFASSIGNMENT	ROLEID	21	UPPER	10	0	1	0	MAXROLE.MAXROLE
WFASSIGNMENT	ORIGPERSON	22	UPPER	30	0	0	0	PERSON.PERSONID
WFASSIGNMENT	WFASSIGNMENTID	23	INTEGER	12	0	1	1	.
WFASSIGNMENT	TEMPLATEID	24	UPPER	10	0	0	1	COMMTEMPLATE.TEMPLATEID

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
WFASSIGNMENT	CONDITION	26	ALN	2000	0	0	0	.
WFASSIGNMENT	CONDITIONCLASS	27	ALN	80	0	0	0	MAXOBJECT.CLASSNAME
WFASSIGNMENT	OWNERTABLE	28	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
WFASSIGNMENT	OWNERID	29	INTEGER	12	0	0	0	.
WFASSIGNMENT	LANGCODE	30	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
WFASSIGNMENT	ESCRULE	31	UPPER	10	0	0	0	MAXROLE.MAXROLE
WFASSIGNMENT	CALENDARBASED	32	YORN	1	0	1	1	.
WFASSIGNMENT	HASLD	39	YORN	1	0	1	1	.
WFCALLSTACK	WFID	1	INTEGER	12	0	1	1	WFINSTANCE.WFID
WFCALLSTACK	NODEID	2	INTEGER	12	0	1	1	WFNODE.NODEID
WFCALLSTACK	CALLSEQ	3	INTEGER	12	0	1	1	.
WFCALLSTACK	ACTIVE	4	YORN	1	0	1	1	.
WFCALLSTACK	PROCESSREV	5	INTEGER	12	0	0	1	WFPROCESS.PROCESSREV
WFCALLSTACK	PROCESSNAME	6	UPPER	10	0	1	0	WFPROCESS.PROCESSNAME
WFCALLSTACK	WFCALLSTACKID	7	INTEGER	12	0	1	1	.
WFCONDITION	NODEID	1	INTEGER	12	0	1	1	WFNODE.NODEID
WFCONDITION	CUSTOMCLASS	2	ALN	80	0	0	0	MAXOBJECT.CLASSNAME
WFCONDITION	CONDITION	3	ALN	2000	0	0	1	.
WFCONDITION	PROCESSREV	4	INTEGER	12	0	1	1	WFPROCESS.PROCESSREV
WFCONDITION	PROCESSNAME	5	UPPER	10	0	1	0	WFPROCESS.PROCESSNAME
WFCONDITION	WFCONDITIONID	6	INTEGER	12	0	1	1	.
WFINPUT	NODEID	1	INTEGER	12	0	1	1	WFNODE.NODEID
WFINPUT	PROCESSREV	2	INTEGER	12	0	1	1	WFPROCESS.PROCESSREV
WFINPUT	PROCESSNAME	3	UPPER	10	0	1	0	WFPROCESS.PROCESSNAME
WFINPUT	WFINPUTID	4	INTEGER	12	0	1	1	.
WFINPUT	DISPLAYONE	5	YORN	1	0	1	1	.
WFINSTANCE	ACTIVE	1	YORN	1	0	1	1	.
WFINSTANCE	WFID	2	INTEGER	12	0	1	1	.
WFINSTANCE	ORIGINATOR	3	UPPER	30	0	1	0	PERSON.PERSONID
WFINSTANCE	REVISION	4	INTEGER	12	0	1	1	WFREVISION.REVISION
WFINSTANCE	STARTTIME	5	DATETIME	10	0	1	1	.
WFINSTANCE	CURRTASKSTARTTIME	6	DATETIME	10	0	1	1	.
WFINSTANCE	PROCESSNAME	7	UPPER	10	0	1	0	WFPROCESS.PROCESSNAME
WFINSTANCE	OWNERTABLE	8	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
WFINSTANCE	OWNERID	9	INTEGER	12	0	0	0	.
WFINTERACTION	WFINTERACTIONID	1	INTEGER	12	0	1	1	.
WFINTERACTION	PROCESSNAME	2	UPPER	10	0	1	0	WFPROCESS.PROCESSNAME
WFINTERACTION	PROCESSREV	3	INTEGER	12	0	1	1	WFPROCESS.PROCESSREV
WFINTERACTION	NODEID	4	INTEGER	12	0	1	1	WFNODE.NODEID
WFINTERACTION	APP	5	ALN	254	0	0	0	.
WFINTERACTION	PAGE	6	ALN	254	0	0	0	.
WFINTERACTION	RELATION	7	ALN	254	0	0	0	.
WFINTERACTION	DIRECTIONS	8	ALN	254	0	0	0	.
WFINTERACTION	LANGCODE	9	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
WFINTERACTION	ACTION	11	ALN	40	0	0	0	.
WFINTERACTION	TABNAME	12	ALN	40	0	0	0	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
WFINTERACTION	LAUNCHPROCESS	13	UPPER	10	0	0	0	WFPROCESS.PROCESSNAME
WFINTERACTION	HASLD	15	YORN	1	0	1	1	.
WFNODE	NODEID	1	INTEGER	12	0	1	1	.
WFNODE	NODETYPE	2	UPPER	18	0	1	1	.
WFNODE	XCOORDINATE	3	SMALLINT	10	0	0	1	.
WFNODE	YCOORDINATE	4	SMALLINT	10	0	0	1	.
WFNODE	IMAGEFILE	5	ALN	254	0	0	1	.
WFNODE	TITLE	6	UPPER	10	0	0	0	.
WFNODE	DESCRIPTION	7	ALN	100	0	0	0	.
WFNODE	PROCESSREV	8	INTEGER	12	0	1	1	WFPROCESS.PROCESSREV
WFNODE	PROCESSNAME	12	UPPER	10	0	1	0	WFPROCESS.PROCESSNAME
WFNODE	WFNODEID	13	INTEGER	12	0	1	1	.
WFNODE	LANGCODE	14	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
WFNODE	HASLD	15	YORN	1	0	1	1	.
WFNOTIFICATION	NOTIFICATIONID	1	INTEGER	12	0	1	1	.
WFNOTIFICATION	NODEID	2	INTEGER	12	0	1	1	WFNODE.NODEID
WFNOTIFICATION	ACTIONID	3	INTEGER	12	0	1	1	WFACTION.ACTIONID
WFNOTIFICATION	PROCESSREV	4	INTEGER	12	0	1	1	WFPROCESS.PROCESSREV
WFNOTIFICATION	PROCESSNAME	5	UPPER	10	0	1	0	WFPROCESS.PROCESSNAME
WFNOTIFICATION	TEMPLATEID	6	UPPER	10	0	1	1	COMMTEMPLATE.TEMPLATEID
WFPROCESS	PROCESSNAME	1	UPPER	10	0	1	0	.
WFPROCESS	DESCRIPTION	2	ALN	100	0	0	0	.
WFPROCESS	ENABLED	3	YORN	1	0	1	1	.
WFPROCESS	PROCESSREV	4	INTEGER	12	0	1	1	.
WFPROCESS	CHANGEDBY	5	UPPER	30	0	0	0	PERSON.PERSONID
WFPROCESS	CHANGEDATE	6	DATETIME	10	0	0	1	.
WFPROCESS	MIGRATED	7	YORN	1	0	1	1	.
WFPROCESS	OBJECTNAME	9	UPPER	18	0	1	1	MAXOBJECT.OBJECTNAME
WFPROCESS	ACTIVE	10	YORN	1	0	1	0	.
WFPROCESS	WFPROCESSID	11	INTEGER	12	0	1	1	.
WFPROCESS	LANGCODE	12	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
WFPROCESS	SENDERSYSID	13	ALN	50	0	0	1	.
WFPROCESS	SOURCESYSID	14	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
WFPROCESS	OWNERSYSID	15	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
WFPROCESS	EXTERNALREFID	16	ALN	10	0	0	0	.
WFPROCESS	AUTOINITIATE	17	YORN	1	0	1	0	.
WFPROCESS	HASLD	20	YORN	1	0	1	1	.
WFREVISION	PROCESSREV	1	INTEGER	12	0	1	1	WFPROCESS.PROCESSREV
WFREVISION	REVISION	2	INTEGER	12	0	1	1	.
WFREVISION	SYNCHRONIZEBY	3	UPPER	30	0	0	0	PERSON.PERSONID
WFREVISION	SYNCHRONIZEDATE	4	DATETIME	10	0	0	1	.
WFREVISION	PROCESSNAME	5	UPPER	10	0	0	0	WFPROCESS.PROCESSNAME
WFREVISION	MAINPROCESS	6	UPPER	10	0	1	0	WFPROCESS.PROCESSNAME
WFREVISION	WFREVISIONID	7	INTEGER	12	0	1	1	.
WFSTART	NODEID	1	INTEGER	12	0	1	1	WFNODE.NODEID
WFSTART	PROCESSREV	2	INTEGER	12	0	1	1	WFPROCESS.PROCESSREV

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
WFSTART	PROCESSNAME	3	UPPER	10	0	1	0	WFPROCESS.PROCESSNAME
WFSTART	WFSTARTID	4	INTEGER	12	0	1	1	.
WFSTOP	NODEID	1	INTEGER	12	0	1	1	WFNODE.NODEID
WFSTOP	PROCESSREV	2	INTEGER	12	0	1	1	WFPROCESS.PROCESSREV
WFSTOP	PROCESSNAME	3	UPPER	10	0	1	0	WFPROCESS.PROCESSNAME
WFSTOP	WFSTOPID	4	INTEGER	12	0	1	1	.
WFSUBPROCESS	NODEID	1	INTEGER	12	0	1	1	WFNODE.NODEID
WFSUBPROCESS	PROCESSREV	2	INTEGER	12	0	1	1	WFPROCESS.PROCESSREV
WFSUBPROCESS	PROCESSNAME	3	UPPER	10	0	1	0	WFPROCESS.PROCESSNAME
WFSUBPROCESS	SUBPROCESSNAME	4	UPPER	10	0	0	0	WFPROCESS.PROCESSNAME
WFSUBPROCESS	WFSUBPROCESSID	5	INTEGER	12	0	1	1	.
WFTASK	NODEID	1	INTEGER	12	0	1	1	WFNODE.NODEID
WFTASK	READONLY	2	YORN	1	0	1	1	.
WFTASK	FIRSTCOMPLETE	3	YORN	1	0	1	1	.
WFTASK	APP	4	UPPER	10	0	0	1	MAXAPPS.APP
WFTASK	TIMELIMIT	5	DURATION	8	0	0	1	.
WFTASK	PROCESSREV	6	INTEGER	12	0	1	1	WFPROCESS.PROCESSREV
WFTASK	PROCESSNAME	7	UPPER	10	0	1	0	WFPROCESS.PROCESSNAME
WFTASK	WFTASKID	8	INTEGER	12	0	1	1	.
WFTASK	CALENDARBASED	9	YORN	1	0	1	1	.
WFTASK	DISPLAYONE	10	YORN	1	0	1	1	.
WFTRANSACTION	TRANSID	1	INTEGER	12	0	1	1	.
WFTRANSACTION	NODEID	2	INTEGER	12	0	1	1	WFNODE.NODEID
WFTRANSACTION	WFID	3	INTEGER	12	0	1	1	WFINSTANCE.WFID
WFTRANSACTION	ASSIGNID	4	INTEGER	12	0	0	1	WFASSIGNMENT.ASSIGNID
WFTRANSACTION	TRANSTYPE	5	ALN	18	0	1	0	.
WFTRANSACTION	TRANSDATE	6	DATETIME	10	0	1	0	.
WFTRANSACTION	MEMO	7	ALN	50	0	0	0	.
WFTRANSACTION	ACTIONID	8	INTEGER	12	0	0	1	WFACTION.ACTIONID
WFTRANSACTION	NODETYPE	9	UPPER	18	0	1	1	WFNODE.NODETYPE
WFTRANSACTION	PROCESSREV	10	INTEGER	12	0	0	1	WFPROCESS.PROCESSREV
WFTRANSACTION	PROCESSNAME	14	UPPER	10	0	1	0	WFPROCESS.PROCESSNAME
WFTRANSACTION	PERSONID	15	UPPER	30	0	0	0	PERSON.PERSONID
WFTRANSACTION	OWNERTABLE	16	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
WFTRANSACTION	OWNERID	17	INTEGER	12	0	0	0	.
WFTRANSACTION	ACTIONPERFORMED	18	UPPER	30	0	0	0	ACTION.ACTION
WFWAITLIST	WFWAITLISTID	1	INTEGER	12	0	1	1	.
WFWAITLIST	PROCESSNAME	2	UPPER	10	0	1	0	WFPROCESS.PROCESSNAME
WFWAITLIST	PROCESSREV	3	INTEGER	12	0	1	1	WFPROCESS.PROCESSREV
WFWAITLIST	NODEID	4	INTEGER	12	0	1	1	WFNODE.NODEID
WFWAITLIST	EVENTNAME	5	LOWER	254	0	1	0	EVENTRESPONSE.EVENTNAME
WMASSIGNMENT	WONUM	1	UPPER	10	0	1	0	WORKORDER.WONUM
WMASSIGNMENT	PARENT	2	UPPER	10	0	0	0	WORKORDER.WONUM
WMASSIGNMENT	STATUS	3	UPPER	16	0	0	1	WORKORDER.STATUS
WMASSIGNMENT	STATUSDATE	4	DATETIME	10	0	0	1	WORKORDER.STATUSDATE
WMASSIGNMENT	WORKTYPE	5	UPPER	5	0	0	0	WORKTYPE.WORKTYPE

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
WMASSIGNMENT	DESCRIPTION	6	ALN	100	0	0	0	WORKORDER.DESCRPTION
WMASSIGNMENT	ASSETNUM	7	UPPER	12	0	0	0	ASSET.ASSETNUM
WMASSIGNMENT	LOCATION	8	UPPER	12	0	0	0	LOCATIONS.LOCATION
WMASSIGNMENT	JPNUM	9	UPPER	10	0	0	0	JOBPLAN.JPNUM
WMASSIGNMENT	FAILDATE	10	DATETIME	10	0	0	1	WORKORDER.FAILDATE
WMASSIGNMENT	CHANGEBY	11	UPPER	30	0	0	0	PERSON.PERSONID
WMASSIGNMENT	CHANGEDATE	12	DATETIME	10	0	0	1	WORKORDER.CHANGEDATE
WMASSIGNMENT	ESTDUR	13	DURATION	8	0	0	1	WORKORDER.ESTDUR
WMASSIGNMENT	ESTLABHRS	14	DURATION	8	0	0	1	WORKORDER.ESTLABHRS
WMASSIGNMENT	ESTMATCOST	15	AMOUNT	10	2	0	1	WORKORDER.ESTMATCOST
WMASSIGNMENT	ESTLABCOST	16	AMOUNT	10	2	0	1	WORKORDER.ESTLABCOST
WMASSIGNMENT	ESTTOOLCOST	17	AMOUNT	10	2	0	1	WORKORDER.ESTTOOLCOST
WMASSIGNMENT	PMNUM	18	UPPER	8	0	0	0	PM.PMNUM
WMASSIGNMENT	ACTLABHRS	19	DURATION	8	0	0	1	WORKORDER.ACTLABHRS
WMASSIGNMENT	ACTMATCOST	20	AMOUNT	10	2	0	1	WORKORDER.ACTMATCOST
WMASSIGNMENT	ACTLABCOST	21	AMOUNT	10	2	0	1	WORKORDER.ACTLABCOST
WMASSIGNMENT	ACTTOOLCOST	22	AMOUNT	10	2	0	1	WORKORDER.ACTTOOLCOST
WMASSIGNMENT	HASCHILDREN	23	YORN	1	0	0	1	WORKORDER.HASCHILDREN
WMASSIGNMENT	OUTLABCOST	24	AMOUNT	10	2	0	1	WORKORDER.OUTLABCOST
WMASSIGNMENT	OUTMATCOST	25	AMOUNT	10	2	0	1	WORKORDER.OUTMATCOST
WMASSIGNMENT	OUTTOOLCOST	26	AMOUNT	10	2	0	1	WORKORDER.OUTTOOLCOST
WMASSIGNMENT	HISTORYFLAG	27	YORN	1	0	0	1	WORKORDER.HISTORYFLAG
WMASSIGNMENT	CONTRACT	28	UPPER	8	0	0	0	CONTRACT.CONTRACTNUM
WMASSIGNMENT	WOPRIORITY	29	INTEGER	12	0	0	1	WORKORDER.WOPRIORITY
WMASSIGNMENT	TARGCOMPDATE	30	DATETIME	10	0	0	1	WORKORDER.TARGCOMPDATE
WMASSIGNMENT	TARGSTARTDATE	31	DATETIME	10	0	0	1	WORKORDER.TARGSTARTDATE
WMASSIGNMENT	REPORTEDBY	32	ALN	62	0	0	0	PERSON.DISPLAYNAME
WMASSIGNMENT	REPORTDATE	33	DATETIME	10	0	0	0	WORKORDER.REPORTDATE
WMASSIGNMENT	PHONE	34	ALN	20	0	0	0	WORKORDER.PHONE
WMASSIGNMENT	PROBLEMCODE	35	UPPER	8	0	0	0	FAILURECODE.FAILURECODE
WMASSIGNMENT	CALENDAR	36	UPPER	8	0	0	0	CALENDAR.CALNUM
WMASSIGNMENT	DOWNTIME	37	YORN	1	0	0	1	WORKORDER.DOWNTIME
WMASSIGNMENT	ACTSTART	38	DATETIME	10	0	0	1	WORKORDER.ACTSTART
WMASSIGNMENT	ACTFINISH	39	DATETIME	10	0	0	1	WORKORDER.ACTFINISH
WMASSIGNMENT	SCHEDSTART	40	DATETIME	10	0	0	1	WORKORDER.SCHEDSTART
WMASSIGNMENT	SCHEDFINISH	41	DATETIME	10	0	0	1	WORKORDER.SCHEDFINISH
WMASSIGNMENT	REMDUR	42	DURATION	8	0	0	1	WORKORDER.REMDUR
WMASSIGNMENT	CREWID	43	ALN	12	0	0	1	LABOR.CREWID
WMASSIGNMENT	SUPERVISOR	44	UPPER	30	0	0	0	PERSON.PERSONID
WMASSIGNMENT	WOLABLNK	45	UPPER	8	0	0	0	LABOR.LABORCODE
WMASSIGNMENT	RESPONDBY	46	DATETIME	10	0	0	1	WORKORDER.RESPONDBY
WMASSIGNMENT	ASSETLOCRIORITY	47	INTEGER	12	0	0	1	WORKORDER.ASSETLOCRIORITY
WMASSIGNMENT	CALCPRIORITY	48	INTEGER	12	0	0	1	WORKORDER.CALCPRIORITY
WMASSIGNMENT	CHARGESTORE	49	YORN	1	0	0	1	WORKORDER.CHARGESTORE
WMASSIGNMENT	FAILURECODE	50	UPPER	8	0	0	0	FAILURECODE.FAILURECODE
WMASSIGNMENT	GLACCOUNT	51	GL	23	0	0	1	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
WMASSIGNMENT	ESTSERVCOST	52	AMOUNT	10	2	0	1	WORKORDER.ESTSERVCOST
WMASSIGNMENT	ACTSERVCOST	53	AMOUNT	10	2	0	1	WORKORDER.ACTSERVCOST
WMASSIGNMENT	DISABLED	54	YORN	1	0	0	1	WORKORDER.DISABLED
WMASSIGNMENT	ESTATAPPRLABHRS	55	DURATION	8	0	0	1	WORKORDER.ESTATAPPRLABHRS
WMASSIGNMENT	ESTATAPPRLABCOST	56	AMOUNT	10	2	0	1	WORKORDER.ESTATAPPRLABCOST
WMASSIGNMENT	ESTATAPPRMATCOST	57	AMOUNT	10	2	0	1	WORKORDER.ESTATAPPRMATCOST
WMASSIGNMENT	ESTATAPPRTOOLCOST	58	AMOUNT	10	2	0	1	WORKORDER.ESTATAPPRTOOLCOST
WMASSIGNMENT	ESTATAPPRSERVCOST	59	AMOUNT	10	2	0	1	WORKORDER.ESTATAPPRSERVCOST
WMASSIGNMENT	WOSEQUENCE	60	INTEGER	12	0	0	1	WORKORDER.WOSEQUENCE
WMASSIGNMENT	HASFOLLOWUPWORK	61	YORN	1	0	0	1	WORKORDER.HASFOLLOWUPWORK
WMASSIGNMENT	SOURCESYSID	62	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
WMASSIGNMENT	OWNERSYSID	63	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
WMASSIGNMENT	PMDUEDATE	64	DATE	4	0	0	0	WORKORDER.PMDUEDATE
WMASSIGNMENT	PMEXTDATE	65	DATE	4	0	0	0	WORKORDER.PMEXTDATE
WMASSIGNMENT	PMNEXTDUE DATE	66	DATE	4	0	0	0	WORKORDER.PMNEXTDUE DATE
WMASSIGNMENT	WORKLOCATION	67	UPPER	12	0	0	0	LOCATIONS.LOCATION
WMASSIGNMENT	EXTERNALREFID	68	ALN	10	0	0	0	WORKORDER.EXTERNALREFID
WMASSIGNMENT	SENDERSYSID	69	ALN	50	0	0	0	WORKORDER.SENDERSYSID
WMASSIGNMENT	FINCNTRLID	70	UPPER	8	0	0	0	FINCNTRL.FINCNTRLID
WMASSIGNMENT	GENERATEDFORPO	71	UPPER	8	0	0	0	PO.PONUM
WMASSIGNMENT	GENFORPOLINEID	72	INTEGER	12	0	0	1	POLINE.POLINEID
WMASSIGNMENT	ORGID	73	UPPER	8	0	0	0	ORGANIZATION.ORGID
WMASSIGNMENT	SITEID	74	UPPER	8	0	0	0	SITE.SITEID
WMASSIGNMENT	TASKID	75	INTEGER	12	0	0	1	WORKORDER.TASKID
WMASSIGNMENT	INSPECTOR	76	UPPER	30	0	0	0	PERSON.PERSONID
WMASSIGNMENT	MEASUREMENTVALUE	77	DECIMAL	15	3	0	1	MEASUREMENT.MEASUREMENTVALUE
WMASSIGNMENT	MEASUREDATE	78	DATETIME	10	0	0	1	WORKORDER.MEASUREDATE
WMASSIGNMENT	OBSERVATION	79	ALN	8	0	0	0	WORKORDER.OBSERVATION
WMASSIGNMENT	POINTNUM	80	UPPER	8	0	0	0	MEASUREPOINT.POINTNUM
WMASSIGNMENT	ISTASK	81	YORN	1	0	0	0	WORKORDER.ISTASK
WMASSIGNMENT	WOCLASS	99	UPPER	10	0	0	1	WORKTYPE.WOCLASS
WMASSIGNMENT	ONBEHALFOF	100	ALN	62	0	0	0	PERSON.DISPLAYNAME
WMASSIGNMENT	WOVENDOR	101	UPPER	12	0	0	0	COMPANIES.COMPANY
WMASSIGNMENT	ORIGRECORDCLASS	102	UPPER	10	0	0	1	WORKTYPE.WOCLASS
WMASSIGNMENT	ORIGRECORDID	103	UPPER	10	0	0	0	WORKORDER.WONUM
WMASSIGNMENT	JUSTIFYPRIORITY	104	ALN	50	0	0	0	WORKORDER.JUSTIFYPRIORITY
WMASSIGNMENT	RISK	106	ALN	10	0	0	0	WORKORDER.RISK
WMASSIGNMENT	ENVIRONMENT	107	ALN	50	0	0	0	WORKORDER.ENVIRONMENT
WMASSIGNMENT	BACKOUTPLAN	109	ALN	50	0	0	0	WORKORDER.BACKOUTPLAN
WMASSIGNMENT	MOVETOCLOC	112	UPPER	12	0	0	0	LOCATIONS.LOCATION
WMASSIGNMENT	MOVETOPARENT	113	UPPER	12	0	0	0	ASSET.ASSETNUM
WMASSIGNMENT	WOACCEPTSCHARGES	116	YORN	1	0	0	0	WORKORDER.WOACCEPTSCHARGES
WMASSIGNMENT	OWNER	117	UPPER	8	0	0	1	WORKORDER.OWNER
WMASSIGNMENT	CLASSSTRUCTUREID	118	UPPER	20	0	0	1	CLASSSTRUCTURE.CLASSSTRUCTUREID
WMASSIGNMENT	PARENTCHGSSTATUS	119	YORN	1	0	0	0	WORKORDER.PARENTCHGSSTATUS
WMASSIGNMENT	OWNERGROUP	120	UPPER	8	0	0	0	PERSONGROUP.PERSONGROUP

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
WMASSIGNMENT	COMMODITYGROUP	122	UPPER	8	0	0	1	COMMODITIES.COMMODITY
WMASSIGNMENT	COMMODITY	123	UPPER	8	0	0	1	COMMODITIES.COMMODITY
WMASSIGNMENT	WORKORDERID	124	INTEGER	12	0	0	1	WORKORDER.WORKORDERID
WMASSIGNMENT	WHOMISCHANGEFOR	125	UPPER	20	0	0	0	WORKORDER.WHOMISCHANGEFOR
WMASSIGNMENT	REASONFORCHANGE	127	UPPER	20	0	0	0	WORKORDER.REASONFORCHANGE
WMASSIGNMENT	VERIFICATION	129	UPPER	20	0	0	0	WORKORDER.VERIFICATION
WMASSIGNMENT	PERSONGROUP	131	UPPER	8	0	0	0	PERSONGROUP.PERSONGROUP
WMASSIGNMENT	LEAD	134	UPPER	30	0	0	0	PERSON.PERSONID
WMASSIGNMENT	WPLABORID	135	ALN	20	0	0	1	WPLABOR.WPLABORID
WMASSIGNMENT	CRAFT	136	UPPER	8	0	0	0	CRAFT.CRAFT
WMASSIGNMENT	LABORHRS	137	DURATION	8	0	0	1	ASSIGNMENT.LABORHRS
WMASSIGNMENT	ASSIGNSTATUS	138	UPPER	12	0	1	1	ASSIGNMENT.STATUS
WMASSIGNMENT	SCHEDULEDATE	139	DATETIME	10	0	0	0	ASSIGNMENT.SCHEDULEDATE
WMASSIGNMENT	LABORCODE	140	UPPER	8	0	0	0	LABOR.LABORCODE
WMASSIGNMENT	STARTDATE	141	DATETIME	10	0	0	1	ASSIGNMENT.STARTDATE
WMASSIGNMENT	FINISHDATE	142	DATETIME	10	0	0	1	ASSIGNMENT.FINISHDATE
WMASSIGNMENT	ASSIGNMENTID	147	INTEGER	12	0	0	1	ASSIGNMENT.ASSIGNMENTID
WMASSIGNMENT	INTERRUPTIBLE	149	YORN	1	0	0	1	WORKORDER.INTERRUPTIBLE
WMASSIGNMENT	WOGROUP	150	UPPER	10	0	0	0	WORKORDER.WONUM
WMASSIGNMENT	SKILLLEVEL	152	UPPER	12	0	0	0	CRAFTSKILL.SKILLLEVEL
WMASSIGNMENT	CONTRACTNUM	153	UPPER	8	0	0	0	CONTRACT.CONTRACTNUM
WMASSIGNMENT	VENDOR	154	UPPER	12	0	0	0	COMPANIES.COMPANY
WMASSIGNMENT	MOVETOBINNUM	184	ALN	8	0	0	0	INVENTORY.BINNUM
WMASSIGNMENT	PERFORMMOVETO	185	YORN	1	0	0	0	WORKORDER.PERFORMMOVETO
WMASSIGNMENT	LANGCODE	187	UPPER	4	0	0	1	LANGUAGE.MAXLANGCODE
WMASSIGNMENT	HASLD	230	YORN	1	0	0	1	WORKORDER.HASLD
WMMATCH	WMMATCHID	1	INTEGER	12	0	1	1	.
WOACTIVITY	WONUM	1	UPPER	10	0	1	0	WORKORDER.WONUM
WOACTIVITY	PARENT	2	UPPER	10	0	0	0	WORKORDER.WONUM
WOACTIVITY	STATUS	3	UPPER	16	0	1	1	WORKORDER.STATUS
WOACTIVITY	STATUSDATE	4	DATETIME	10	0	1	1	WORKORDER.STATUSDATE
WOACTIVITY	WORKTYPE	5	UPPER	5	0	0	0	WORKTYPE.WORKTYPE
WOACTIVITY	DESCRIPTION	6	ALN	100	0	0	0	WORKORDER.DESCRPTION
WOACTIVITY	ASSETNUM	7	UPPER	12	0	0	0	ASSET.ASSETNUM
WOACTIVITY	LOCATION	8	UPPER	12	0	0	0	LOCATIONS.LOCATION
WOACTIVITY	JPNUM	9	UPPER	10	0	0	0	JOBPLAN.JPNUM
WOACTIVITY	FAILDATE	10	DATETIME	10	0	0	1	WORKORDER.FAILDATE
WOACTIVITY	CHANGEBY	11	UPPER	30	0	0	0	PERSON.PERSONID
WOACTIVITY	CHANGEDATE	12	DATETIME	10	0	0	1	WORKORDER.CHANGEDATE
WOACTIVITY	ESTDUR	13	DURATION	8	0	1	1	WORKORDER.ESTDUR
WOACTIVITY	ESTLABHRS	14	DURATION	8	0	1	1	WORKORDER.ESTLABHRS
WOACTIVITY	ESTMATCOST	15	AMOUNT	10	2	1	1	WORKORDER.ESTMATCOST
WOACTIVITY	ESTLABCOST	16	AMOUNT	10	2	1	1	WORKORDER.ESTLABCOST
WOACTIVITY	ESTTOOLCOST	17	AMOUNT	10	2	1	1	WORKORDER.ESTTOOLCOST
WOACTIVITY	PMNUM	18	UPPER	8	0	0	0	PM.PMNUM
WOACTIVITY	ACTLABHRS	19	DURATION	8	0	1	1	WORKORDER.ACTLABHRS

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
WOACTIVITY	ACTMATCOST	20	AMOUNT	10	2	1	1	WORKORDER.ACTMATCOST
WOACTIVITY	ACTLABCOST	21	AMOUNT	10	2	1	1	WORKORDER.ACTLABCOST
WOACTIVITY	ACTTOOLCOST	22	AMOUNT	10	2	1	1	WORKORDER.ACTTOOLCOST
WOACTIVITY	HASCHILDREN	23	YORN	1	0	1	1	WORKORDER.HASCHILDREN
WOACTIVITY	OUTLABCOST	24	AMOUNT	10	2	1	1	WORKORDER.OUTLABCOST
WOACTIVITY	OUTMATCOST	25	AMOUNT	10	2	1	1	WORKORDER.OUTMATCOST
WOACTIVITY	OUTTOOLCOST	26	AMOUNT	10	2	1	1	WORKORDER.OUTTOOLCOST
WOACTIVITY	HISTORYFLAG	27	YORN	1	0	1	1	WORKORDER.HISTORYFLAG
WOACTIVITY	CONTRACT	28	UPPER	8	0	0	0	CONTRACT.CONTRACTNUM
WOACTIVITY	WOPRIORITY	29	INTEGER	12	0	0	1	WORKORDER.WOPRIORITY
WOACTIVITY	TARGCOMPDATE	30	DATETIME	10	0	0	1	WORKORDER.TARGCOMPDATE
WOACTIVITY	TARGSTARTDATE	31	DATETIME	10	0	0	1	WORKORDER.TARGSTARTDATE
WOACTIVITY	WOEQ1	32	ALN	10	0	0	0	ASSET.EQ1
WOACTIVITY	WOEQ2	33	ALN	10	0	0	0	ASSET.EQ2
WOACTIVITY	WOEQ3	34	ALN	10	0	0	0	ASSET.EQ3
WOACTIVITY	WOEQ4	35	ALN	10	0	0	0	ASSET.EQ4
WOACTIVITY	WOEQ5	36	AMOUNT	10	2	0	0	ASSET.EQ5
WOACTIVITY	WOEQ6	37	DATETIME	10	0	0	0	ASSET.EQ6
WOACTIVITY	WOEQ7	38	DECIMAL	15	2	0	0	ASSET.EQ7
WOACTIVITY	WOEQ8	39	ALN	10	0	0	0	ASSET.EQ8
WOACTIVITY	WOEQ9	40	ALN	10	0	0	0	ASSET.EQ9
WOACTIVITY	WOEQ10	41	ALN	10	0	0	0	ASSET.EQ10
WOACTIVITY	WOEQ11	42	ALN	10	0	0	0	ASSET.EQ11
WOACTIVITY	WOEQ12	43	AMOUNT	10	2	0	0	ASSET.EQ12
WOACTIVITY	REPORTEDBY	44	ALN	62	0	0	0	PERSON.DISPLAYNAME
WOACTIVITY	REPORTDATE	45	DATETIME	10	0	0	0	WORKORDER.REPORTDATE
WOACTIVITY	PHONE	46	ALN	20	0	0	0	WORKORDER.PHONE
WOACTIVITY	PROBLEMCODE	47	UPPER	8	0	0	0	FAILURECODE.FAILURECODE
WOACTIVITY	CALENDAR	48	UPPER	8	0	0	0	CALENDAR.CALNUM
WOACTIVITY	DOWNTIME	49	YORN	1	0	1	1	WORKORDER.DOWNTIME
WOACTIVITY	ACTSTART	50	DATETIME	10	0	0	1	WORKORDER.ACTSTART
WOACTIVITY	ACTFINISH	51	DATETIME	10	0	0	1	WORKORDER.ACTFINISH
WOACTIVITY	SCHEDSTART	52	DATETIME	10	0	0	1	WORKORDER.SCHEDSTART
WOACTIVITY	SCHEDFINISH	53	DATETIME	10	0	0	1	WORKORDER.SCHEDFINISH
WOACTIVITY	REMDUR	54	DURATION	8	0	0	1	WORKORDER.REMDUR
WOACTIVITY	CREWID	55	ALN	12	0	0	1	LABOR.CREWID
WOACTIVITY	SUPERVISOR	56	UPPER	30	0	0	0	PERSON.PERSONID
WOACTIVITY	WOEQ13	57	DATETIME	10	0	0	0	ASSET.EQ23
WOACTIVITY	WOEQ14	58	DECIMAL	15	2	0	0	ASSET.EQ24
WOACTIVITY	WOJP1	59	ALN	10	0	0	0	WORKORDER.WOJP1
WOACTIVITY	WOJP2	60	ALN	10	0	0	0	WORKORDER.WOJP2
WOACTIVITY	WOJP3	61	ALN	10	0	0	0	WORKORDER.WOJP3
WOACTIVITY	WOJP4	62	AMOUNT	10	2	0	0	WORKORDER.WOJP4
WOACTIVITY	WOJP5	63	DATETIME	10	0	0	0	WORKORDER.WOJP5
WOACTIVITY	WOL1	64	ALN	10	0	0	0	WORKORDER.WOL1
WOACTIVITY	WOL2	65	ALN	10	0	0	0	WORKORDER.WOL2

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
WOACTIVITY	WOL3	66	AMOUNT	10	2	0	0	WORKORDER.WOL3
WOACTIVITY	WOL4	67	DATETIME	10	0	0	0	WORKORDER.WOL4
WOACTIVITY	WOLABLNK	68	UPPER	8	0	0	0	LABOR.LABORCODE
WOACTIVITY	RESPONDBY	69	DATETIME	10	0	0	1	WORKORDER.RESPONDBY
WOACTIVITY	ASSETLOC PRIORITY	70	INTEGER	12	0	0	1	WORKORDER.ASSETLOC PRIORITY
WOACTIVITY	CALC PRIORITY	71	INTEGER	12	0	0	1	WORKORDER.CALC PRIORITY
WOACTIVITY	CHARGESTORE	72	YORN	1	0	1	1	WORKORDER.CHARGESTORE
WOACTIVITY	FAILURECODE	73	UPPER	8	0	0	0	FAILURECODE.FAILURECODE
WOACTIVITY	WOLO1	74	ALN	10	0	0	0	WORKORDER.WOLO1
WOACTIVITY	WOLO2	75	ALN	10	0	0	0	WORKORDER.WOLO2
WOACTIVITY	WOLO3	76	ALN	10	0	0	0	WORKORDER.WOLO3
WOACTIVITY	WOLO4	77	ALN	10	0	0	0	WORKORDER.WOLO4
WOACTIVITY	WOLO5	78	ALN	10	0	0	0	WORKORDER.WOLO5
WOACTIVITY	WOLO6	79	AMOUNT	10	2	0	0	WORKORDER.WOLO6
WOACTIVITY	WOLO7	80	DATETIME	10	0	0	0	WORKORDER.WOLO7
WOACTIVITY	WOLO8	81	DECIMAL	15	2	0	0	WORKORDER.WOLO8
WOACTIVITY	WOLO9	82	ALN	10	0	0	0	WORKORDER.WOLO9
WOACTIVITY	WOLO10	83	INTEGER	12	0	0	0	WORKORDER.WOLO10
WOACTIVITY	GLACCOUNT	84	GL	23	0	0	1	.
WOACTIVITY	ESTSERVCOST	85	AMOUNT	10	2	1	1	WORKORDER.ESTSERVCOST
WOACTIVITY	ACTSERVCOST	86	AMOUNT	10	2	1	1	WORKORDER.ACTSERVCOST
WOACTIVITY	DISABLED	87	YORN	1	0	1	1	WORKORDER.DISABLED
WOACTIVITY	ESTATAPPR LABHRS	88	DURATION	8	0	1	1	WORKORDER.ESTATAPPR LABHRS
WOACTIVITY	ESTATAPPR LABCOST	89	AMOUNT	10	2	1	1	WORKORDER.ESTATAPPR LABCOST
WOACTIVITY	ESTATAPPR MATCOST	90	AMOUNT	10	2	1	1	WORKORDER.ESTATAPPR MATCOST
WOACTIVITY	ESTATAPPR TOOLCOST	91	AMOUNT	10	2	1	1	WORKORDER.ESTATAPPR TOOLCOST
WOACTIVITY	ESTATAPPR SERVCOST	92	AMOUNT	10	2	1	1	WORKORDER.ESTATAPPR SERVCOST
WOACTIVITY	WOSEQUENCE	93	INTEGER	12	0	0	1	WORKORDER.WOSEQUENCE
WOACTIVITY	HAS FOLLOWUP WORK	94	YORN	1	0	1	1	WORKORDER.HAS FOLLOWUP WORK
WOACTIVITY	WORTS1	95	ALN	10	0	0	0	ROUTE_STOP.RTS1
WOACTIVITY	WORTS2	96	ALN	10	0	0	0	ROUTE_STOP.RTS2
WOACTIVITY	WORTS3	97	ALN	10	0	0	0	ROUTE_STOP.RTS3
WOACTIVITY	WORTS4	98	DATETIME	10	0	0	0	ROUTE_STOP.RTS4
WOACTIVITY	WORTS5	99	DECIMAL	15	2	0	0	ROUTE_STOP.RTS5
WOACTIVITY	SOURCESYSID	100	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
WOACTIVITY	OWNERSYSID	101	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
WOACTIVITY	PMDUEDATE	102	DATE	4	0	0	0	WORKORDER.PMDUEDATE
WOACTIVITY	PMEXTDATE	103	DATE	4	0	0	0	WORKORDER.PMEXTDATE
WOACTIVITY	PMNEXTDUE DATE	104	DATE	4	0	0	0	WORKORDER.PMNEXTDUE DATE
WOACTIVITY	WORKLOCATION	105	UPPER	12	0	0	0	LOCATIONS.LOCATION
WOACTIVITY	EXTERNALREFID	106	ALN	10	0	0	0	WORKORDER.EXTERNALREFID
WOACTIVITY	SENDERSYSID	107	ALN	50	0	0	0	WORKORDER.SENDERSYSID
WOACTIVITY	FINCNTRLID	108	UPPER	8	0	0	0	FINCNTRL.FINCNTRLID
WOACTIVITY	GENERATEDFORPO	109	UPPER	8	0	0	0	PO.PONUM
WOACTIVITY	GENFORPOLINEID	110	INTEGER	12	0	0	1	POLINE.POLINEID
WOACTIVITY	ORGID	111	UPPER	8	0	1	0	ORGANIZATION.ORGID

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
WOACTIVITY	SITEID	112	UPPER	8	0	1	0	SITE.SITEID
WOACTIVITY	TASKID	113	INTEGER	12	0	0	1	WORKORDER.TASKID
WOACTIVITY	INSPECTOR	114	UPPER	8	0	0	0	LABOR.LABORCODE
WOACTIVITY	MEASUREMENTVALUE	115	DECIMAL	15	3	0	1	MEASUREMENT.MEASUREMENTVALUE
WOACTIVITY	MEASUREDATE	116	DATETIME	10	0	0	1	WORKORDER.MEASUREDATE
WOACTIVITY	OBSERVATION	117	ALN	8	0	0	0	WORKORDER.OBSERVATION
WOACTIVITY	POINTNUM	118	UPPER	8	0	0	0	MEASUREPOINT.POINTNUM
WOACTIVITY	WOJO1	119	ALN	10	0	0	0	JOBTASK.JO1
WOACTIVITY	WOJO2	120	ALN	10	0	0	0	JOBTASK.JO2
WOACTIVITY	WOJO3	121	ALN	10	0	0	0	JOBTASK.JO3
WOACTIVITY	WOJO4	122	DECIMAL	15	2	0	0	JOBTASK.JO4
WOACTIVITY	WOJO5	123	ALN	10	0	0	0	JOBTASK.JO5
WOACTIVITY	WOJO6	124	ALN	10	0	0	0	JOBTASK.JO6
WOACTIVITY	WOJO7	125	ALN	10	0	0	0	JOBTASK.JO7
WOACTIVITY	WOJO8	126	ALN	10	0	0	0	JOBTASK.JO8
WOACTIVITY	ISTASK	127	YORN	1	0	1	0	WORKORDER.ISTASK
WOACTIVITY	WOCLASS	145	UPPER	10	0	1	1	WORKTYPE.WOCLASS
WOACTIVITY	ONBEHALFOF	146	ALN	62	0	0	0	PERSON.DISPLAYNAME
WOACTIVITY	VENDOR	147	UPPER	12	0	0	0	COMPANIES.COMPANY
WOACTIVITY	ORIGRECORDCLASS	148	UPPER	10	0	0	1	WORKTYPE.WOCLASS
WOACTIVITY	ORIGRECORDID	149	UPPER	10	0	0	0	WORKORDER.WONUM
WOACTIVITY	JUSTIFYPRIORITY	150	ALN	50	0	0	0	WORKORDER.JUSTIFYPRIORITY
WOACTIVITY	RISK	152	ALN	10	0	0	0	WORKORDER.RISK
WOACTIVITY	ENVIRONMENT	153	ALN	50	0	0	0	WORKORDER.ENVIRONMENT
WOACTIVITY	BACKOUTPLAN	155	ALN	50	0	0	0	WORKORDER.BACKOUTPLAN
WOACTIVITY	MOVETOPLOC	158	UPPER	12	0	0	0	LOCATIONS.LOCATION
WOACTIVITY	MOVETOPARENT	159	UPPER	12	0	0	0	ASSET.ASSETNUM
WOACTIVITY	WOACCEPTSCHARGES	162	YORN	1	0	1	0	WORKORDER.WOACCEPTSCHARGES
WOACTIVITY	OWNER	163	UPPER	8	0	0	1	WORKORDER.OWNER
WOACTIVITY	CLASSSTRUCTUREID	164	UPPER	20	0	0	1	CLASSSTRUCTURE.CLASSSTRUCTUREID
WOACTIVITY	PARENTCHGSSTATUS	165	YORN	1	0	1	0	WORKORDER.PARENTCHGSSTATUS
WOACTIVITY	OWNERGROUP	166	UPPER	8	0	0	0	PERSONGROUP.PERSONGROUP
WOACTIVITY	COMMODITYGROUP	168	UPPER	8	0	0	1	COMMODITIES.COMMODITY
WOACTIVITY	COMMODITY	169	UPPER	8	0	0	1	COMMODITIES.COMMODITY
WOACTIVITY	WORKORDERID	170	INTEGER	12	0	1	1	WORKORDER.WORKORDERID
WOACTIVITY	WHOMISCHANGEFOR	171	UPPER	20	0	0	0	WORKORDER.WHOMISCHANGEFOR
WOACTIVITY	REASONFORCHANGE	173	UPPER	20	0	0	0	WORKORDER.REASONFORCHANGE
WOACTIVITY	VERIFICATION	175	UPPER	20	0	0	0	WORKORDER.VERIFICATION
WOACTIVITY	PERSONGROUP	177	UPPER	8	0	0	0	PERSONGROUP.PERSONGROUP
WOACTIVITY	LEAD	180	UPPER	30	0	0	0	PERSON.PERSONID
WOACTIVITY	MOVETOBINNUM	184	ALN	8	0	0	0	INVENTORY.BINNUM
WOACTIVITY	PERFORMMOVETO	185	YORN	1	0	1	0	WORKORDER.PERFORMMOVETO
WOACTIVITY	LANGCODE	187	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
WOACTIVITY	INTERRUPTIBLE	189	YORN	1	0	1	1	WORKORDER.INTERRUPTIBLE
WOACTIVITY	WOGROUP	190	UPPER	10	0	0	0	WORKORDER.WONUM
WOACTIVITY	HASLD	198	YORN	1	0	1	1	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
WOANCESTOR	WONUM	1	UPPER	10	0	1	0	WORKORDER.WONUM
WOANCESTOR	ANCESTOR	2	UPPER	10	0	1	0	WORKORDER.WONUM
WOANCESTOR	HIERARCHYLEVELS	3	INTEGER	12	0	1	1	.
WOANCESTOR	ORGID	4	UPPER	8	0	1	0	ORGANIZATION.ORGID
WOANCESTOR	SITEID	5	UPPER	8	0	1	0	SITE.SITEID
WOANCESTOR	WOANCESTORID	6	INTEGER	12	0	1	1	.
WOCHANGE	WONUM	1	UPPER	10	0	1	0	WORKORDER.WONUM
WOCHANGE	PARENT	2	UPPER	10	0	0	0	WORKORDER.WONUM
WOCHANGE	STATUS	3	UPPER	16	0	1	1	WORKORDER.STATUS
WOCHANGE	STATUSDATE	4	DATETIME	10	0	1	1	WORKORDER.STATUSDATE
WOCHANGE	WORKTYPE	5	UPPER	5	0	0	0	WORKTYPE.WORKTYPE
WOCHANGE	DESCRIPTION	6	ALN	100	0	0	0	WORKORDER.DESCRPTION
WOCHANGE	ASSETNUM	7	UPPER	12	0	0	0	ASSET.ASSETNUM
WOCHANGE	LOCATION	8	UPPER	12	0	0	0	LOCATIONS.LOCATION
WOCHANGE	JPNUM	9	UPPER	10	0	0	0	JOBPLAN.JPNUM
WOCHANGE	FAILDATE	10	DATETIME	10	0	0	1	WORKORDER.FAILDATE
WOCHANGE	CHANGEBY	11	UPPER	30	0	0	0	PERSON.PERSONID
WOCHANGE	CHANGEDATE	12	DATETIME	10	0	0	1	WORKORDER.CHANGEDATE
WOCHANGE	ESTDUR	13	DURATION	8	0	1	1	WORKORDER.ESTDUR
WOCHANGE	ESTLABHRS	14	DURATION	8	0	1	1	WORKORDER.ESTLABHRS
WOCHANGE	ESTMATCOST	15	AMOUNT	10	2	1	1	WORKORDER.ESTMATCOST
WOCHANGE	ESTLABCOST	16	AMOUNT	10	2	1	1	WORKORDER.ESTLABCOST
WOCHANGE	ESTTOOLCOST	17	AMOUNT	10	2	1	1	WORKORDER.ESTTOOLCOST
WOCHANGE	PMNUM	18	UPPER	8	0	0	0	PM.PMNUM
WOCHANGE	ACTLABHRS	19	DURATION	8	0	1	1	WORKORDER.ACTLABHRS
WOCHANGE	ACTMATCOST	20	AMOUNT	10	2	1	1	WORKORDER.ACTMATCOST
WOCHANGE	ACTLABCOST	21	AMOUNT	10	2	1	1	WORKORDER.ACTLABCOST
WOCHANGE	ACTTOOLCOST	22	AMOUNT	10	2	1	1	WORKORDER.ACTTOOLCOST
WOCHANGE	HASCHILDREN	23	YORN	1	0	1	1	WORKORDER.HASCHILDREN
WOCHANGE	OUTLABCOST	24	AMOUNT	10	2	1	1	WORKORDER.OUTLABCOST
WOCHANGE	OUTMATCOST	25	AMOUNT	10	2	1	1	WORKORDER.OUTMATCOST
WOCHANGE	OUTTOOLCOST	26	AMOUNT	10	2	1	1	WORKORDER.OUTTOOLCOST
WOCHANGE	HISTORYFLAG	27	YORN	1	0	1	1	WORKORDER.HISTORYFLAG
WOCHANGE	CONTRACT	28	UPPER	8	0	0	0	CONTRACT.CONTRACTNUM
WOCHANGE	WOPRIORITY	29	INTEGER	12	0	0	1	WORKORDER.WOPRIORITY
WOCHANGE	TARGCOMPDATE	30	DATETIME	10	0	0	1	WORKORDER.TARGCOMPDATE
WOCHANGE	TARGSTARTDATE	31	DATETIME	10	0	0	1	WORKORDER.TARGSTARTDATE
WOCHANGE	WOEQ1	32	ALN	10	0	0	0	ASSET.EQ1
WOCHANGE	WOEQ2	33	ALN	10	0	0	0	ASSET.EQ2
WOCHANGE	WOEQ3	34	ALN	10	0	0	0	ASSET.EQ3
WOCHANGE	WOEQ4	35	ALN	10	0	0	0	ASSET.EQ4
WOCHANGE	WOEQ5	36	AMOUNT	10	2	0	0	ASSET.EQ5
WOCHANGE	WOEQ6	37	DATETIME	10	0	0	0	ASSET.EQ6
WOCHANGE	WOEQ7	38	DECIMAL	15	2	0	0	ASSET.EQ7
WOCHANGE	WOEQ8	39	ALN	10	0	0	0	ASSET.EQ8
WOCHANGE	WOEQ9	40	ALN	10	0	0	0	ASSET.EQ9

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
WOCHANGE	WOEQ10	41	ALN	10	0	0	0	ASSET.EQ10
WOCHANGE	WOEQ11	42	ALN	10	0	0	0	ASSET.EQ11
WOCHANGE	WOEQ12	43	AMOUNT	10	2	0	0	ASSET.EQ12
WOCHANGE	REPORTEDBY	44	ALN	62	0	0	0	PERSON.DISPLAYNAME
WOCHANGE	REPORTDATE	45	DATETIME	10	0	0	0	WORKORDER.REPORTDATE
WOCHANGE	PHONE	46	ALN	20	0	0	0	WORKORDER.PHONE
WOCHANGE	PROBLEMCODE	47	UPPER	8	0	0	0	FAILURECODE.FAILURECODE
WOCHANGE	CALENDAR	48	UPPER	8	0	0	0	CALENDAR.CALNUM
WOCHANGE	DOWNTIME	49	YORN	1	0	1	1	WORKORDER.DOWNTIME
WOCHANGE	ACTSTART	50	DATETIME	10	0	0	1	WORKORDER.ACTSTART
WOCHANGE	ACTFINISH	51	DATETIME	10	0	0	1	WORKORDER.ACTFINISH
WOCHANGE	SCHEDSTART	52	DATETIME	10	0	0	1	WORKORDER.SCHEDSTART
WOCHANGE	SCHEDFINISH	53	DATETIME	10	0	0	1	WORKORDER.SCHEDFINISH
WOCHANGE	REMDUR	54	DURATION	8	0	0	1	WORKORDER.REMDUR
WOCHANGE	CREWID	55	ALN	12	0	0	1	LABOR.CREWID
WOCHANGE	SUPERVISOR	56	UPPER	30	0	0	0	PERSON.PERSONID
WOCHANGE	WOEQ13	57	DATETIME	10	0	0	0	ASSET.EQ23
WOCHANGE	WOEQ14	58	DECIMAL	15	2	0	0	ASSET.EQ24
WOCHANGE	WOJP1	59	ALN	10	0	0	0	WORKORDER.WOJP1
WOCHANGE	WOJP2	60	ALN	10	0	0	0	WORKORDER.WOJP2
WOCHANGE	WOJP3	61	ALN	10	0	0	0	WORKORDER.WOJP3
WOCHANGE	WOJP4	62	AMOUNT	10	2	0	0	WORKORDER.WOJP4
WOCHANGE	WOJP5	63	DATETIME	10	0	0	0	WORKORDER.WOJP5
WOCHANGE	WOL1	64	ALN	10	0	0	0	WORKORDER.WOL1
WOCHANGE	WOL2	65	ALN	10	0	0	0	WORKORDER.WOL2
WOCHANGE	WOL3	66	AMOUNT	10	2	0	0	WORKORDER.WOL3
WOCHANGE	WOL4	67	DATETIME	10	0	0	0	WORKORDER.WOL4
WOCHANGE	WOLABLNK	68	UPPER	8	0	0	0	LABOR.LABORCODE
WOCHANGE	RESPONDBY	69	DATETIME	10	0	0	1	WORKORDER.RESPONDBY
WOCHANGE	ASSETLOC PRIORITY	70	INTEGER	12	0	0	1	WORKORDER.ASSETLOC PRIORITY
WOCHANGE	CALCPRIORITY	71	INTEGER	12	0	0	1	WORKORDER.CALCPRIORITY
WOCHANGE	CHARGESTORE	72	YORN	1	0	1	1	WORKORDER.CHARGESTORE
WOCHANGE	FAILURECODE	73	UPPER	8	0	0	0	FAILURECODE.FAILURECODE
WOCHANGE	WOLO1	74	ALN	10	0	0	0	WORKORDER.WOLO1
WOCHANGE	WOLO2	75	ALN	10	0	0	0	WORKORDER.WOLO2
WOCHANGE	WOLO3	76	ALN	10	0	0	0	WORKORDER.WOLO3
WOCHANGE	WOLO4	77	ALN	10	0	0	0	WORKORDER.WOLO4
WOCHANGE	WOLO5	78	ALN	10	0	0	0	WORKORDER.WOLO5
WOCHANGE	WOLO6	79	AMOUNT	10	2	0	0	WORKORDER.WOLO6
WOCHANGE	WOLO7	80	DATETIME	10	0	0	0	WORKORDER.WOLO7
WOCHANGE	WOLO8	81	DECIMAL	15	2	0	0	WORKORDER.WOLO8
WOCHANGE	WOLO9	82	ALN	10	0	0	0	WORKORDER.WOLO9
WOCHANGE	WOLO10	83	INTEGER	12	0	0	0	WORKORDER.WOLO10
WOCHANGE	GLACCOUNT	84	GL	23	0	0	1	.
WOCHANGE	ESTSERVCOST	85	AMOUNT	10	2	1	1	WORKORDER.ESTSERVCOST
WOCHANGE	ACTSERVCOST	86	AMOUNT	10	2	1	1	WORKORDER.ACTSERVCOST

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
WOCHANGE	DISABLED	87	YORN	1	0	1	1	WORKORDER.DISABLED
WOCHANGE	ESTATAPPRLABHRS	88	DURATION	8	0	1	1	WORKORDER.ESTATAPPRLABHRS
WOCHANGE	ESTATAPPRLABCOST	89	AMOUNT	10	2	1	1	WORKORDER.ESTATAPPRLABCOST
WOCHANGE	ESTATAPPRMATCOST	90	AMOUNT	10	2	1	1	WORKORDER.ESTATAPPRMATCOST
WOCHANGE	ESTATAPPRTOOLCOST	91	AMOUNT	10	2	1	1	WORKORDER.ESTATAPPRTOOLCOST
WOCHANGE	ESTATAPPRSERVCOST	92	AMOUNT	10	2	1	1	WORKORDER.ESTATAPPRSERVCOST
WOCHANGE	WOSEQUENCE	93	INTEGER	12	0	0	1	WORKORDER.WOSEQUENCE
WOCHANGE	HASFOLLOWUPWORK	94	YORN	1	0	1	1	WORKORDER.HASFOLLOWUPWORK
WOCHANGE	WORTS1	95	ALN	10	0	0	0	ROUTE_STOP.RTS1
WOCHANGE	WORTS2	96	ALN	10	0	0	0	ROUTE_STOP.RTS2
WOCHANGE	WORTS3	97	ALN	10	0	0	0	ROUTE_STOP.RTS3
WOCHANGE	WORTS4	98	DATETIME	10	0	0	0	ROUTE_STOP.RTS4
WOCHANGE	WORTS5	99	DECIMAL	15	2	0	0	ROUTE_STOP.RTS5
WOCHANGE	SOURCESYSID	100	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
WOCHANGE	OWNERSYSID	101	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
WOCHANGE	PMDUEDATE	102	DATE	4	0	0	0	WORKORDER.PMDUEDATE
WOCHANGE	PMEXTDATE	103	DATE	4	0	0	0	WORKORDER.PMEXTDATE
WOCHANGE	PMNEXTDUEDATE	104	DATE	4	0	0	0	WORKORDER.PMNEXTDUEDATE
WOCHANGE	WORKLOCATION	105	UPPER	12	0	0	0	LOCATIONS.LOCATION
WOCHANGE	EXTERNALREFID	106	ALN	10	0	0	0	WORKORDER.EXTERNALREFID
WOCHANGE	SENDERSYSID	107	ALN	50	0	0	0	WORKORDER.SENDERSYSID
WOCHANGE	FINCNTRLID	108	UPPER	8	0	0	0	FINCNTRL.FINCNTRLID
WOCHANGE	GENERATEDFORPO	109	UPPER	8	0	0	0	PO.PONUM
WOCHANGE	GENFORPOLINEID	110	INTEGER	12	0	0	1	POLINE.POLINEID
WOCHANGE	ORGID	111	UPPER	8	0	1	0	ORGANIZATION.ORGID
WOCHANGE	SITEID	112	UPPER	8	0	1	0	SITE.SITEID
WOCHANGE	TASKID	113	INTEGER	12	0	0	1	WORKORDER.TASKID
WOCHANGE	INSPECTOR	114	UPPER	30	0	0	0	PERSON.PERSONID
WOCHANGE	MEASUREMENTVALUE	115	DECIMAL	15	3	0	1	MEASUREMENT.MEASUREMENTVALUE
WOCHANGE	MEASUREDATE	116	DATETIME	10	0	0	1	WORKORDER.MEASUREDATE
WOCHANGE	OBSERVATION	117	ALN	8	0	0	0	WORKORDER.OBSERVATION
WOCHANGE	POINTNUM	118	UPPER	8	0	0	0	MEASUREPOINT.POINTNUM
WOCHANGE	WOJO1	119	ALN	10	0	0	0	JOBTASK.JO1
WOCHANGE	WOJO2	120	ALN	10	0	0	0	JOBTASK.JO2
WOCHANGE	WOJO3	121	ALN	10	0	0	0	JOBTASK.JO3
WOCHANGE	WOJO4	122	DECIMAL	15	2	0	0	JOBTASK.JO4
WOCHANGE	WOJO5	123	ALN	10	0	0	0	JOBTASK.JO5
WOCHANGE	WOJO6	124	ALN	10	0	0	0	JOBTASK.JO6
WOCHANGE	WOJO7	125	ALN	10	0	0	0	JOBTASK.JO7
WOCHANGE	WOJO8	126	ALN	10	0	0	0	JOBTASK.JO8
WOCHANGE	ISTASK	127	YORN	1	0	1	0	WORKORDER.ISTASK
WOCHANGE	WOCLASS	145	UPPER	10	0	1	1	WORKTYPE.WOCLASS
WOCHANGE	ONBEHALFOF	146	ALN	62	0	0	0	PERSON.DISPLAYNAME
WOCHANGE	VENDOR	147	UPPER	12	0	0	0	COMPANIES.COMPANY
WOCHANGE	ORIGRECORDCLASS	148	UPPER	10	0	0	1	WORKTYPE.WOCLASS
WOCHANGE	ORIGRECORDID	149	UPPER	10	0	0	0	WORKORDER.WONUM

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
WOCHANGE	JUSTIFYPRIORITY	150	ALN	50	0	0	0	WORKORDER.JUSTIFYPRIORITY
WOCHANGE	RISK	152	ALN	10	0	0	0	WORKORDER.RISK
WOCHANGE	ENVIRONMENT	153	ALN	50	0	0	0	WORKORDER.ENVIRONMENT
WOCHANGE	BACKOUTPLAN	155	ALN	50	0	0	0	WORKORDER.BACKOUTPLAN
WOCHANGE	MOVETOLOC	158	UPPER	12	0	0	0	LOCATIONS.LOCATION
WOCHANGE	MOVETOPARENT	159	UPPER	12	0	0	0	ASSET.ASSETNUM
WOCHANGE	WOACCEPTSCHARGES	162	YORN	1	0	1	0	WORKORDER.WOACCEPTSCHARGES
WOCHANGE	OWNER	163	UPPER	8	0	0	1	WORKORDER.OWNER
WOCHANGE	CLASSTRUCTUREID	164	UPPER	20	0	0	1	CLASSTRUCTURE.CLASSTRUCTUREID
WOCHANGE	PARENTCHGSSTATUS	165	YORN	1	0	1	0	WORKORDER.PARENTCHGSSTATUS
WOCHANGE	OWNERGROUP	166	UPPER	8	0	0	0	PERSONGROUP.PERSONGROUP
WOCHANGE	COMMODITYGROUP	168	UPPER	8	0	0	1	COMMODITIES.COMMODITY
WOCHANGE	COMMODITY	169	UPPER	8	0	0	1	COMMODITIES.COMMODITY
WOCHANGE	WORKORDERID	170	INTEGER	12	0	1	1	WORKORDER.WORKORDERID
WOCHANGE	WHOMISCHANGEFOR	171	UPPER	20	0	0	0	WORKORDER.WHOMISCHANGEFOR
WOCHANGE	REASONFORCHANGE	173	UPPER	20	0	0	0	WORKORDER.REASONFORCHANGE
WOCHANGE	VERIFICATION	175	UPPER	20	0	0	0	WORKORDER.VERIFICATION
WOCHANGE	PERSONGROUP	177	UPPER	8	0	0	0	PERSONGROUP.PERSONGROUP
WOCHANGE	LEAD	180	UPPER	30	0	0	0	PERSON.PERSONID
WOCHANGE	MOVETOBINNUM	184	ALN	8	0	0	0	INVENTORY.BINNUM
WOCHANGE	PERFORMMOVETO	185	YORN	1	0	1	0	WORKORDER.PERFORMMOVETO
WOCHANGE	LANGCODE	187	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
WOCHANGE	INTERRUPTIBLE	189	YORN	1	0	1	1	WORKORDER.INTERRUPTIBLE
WOCHANGE	WOGROUP	190	UPPER	10	0	0	0	WORKORDER.WONUM
WOCHANGE	HASLD	198	YORN	1	0	1	1	.
WOCONTRACT	WOCONTRACTID	1	INTEGER	12	0	1	1	.
WOCONTRACT	WONUM	2	UPPER	10	0	1	0	WORKORDER.WONUM
WOCONTRACT	CONTRACTNUM	3	UPPER	8	0	1	0	CONTRACT.CONTRACTNUM
WOCONTRACT	REVISIONNUM	4	INTEGER	12	0	1	1	CONTRACT.REVISIONNUM
WOCONTRACT	ASSETNUM	5	UPPER	12	0	0	0	ASSET.ASSETNUM
WOCONTRACT	LOCATION	6	UPPER	12	0	0	0	LOCATIONS.LOCATION
WOCONTRACT	ORGID	7	UPPER	8	0	1	0	ORGANIZATION.ORGID
WOCONTRACT	SITEID	8	UPPER	8	0	1	0	SITE.SITEID
WOCONTRACT	ASSET	9	UPPER	12	0	0	0	ASSET.ASSETNUM
WOCONTRACT	ASSETDESC	10	ALN	100	0	0	0	ITEM.DESCRPTION
WOGEN	RUNID	1	INTEGER	12	0	1	1	.
WOGEN	RUNDATE	2	DATETIME	10	0	1	0	.
WOGEN	RUNORDER	3	INTEGER	12	0	1	1	.
WOGEN	PARENT	4	UPPER	10	0	0	0	WORKORDER.WONUM
WOGEN	STATUS	5	UPPER	16	0	1	1	WORKORDER.STATUS
WOGEN	WORKTYPE	6	UPPER	5	0	0	0	WORKTYPE.WORKTYPE
WOGEN	DESCRIPTION	7	ALN	100	0	0	0	WORKORDER.DESCRPTION
WOGEN	ASSETNUM	8	UPPER	12	0	0	0	ASSET.ASSETNUM
WOGEN	LOCATION	9	UPPER	12	0	0	0	LOCATIONS.LOCATION
WOGEN	JPNUM	10	UPPER	10	0	0	0	JOBPLAN.JPNUM
WOGEN	PMNUM	11	UPPER	8	0	0	0	PM.PMNUM

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
WOGEN	WOPRIORITY	12	INTEGER	12	0	0	0	.
WOGEN	TARGSTARTDATE	13	DATETIME	10	0	0	1	WORKORDER.TARGSTARTDATE
WOGEN	CALENDAR	14	UPPER	8	0	0	0	CALENDAR.CALNUM
WOGEN	DOWNTIME	15	YORN	1	0	1	0	.
WOGEN	CREWID	16	ALN	12	0	0	1	LABOR.CREWID
WOGEN	SUPERVISOR	17	UPPER	30	0	0	0	PERSON.PERSONID
WOGEN	CALCPRIORITY	18	INTEGER	12	0	0	1	WORKORDER.CALCPRIORITY
WOGEN	WOSEQUENCE	19	INTEGER	12	0	0	1	WORKORDER.WOSEQUENCE
WOGEN	PMDUEDATE	20	DATE	4	0	0	0	WORKORDER.PMDUEDATE
WOGEN	PMEXTDATE	21	DATE	4	0	0	0	WORKORDER.PMEXTDATE
WOGEN	PMNEXTDUE DATE	22	DATE	4	0	0	0	WORKORDER.PMNEXTDUE DATE
WOGEN	ORGID	23	UPPER	8	0	1	0	ORGANIZATION.ORGID
WOGEN	SITEID	24	UPPER	8	0	1	0	SITE.SITEID
WOGEN	GLACCOUNT	25	GL	23	0	0	1	.
WOGEN	WOPM1	26	ALN	10	0	0	0	.
WOGEN	WOPM2	27	ALN	10	0	0	0	.
WOGEN	WOPM3	28	ALN	10	0	0	0	.
WOGEN	WOPM4	29	AMOUNT	10	2	0	0	.
WOGEN	WOPM5	30	ALN	10	0	0	0	.
WOGEN	WOPM6	31	ALN	10	0	0	0	.
WOGEN	WOPM7	32	DECIMAL	15	2	0	0	.
WOGEN	ROUTE	33	UPPER	8	0	0	0	ROUTES.ROUTE
WOGEN	STORELOC	34	UPPER	12	0	0	0	LOCATIONS.LOCATION
WOGEN	OWNER	36	UPPER	8	0	0	1	WORKORDER.OWNER
WOGEN	GROUPOWNER	37	UPPER	8	0	0	1	.
WOGEN	PARENTCHGSSTATUS	38	YORN	1	0	1	0	.
WOGEN	OWNERGROUP	39	UPPER	8	0	0	0	PERSONGROUP.PERSONGROUP
WOGEN	LANGCODE	41	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
WOGEN	INTERRUPTIBLE	42	YORN	1	0	1	0	.
WOGEN	LEAD	43	UPPER	30	0	0	0	PERSON.PERSONID
WOGEN	HASLD	44	YORN	1	0	1	1	.
WOGEN	WOGENID	45	INTEGER	12	0	1	1	.
WOHAZARD	WONUM	1	UPPER	10	0	1	0	WORKORDER.WONUM
WOHAZARD	HAZARDID	2	UPPER	8	0	1	0	HAZARD.HAZARDID
WOHAZARD	DESCRIPTION	3	ALN	100	0	0	0	.
WOHAZARD	PRECAUTIONENABLED	4	YORN	1	0	1	1	HAZARD.PRECAUTIONENABLED
WOHAZARD	HAZMATENABLED	5	YORN	1	0	1	1	HAZARD.HAZMATENABLED
WOHAZARD	TAGOUTENABLED	6	YORN	1	0	1	1	HAZARD.TAGOUTENABLED
WOHAZARD	HAZARDTYPE	7	UPPER	16	0	0	0	HAZARD.HAZARDTYPE
WOHAZARD	MSDSNUM	8	ALN	10	0	0	0	ITEM.MSDSNUM
WOHAZARD	HEALTHRATING	9	INTEGER	12	0	0	0	HAZARD.HEALTHRATING
WOHAZARD	FLAMMABILITYRATING	10	INTEGER	12	0	0	0	HAZARD.FLAMMABILITYRATING
WOHAZARD	REACTIVITYRATING	11	INTEGER	12	0	0	0	HAZARD.REACTIVITYRATING
WOHAZARD	CONTACTRATING	12	INTEGER	12	0	0	0	HAZARD.CONTACTRATING
WOHAZARD	WOSAFETYDATASOURCE	13	UPPER	2	0	1	1	.
WOHAZARD	HAZ01	14	ALN	10	0	0	0	HAZARD.HAZ01

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
WOHAZARD	HAZ02	15	ALN	10	0	0	0	HAZARD.HAZ02
WOHAZARD	HAZ03	16	ALN	10	0	0	0	HAZARD.HAZ03
WOHAZARD	HAZ04	17	ALN	10	0	0	0	HAZARD.HAZ04
WOHAZARD	HAZ05	18	ALN	10	0	0	0	HAZARD.HAZ05
WOHAZARD	HAZ06	19	ALN	10	0	0	0	HAZARD.HAZ06
WOHAZARD	HAZ07	20	ALN	10	0	0	0	HAZARD.HAZ07
WOHAZARD	HAZ08	21	ALN	10	0	0	0	HAZARD.HAZ08
WOHAZARD	HAZ09	22	ALN	10	0	0	0	HAZARD.HAZ09
WOHAZARD	HAZ10	23	ALN	10	0	0	0	HAZARD.HAZ10
WOHAZARD	HAZ11	24	AMOUNT	10	2	0	0	HAZARD.HAZ11
WOHAZARD	HAZ12	25	AMOUNT	10	2	0	0	HAZARD.HAZ12
WOHAZARD	HAZ13	26	DATETIME	10	0	0	0	HAZARD.HAZ13
WOHAZARD	HAZ14	27	DATETIME	10	0	0	0	HAZARD.HAZ14
WOHAZARD	HAZ15	28	DECIMAL	15	2	0	0	HAZARD.HAZ15
WOHAZARD	HAZ16	29	DECIMAL	15	2	0	0	HAZARD.HAZ16
WOHAZARD	HAZ17	30	ALN	10	0	0	0	HAZARD.HAZ17
WOHAZARD	HAZ18	31	ALN	10	0	0	0	HAZARD.HAZ18
WOHAZARD	HAZ19	32	INTEGER	12	0	0	0	HAZARD.HAZ19
WOHAZARD	HAZ20	33	YORN	1	0	1	0	HAZARD.HAZ20
WOHAZARD	ORGID	34	UPPER	8	0	1	0	ORGANIZATION.ORGID
WOHAZARD	SITEID	35	UPPER	8	0	1	0	SITE.SITEID
WOHAZARD	WOHAZARDID	40	INTEGER	12	0	1	1	.
WOHAZARD	LANGCODE	41	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
WOHAZARD	HASLD	43	YORN	1	0	1	1	.
WOHAZARDPREC	WONUM	1	UPPER	10	0	1	0	WORKORDER.WONUM
WOHAZARDPREC	HAZARDID	2	UPPER	8	0	1	0	HAZARD.HAZARDID
WOHAZARDPREC	PRECAUTIONID	3	UPPER	8	0	1	0	PRECAUTION.PRECAUTIONID
WOHAZARDPREC	WOSAFETYDATASOURCE	4	UPPER	2	0	1	1	WOHAZARD.WOSAFETYDATASOURCE
WOHAZARDPREC	ORGID	5	UPPER	8	0	1	0	ORGANIZATION.ORGID
WOHAZARDPREC	SITEID	6	UPPER	8	0	1	0	SITE.SITEID
WOHAZARDPREC	WOHAZARDPRECID	18	INTEGER	12	0	1	1	.
WOLOCKOUT	WONUM	1	UPPER	10	0	1	0	WORKORDER.WONUM
WOLOCKOUT	LOCKOUTID	2	INTEGER	12	0	1	0	LOCKOUT.LOCKOUTID
WOLOCKOUT	DESCRIPTION	3	ALN	100	0	0	0	LOCKOUT.DESCRPTION
WOLOCKOUT	LOCATION	4	UPPER	12	0	0	0	LOCATIONS.LOCATION
WOLOCKOUT	ASSETNUM	5	UPPER	12	0	0	0	ASSET.ASSETNUM
WOLOCKOUT	DEVICEDESCRIPTION	6	ALN	50	0	0	0	LOCKOUT.DEVICEDESCRIPTION
WOLOCKOUT	REQUIREDSTATE	7	UPPER	16	0	0	0	LOCKOUT.REQUIREDSTATE
WOLOCKOUT	WOSAFETYDATASOURCE	8	UPPER	2	0	1	1	WOHAZARD.WOSAFETYDATASOURCE
WOLOCKOUT	LCK01	9	ALN	10	0	0	0	LOCKOUT.LCK01
WOLOCKOUT	LCK02	10	ALN	10	0	0	0	LOCKOUT.LCK02
WOLOCKOUT	LCK03	11	ALN	10	0	0	0	LOCKOUT.LCK03
WOLOCKOUT	LCK04	12	ALN	10	0	0	0	LOCKOUT.LCK04
WOLOCKOUT	LCK05	13	ALN	10	0	0	0	LOCKOUT.LCK05
WOLOCKOUT	LCK06	14	AMOUNT	10	2	0	0	LOCKOUT.LCK06
WOLOCKOUT	LCK07	15	DATETIME	10	0	0	0	LOCKOUT.LCK07

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
WOLOCKOUT	LCK08	16	DECIMAL	15	2	0	0	LOCKOUT.LCK08
WOLOCKOUT	LCK09	17	ALN	10	0	0	0	LOCKOUT.LCK09
WOLOCKOUT	LCK10	18	INTEGER	12	0	0	0	LOCKOUT.LCK10
WOLOCKOUT	ORGID	19	UPPER	8	0	1	0	ORGANIZATION.ORGID
WOLOCKOUT	SITEID	20	UPPER	8	0	1	0	SITE.SITEID
WOLOCKOUT	LANGCODE	24	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
WOLOCKOUT	WOLOCKOUTID	25	INTEGER	12	0	1	0	.
WOLOCKOUT	HASLD	27	YORN	1	0	1	1	.
WOMETER	ORGID	1	UPPER	8	0	0	0	ORGANIZATION.ORGID
WOMETER	SITEID	2	UPPER	8	0	0	0	SITE.SITEID
WOMETER	WONUM	3	UPPER	10	0	0	0	WORKORDER.WONUM
WOMETER	STATUS	4	UPPER	16	0	0	1	WORKORDER.STATUS
WOMETER	METERNAME	5	UPPER	10	0	0	0	METER.METERNAME
WOMETER	METERREADINGID	6	INTEGER	12	0	0	1	METERREADING.METERREADINGID
WOMETER	PMGENREADINGDATE	7	DATETIME	10	0	0	1	METERREADING.READINGDATE
WOMETER	PMGENREADING	8	DECIMAL	15	2	0	1	METERREADING.READING
WOMETER	LOCMETERREADINGID	9	FLOAT	8	0	0	1	.
WOMETER	MEASUREMENTID	10	FLOAT	8	0	0	1	.
WOMETER	WOMETERID	11	INTEGER	12	0	1	1	.
WOOWNERHISTORY	WOOWNERHISTORYID	1	INTEGER	12	0	1	1	.
WOOWNERHISTORY	WONUM	2	UPPER	10	0	1	0	WORKORDER.WONUM
WOOWNERHISTORY	WOCCLASS	3	UPPER	10	0	1	1	WORKTYPE.WOCCLASS
WOOWNERHISTORY	OWNERGROUP	4	UPPER	8	0	0	0	PERSONGROUP.PERSONGROUP
WOOWNERHISTORY	OWNER	5	UPPER	30	0	0	0	PERSON.PERSONID
WOOWNERHISTORY	OWNDATE	6	DATETIME	10	0	1	0	.
WOOWNERHISTORY	SITEID	7	UPPER	8	0	1	0	SITE.SITEID
WOOWNERHISTORY	ORGID	8	UPPER	8	0	1	0	ORGANIZATION.ORGID
WOOWNERHISTORY	OWNERCHANGEBY	9	UPPER	30	0	1	0	PERSON.PERSONID
WOPRECAUTION	WONUM	1	UPPER	10	0	1	0	WORKORDER.WONUM
WOPRECAUTION	PRECAUTIONID	2	UPPER	8	0	1	0	PRECAUTION.PRECAUTIONID
WOPRECAUTION	DESCRIPTION	3	ALN	100	0	0	0	.
WOPRECAUTION	WOSAFETYDATASOURCE	4	UPPER	2	0	1	1	WOHAZARD.WOSAFETYDATASOURCE
WOPRECAUTION	PREC01	5	ALN	10	0	0	0	PRECAUTION.PREC01
WOPRECAUTION	PREC02	6	ALN	10	0	0	0	PRECAUTION.PREC02
WOPRECAUTION	PREC03	7	ALN	10	0	0	0	PRECAUTION.PREC03
WOPRECAUTION	PREC04	8	ALN	10	0	0	0	PRECAUTION.PREC04
WOPRECAUTION	PREC05	9	ALN	10	0	0	0	PRECAUTION.PREC05
WOPRECAUTION	PREC06	10	AMOUNT	10	2	0	0	PRECAUTION.PREC06
WOPRECAUTION	PREC07	11	DATETIME	10	0	0	0	PRECAUTION.PREC07
WOPRECAUTION	PREC08	12	DECIMAL	15	2	0	0	PRECAUTION.PREC08
WOPRECAUTION	PREC09	13	ALN	10	0	0	0	PRECAUTION.PREC09
WOPRECAUTION	PREC10	14	YORN	1	0	1	0	PRECAUTION.PREC10
WOPRECAUTION	ORGID	15	UPPER	8	0	1	0	ORGANIZATION.ORGID
WOPRECAUTION	SITEID	16	UPPER	8	0	1	0	SITE.SITEID
WOPRECAUTION	WOPRECAUTIONID	18	INTEGER	12	0	1	1	.
WOPRECAUTION	LANGCODE	19	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
WOPRECAUTION	HASLD	20	YORN	1	0	1	1	.
WORELEASE	WONUM	1	UPPER	10	0	1	0	WORKORDER.WONUM
WORELEASE	PARENT	2	UPPER	10	0	0	0	WORKORDER.WONUM
WORELEASE	STATUS	3	UPPER	16	0	1	1	WORKORDER.STATUS
WORELEASE	STATUSDATE	4	DATETIME	10	0	1	1	WORKORDER.STATUSDATE
WORELEASE	WORKTYPE	5	UPPER	5	0	0	0	WORKTYPE.WORKTYPE
WORELEASE	DESCRIPTION	6	ALN	100	0	0	0	WORKORDER.DESCRPTION
WORELEASE	ASSETNUM	7	UPPER	12	0	0	0	ASSET.ASSETNUM
WORELEASE	LOCATION	8	UPPER	12	0	0	0	LOCATIONS.LOCATION
WORELEASE	JPNUM	9	UPPER	10	0	0	0	JOBPLAN.JPNUM
WORELEASE	FAILDATE	10	DATETIME	10	0	0	1	WORKORDER.FAILDATE
WORELEASE	CHANGEDBY	11	UPPER	30	0	0	0	PERSON.PERSONID
WORELEASE	CHANGEDATE	12	DATETIME	10	0	0	1	WORKORDER.CHANGEDATE
WORELEASE	ESTDUR	13	DURATION	8	0	1	1	WORKORDER.ESTDUR
WORELEASE	ESTLABHRS	14	DURATION	8	0	1	1	WORKORDER.ESTLABHRS
WORELEASE	ESTMATCOST	15	AMOUNT	10	2	1	1	WORKORDER.ESTMATCOST
WORELEASE	ESTLABCOST	16	AMOUNT	10	2	1	1	WORKORDER.ESTLABCOST
WORELEASE	ESTTOOLCOST	17	AMOUNT	10	2	1	1	WORKORDER.ESTTOOLCOST
WORELEASE	PMNUM	18	UPPER	8	0	0	0	PM.PMNUM
WORELEASE	ACTLABHRS	19	DURATION	8	0	1	1	WORKORDER.ACTLABHRS
WORELEASE	ACTMATCOST	20	AMOUNT	10	2	1	1	WORKORDER.ACTMATCOST
WORELEASE	ACTLABCOST	21	AMOUNT	10	2	1	1	WORKORDER.ACTLABCOST
WORELEASE	ACTTOOLCOST	22	AMOUNT	10	2	1	1	WORKORDER.ACTTOOLCOST
WORELEASE	HASCHILDREN	23	YORN	1	0	1	1	WORKORDER.HASCHILDREN
WORELEASE	OUTLABCOST	24	AMOUNT	10	2	1	1	WORKORDER.OUTLABCOST
WORELEASE	OUTMATCOST	25	AMOUNT	10	2	1	1	WORKORDER.OUTMATCOST
WORELEASE	OUTTOOLCOST	26	AMOUNT	10	2	1	1	WORKORDER.OUTTOOLCOST
WORELEASE	HISTORYFLAG	27	YORN	1	0	1	1	WORKORDER.HISTORYFLAG
WORELEASE	CONTRACT	28	UPPER	8	0	0	0	CONTRACT.CONTRACTNUM
WORELEASE	WOPRIORITY	29	INTEGER	12	0	0	1	WORKORDER.WOPRIORITY
WORELEASE	TARGCOMPDATE	30	DATETIME	10	0	0	1	WORKORDER.TARGCOMPDATE
WORELEASE	TARGSTARTDATE	31	DATETIME	10	0	0	1	WORKORDER.TARGSTARTDATE
WORELEASE	WOEQ1	32	ALN	10	0	0	0	ASSET.EQ1
WORELEASE	WOEQ2	33	ALN	10	0	0	0	ASSET.EQ2
WORELEASE	WOEQ3	34	ALN	10	0	0	0	ASSET.EQ3
WORELEASE	WOEQ4	35	ALN	10	0	0	0	ASSET.EQ4
WORELEASE	WOEQ5	36	AMOUNT	10	2	0	0	ASSET.EQ5
WORELEASE	WOEQ6	37	DATETIME	10	0	0	0	ASSET.EQ6
WORELEASE	WOEQ7	38	DECIMAL	15	2	0	0	ASSET.EQ7
WORELEASE	WOEQ8	39	ALN	10	0	0	0	ASSET.EQ8
WORELEASE	WOEQ9	40	ALN	10	0	0	0	ASSET.EQ9
WORELEASE	WOEQ10	41	ALN	10	0	0	0	ASSET.EQ10
WORELEASE	WOEQ11	42	ALN	10	0	0	0	ASSET.EQ11
WORELEASE	WOEQ12	43	AMOUNT	10	2	0	0	ASSET.EQ12
WORELEASE	REPORTEDBY	44	ALN	62	0	0	0	PERSON.DISPLAYNAME
WORELEASE	REPORTDATE	45	DATETIME	10	0	0	0	WORKORDER.REPORTDATE

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
WORELEASE	PHONE	46	ALN	20	0	0	0	WORKORDER.PHONE
WORELEASE	PROBLEMCODE	47	UPPER	8	0	0	0	FAILURECODE.FAILURECODE
WORELEASE	CALENDAR	48	UPPER	8	0	0	0	CALENDAR.CALNUM
WORELEASE	DOWNTIME	49	YORN	1	0	1	1	WORKORDER.DOWNTIME
WORELEASE	ACTSTART	50	DATETIME	10	0	0	1	WORKORDER.ACTSTART
WORELEASE	ACTFINISH	51	DATETIME	10	0	0	1	WORKORDER.ACTFINISH
WORELEASE	SCHEDSTART	52	DATETIME	10	0	0	1	WORKORDER.SCHEDSTART
WORELEASE	SCHEDFINISH	53	DATETIME	10	0	0	1	WORKORDER.SCHEDFINISH
WORELEASE	REMDUR	54	DURATION	8	0	0	1	WORKORDER.REMDUR
WORELEASE	CREWID	55	ALN	12	0	0	1	LABOR.CREWID
WORELEASE	SUPERVISOR	56	UPPER	30	0	0	0	PERSON.PERSONID
WORELEASE	WOEQ13	57	DATETIME	10	0	0	0	ASSET.EQ23
WORELEASE	WOEQ14	58	DECIMAL	15	2	0	0	ASSET.EQ24
WORELEASE	WOJP1	59	ALN	10	0	0	0	WORKORDER.WOJP1
WORELEASE	WOJP2	60	ALN	10	0	0	0	WORKORDER.WOJP2
WORELEASE	WOJP3	61	ALN	10	0	0	0	WORKORDER.WOJP3
WORELEASE	WOJP4	62	AMOUNT	10	2	0	0	WORKORDER.WOJP4
WORELEASE	WOJP5	63	DATETIME	10	0	0	0	WORKORDER.WOJP5
WORELEASE	WOL1	64	ALN	10	0	0	0	WORKORDER.WOL1
WORELEASE	WOL2	65	ALN	10	0	0	0	WORKORDER.WOL2
WORELEASE	WOL3	66	AMOUNT	10	2	0	0	WORKORDER.WOL3
WORELEASE	WOL4	67	DATETIME	10	0	0	0	WORKORDER.WOL4
WORELEASE	WOLABLNK	68	UPPER	8	0	0	0	LABOR.LABORCODE
WORELEASE	RESPONDBY	69	DATETIME	10	0	0	1	WORKORDER.RESPONDBY
WORELEASE	ASSETLOCRIORITY	70	INTEGER	12	0	0	1	WORKORDER.ASSETLOCRIORITY
WORELEASE	CALCPRIORITY	71	INTEGER	12	0	0	1	WORKORDER.CALCPRIORITY
WORELEASE	CHARGSTORE	72	YORN	1	0	1	1	WORKORDER.CHARGSTORE
WORELEASE	FAILURECODE	73	UPPER	8	0	0	0	FAILURECODE.FAILURECODE
WORELEASE	WOLO1	74	ALN	10	0	0	0	WORKORDER.WOLO1
WORELEASE	WOLO2	75	ALN	10	0	0	0	WORKORDER.WOLO2
WORELEASE	WOLO3	76	ALN	10	0	0	0	WORKORDER.WOLO3
WORELEASE	WOLO4	77	ALN	10	0	0	0	WORKORDER.WOLO4
WORELEASE	WOLO5	78	ALN	10	0	0	0	WORKORDER.WOLO5
WORELEASE	WOLO6	79	AMOUNT	10	2	0	0	WORKORDER.WOLO6
WORELEASE	WOLO7	80	DATETIME	10	0	0	0	WORKORDER.WOLO7
WORELEASE	WOLO8	81	DECIMAL	15	2	0	0	WORKORDER.WOLO8
WORELEASE	WOLO9	82	ALN	10	0	0	0	WORKORDER.WOLO9
WORELEASE	WOLO10	83	INTEGER	12	0	0	0	WORKORDER.WOLO10
WORELEASE	GLACCOUNT	84	GL	23	0	0	1	.
WORELEASE	ESTSERVCOST	85	AMOUNT	10	2	1	1	WORKORDER.ESTSERVCOST
WORELEASE	ACTSERVCOST	86	AMOUNT	10	2	1	1	WORKORDER.ACTSERVCOST
WORELEASE	DISABLED	87	YORN	1	0	1	1	WORKORDER.DISABLED
WORELEASE	ESTATAPPRLABHRS	88	DURATION	8	0	1	1	WORKORDER.ESTATAPPRLABHRS
WORELEASE	ESTATAPPRLABCOST	89	AMOUNT	10	2	1	1	WORKORDER.ESTATAPPRLABCOST
WORELEASE	ESTATAPPRMATCOST	90	AMOUNT	10	2	1	1	WORKORDER.ESTATAPPRMATCOST
WORELEASE	ESTATAPPRTOOLCOST	91	AMOUNT	10	2	1	1	WORKORDER.ESTATAPPRTOOLCOST

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
WORELEASE	ESTATAPPRSERVCOST	92	AMOUNT	10	2	1	1	WORKORDER.ESTATAPPRSERVCOST
WORELEASE	WOSEQUENCE	93	INTEGER	12	0	0	1	WORKORDER.WOSEQUENCE
WORELEASE	HASFOLLOWUPWORK	94	YORN	1	0	1	1	WORKORDER.HASFOLLOWUPWORK
WORELEASE	WORTS1	95	ALN	10	0	0	0	ROUTE_STOP.RTS1
WORELEASE	WORTS2	96	ALN	10	0	0	0	ROUTE_STOP.RTS2
WORELEASE	WORTS3	97	ALN	10	0	0	0	ROUTE_STOP.RTS3
WORELEASE	WORTS4	98	DATETIME	10	0	0	0	ROUTE_STOP.RTS4
WORELEASE	WORTS5	99	DECIMAL	15	2	0	0	ROUTE_STOP.RTS5
WORELEASE	SOURCESYSID	100	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
WORELEASE	OWNERSYSID	101	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
WORELEASE	PMDUEDATE	102	DATE	4	0	0	0	WORKORDER.PMDUEDATE
WORELEASE	PMEXTDATE	103	DATE	4	0	0	0	WORKORDER.PMEXTDATE
WORELEASE	PMNEXTDUE DATE	104	DATE	4	0	0	0	WORKORDER.PMNEXTDUE DATE
WORELEASE	WORKLOCATION	105	UPPER	12	0	0	0	LOCATIONS.LOCATION
WORELEASE	EXTERNALREFID	106	ALN	10	0	0	0	WORKORDER.EXTERNALREFID
WORELEASE	SENDERSYSID	107	ALN	50	0	0	0	WORKORDER.SENDERSYSID
WORELEASE	FINCNTRLID	108	UPPER	8	0	0	0	FINCNTRL.FINCNTRLID
WORELEASE	GENERATEDFORPO	109	UPPER	8	0	0	0	PO.PONUM
WORELEASE	GENFORPOLINEID	110	INTEGER	12	0	0	1	POLINE.POLINEID
WORELEASE	ORGID	111	UPPER	8	0	1	0	ORGANIZATION.ORGID
WORELEASE	SITEID	112	UPPER	8	0	1	0	SITE.SITEID
WORELEASE	TASKID	113	INTEGER	12	0	0	1	WORKORDER.TASKID
WORELEASE	INSPECTOR	114	UPPER	30	0	0	0	PERSON.PERSONID
WORELEASE	MEASUREMENTVALUE	115	DECIMAL	15	3	0	1	MEASUREMENT.MEASUREMENTVALUE
WORELEASE	MEASUREDATE	116	DATETIME	10	0	0	1	WORKORDER.MEASUREDATE
WORELEASE	OBSERVATION	117	ALN	8	0	0	0	WORKORDER.OBSERVATION
WORELEASE	POINTNUM	118	UPPER	8	0	0	0	MEASUREPOINT.POINTNUM
WORELEASE	WOJO1	119	ALN	10	0	0	0	JOBTASK.JO1
WORELEASE	WOJO2	120	ALN	10	0	0	0	JOBTASK.JO2
WORELEASE	WOJO3	121	ALN	10	0	0	0	JOBTASK.JO3
WORELEASE	WOJO4	122	DECIMAL	15	2	0	0	JOBTASK.JO4
WORELEASE	WOJO5	123	ALN	10	0	0	0	JOBTASK.JO5
WORELEASE	WOJO6	124	ALN	10	0	0	0	JOBTASK.JO6
WORELEASE	WOJO7	125	ALN	10	0	0	0	JOBTASK.JO7
WORELEASE	WOJO8	126	ALN	10	0	0	0	JOBTASK.JO8
WORELEASE	ISTASK	127	YORN	1	0	1	0	WORKORDER.ISTASK
WORELEASE	WOCLASS	145	UPPER	10	0	1	1	WORKTYPE.WOCLASS
WORELEASE	ONBEHALFOF	146	ALN	62	0	0	0	PERSON.DISPLAYNAME
WORELEASE	VENDOR	147	UPPER	12	0	0	0	COMPANIES.COMPANY
WORELEASE	ORIGRECORDCLASS	148	UPPER	10	0	0	1	WORKTYPE.WOCLASS
WORELEASE	ORIGRECORDID	149	UPPER	10	0	0	0	WORKORDER.WONUM
WORELEASE	JUSTIFYPRIORITY	150	ALN	50	0	0	0	WORKORDER.JUSTIFYPRIORITY
WORELEASE	RISK	152	ALN	10	0	0	0	WORKORDER.RISK
WORELEASE	ENVIRONMENT	153	ALN	50	0	0	0	WORKORDER.ENVIRONMENT
WORELEASE	BACKOUTPLAN	155	ALN	50	0	0	0	WORKORDER.BACKOUTPLAN
WORELEASE	MOVETOLOC	158	UPPER	12	0	0	0	LOCATIONS.LOCATION

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
WORELEASE	MOVETOPARENT	159	UPPER	12	0	0	0	ASSET.ASSETNUM
WORELEASE	WOACCEPTSCHARGES	162	YORN	1	0	1	0	WORKORDER.WOACCEPTSCHARGES
WORELEASE	OWNER	163	UPPER	8	0	0	1	WORKORDER.OWNER
WORELEASE	CLASSSTRUCTUREID	164	UPPER	20	0	0	1	CLASSSTRUCTURE.CLASSSTRUCTUREID
WORELEASE	PARENTCHGSSTATUS	165	YORN	1	0	1	0	WORKORDER.PARENTCHGSSTATUS
WORELEASE	OWNERGROUP	166	UPPER	8	0	0	0	PERSONGROUP.PERSONGROUP
WORELEASE	COMMODITYGROUP	168	UPPER	8	0	0	1	COMMODITIES.COMMODITY
WORELEASE	COMMODITY	169	UPPER	8	0	0	1	COMMODITIES.COMMODITY
WORELEASE	WORKORDERID	170	INTEGER	12	0	1	1	WORKORDER.WORKORDERID
WORELEASE	RELEASEPOLICIES	171	ALN	50	0	0	0	WOREEXT.RELEASEPOLICIES
WORELEASE	RELEASEDESIGN	172	ALN	50	0	0	0	WOREEXT.RELEASEDESIGN
WORELEASE	BUILDPROCEDURES	173	ALN	50	0	0	0	WOREEXT.BUILDPROCEDURES
WORELEASE	FILESINRELEASE	174	ALN	50	0	0	0	WOREEXT.FILESINRELEASE
WORELEASE	WORELEXTID	175	INTEGER	12	0	1	1	WOREEXT.WORELEXTID
WORELEASE	WHOMISCHANGEFOR	180	UPPER	20	0	0	0	WORKORDER.WHOMISCHANGEFOR
WORELEASE	REASONFORCHANGE	182	UPPER	20	0	0	0	WORKORDER.REASONFORCHANGE
WORELEASE	VERIFICATION	184	UPPER	20	0	0	0	WORKORDER.VERIFICATION
WORELEASE	PERSONGROUP	186	UPPER	8	0	0	0	PERSONGROUP.PERSONGROUP
WORELEASE	LEAD	189	UPPER	30	0	0	0	PERSON.PERSONID
WORELEASE	MOVETOBINNUM	193	ALN	8	0	0	0	INVENTORY.BINNUM
WORELEASE	PERFORMMOVETO	194	YORN	1	0	1	0	WORKORDER.PERFORMMOVETO
WORELEASE	LANGCODE	196	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
WORELEASE	INTERRUPTIBLE	198	YORN	1	0	1	1	WORKORDER.INTERRUPTIBLE
WORELEASE	WOGROUP	199	UPPER	10	0	0	0	WORKORDER.WONUM
WORELEASE	HASLD	207	YORN	1	0	1	1	.
WORELEASE	HASLD1	208	YORN	1	0	1	1	.
WORELEXT	WONUM	1	UPPER	10	0	1	0	WORKORDER.WONUM
WORELEXT	RELEASEPOLICIES	2	ALN	50	0	0	0	.
WORELEXT	RELEASEDESIGN	3	ALN	50	0	0	0	.
WORELEXT	BUILDPROCEDURES	4	ALN	50	0	0	0	.
WORELEXT	FILESINRELEASE	5	ALN	50	0	0	0	.
WORELEXT	ORGID	6	UPPER	8	0	0	0	ORGANIZATION.ORGID
WORELEXT	SITEID	7	UPPER	8	0	0	0	SITE.SITEID
WORELEXT	WORELEXTID	8	INTEGER	12	0	1	1	.
WORELEXT	LANGCODE	13	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
WORELEXT	HASLD	14	YORN	1	0	1	1	.
WORKLOG	WORKLOGID	1	INTEGER	12	0	1	1	.
WORKLOG	LOGTYPE	2	UPPER	10	0	1	1	.
WORKLOG	CREATEBY	3	UPPER	8	0	1	1	.
WORKLOG	CREATEDATE	4	DATETIME	10	0	1	1	.
WORKLOG	CLIENTVIEWABLE	5	YORN	1	0	1	1	.
WORKLOG	DESCRIPTION	6	ALN	100	0	0	1	.
WORKLOG	SITEID	7	UPPER	8	0	0	1	.
WORKLOG	ORGID	8	UPPER	8	0	0	1	.
WORKLOG	MODIFYBY	9	UPPER	8	0	1	1	.
WORKLOG	MODIFYDATE	10	DATETIME	10	0	1	1	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
WORKLOG	RECORDKEY	12	UPPER	10	0	1	0	.
WORKLOG	CLASS	13	UPPER	10	0	1	1	TICKET.CLASS
WORKLOG	LANGCODE	14	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
WORKLOG	HASLD	15	YORN	1	0	1	1	.
WORKORDER	WONUM	1	UPPER	10	0	1	0	.
WORKORDER	PARENT	2	UPPER	10	0	0	0	WORKORDER.WONUM
WORKORDER	STATUS	3	UPPER	16	0	1	1	.
WORKORDER	STATUSDATE	4	DATETIME	10	0	1	1	.
WORKORDER	WORKTYPE	5	UPPER	5	0	0	0	WORKTYPE.WORKTYPE
WORKORDER	DESCRIPTION	6	ALN	100	0	0	0	.
WORKORDER	ASSETNUM	7	UPPER	12	0	0	0	ASSET.ASSETNUM
WORKORDER	LOCATION	8	UPPER	12	0	0	0	LOCATIONS.LOCATION
WORKORDER	JPNUM	9	UPPER	10	0	0	0	JOBPLAN.JPNUM
WORKORDER	FAILDATE	10	DATETIME	10	0	0	1	.
WORKORDER	CHANGEBY	11	UPPER	30	0	0	0	PERSON.PERSONID
WORKORDER	CHANGEDATE	12	DATETIME	10	0	0	1	.
WORKORDER	ESTDUR	13	DURATION	8	0	1	1	.
WORKORDER	ESTLABHRS	14	DURATION	8	0	1	1	.
WORKORDER	ESTMATCOST	15	AMOUNT	10	2	1	1	.
WORKORDER	ESTLABCOST	16	AMOUNT	10	2	1	1	.
WORKORDER	ESTTOOLCOST	17	AMOUNT	10	2	1	1	.
WORKORDER	PMNUM	18	UPPER	8	0	0	0	PM.PMNUM
WORKORDER	ACTLABHRS	19	DURATION	8	0	1	1	.
WORKORDER	ACTMATCOST	20	AMOUNT	10	2	1	1	.
WORKORDER	ACTLABCOST	21	AMOUNT	10	2	1	1	.
WORKORDER	ACTTOOLCOST	22	AMOUNT	10	2	1	1	.
WORKORDER	HASCHILDREN	23	YORN	1	0	1	1	.
WORKORDER	OUTLABCOST	24	AMOUNT	10	2	1	1	.
WORKORDER	OUTMATCOST	25	AMOUNT	10	2	1	1	.
WORKORDER	OUTTOOLCOST	26	AMOUNT	10	2	1	1	.
WORKORDER	HISTORYFLAG	27	YORN	1	0	1	1	.
WORKORDER	CONTRACT	28	UPPER	8	0	0	0	CONTRACT.CONTRACTNUM
WORKORDER	WOPRIORITY	29	INTEGER	12	0	0	1	.
WORKORDER	TARGCOMPDATE	30	DATETIME	10	0	0	1	.
WORKORDER	TARGSTARTDATE	31	DATETIME	10	0	0	1	.
WORKORDER	WOEQ1	32	ALN	10	0	0	0	ASSET.EQ1
WORKORDER	WOEQ2	33	ALN	10	0	0	0	ASSET.EQ2
WORKORDER	WOEQ3	34	ALN	10	0	0	0	ASSET.EQ3
WORKORDER	WOEQ4	35	ALN	10	0	0	0	ASSET.EQ4
WORKORDER	WOEQ5	36	AMOUNT	10	2	0	0	ASSET.EQ5
WORKORDER	WOEQ6	37	DATETIME	10	0	0	0	ASSET.EQ6
WORKORDER	WOEQ7	38	DECIMAL	15	2	0	0	ASSET.EQ7
WORKORDER	WOEQ8	39	ALN	10	0	0	0	ASSET.EQ8
WORKORDER	WOEQ9	40	ALN	10	0	0	0	ASSET.EQ9
WORKORDER	WOEQ10	41	ALN	10	0	0	0	ASSET.EQ10
WORKORDER	WOEQ11	42	ALN	10	0	0	0	ASSET.EQ11

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
WORKORDER	WOEQ12	43	AMOUNT	10	2	0	0	ASSET.EQ12
WORKORDER	REPORTEDBY	44	ALN	62	0	0	0	PERSON.DISPLAYNAME
WORKORDER	REPORTDATE	45	DATETIME	10	0	0	0	.
WORKORDER	PHONE	46	ALN	20	0	0	0	.
WORKORDER	PROBLEMCODE	47	UPPER	8	0	0	0	FAILURECODE.FAILURECODE
WORKORDER	CALENDAR	48	UPPER	8	0	0	0	CALENDAR.CALNUM
WORKORDER	DOWNTIME	49	YORN	1	0	1	1	.
WORKORDER	ACTSTART	50	DATETIME	10	0	0	1	.
WORKORDER	ACTFINISH	51	DATETIME	10	0	0	1	.
WORKORDER	SCHEDSTART	52	DATETIME	10	0	0	1	.
WORKORDER	SCHEDFINISH	53	DATETIME	10	0	0	1	.
WORKORDER	REMDUR	54	DURATION	8	0	0	1	.
WORKORDER	CREWID	55	ALN	12	0	0	1	LABOR.CREWID
WORKORDER	SUPERVISOR	56	UPPER	30	0	0	0	PERSON.PERSONID
WORKORDER	WOEQ13	57	DATETIME	10	0	0	0	ASSET.EQ23
WORKORDER	WOEQ14	58	DECIMAL	15	2	0	0	ASSET.EQ24
WORKORDER	WOJP1	59	ALN	10	0	0	0	.
WORKORDER	WOJP2	60	ALN	10	0	0	0	.
WORKORDER	WOJP3	61	ALN	10	0	0	0	.
WORKORDER	WOJP4	62	AMOUNT	10	2	0	0	.
WORKORDER	WOJP5	63	DATETIME	10	0	0	0	.
WORKORDER	WOL1	64	ALN	10	0	0	0	.
WORKORDER	WOL2	65	ALN	10	0	0	0	.
WORKORDER	WOL3	66	AMOUNT	10	2	0	0	.
WORKORDER	WOL4	67	DATETIME	10	0	0	0	.
WORKORDER	WOLBLNK	68	UPPER	8	0	0	0	LABOR.LABORCODE
WORKORDER	RESPONDBY	69	DATETIME	10	0	0	1	.
WORKORDER	ASSETLOC PRIORITY	70	INTEGER	12	0	0	1	.
WORKORDER	CALC PRIORITY	71	INTEGER	12	0	0	1	.
WORKORDER	CHARGESTORE	72	YORN	1	0	1	1	.
WORKORDER	FAILURECODE	73	UPPER	8	0	0	0	FAILURECODE.FAILURECODE
WORKORDER	WOLO1	74	ALN	10	0	0	0	.
WORKORDER	WOLO2	75	ALN	10	0	0	0	.
WORKORDER	WOLO3	76	ALN	10	0	0	0	.
WORKORDER	WOLO4	77	ALN	10	0	0	0	.
WORKORDER	WOLO5	78	ALN	10	0	0	0	.
WORKORDER	WOLO6	79	AMOUNT	10	2	0	0	.
WORKORDER	WOLO7	80	DATETIME	10	0	0	0	.
WORKORDER	WOLO8	81	DECIMAL	15	2	0	0	.
WORKORDER	WOLO9	82	ALN	10	0	0	0	.
WORKORDER	WOLO10	83	INTEGER	12	0	0	0	.
WORKORDER	GLACCOUNT	84	GL	23	0	0	1	.
WORKORDER	ESTSERVCOST	85	AMOUNT	10	2	1	1	.
WORKORDER	ACTSERVCOST	86	AMOUNT	10	2	1	1	.
WORKORDER	DISABLED	87	YORN	1	0	1	1	.
WORKORDER	ESTATAPPLABHRS	88	DURATION	8	0	1	1	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
WORKORDER	ESTATAPPLABCOST	89	AMOUNT	10	2	1	1	.
WORKORDER	ESTATAPPRMATCOST	90	AMOUNT	10	2	1	1	.
WORKORDER	ESTATAPPRTOOLCOST	91	AMOUNT	10	2	1	1	.
WORKORDER	ESTATAPPRSERVCOST	92	AMOUNT	10	2	1	1	.
WORKORDER	WOSEQUENCE	93	INTEGER	12	0	0	1	.
WORKORDER	HASFOLLOWUPWORK	94	YORN	1	0	1	1	.
WORKORDER	WORTS1	95	ALN	10	0	0	0	ROUTE_STOP.RTS1
WORKORDER	WORTS2	96	ALN	10	0	0	0	ROUTE_STOP.RTS2
WORKORDER	WORTS3	97	ALN	10	0	0	0	ROUTE_STOP.RTS3
WORKORDER	WORTS4	98	DATETIME	10	0	0	0	ROUTE_STOP.RTS4
WORKORDER	WORTS5	99	DECIMAL	15	2	0	0	ROUTE_STOP.RTS5
WORKORDER	SOURCESYSID	100	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
WORKORDER	OWNERSYSID	101	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
WORKORDER	PMDUETIME	102	DATE	4	0	0	0	.
WORKORDER	PMEXTDATE	103	DATE	4	0	0	0	.
WORKORDER	PMNEXTDUETIME	104	DATE	4	0	0	0	.
WORKORDER	WORKLOCATION	105	UPPER	12	0	0	0	LOCATIONS.LOCATION
WORKORDER	EXTERNALREFID	106	ALN	10	0	0	0	.
WORKORDER	SENDERSYSID	107	ALN	50	0	0	0	.
WORKORDER	FINCNTLRID	108	UPPER	8	0	0	0	FINCNTLR.FINCNTLRID
WORKORDER	GENERATEDFORPO	109	UPPER	8	0	0	0	PO.PONUM
WORKORDER	GENFORPOLINEID	110	INTEGER	12	0	0	1	POLINE.POLINEID
WORKORDER	ORGID	111	UPPER	8	0	1	0	ORGANIZATION.ORGID
WORKORDER	SITEID	112	UPPER	8	0	1	0	SITE.SITEID
WORKORDER	TASKID	113	INTEGER	12	0	0	1	.
WORKORDER	INSPECTOR	114	UPPER	30	0	0	0	PERSON.PERSONID
WORKORDER	MEASUREMENTVALUE	115	DECIMAL	15	3	0	1	MEASUREMENT.MEASUREMENTVALUE
WORKORDER	MEASUREDATE	116	DATETIME	10	0	0	1	.
WORKORDER	OBSERVATION	117	ALN	8	0	0	0	.
WORKORDER	POINTNUM	118	UPPER	8	0	0	0	MEASUREPOINT.POINTNUM
WORKORDER	WOJO1	119	ALN	10	0	0	0	JOBTASK.JO1
WORKORDER	WOJO2	120	ALN	10	0	0	0	JOBTASK.JO2
WORKORDER	WOJO3	121	ALN	10	0	0	0	JOBTASK.JO3
WORKORDER	WOJO4	122	DECIMAL	15	2	0	0	JOBTASK.JO4
WORKORDER	WOJO5	123	ALN	10	0	0	0	JOBTASK.JO5
WORKORDER	WOJO6	124	ALN	10	0	0	0	JOBTASK.JO6
WORKORDER	WOJO7	125	ALN	10	0	0	0	JOBTASK.JO7
WORKORDER	WOJO8	126	ALN	10	0	0	0	JOBTASK.JO8
WORKORDER	ISTASK	127	YORN	1	0	1	0	.
WORKORDER	WOCLASS	145	UPPER	10	0	1	1	WORKTYPE.WOCLASS
WORKORDER	ONBEHALFOF	146	ALN	62	0	0	0	PERSON.DISPLAYNAME
WORKORDER	VENDOR	147	UPPER	12	0	0	0	COMPANIES.COMPANY
WORKORDER	ORIGRECORDCLASS	148	UPPER	10	0	0	1	WORKTYPE.WOCLASS
WORKORDER	ORIGRECORDID	149	UPPER	10	0	0	0	WORKORDER.WONUM
WORKORDER	JUSTIFYPRIORITY	150	ALN	50	0	0	0	.
WORKORDER	RISK	152	ALN	10	0	0	0	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
WORKORDER	ENVIRONMENT	153	ALN	50	0	0	0	.
WORKORDER	BACKOUTPLAN	155	ALN	50	0	0	0	.
WORKORDER	MOVETOLOC	158	UPPER	12	0	0	0	LOCATIONS.LOCATION
WORKORDER	MOVETOPARENT	159	UPPER	12	0	0	0	ASSET.ASSETNUM
WORKORDER	WOACCEPTSCHARGES	162	YORN	1	0	1	0	.
WORKORDER	OWNER	163	UPPER	8	0	0	1	.
WORKORDER	CLASSSTRUCTUREID	164	UPPER	20	0	0	1	CLASSSTRUCTURE.CLASSSTRUCTUREID
WORKORDER	PARENTCHGSSTATUS	165	YORN	1	0	1	0	.
WORKORDER	OWNERGROUP	166	UPPER	8	0	0	0	PERSONGROUP.PERSONGROUP
WORKORDER	COMMODITYGROUP	168	UPPER	8	0	0	1	COMMODITIES.COMMODITY
WORKORDER	COMMODITY	169	UPPER	8	0	0	1	COMMODITIES.COMMODITY
WORKORDER	WORKORDERID	170	INTEGER	12	0	1	1	.
WORKORDER	WHOMISCHANGEFOR	171	UPPER	20	0	0	0	.
WORKORDER	REASONFORCHANGE	173	UPPER	20	0	0	0	.
WORKORDER	VERIFICATION	175	UPPER	20	0	0	0	.
WORKORDER	PERSONGROUP	177	UPPER	8	0	0	0	PERSONGROUP.PERSONGROUP
WORKORDER	LEAD	180	UPPER	30	0	0	0	PERSON.PERSONID
WORKORDER	MOVETOBINNUM	184	ALN	8	0	0	0	INVENTORY.BINNUM
WORKORDER	PERFORMMOVETO	185	YORN	1	0	1	0	.
WORKORDER	LANGCODE	187	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
WORKORDER	INTERRUPTIBLE	189	YORN	1	0	1	1	.
WORKORDER	WOGROUP	190	UPPER	10	0	0	0	WORKORDER.WONUM
WORKORDER	HASLD	198	YORN	1	0	1	1	.
WORKPERIOD	CALNUM	1	UPPER	8	0	1	0	CALENDAR.CALNUM
WORKPERIOD	WORKDATE	2	DATE	4	0	1	1	.
WORKPERIOD	SHIFTNUM	3	UPPER	8	0	1	0	SHIFT.SHIFTNUM
WORKPERIOD	STARTTIME	4	TIME	3	0	1	1	.
WORKPERIOD	ENDTIME	5	TIME	3	0	1	1	.
WORKPERIOD	WORKHOURS	6	DURATION	8	0	1	1	.
WORKPERIOD	ORGID	7	UPPER	8	0	1	0	ORGANIZATION.ORGID
WORKPERIOD	WORKPERIODID	8	INTEGER	12	0	1	1	.
WORKPERIOD	NOTES	9	ALN	50	0	0	0	.
WORKPRIORITY	PRIORITY	1	SMALLINT	10	0	1	1	.
WORKPRIORITY	RESPONSETIME	2	INTEGER	12	0	1	1	.
WORKPRIORITY	ORGID	3	UPPER	8	0	1	0	ORGANIZATION.ORGID
WORKPRIORITY	SITEID	4	UPPER	8	0	1	0	SITE.SITEID
WORKPRIORITY	WORKPRIORITYID	5	INTEGER	12	0	1	1	.
WORKTYPE	WORKTYPE	1	UPPER	5	0	1	0	.
WORKTYPE	WTYPEDESC	2	ALN	50	0	0	0	.
WORKTYPE	PROMPTFAIL	3	YORN	1	0	1	1	.
WORKTYPE	PROMPTDOWN	4	YORN	1	0	1	1	.
WORKTYPE	ORGID	5	UPPER	8	0	1	0	ORGANIZATION.ORGID
WORKTYPE	WOCCLASS	6	UPPER	10	0	1	1	.
WORKTYPE	WORKTYPEID	7	INTEGER	12	0	1	1	.
WORKTYPE	TYPE	8	UPPER	10	0	1	0	.
WORKVIEW	WORKVIEWID	1	INTEGER	12	0	1	1	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
WORKVIEW	RECORDKEY	2	UPPER	10	0	1	0	.
WORKVIEW	CLASS	3	UPPER	10	0	1	1	TICKET.CLASS
WORKVIEW	DESCRIPTION	4	ALN	100	0	0	1	.
WORKVIEW	PRIORITY	5	INTEGER	12	0	0	1	.
WORKVIEW	OWNER	6	UPPER	8	0	0	1	.
WORKVIEW	OWNERGROUP	7	UPPER	8	0	0	0	PERSONGROUP.PERSONGROUP
WORKVIEW	REPORTEDBY	8	ALN	62	0	0	0	PERSON.DISPLAYNAME
WORKVIEW	REPORTDATE	9	DATETIME	10	0	0	1	.
WORKVIEW	STATUS	10	UPPER	16	0	1	1	WORKORDER.STATUS
WORKVIEW	SITEID	11	UPPER	8	0	0	0	SITE.SITEID
WORKVIEW	ORGID	12	UPPER	8	0	0	0	ORGANIZATION.ORGID
WORKVIEW	HISTORYFLAG	13	YORN	1	0	1	0	.
WORKVIEW	ISTASK	14	YORN	1	0	1	0	.
WORKVIEW	APP	17	UPPER	10	0	0	1	MAXAPPS.APP
WORKVIEW	OWNERID	18	INTEGER	12	0	0	0	.
WORKVIEW	REPORTEDBYNAME	19	ALN	62	0	0	0	PERSON.DISPLAYNAME
WORKVIEW	AFFECTEDPERSON	20	ALN	62	0	0	0	PERSON.DISPLAYNAME
WORKVIEW	AFFECTEDPERSONNAME	21	ALN	62	0	0	0	PERSON.DISPLAYNAME
WOSAFETYLINK	WOSAFETYLINKID	1	INTEGER	12	0	1	1	.
WOSAFETYLINK	WONUM	2	UPPER	10	0	1	0	WORKORDER.WONUM
WOSAFETYLINK	ASSETNUM	3	UPPER	12	0	0	0	ASSET.ASSETNUM
WOSAFETYLINK	LOCATION	4	UPPER	12	0	0	0	LOCATIONS.LOCATION
WOSAFETYLINK	HAZARDID	5	UPPER	8	0	0	0	HAZARD.HAZARDID
WOSAFETYLINK	TAGOUTID	6	UPPER	8	0	0	0	TAGOUT.TAGOUTID
WOSAFETYLINK	APPLYSEQ	7	SMALLINT	10	0	0	0	SAFETYLEXICON.APPLYSEQ
WOSAFETYLINK	REMOVESEQ	8	SMALLINT	10	0	0	0	SAFETYLEXICON.REMOVESEQ
WOSAFETYLINK	WOSAFETYDATASOURCE	9	UPPER	2	0	1	1	WOHAZARD.WOSAFETYDATASOURCE
WOSAFETYLINK	ORGID	10	UPPER	8	0	1	0	ORGANIZATION.ORGID
WOSAFETYLINK	SITEID	11	UPPER	8	0	1	0	SITE.SITEID
WOSAFETYLINK	WOSL01	56	ALN	10	0	0	0	.
WOSAFETYLINK	WOSL02	57	ALN	10	0	0	0	.
WOSAFETYLINK	WOSL03	58	DATETIME	10	0	0	0	.
WOSAFETYLINK	WOSL04	59	DECIMAL	15	2	0	0	.
WOSAFETYLINK	WOSL05	60	INTEGER	12	0	0	0	.
WOSAFETYPLAN	WONUM	1	UPPER	10	0	1	0	WORKORDER.WONUM
WOSAFETYPLAN	SAFETYPLANID	2	UPPER	8	0	1	0	SAFETYPLAN.SAFETYPLANID
WOSAFETYPLAN	DESCRIPTION	3	ALN	100	0	0	0	SAFETYPLAN.DESCRPTION
WOSAFETYPLAN	CHANGEDBY	4	UPPER	30	0	1	0	PERSON.PERSONID
WOSAFETYPLAN	CHANGEDATE	5	DATETIME	10	0	1	1	ASSETSTATUS.CHANGEDATE
WOSAFETYPLAN	ORGID	6	UPPER	8	0	1	0	ORGANIZATION.ORGID
WOSAFETYPLAN	SITEID	7	UPPER	8	0	1	0	SITE.SITEID
WOSAFETYPLAN	WOSAFETYPLANID	9	INTEGER	12	0	1	1	.
WOSAFETYPLAN	LANGCODE	10	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
WOSAFETYPLAN	HASLD	11	YORN	1	0	1	1	.
WOSTATUS	WONUM	1	UPPER	10	0	1	0	WORKORDER.WONUM
WOSTATUS	STATUS	2	UPPER	16	0	1	1	WORKORDER.STATUS

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
WOSTATUS	CHANGEDATE	3	DATETIME	10	0	1	1	.
WOSTATUS	CHANGEBY	4	UPPER	30	0	1	0	PERSON.PERSONID
WOSTATUS	MEMO	5	ALN	50	0	0	0	WFTRANSACTION.MEMO
WOSTATUS	GLACCOUNT	6	GL	23	0	0	1	.
WOSTATUS	FINCNTRLID	7	UPPER	8	0	0	0	FINCNTRL.FINCNTRLID
WOSTATUS	ORGID	8	UPPER	8	0	1	0	ORGANIZATION.ORGID
WOSTATUS	SITEID	9	UPPER	8	0	1	0	SITE.SITEID
WOSTATUS	WOSTATUSID	10	INTEGER	12	0	1	1	.
WOTAGLOCK	WONUM	1	UPPER	10	0	1	0	WORKORDER.WONUM
WOTAGLOCK	TAGOUTID	2	UPPER	8	0	1	0	TAGOUT.TAGOUTID
WOTAGLOCK	LOCKOUTID	3	INTEGER	12	0	1	0	LOCKOUT.LOCKOUTID
WOTAGLOCK	APPLYSEQ	4	SMALLINT	10	0	0	1	TAGLOCK.APPLYSEQ
WOTAGLOCK	REMOVESEQ	5	SMALLINT	10	0	0	1	TAGLOCK.REMOVESEQ
WOTAGLOCK	WOSAFETYDATASOURCE	6	UPPER	2	0	1	1	WOHAZARD.WOSAFETYDATASOURCE
WOTAGLOCK	TL01	7	ALN	10	0	0	0	TAGLOCK.TL01
WOTAGLOCK	TL02	8	ALN	10	0	0	0	TAGLOCK.TL02
WOTAGLOCK	TL03	9	ALN	10	0	0	0	TAGLOCK.TL03
WOTAGLOCK	TL04	10	ALN	10	0	0	0	TAGLOCK.TL04
WOTAGLOCK	TL05	11	ALN	10	0	0	0	TAGLOCK.TL05
WOTAGLOCK	TL06	12	AMOUNT	10	2	0	0	TAGLOCK.TL06
WOTAGLOCK	TL07	13	DATETIME	10	0	0	0	TAGLOCK.TL07
WOTAGLOCK	TL08	14	DECIMAL	15	2	0	0	TAGLOCK.TL08
WOTAGLOCK	TL09	15	ALN	10	0	0	0	TAGLOCK.TL09
WOTAGLOCK	TL10	16	INTEGER	12	0	0	0	TAGLOCK.TL10
WOTAGLOCK	TAGLOCKID	17	INTEGER	12	0	1	1	.
WOTAGLOCK	ORGID	18	UPPER	8	0	1	0	ORGANIZATION.ORGID
WOTAGLOCK	SITEID	19	UPPER	8	0	1	0	SITE.SITEID
WOTAGOUT	WONUM	1	UPPER	10	0	1	0	WORKORDER.WONUM
WOTAGOUT	TAGOUTID	2	UPPER	8	0	1	0	TAGOUT.TAGOUTID
WOTAGOUT	DESCRIPTION	3	ALN	100	0	0	0	.
WOTAGOUT	LOCATION	4	UPPER	12	0	0	0	LOCATIONS.LOCATION
WOTAGOUT	ASSETNUM	5	UPPER	12	0	0	0	ASSET.ASSETNUM
WOTAGOUT	REQUIREDSTATE	6	UPPER	16	0	0	0	TAGOUT.REQUIREDSTATE
WOTAGOUT	WOSAFETYDATASOURCE	7	UPPER	2	0	1	1	WOHAZARD.WOSAFETYDATASOURCE
WOTAGOUT	TAG01	8	ALN	10	0	0	0	TAGOUT.TAG01
WOTAGOUT	TAG02	9	ALN	10	0	0	0	TAGOUT.TAG02
WOTAGOUT	TAG03	10	ALN	10	0	0	0	TAGOUT.TAG03
WOTAGOUT	TAG04	11	ALN	10	0	0	0	TAGOUT.TAG04
WOTAGOUT	TAG05	12	AMOUNT	10	2	0	0	TAGOUT.TAG05
WOTAGOUT	TAG06	13	DATETIME	10	0	0	0	TAGOUT.TAG06
WOTAGOUT	TAG07	14	DECIMAL	15	2	0	0	TAGOUT.TAG07
WOTAGOUT	TAG08	15	ALN	10	0	0	0	TAGOUT.TAG08
WOTAGOUT	ORGID	16	UPPER	8	0	1	0	ORGANIZATION.ORGID
WOTAGOUT	SITEID	17	UPPER	8	0	1	0	SITE.SITEID
WOTAGOUT	WOTAGOUTID	21	INTEGER	12	0	1	1	.
WOTAGOUT	LANGCODE	22	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
WOTAGOUT	HASLD	24	YORN	1	0	1	1	.
WPEDITSETTING	STATUS	1	UPPER	8	0	1	1	.
WPEDITSETTING	EDITGLACCOUNT	2	YORN	1	0	1	1	.
WPEDITSETTING	EDITASSET	3	YORN	1	0	1	1	.
WPEDITSETTING	EDITLOC	4	YORN	1	0	1	1	.
WPEDITSETTING	EDITWPLAB	5	YORN	1	0	1	1	.
WPEDITSETTING	EDITWPMAT	6	YORN	1	0	1	1	.
WPEDITSETTING	EDITWPTOOL	7	YORN	1	0	1	1	.
WPEDITSETTING	EDITSAFETY	8	YORN	1	0	1	1	.
WPEDITSETTING	ORGID	9	UPPER	8	0	1	0	ORGANIZATION.ORGID
WPEDITSETTING	WPEDITSETTINGID	10	INTEGER	12	0	1	1	.
WPEDITSETTING	EDITWPSE	11	YORN	1	0	1	1	.
WPITEM	CATALOGCODE	1	ALN	30	0	0	0	INVENTORY.CATALOGCODE
WPITEM	DESCRIPTION	2	ALN	100	0	0	0	ITEM.DESCRPTION
WPITEM	DIRECTREQ	4	YORN	1	0	1	1	INVRESERVE.DIRECTREQ
WPITEM	ISSUETO	7	UPPER	8	0	0	0	LABOR.LABORCODE
WPITEM	ITEMNUM	8	UPPER	30	0	0	0	ITEM.ITEMNUM
WPITEM	ITEMQTY	9	DECIMAL	15	2	0	1	JOBITEM.ITEMQTY
WPITEM	ITEMSETID	10	UPPER	8	0	0	0	SETS.SETID
WPITEM	LINECOST	11	AMOUNT	10	2	0	0	.
WPITEM	LINETYPE	12	UPPER	15	0	1	1	PRLINE.LINETYPE
WPITEM	LOCATION	13	UPPER	12	0	0	0	LOCATIONS.LOCATION
WPITEM	MANUFACTURER	14	UPPER	12	0	0	0	COMPANIES.COMPANY
WPITEM	MODELNUM	15	ALN	8	0	0	0	INVENTORY.MODELNUM
WPITEM	ORDERUNIT	16	UPPER	8	0	0	0	MEASUREUNIT.MEASUREUNITID
WPITEM	ORGID	17	UPPER	8	0	1	0	ORGANIZATION.ORGID
WPITEM	PR	18	UPPER	8	0	0	0	PR.PRNUM
WPITEM	PRLINENUM	19	INTEGER	12	0	0	1	PRLINE.PRLINENUM
WPITEM	REQUESTBY	20	UPPER	30	0	0	0	PERSON.PERSONID
WPITEM	REQUESTNUM	21	UPPER	20	0	0	0	INVRESERVE.REQUESTNUM
WPITEM	REQUIREDATE	22	DATETIME	10	0	0	0	.
WPITEM	SITEID	23	UPPER	8	0	1	0	SITE.SITEID
WPITEM	UNITCOST	25	AMOUNT	10	2	0	1	.
WPITEM	UNITCOSTHASCHANGED	26	YORN	1	0	1	1	.
WPITEM	VENDOR	27	UPPER	12	0	0	0	COMPANIES.COMPANY
WPITEM	VENDORPACKCODE	28	ALN	12	0	0	0	MRLINE.VENDORPACKCODE
WPITEM	VENDORPACKQUANTITY	29	ALN	12	0	0	0	MRLINE.VENDORPACKQUANTITY
WPITEM	VENDORUNITCOST	30	AMOUNT	10	2	0	1	WPITEM.UNITCOST
WPITEM	VENDORWAREHOUSE	31	ALN	12	0	0	0	MRLINE.VENDORWAREHOUSE
WPITEM	WONUM	32	UPPER	10	0	1	0	WORKORDER.WONUM
WPITEM	WPM1	33	ALN	10	0	0	0	JOBITEM.JM1
WPITEM	WPM2	34	ALN	10	0	0	0	JOBITEM.JM2
WPITEM	WPM3	35	DECIMAL	15	2	0	0	JOBITEM.JM3
WPITEM	WPM4	36	ALN	10	0	0	0	.
WPITEM	WPM5	37	AMOUNT	10	2	0	0	.
WPITEM	WPM6	38	ALN	10	0	0	0	.

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
WPITEM	CONDITIONCODE	39	UPPER	30	0	0	0	ITEMCONDITION.CONDITIONCODE
WPITEM	WPITEMID	40	INTEGER	12	0	1	1	.
WPITEM	STORELOCSITE	41	UPPER	8	0	0	0	SITE.SITEID
WPITEM	LANGCODE	42	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
WPITEM	RATE	43	AMOUNT	10	2	1	1	.
WPITEM	RATEHASCHANGED	45	YORN	1	0	1	1	.
WPITEM	HOURS	46	DURATION	8	0	1	1	.
WPITEM	HASLD	47	YORN	1	0	1	1	.
WPITEM	MKTPLCITEM	48	YORN	1	0	1	0	.
WPLABOR	WONUM	1	UPPER	10	0	1	0	WORKORDER.WONUM
WPLABOR	LABORCODE	2	UPPER	8	0	0	0	LABOR.LABORCODE
WPLABOR	LABORHRS	3	DURATION	8	0	1	1	.
WPLABOR	RATE	4	AMOUNT	10	2	1	1	.
WPLABOR	WPL1	5	ALN	10	0	0	0	JOBLABOR.JL1
WPLABOR	WPL2	6	DATETIME	10	0	0	0	JOBLABOR.JL2
WPLABOR	WPL3	7	ALN	10	0	0	0	JOBLABOR.JL3
WPLABOR	WPL4	8	ALN	10	0	0	0	.
WPLABOR	WPL5	9	ALN	10	0	0	0	.
WPLABOR	WPL6	10	DECIMAL	15	2	0	0	.
WPLABOR	WPLABORID	11	ALN	20	0	1	1	.
WPLABOR	VENDOR	12	UPPER	12	0	0	0	COMPANIES.COMPANY
WPLABOR	RATEHASCHANGED	13	YORN	1	0	1	1	.
WPLABOR	WPL7	14	ALN	10	0	0	0	JOBLABOR.JL7
WPLABOR	WPL8	15	ALN	10	0	0	0	JOBLABOR.JL8
WPLABOR	WPL9	16	ALN	10	0	0	0	JOBLABOR.JL9
WPLABOR	ORGID	17	UPPER	8	0	1	0	ORGANIZATION.ORGID
WPLABOR	SITEID	18	UPPER	8	0	1	0	SITE.SITEID
WPLABOR	WPLABORUID	23	INTEGER	12	0	1	1	.
WPLABOR	CRAFT	24	UPPER	8	0	0	0	CRAFT.CRAFT
WPLABOR	SKILLLEVEL	25	UPPER	12	0	0	0	CRAFTSKILL.SKILLLEVEL
WPLABOR	CONTRACTNUM	26	UPPER	8	0	0	0	CONTRACT.CONTRACTNUM
WPLABOR	QUANTITY	27	INTEGER	12	0	1	0	.
WPMATERIAL	CATALOGCODE	1	ALN	30	0	0	0	INVENTORY.CATALOGCODE
WPMATERIAL	DESCRIPTION	2	ALN	100	0	0	0	ITEM.DESCRPTION
WPMATERIAL	DIRECTREQ	4	YORN	1	0	1	1	INVRESERVE.DIRECTREQ
WPMATERIAL	ISSUETO	7	UPPER	8	0	0	0	LABOR.LABORCODE
WPMATERIAL	ITEMNUM	8	UPPER	30	0	0	0	ITEM.ITEMNUM
WPMATERIAL	ITEMQTY	9	DECIMAL	15	2	1	1	JOBITEM.ITEMQTY
WPMATERIAL	ITEMSETID	10	UPPER	8	0	0	0	SETS.SETID
WPMATERIAL	LINECOST	11	AMOUNT	10	2	0	0	WPITEM.LINECOST
WPMATERIAL	LINETYPE	12	UPPER	15	0	1	1	PRLINE.LINETYPE
WPMATERIAL	LOCATION	13	UPPER	12	0	0	0	LOCATIONS.LOCATION
WPMATERIAL	MANUFACTURER	14	UPPER	12	0	0	0	COMPANIES.COMPANY
WPMATERIAL	MODELNUM	15	ALN	8	0	0	0	INVENTORY.MODELNUM
WPMATERIAL	ORDERUNIT	16	UPPER	8	0	0	0	MEASUREUNIT.MEASUREUNITID
WPMATERIAL	ORGID	17	UPPER	8	0	1	0	ORGANIZATION.ORGID

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
WPMATERIAL	PR	18	UPPER	8	0	0	0	PR.PRNUM
WPMATERIAL	PRLINENUM	19	INTEGER	12	0	0	1	PRLINE.PRLINENUM
WPMATERIAL	REQUESTBY	20	UPPER	18	0	0	0	.
WPMATERIAL	REQUESTNUM	21	UPPER	20	0	0	0	INVRESERVE.REQUESTNUM
WPMATERIAL	REQUIREDATE	22	DATETIME	10	0	0	0	.
WPMATERIAL	SITEID	23	UPPER	8	0	1	0	SITE.SITEID
WPMATERIAL	UNITCOST	25	AMOUNT	10	2	1	1	WPITEM.UNITCOST
WPMATERIAL	UNITCOSTHASCHANGED	26	YORN	1	0	1	1	WPITEM.UNITCOSTHASCHANGED
WPMATERIAL	VENDOR	27	UPPER	12	0	0	0	COMPANIES.COMPANY
WPMATERIAL	VENDORPACKCODE	28	ALN	12	0	0	0	MRLINE.VENDORPACKCODE
WPMATERIAL	VENDORPACKQUANTITY	29	ALN	12	0	0	0	MRLINE.VENDORPACKQUANTITY
WPMATERIAL	VENDORUNITCOST	30	AMOUNT	10	2	0	1	WPITEM.UNITCOST
WPMATERIAL	VENDORWAREHOUSE	31	ALN	12	0	0	0	MRLINE.VENDORWAREHOUSE
WPMATERIAL	WONUM	32	UPPER	10	0	1	0	WORKORDER.WONUM
WPMATERIAL	WPM1	33	ALN	10	0	0	0	JOBITEM.JM1
WPMATERIAL	WPM2	34	ALN	10	0	0	0	JOBITEM.JM2
WPMATERIAL	WPM3	35	DECIMAL	15	2	0	0	JOBITEM.JM3
WPMATERIAL	WPM4	36	ALN	10	0	0	0	.
WPMATERIAL	WPM5	37	AMOUNT	10	2	0	0	.
WPMATERIAL	WPM6	38	ALN	10	0	0	0	.
WPMATERIAL	CONDITIONCODE	39	UPPER	30	0	0	0	ITEMCONDITION.CONDITIONCODE
WPMATERIAL	WPITEMID	40	INTEGER	12	0	0	1	.
WPMATERIAL	STORELOCSITE	41	UPPER	8	0	0	0	SITE.SITEID
WPMATERIAL	LANGCODE	42	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
WPMATERIAL	RATE	43	AMOUNT	10	2	1	1	.
WPMATERIAL	RATEHASCHANGED	45	YORN	1	0	1	1	.
WPMATERIAL	HOURS	46	DURATION	8	0	1	1	.
WPMATERIAL	HASLD	47	YORN	1	0	1	1	.
WPMATERIAL	MKTPLCITEM	48	YORN	1	0	1	0	.
WPSERVICE	CATALOGCODE	1	ALN	30	0	0	0	INVENTORY.CATALOGCODE
WPSERVICE	DESCRIPTION	2	ALN	100	0	0	0	ITEM.DESCRPTION
WPSERVICE	DIRECTREQ	4	YORN	1	0	1	1	INVRESERVE.DIRECTREQ
WPSERVICE	ISSUETO	7	UPPER	8	0	0	0	LABOR.LABORCODE
WPSERVICE	ITEMNUM	8	UPPER	30	0	0	0	ITEM.ITEMNUM
WPSERVICE	ITEMQTY	9	DECIMAL	15	2	0	1	JOBITEM.ITEMQTY
WPSERVICE	ITEMSETID	10	UPPER	8	0	0	0	SETS.SETID
WPSERVICE	LINECOST	11	AMOUNT	10	2	0	0	WPITEM.LINECOST
WPSERVICE	LINETYPE	12	UPPER	15	0	1	1	PRLINE.LINETYPE
WPSERVICE	LOCATION	13	UPPER	12	0	0	0	LOCATIONS.LOCATION
WPSERVICE	MANUFACTURER	14	UPPER	12	0	0	0	COMPANIES.COMPANY
WPSERVICE	MODELNUM	15	ALN	8	0	0	0	INVENTORY.MODELNUM
WPSERVICE	ORDERUNIT	16	UPPER	8	0	0	0	MEASUREUNIT.MEASUREUNITID
WPSERVICE	ORGID	17	UPPER	8	0	1	0	ORGANIZATION.ORGID
WPSERVICE	PR	18	UPPER	8	0	0	0	PR.PRNUM
WPSERVICE	PRLINENUM	19	INTEGER	12	0	0	1	PRLINE.PRLINENUM
WPSERVICE	REQUESTBY	20	UPPER	30	0	0	0	PERSON.PERSONID

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
WPSERVICE	REQUESTNUM	21	UPPER	20	0	0	0	INVRESERVE.REQUESTNUM
WPSERVICE	REQUIREDATE	22	DATETIME	10	0	0	0	WPITEM.REQUIREDATE
WPSERVICE	SITEID	23	UPPER	8	0	1	0	SITE.SITEID
WPSERVICE	UNITCOST	25	AMOUNT	10	2	0	1	WPITEM.UNITCOST
WPSERVICE	UNITCOSTHASCHANGED	26	YORN	1	0	1	1	WPITEM.UNITCOSTHASCHANGED
WPSERVICE	VENDOR	27	UPPER	12	0	0	0	COMPANIES.COMPANY
WPSERVICE	VENDORPACKCODE	28	ALN	12	0	0	0	MRLINE.VENDORPACKCODE
WPSERVICE	VENDORPACKQUANTITY	29	ALN	12	0	0	0	MRLINE.VENDORPACKQUANTITY
WPSERVICE	VENDORUNITCOST	30	AMOUNT	10	2	0	1	WPITEM.UNITCOST
WPSERVICE	VENDORWAREHOUSE	31	ALN	12	0	0	0	MRLINE.VENDORWAREHOUSE
WPSERVICE	WONUM	32	UPPER	10	0	1	0	WORKORDER.WONUM
WPSERVICE	WPM1	33	ALN	10	0	0	0	JOBITEM.JM1
WPSERVICE	WPM2	34	ALN	10	0	0	0	JOBITEM.JM2
WPSERVICE	WPM3	35	DECIMAL	15	2	0	0	JOBITEM.JM3
WPSERVICE	WPM4	36	ALN	10	0	0	0	.
WPSERVICE	WPM5	37	AMOUNT	10	2	0	0	.
WPSERVICE	WPM6	38	ALN	10	0	0	0	.
WPSERVICE	CONDITIONCODE	39	UPPER	30	0	0	0	ITEMCONDITION.CONDITIONCODE
WPSERVICE	WPITEMID	40	INTEGER	12	0	0	1	.
WPSERVICE	STORELOCSITE	41	UPPER	8	0	0	0	SITE.SITEID
WPSERVICE	LANGCODE	42	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
WPSERVICE	RATE	43	AMOUNT	10	2	1	1	.
WPSERVICE	RATEHASCHANGED	45	YORN	1	0	1	1	.
WPSERVICE	HOURS	46	DURATION	8	0	1	1	.
WPSERVICE	HASLD	47	YORN	1	0	1	1	.
WPSERVICE	MKTPLCITEM	48	YORN	1	0	1	0	.
WPTOOL	CATALOGCODE	1	ALN	30	0	0	0	INVENTORY.CATALOGCODE
WPTOOL	DESCRIPTION	2	ALN	100	0	0	0	ITEM.DESCRPTION
WPTOOL	DIRECTREQ	4	YORN	1	0	1	1	INVRESERVE.DIRECTREQ
WPTOOL	ISSUETO	7	UPPER	8	0	0	0	LABOR.LABORCODE
WPTOOL	ITEMNUM	8	UPPER	30	0	1	0	ITEM.ITEMNUM
WPTOOL	ITEMQTY	9	DECIMAL	15	2	1	1	JOBITEM.ITEMQTY
WPTOOL	ITEMSETID	10	UPPER	8	0	1	0	SETS.SETID
WPTOOL	LINECOST	11	AMOUNT	10	2	0	0	WPITEM.LINECOST
WPTOOL	LINETYPE	12	UPPER	15	0	1	1	PRLINE.LINETYPE
WPTOOL	LOCATION	13	UPPER	12	0	0	0	LOCATIONS.LOCATION
WPTOOL	MANUFACTURER	14	UPPER	12	0	0	0	COMPANIES.COMPANY
WPTOOL	MODELNUM	15	ALN	8	0	0	0	INVENTORY.MODELNUM
WPTOOL	ORDERUNIT	16	UPPER	8	0	0	0	MEASUREUNIT.MEASUREUNITID
WPTOOL	ORGID	17	UPPER	8	0	1	0	ORGANIZATION.ORGID
WPTOOL	PR	18	UPPER	8	0	0	0	PR.PRNUM
WPTOOL	PRLINENUM	19	INTEGER	12	0	0	1	PRLINE.PRLINENUM
WPTOOL	REQUESTBY	20	UPPER	30	0	0	0	PERSON.PERSONID
WPTOOL	REQUESTNUM	21	UPPER	20	0	0	0	INVRESERVE.REQUESTNUM
WPTOOL	REQUIREDATE	22	DATETIME	10	0	0	0	WPITEM.REQUIREDATE
WPTOOL	SITEID	23	UPPER	8	0	1	0	SITE.SITEID

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
WPTOOL	UNITCOST	25	AMOUNT	10	2	1	1	WPITEM.UNITCOST
WPTOOL	UNITCOSTHASCHANGED	26	YORN	1	0	1	1	WPITEM.UNITCOSTHASCHANGED
WPTOOL	VENDOR	27	UPPER	12	0	0	0	COMPANIES.COMPANY
WPTOOL	VENDORPACKCODE	28	ALN	12	0	0	0	MRLINE.VENDORPACKCODE
WPTOOL	VENDORPACKQUANTITY	29	ALN	12	0	0	0	MRLINE.VENDORPACKQUANTITY
WPTOOL	VENDORUNITCOST	30	AMOUNT	10	2	0	1	WPITEM.UNITCOST
WPTOOL	VENDORWAREHOUSE	31	ALN	12	0	0	0	MRLINE.VENDORWAREHOUSE
WPTOOL	WONUM	32	UPPER	10	0	1	0	WORKORDER.WONUM
WPTOOL	WPM1	33	ALN	10	0	0	0	JOBITEM.JM1
WPTOOL	WPM2	34	ALN	10	0	0	0	JOBITEM.JM2
WPTOOL	WPM3	35	DECIMAL	15	2	0	0	JOBITEM.JM3
WPTOOL	WPM4	36	ALN	10	0	0	0	.
WPTOOL	WPM5	37	AMOUNT	10	2	0	0	.
WPTOOL	WPM6	38	ALN	10	0	0	0	.
WPTOOL	CONDITIONCODE	39	UPPER	30	0	0	0	ITEMCONDITION.CONDITIONCODE
WPTOOL	WPITEMID	40	INTEGER	12	0	1	1	WPITEM.WPITEMID
WPTOOL	STORELOCSITE	41	UPPER	8	0	0	0	SITE.SITEID
WPTOOL	LANGCODE	42	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
WPTOOL	RATE	43	AMOUNT	10	2	1	1	WPITEM.RATE
WPTOOL	RATEHASCHANGED	45	YORN	1	0	1	1	WPITEM.RATEHASCHANGED
WPTOOL	HOURS	46	DURATION	8	0	1	1	WPITEM.HOURS
WPTOOL	HASLD	47	YORN	1	0	1	1	.
WPTOOL	MKTPLCITEM	48	YORN	1	0	1	0	.
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MAXIMO Database Columns

Columns with non-persistent attributes in persistent tables

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
ACTION	CLASSNAME	7	ALN	254	0	0	0	ACTION.VALUE
ACTION	NEWSTATUS	9	ALN	254	0	0	0	ACTION.VALUE
ACTION	DESCRIPTION_LONGDESCRIPTION	10	LONGALN	32000	0	0	0	
ACTION	CONDITION	11	ALN	2000	0	0	0	
ACTION	EXOBJECT	12	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
ADDRESS	DESCRIPTION_LONGDESCRIPTION	11	LONGALN	32000	0	0	1	
APPDOCTYPE	ISSELECTED	4	YORN	1	0	1	0	
AREASAFFECTED	DESCRIPTION_LONGDESCRIPTION	5	LONGALN	32000	0	0	1	
ASSET	DESCRIPTION_LONGDESCRIPTION	55	LONGALN	32000	0	0	1	
ASSET	ADDTOSTORE	56	YORN	1	0	1	0	
ASSET	GLCREDITACCT	57	GL	23	0	0	1	
ASSET	GLDEBITACCT	58	GL	23	0	0	1	
ASSET	MOVEDATE	59	DATETIME	10	0	0	0	
ASSET	MOVEDBY	60	UPPER	18	0	0	0	
ASSET	MOVEMEMO	61	ALN	254	0	0	0	
ASSET	MOVEMODIFYBINNUM	62	ALN	8	0	0	0	
ASSET	NEWPARENT	63	UPPER	12	0	0	0	ASSET.ASSETNUM
ASSET	NEWSITE	64	UPPER	8	0	0	0	SITE.SITEID
ASSET	NEWLOCATION	65	UPPER	12	0	0	0	LOCATIONS.LOCATION
ASSET	FROMCONDITIONCODE	68	UPPER	30	0	0	0	ITEMCONDITION.CONDITIONCODE
ASSET	NEWASSETNUM	75	UPPER	12	0	0	0	ASSET.ASSETNUM
ASSET	NEWDEPARTMENT	76	ALN	15	0	0	0	
ASSET	WONUM	77	UPPER	10	0	0	0	WORKORDER.WONUM
ASSET	TASKID	78	INTEGER	12	0	0	1	WORKORDER.TASKID
ASSET	REFWO	79	UPPER	10	0	0	0	WORKORDER.WONUM
ASSET	NEWSTATUS	81	ALN	20	0	0	0	ASSET.STATUS
ASSET	HASCHILDREN	82	YORN	1	0	1	0	
ASSET	HASPARENT	83	YORN	1	0	1	0	
ASSET	OBJECTNAME	84	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
ASSET	NP_STATUSMEMO	85	ALN	50	0	0	0	WFTRANSACTION.MEMO
ASSET	REPLACEASSETNUM	90	UPPER	12	0	0	0	ASSET.ASSETNUM
ASSET	REPLACEASSETSITE	91	UPPER	8	0	0	0	SITE.SITEID
ASSET	NEWREPLACEASSETNUM	92	UPPER	12	0	0	0	ASSET.ASSETNUM
ASSETCUST	DESCRIPTION_LONGDESCRIPTION	55	LONGALN	32000	0	0	1	ASSET.DESCRPTION_LONGDESCRIPTION
ASSETCUST	ADDTOSTORE	56	YORN	1	0	1	0	ASSET.ADDTOSTORE
ASSETCUST	GLCREDITACCT	57	GL	23	0	0	1	
ASSETCUST	GLDEBITACCT	58	GL	23	0	0	1	
ASSETCUST	MOVEDATE	59	DATETIME	10	0	0	0	ASSET.MOVEDATE
ASSETCUST	MOVEDBY	60	UPPER	18	0	0	0	ASSET.MOVEDBY
ASSETCUST	MOVEMEMO	61	ALN	254	0	0	0	ASSET.MOVEMEMO
ASSETCUST	MOVEMODIFYBINNUM	62	ALN	8	0	0	0	ASSET.MOVEMODIFYBINNUM
ASSETCUST	NEWPARENT	63	UPPER	12	0	0	0	ASSET.ASSETNUM
ASSETCUST	NEWSITE	64	UPPER	8	0	0	0	SITE.SITEID
ASSETCUST	NEWLOCATION	65	UPPER	12	0	0	0	LOCATIONS.LOCATION

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
ASSETCUST	FROMCONDITIONCODE	68	UPPER	30	0	0	0	ITEMCONDITION.CONDITIONCODE
ASSETCUST	NEWASSETNUM	75	UPPER	12	0	0	0	ASSET.ASSETNUM
ASSETCUST	NEWDEPARTMENT	76	ALN	15	0	0	0	ASSET.NEWDEPARTMENT
ASSETCUST	WONUM	77	UPPER	10	0	0	0	WORKORDER.WONUM
ASSETCUST	TASKID	78	INTEGER	12	0	0	1	WORKORDER.TASKID
ASSETCUST	REFWO	79	UPPER	10	0	0	0	WORKORDER.WONUM
ASSETCUST	NEWSTATUS	81	ALN	20	0	0	0	ASSET.STATUS
ASSETCUST	HASCHILDREN	82	YORN	1	0	1	0	ASSET.HASCHILDREN
ASSETCUST	HASPARENT	83	YORN	1	0	1	0	ASSET.HASPARENT
ASSETCUST	OBJECTNAME	84	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
ASSETCUST	NP_STATUSMEMO	85	ALN	50	0	0	0	WFTRANSACTION.MEMO
ASSETCUST	REPLACEASSETNUM	90	UPPER	12	0	0	0	ASSET.ASSETNUM
ASSETCUST	REPLACEASSETSITE	91	UPPER	8	0	0	0	SITE.SITEID
ASSETCUST	NEWREPLACEASSETNUM	92	UPPER	12	0	0	0	ASSET.ASSETNUM
ASSETLOCCOMM	ASSETDESCRIPTION	9	ALN	80	0	0	0	
ASSETLOCCOMM	ASSETDESCRIPTION_LONGDESCRIPTION	10	LONGALN	32000	0	0	0	
ASSETMETER	REMARKS_LONGDESCRIPTION	19	LONGALN	32000	0	0	1	
ASSETMETER	INHERITEDFROMASSET	20	UPPER	12	0	0	0	ASSET.ASSETNUM
ASSETMETER	ADJUSTEDELTAREADING	21	DECIMAL	15	2	0	0	
ASSETMETER	DOMAINID	22	UPPER	18	0	0	1	MAXDOMAIN.DOMAINID
ASSETMETER	INSPECTOR	23	UPPER	30	0	0	0	PERSON.PERSONID
ASSETMETER	NEWREADINGDATE	26	DATETIME	10	0	0	1	
ASSETMETER	DELTAVALUE	27	DECIMAL	15	2	0	0	
ASSETMETER	ISDELTA	28	YORN	1	0	0	0	
ASSETMETER	NEWREADING	29	ALN	16	0	0	0	
ASSETMETER	LOCMETERREADINGID	30	FLOAT	8	0	0	1	
ASSETMETER	PREVIOUSREADING	34	ALN	16	0	0	0	ASSETMETER.NEWREADING
ASSETMETER	PREVIOUSREADINGDATE	35	DATETIME	10	0	0	1	ASSETMETER.NEWREADINGDATE
ASSETMETER	PREVIOUSREADINGINSPECTOR	37	UPPER	30	0	0	0	PERSON.PERSONID
ASSETMETER	NEWREADINGROLLOVERINCLUSIVE	38	ALN	16	0	0	0	ASSETMETER.NEWREADING
ASSETMETER	SINCELASTREPAIRNEW	40	DECIMAL	15	2	0	1	ASSETMETER.SINCELASTREPAIR
ASSETMETER	SINCELASTOVERHAULNEW	41	DECIMAL	15	2	0	1	ASSETMETER.SINCELASTOVERHAUL
ASSETMETER	SINCELASTINSPECTNEW	42	DECIMAL	15	2	0	1	ASSETMETER.SINCELASTINSPECT
ASSETMETER	SINCEINSTALLNEW	43	DECIMAL	15	2	0	1	ASSETMETER.SINCEINSTALL
ASSETMETER	ROLLOVERNEW	44	DECIMAL	15	2	0	1	METERINGROUP.ROLLOVER
ASSETMETER	ASSETID	45	INTEGER	12	0	0	0	ASSET.ASSETID
ASSETMETER	AVERAGENEW	46	DECIMAL	15	2	0	1	ASSETMETER.AVERAGE
ASSETMETER	LASTREADINGNEW	47	DECIMAL	15	2	0	1	METERREADING.READING
ASSETMETER	LASTREADINGDATENEW	48	DATETIME	10	0	0	1	ASSETMETER.NEWREADINGDATE
ASSETMETER	LASTREADINGINSPECTRNEW	49	UPPER	30	0	0	0	PERSON.PERSONID
ASSETMETER	DOROLLOVER	51	YORN	1	0	1	1	
ASSIGNMENT	NAME	12	ALN	25	0	0	0	
ASSIGNMENT	CRAFTCODE	13	UPPER	8	0	0	0	
ASSIGNMENT	LABOR	14	UPPER	8	0	0	0	
ASSIGNMENT	RATE	15	AMOUNT	10	2	0	0	
ASSIGNMENT	TASKID	16	INTEGER	12	0	0	0	

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
AUTOATTRUPDATE	OLDSPECVALUE	14	ALN	25	0	0	1	ALNDOMAIN.VALUE
AUTOATTRUPDATE	NEWSPECVALUE	15	ALN	25	0	0	1	ALNDOMAIN.VALUE
BOOKMARK	DESCRIPTION	5	ALN	254	0	0	0	
BOOKMARK	OWNERKEY	7	ALN	50	0	0	0	
CALENDAR	DESCRIPTION_LONGDESCRIPTION	6	LONGALN	32000	0	0	1	
CHARPOINTACTION	ASSETNUM	8	UPPER	12	0	0	0	ASSET.ASSETNUM
CHARPOINTACTION	LOCATION	9	UPPER	12	0	0	0	LOCATIONS.LOCATION
CHARPOINTACTION	DOMAINID	10	UPPER	18	0	0	1	MAXDOMAIN.DOMAINID
CHARTOFACCOUNTS	ACCOUNTNAME_LONGDESCRIPTION	30	LONGALN	32000	0	0	1	
CLASSIFICATION	DESCRIPTION_LONGDESCRIPTION	4	LONGALN	32000	0	0	1	
CLASSSPEC	DATATYPE	26	UPPER	8	0	0	0	
CLASSSPEC	SPECVALUE	27	ALN	16	0	0	0	
CLASSSTRUCTURE	DESCRIPTION_LONGDESCRIPTION	5	LONGALN	32000	0	0	1	
CLASSSTRUCTURE	HIERARCHYPATH	21	ALN	254	0	0	0	
CLASSSTRUCTURE	HASPARENT	25	YORN	1	0	1	0	
CLASSSTRUCTURE	OBJECTNAME	26	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
CLASSSTRUCTURE	PARENTCLASSIFICATIONID	27	ALN	254	0	0	0	CLASSSTRUCTURE.HIERARCHYPATH
CLASSSTRUCTURE	CLASSIFICATIONDESC	31	ALN	100	0	0	0	CLASSIFICATION.DESCRPTION
COMMLOG	TEMPLATEID	13	UPPER	10	0	0	1	COMMTEMPLATE.TEMPLATEID
COMMLOGDOCS	WEBURL	5	ALN	255	0	0	0	
COMMODITIES	DESCRIPTION_LONGDESCRIPTION	7	LONGALN	32000	0	0	0	
COMMTEMPLATE	TOLIST	9	ALN	4000	0	0	0	
COMMTEMPLATE	CCLIST	10	ALN	4000	0	0	0	
COMMTEMPLATE	BCCLIST	11	ALN	4000	0	0	0	
COMMTEMPLATE	DESCRIPTION_LONGDESCRIPTION	16	LONGALN	32000	0	0	1	
COMMTMPLTSENDTO	PERSONID	8	UPPER	30	0	0	0	PERSON.PERSONID
COMMTMPLTSENDTO	GROUPID	9	UPPER	8	0	0	0	PERSONGROUP.PERSONGROUP
COMMTMPLTSENDTO	ROLEID	10	UPPER	10	0	0	0	MAXROLE.MAXROLE
COMPANIES	NAME_LONGDESCRIPTION	73	LONGALN	32000	0	0	1	
COMPANIES	FREIGHTTERMS_LONGDESCRIPTION	74	LONGALN	32000	0	0	1	
COMPMASTER	NAME_LONGDESCRIPTION	50	LONGALN	32000	0	0	0	
COMPMASTER	FREIGHTTERMS_LONGDESCRIPTION	51	LONGALN	32000	0	0	0	
COMPMASTER	UPDATERELATEDCOS	52	YORN	1	0	1	0	
COMPUTERSYSTEM	VRAMSIZE	39	ALN	32	0	0	0	
CONTLINEASSET	ASSETNUM	14	UPPER	12	0	0	0	ASSET.ASSETNUM
CONTRACT	DESCRIPTION_LONGDESCRIPTION	46	LONGALN	32000	0	0	1	
CONTRACT	FREIGHTTERMS_LONGDESCRIPTION	47	LONGALN	32000	0	0	1	
CONTRACTASSET	ASSETNUM	6	UPPER	12	0	0	0	ASSET.ASSETNUM
CONTRACTASSET	SITEID	17	UPPER	8	0	0	0	SITE.SITEID
CONTRACTLINE	DESCRIPTION_LONGDESCRIPTION	22	LONGALN	32000	0	0	1	
CONTRACTLINE	REMARK_LONGDESCRIPTION	23	LONGALN	32000	0	0	1	
CONTRACTLINE	NEWPRICE	24	DECIMAL	10	2	0	0	CONTRACTLINE.LINECOST
CONTRACTLINE	NEWUNITCOST	38	DECIMAL	10	2	0	0	CONTRACTLINE.UNITCOST
CONTRACTLINE	NEWORDERUNIT	39	UPPER	8	0	0	0	MEASUREUNIT.MEASUREUNITID
CONTRACTLINE	ISSUEUNIT	40	UPPER	8	0	0	0	MEASUREUNIT.MEASUREUNITID
CONTRACTLINE	CONVERSION	41	DECIMAL	15	2	0	1	CONVERSION.CONVERSION

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
CONTRACTTERM	DESCRIPTION_LONGDESCRIPTION	6	LONGALN	32000	0	0	1	
CONTRACTTYPETERM	DESCRIPTION_LONGDESCRIPTION	5	LONGALN	32000	0	0	1	
CRAFT	DESCRIPTION_LONGDESCRIPTION	4	LONGALN	32000	0	0	0	
CRAFT	STANDARDRATE	6	AMOUNT	10	2	0	0	CRAFTRATE.STANDARDRATE
CRAFTRATE	DESCRIPTION	6	ALN	100	0	0	0	
CRAFTRATE	NEWSTANDARDRATE	10	AMOUNT	10	2	0	0	CRAFTRATE.STANDARDRATE
CRAFTSKILL	DESCRIPTION_LONGDESCRIPTION	6	LONGALN	32000	0	0	0	
CRAFTSKILL	STANDARDRATE	7	AMOUNT	10	2	0	0	CRAFTRATE.STANDARDRATE
CRONTASKDEF	DESCRIPTION_LONGDESCRIPTION	7	LONGALN	32000	0	0	0	
CRONTASKINSTANCE	LASTRUN	9	DATETIME	10	0	0	0	
CRONTASKINSTANCE	DESCRIPTION_LONGDESCRIPTION	11	LONGALN	32000	0	0	0	
CRONTASKPARAM	DESCRIPTION	6	ALN	4000	0	0	0	
CURRENCY	DESCRIPTION_LONGDESCRIPTION	6	LONGALN	32000	0	0	1	
DOCINFO	DESCRIPTION_LONGDESCRIPTION	24	LONGALN	32000	0	0	1	
DOCINFO	UPLOAD	25	YORN	1	0	1	0	
DOCINFO	WEBURL	26	ALN	300	0	0	0	
DOCINFO	NEWURLNAME	27	ALN	250	0	0	0	
DOCINFO	APP	28	UPPER	10	0	0	0	
DOCINFO	NEWDOCTYPE	31	ALN	16	0	0	0	DOCTYPES.DOCTYPE
DOCLINKS	SHOW	14	YORN	1	0	1	0	
DOCLINKS	UPLOAD	15	YORN	1	0	1	0	
DOCLINKS	URLPARAM5	16	ALN	8	0	0	0	
DOCLINKS	URLPARAM4	17	ALN	8	0	0	0	
DOCLINKS	URLPARAM3	18	ALN	8	0	0	0	
DOCLINKS	URLPARAM2	19	ALN	32	0	0	0	
DOCLINKS	URLPARAM1	20	ALN	32	0	0	0	
DOCLINKS	DMSNAME	21	ALN	30	0	0	0	
DOCLINKS	APP	22	UPPER	10	0	0	0	
DOCLINKS	ADDINFO	23	YORN	1	0	1	0	
DOCLINKS	WEBURL	24	ALN	300	0	0	0	
DOCLINKS	NEWURLNAME	25	ALN	250	0	0	0	
DOCLINKS	URLTYPE	26	ALN	8	0	0	0	
DOCLINKS	DESCRIPTION	27	ALN	254	0	0	0	
DOCLINKS	URLNAME	28	ALN	250	0	0	0	
DOCLINKS	KEYCOLUMN	29	UPPER	50	0	0	0	MAXATTRIBUTE.ATTRIBUTENAME
DOCTYPES	APP	4	UPPER	10	0	0	0	
DPACCOMMDEVICE	VBANDWIDTH	12	ALN	32	0	0	0	DPACOMMDEVICE.VBANDWIDTH
DPACCPU	VMAXSPEED	10	ALN	32	0	0	0	DPACPU.VMAXSPEED
DPACCPU	VCURRSPEED	11	ALN	32	0	0	0	DPACPU.VCURRSPEED
DPACDISK	VTOTALSPACE	17	ALN	32	0	0	0	DPADISK.VTOTALSPACE
DPACIMAGEDEVICE	VMAXRAMSIZE	27	ALN	32	0	0	0	DPACIMAGEDEVICE.VMAXRAMSIZE
DPACIMAGEDEVICE	VCURRENTRAMSIZE	28	ALN	32	0	0	0	DPACIMAGEDEVICE.VCURRENTRAMSIZE
DPACIMAGEDEVICE	VMAXWIDTH	29	ALN	32	0	0	0	DPACIMAGEDEVICE.VMAXWIDTH
DPACIMAGEDEVICE	VMAXLENGTH	30	ALN	32	0	0	0	DPACIMAGEDEVICE.VMAXLENGTH
DPACMEDIAADAPTER	VRAMSIZE	14	ALN	32	0	0	0	DPACMEDIAADAPTER.VRAMSIZE
DPACNETADAPTER	VBANDWIDTH	17	ALN	32	0	0	0	DPANETADAPTER.VBANDWIDTH

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
DPACNETDEVCARD	VBANDWIDTH	17	ALN	32	0	0	0	DPANETDEVCARD.VBANDWIDTH
DPACNETDEVCARD	VRAMSIZE	18	ALN	32	0	0	0	DPANETDEVCARD.VRAMSIZE
DPACOMMDEVICE	VBANDWIDTH	14	ALN	32	0	0	0	
DPACOMPUTER	VRAMSIZE	25	ALN	32	0	0	0	
DPACPU	VMAXSPEED	12	ALN	32	0	0	0	
DPACPU	VCURRSPEED	13	ALN	32	0	0	0	
DPACSOFTWARE	SUITENAME	18	ALN	254	0	0	0	DPASOFTWARE.SUITENAME
DPACSOFTWARE	VUSAGEDISPLAYTEXT	19	ALN	64	0	0	0	DPASOFTWARE.VUSAGEDISPLAYTEXT
DPACSWSUITE	VUSAGEDISPLAYTEXT	16	ALN	64	0	0	0	DPASWSUITE.VUSAGEDISPLAYTEXT
DPADISK	VTOTALSPACE	18	ALN	32	0	0	0	
DPAFILE	VFILESIZE	18	ALN	32	0	0	0	
DPAIMAGEDEVICE	VMAXRAMSIZE	28	ALN	32	0	0	0	
DPAIMAGEDEVICE	VCURRENTRAMSIZE	29	ALN	32	0	0	0	
DPAIMAGEDEVICE	VMAXWIDTH	30	ALN	32	0	0	0	
DPAIMAGEDEVICE	VMAXLENGTH	31	ALN	32	0	0	0	
DPALOGICALDRIVE	VAVAILABLESIZE	16	ALN	32	0	0	0	
DPALOGICALDRIVE	VTOTALSIZE	17	ALN	32	0	0	0	
DPAMEDIAADAPTER	VRAMSIZE	16	ALN	32	0	0	0	
DPAMWSUITE	DESCRIPTION_LONGDESCRIPTION	6	LONGALN	32000	0	0	0	
DPAMWSUSAGE	DESCRIPTION_LONGDESCRIPTION	5	LONGALN	32000	0	0	0	
DPANETADAPTER	VBANDWIDTH	19	ALN	32	0	0	0	
DPANETDEVCARD	VBANDWIDTH	19	ALN	32	0	0	0	
DPANETDEVCARD	VRAMSIZE	20	ALN	32	0	0	0	
DPANETDEVICE	VRAMSIZE	10	ALN	32	0	0	0	
DPANETPRINTER	VMAXRAMSIZE	16	ALN	32	0	0	0	
DPANETPRINTER	VCURRENTRAMSIZE	17	ALN	32	0	0	0	
DPANETPRINTER	VMAXWIDTH	18	ALN	32	0	0	0	
DPANETPRINTER	VMAXLENGTH	19	ALN	32	0	0	0	
DPASOFTWARE	SUITENAME	20	ALN	254	0	0	0	
DPASOFTWARE	VUSAGEDISPLAYTEXT	21	ALN	64	0	0	0	
DPASWSUITE	VUSAGEDISPLAYTEXT	17	ALN	64	0	0	0	
EMAIL	SENDTO	6	YORN	1	0	1	0	
EMAIL	CC	7	YORN	1	0	1	0	
EMAIL	BCC	8	YORN	1	0	1	0	
ESCALATION	VALIDATION	13	ALN	4000	0	0	0	
ESCALATION	EXPOBJECT	15	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
ESCALATION	LASTRUN	16	DATETIME	10	0	0	1	TASKSCHEDULER.LASTRUN
ESCALATION	DESCRIPTION_LONGDESCRIPTION	18	LONGALN	32000	0	0	0	
ESCNOTIFICATION	SUBJECT	4	ALN	254	0	0	0	COMMTEMPLATE.SUBJECT
ESCNOTIFICATION	MESSAGE	5	CLOB	32000	0	0	1	
ESCNOTIFICATION	TMPID	6	UPPER	10	0	0	1	COMMTEMPLATE.TEMPLATEID
ESCREFFPOINT	VALIDATIONERROR	8	YORN	1	0	1	0	
ESCREFFPOINT	CONDITION	11	ALN	2000	0	0	0	ESCALATION.CONDITION
ESCREFFPOINT	EXPOBJECT	12	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
FAILURECODE	DESCRIPTION_LONGDESCRIPTION	4	LONGALN	32000	0	0	1	
FAILURELIST	FLCDESCRIPTION	6	ALN	50	0	0	0	

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
FAILURELIST	FAILURECLASS	7	UPPER	8	0	0	0	
FAILUREREMARK	DESCRIPTION_LONGDESCRIPTION	8	LONGALN	32000	0	0	1	
FAILUREREPORT	PARENT	10	INTEGER	12	0	0	0	
FINCNTRL	DESCRIPTION_LONGDESCRIPTION	37	LONGALN	32000	0	0	1	
FINCNTRL	PARENTTASKID	38	ALN	25	0	0	0	
FINCNTRL	PARENTPROJECTID	39	ALN	25	0	0	0	
GLCOMPONENTS	SEGMENTNAME	12	UPPER	18	0	0	1	GLCONFIGURE.GLACCOUNTFIELD
GLCONFIGURE	ORGID	7	UPPER	8	0	0	0	ORGANIZATION.ORGID
GLCONFIGURE	GROUPNAME	9	UPPER	30	0	0	1	MAXGROUP.GROUPNAME
GLCONFIGURE	AUTHORIZED	10	YORN	1	0	1	1	
GROUPRESTRICTION	EXPOBJECT	5	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
GROUPRESTRICTION	CONDITION	6	ALN	500	0	0	0	GROUPRESTRICTION.RESTRICTIONS
HAZARD	DESCRIPTION_LONGDESCRIPTION	33	LONGALN	32000	0	0	1	
HAZARDPREC	DESCRIPTION	5	ALN	100	0	0	0	
HAZARDPREC	DESCRIPTION_LONGDESCRIPTION	7	LONGALN	32000	0	0	0	
INBOUNDCOMM	DESCRIPTION_LONGDESCRIPTION	17	LONGALN	32000	0	0	0	
INBOUNDCOMMCFG	DESCRIPTION_LONGDESCRIPTION	19	LONGALN	32000	0	0	0	
INBOUNDCOMMCFG	SCHEDULE	24	ALN	50	0	1	0	
INBOUNDCOMMCFG	LASTRUN	25	DATETIME	10	0	0	1	TASKSCHEDULER.LASTRUN
INCIDENT	DESCRIPTION_LONGDESCRIPTION	55	LONGALN	32000	0	0	1	TICKET.DESCRPTION_LONGDESCRIPTION
INCIDENT	REMARKDESC	56	ALN	100	0	0	0	FAILUREREMARK.DESCRPTION
INCIDENT	REMARKENTERDATE	57	DATETIME	10	0	0	1	FAILUREREMARK.ENTERDATE
INCIDENT	REMARKDESC_LONGDESCRIPTION	58	LONGALN	32000	0	0	1	TICKET.REMARKDESC_LONGDESCRIPTION
INCIDENT	ORIGWOID	61	UPPER	10	0	0	0	WORKORDER.WONUM
INCIDENT	ORIGTKID	67	UPPER	10	0	0	0	TICKET.TICKETID
INCIDENT	PROBLEMCODE_LONGDESCRIPTION	68	LONGALN	32000	0	0	0	
INCIDENT	FR1CODE_LONGDESCRIPTION	70	LONGALN	32000	0	0	0	
INCIDENT	FR2CODE_LONGDESCRIPTION	72	LONGALN	32000	0	0	0	
INCIDENT	DUPFLAG	75	UPPER	10	0	0	0	
INCIDENT	ASSETUSER	76	UPPER	30	0	0	0	PERSON.PERSONID
INCIDENT	ASSETCUST	77	UPPER	30	0	0	0	PERSON.PERSONID
INCIDENT	NP_STATUSMEMO	79	ALN	50	0	0	0	WFTRANSACTION.MEMO
INCIDENT	ASSETFILTERBY	81	UPPER	10	0	1	0	
INCIDENT	SELECTSLAS_MODE	82	UPPER	10	0	0	0	
INCIDENT	REPORTEDBYNAME	83	ALN	62	0	0	0	PERSON.DISPLAYNAME
INCIDENT	REPORTEDBYID	84	UPPER	30	0	0	0	PERSON.PERSONID
INCIDENT	AFFECTEDPERSONID	85	UPPER	30	0	0	0	PERSON.PERSONID
INCIDENT	AFFECTEDUSERNAME	86	ALN	62	0	0	0	PERSON.DISPLAYNAME
INCIDENT	SLAAPPLIED	87	YORN	1	0	1	0	
INVBALANCES	USEBY	16	DATE	4	0	0	0	
INVBALANCES	SHELFLIFE	17	FLOAT	8	0	0	0	
INVBALANCES	ADJUSTEDPHYSICNTDATE	18	DATETIME	10	0	0	0	
INVBALANCES	ADJUSTEDPHYSICNT	19	DECIMAL	15	2	0	0	
INVBALANCES	NEWCURBAL	21	DECIMAL	15	2	0	1	INVBALANCES.CURBAL
INVBALANCES	SHRINKAGEACC	22	GL	23	0	0	1	
INVBALANCES	CONTROLACC	23	GL	23	0	0	1	

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
INVCOST	NEWSTDCOST	15	AMOUNT	10	2	0	1	INVCOST.STDCOST
INVCOST	NEWAVGCOST	16	AMOUNT	10	2	0	1	INVCOST.AVGCOST
INVCOST	CONTROLACCOUNT	17	GL	23	0	0	1	
INVCOST	INVCOSTADJACCOUNT	18	GL	23	0	0	1	
INVCOST	PERCENTINCREASE	19	DECIMAL	15	2	0	0	
INVENTORY	ADDTOSTORELOC	34	UPPER	8	0	0	0	
INVENTORY	RESERVEDQTY	35	DECIMAL	15	2	0	0	
INVENTORY	EXPIREDQTY	36	DECIMAL	15	2	0	0	
INVENTORY	AVBLBALANCE	37	DECIMAL	15	2	0	0	
INVENTORY	LOTNUM	38	UPPER	8	0	0	0	
INVENTORY	CURBAL	39	DECIMAL	15	2	0	0	
INVENTORY	CURBALTOTAL	40	DECIMAL	15	2	0	0	
INVENTORY	CONDITIONCODE	41	UPPER	30	0	0	0	ITEMCONDITION.CONDITIONCODE
INVENTORY	CONDRATE	42	DECIMAL	8	0	0	1	ITEMCONDITION.CONDRATE
INVENTORY	STDCOST	43	AMOUNT	10	2	0	0	
INVENTORY	AVGCOST	44	AMOUNT	10	2	0	0	
INVENTORY	LASTCOST	45	AMOUNT	10	2	0	0	
INVENTORY	PHYSCNTDATE	46	DATETIME	10	0	0	1	INVBALANCES.PHYSCNTDATE
INVENTORY	HOLDINGBAL	48	DECIMAL	15	2	0	0	
INVOICE	DESCRIPTION_LONGDESCRIPTION	60	LONGALN	32000	0	0	1	
INVOICE	VARIANCE	61	DECIMAL	10	2	0	0	
INVOICE	LINETOTAL	62	DECIMAL	10	2	0	0	
INVOICE	TOTALTAX5FORUI	63	DECIMAL	10	2	0	0	
INVOICE	TOTALTAX4FORUI	64	DECIMAL	10	2	0	0	
INVOICE	TOTALTAX3FORUI	65	DECIMAL	10	2	0	0	
INVOICE	TOTALTAX2FORUI	66	DECIMAL	10	2	0	0	
INVOICE	TOTALTAX1FORUI	67	DECIMAL	10	2	0	0	
INVOICE	TOTALCOSTFORUI	68	DECIMAL	10	2	0	0	
INVOICE	BASETOTALCOSTFORUI	69	AMOUNT	10	2	0	0	
INVOICE	TOTALTOALLOCATE	70	DECIMAL	10	2	0	0	
INVOICE	TOTALALLOCATED	71	DECIMAL	10	2	0	0	
INVOICE	UNINVOICEDTOTAL	72	DECIMAL	10	2	0	0	
INVOICE	PRETAXTOTAL	73	DECIMAL	10	2	0	0	
INVOICE	PHONE	74	ALN	20	0	0	0	
INVOICE	REMITADDRESS5	75	ALN	36	0	0	0	
INVOICE	REMITADDRESS4	76	ALN	36	0	0	0	
INVOICE	REMITADDRESS3	77	ALN	36	0	0	0	
INVOICE	REMITADDRESS2	78	ALN	36	0	0	0	
INVOICE	REMITADDRESS1	79	ALN	36	0	0	0	
INVOICE	COMPANYNAME	80	ALN	50	0	0	0	
INVOICE	PRETAXTOTALFORUI	81	DECIMAL	10	2	0	0	
INVOICE	NP_STATUSMEMO	89	ALN	50	0	0	0	WFTRANSACTION.MEMO
INVOICECOST	QTYFORUI	23	DECIMAL	10	2	0	0	
INVOICECOST	LINECOSTFORUI	24	DECIMAL	10	2	0	0	
INVOICECOST	GLCREDITACCTNONPER	25	GL	23	0	0	1	
INVOICECOST	GLDEBITACCTNONPER	26	GL	23	0	0	1	

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
INVOICECOST	ASSETNUMNONPER	27	UPPER	8	0	0	0	
INVOICECOST	LOCATIONNONPER	28	UPPER	8	0	0	0	
INVOICECOST	TASKIDNONPER	29	INTEGER	12	0	0	0	
INVOICECOST	WONUMNONPER	30	UPPER	10	0	0	0	
INVOICECOST	TASKID	31	INTEGER	12	0	0	0	
INVOICECOST	WONUM	32	UPPER	10	0	0	0	
INVOICECOST	FCPROJECTID	34	ALN	25	0	0	0	FINCNTRL.PROJECTID
INVOICECOST	FCTASKID	35	ALN	25	0	0	0	FINCNTRL.TASKID
INVOICECOST	TOSITEIDNONPER	37	UPPER	8	0	0	0	
INVOICELINE	DESCRIPTION_LONGDESCRIPTION	43	LONGALN	32000	0	0	1	
INVOICELINE	SERVRECTRANSID	44	INTEGER	12	0	0	0	
INVOICELINE	MATRECTRANSID	45	INTEGER	12	0	0	0	
INVOICELINE	TAX5FORUI	46	DECIMAL	10	2	0	0	
INVOICELINE	TAX4FORUI	47	DECIMAL	10	2	0	0	
INVOICELINE	TAX3FORUI	48	DECIMAL	10	2	0	0	
INVOICELINE	TAX2FORUI	49	DECIMAL	10	2	0	0	
INVOICELINE	TAX1FORUI	50	DECIMAL	10	2	0	0	
INVOICELINE	LOADED_COSTFORUI	51	DECIMAL	10	2	0	0	
INVOICELINE	LINE_COSTFORUI	52	DECIMAL	10	2	0	0	
INVOICELINE	QTYFORUI	53	DECIMAL	10	2	0	0	
INVOICELINE	ISDISTRIBUTED	54	YORN	1	0	0	0	
INVOICETERM	DESCRIPTION_LONGDESCRIPTION	7	LONGALN	32000	0	0	1	
INVRESERVE	DESCRIPTION_LONGDESCRIPTION	30	LONGALN	32000	0	0	1	
INVRESERVE	DISPLAYTASKID	31	INTEGER	12	0	0	0	
INVRESERVE	DISPLAYWONUM	32	UPPER	10	0	0	0	
INVRESERVE	FCPROJECTID	35	ALN	25	0	0	0	FINCNTRL.PROJECTID
INVRESERVE	FCTASKID	36	ALN	25	0	0	0	FINCNTRL.TASKID
INVVENDOR	ORDERQTY	29	DECIMAL	15	2	0	0	
INVVENDOR	LASTDELIVERYTIME	30	DECIMAL	10	2	0	0	
INVVENDOR	PERCENTONTIME	31	DECIMAL	10	2	0	0	
INVVENDOR	AVGDELIVERYTIME	32	DECIMAL	10	2	0	0	
INVVENDOR	QTYREJECTEDYTD	33	DECIMAL	15	2	0	0	
INVVENDOR	QTYRECEIVEDYTD	34	DECIMAL	15	2	0	0	
INVVENDOR	PERCENTREJECTEDYTD	35	DECIMAL	15	2	0	0	
INVVENDOR	PERCENTREJECTED	36	DECIMAL	15	2	0	0	
INVVENDOR	QTYREJECTED	37	DECIMAL	15	2	0	0	
INVVENDOR	QTYRECEIVED	38	DECIMAL	15	2	0	0	
INVVENDOR	NOOFCOMPLETEPOS	39	ALN	20	0	0	0	
INVVENDOR	CONTRACTNUM	42	UPPER	8	0	0	0	CONTRACT.CONTRACTNUM
INVVENDOR	CONTRACTTYPE	43	UPPER	25	0	0	0	CONTRACT.CONTRACTTYPE
ITEM	DESCRIPTION_LONGDESCRIPTION	27	LONGALN	32000	0	0	1	
ITEM	ITEM_DESCRIPTION	28	ALN	50	0	0	0	
ITEM	ITEM_ID	29	ALN	50	0	0	0	
ITEM	SITEID	30	UPPER	8	0	0	0	
ITEM	HASIAS	31	YORN	1	0	0	0	
ITEM	INSTANCE	32	INTEGER	12	0	0	0	

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
ITEM	KITCOMPONENTTOADDSTORE	42	YORN	1	0	1	1	
ITEMCONDITION	DESCRIPTION_LONGDESCRIPTION	7	LONGALN	32000	0	0	1	
ITEMSTRUCT	REMARK_LONGDESCRIPTION	14	LONGALN	32000	0	0	1	
ITEMSTRUCT	IASDESCRIPTION	15	ALN	80	0	0	0	
ITEMSTRUCT	ROTSUSPACCT	16	GL	23	0	0	1	
ITEMSTRUCT	GLACCOUNT	17	GL	23	0	0	1	
ITEMSTRUCT	LOCATION	18	UPPER	8	0	0	0	
ITEMSTRUCT	ASSETNUM	19	UPPER	8	0	0	0	
ITEMSTRUCT	KITQUANTITY	21	DECIMAL	15	2	0	1	INVBALANCES.CURBAL
ITEMSTRUCT	ORGID	23	UPPER	8	0	0	0	ORGANIZATION.ORGID
JOBITEM	LINECOST	13	AMOUNT	10	2	0	0	
JOBITEM	UNITCOST	18	AMOUNT	10	2	0	0	
JOBLABOR	PAYRATE	17	AMOUNT	10	2	0	0	
JOBLABOR	LINECOST	18	AMOUNT	10	2	0	0	
JOBMATERIAL	LINECOST	13	AMOUNT	10	2	0	0	JOBITEM.LINECOST
JOBMATERIAL	UNITCOST	18	AMOUNT	10	2	0	0	JOBITEM.UNITCOST
JOBPLAN	DESCRIPTION_LONGDESCRIPTION	12	LONGALN	32000	0	0	1	
JOBPLAN	NP_STATUSMEMO	19	ALN	50	0	0	0	WFTRANSACTION.MEMO
JOBSERVICE	LINECOST	13	AMOUNT	10	2	0	0	JOBITEM.LINECOST
JOBSERVICE	UNITCOST	18	AMOUNT	10	2	0	0	JOBITEM.UNITCOST
JOBTASK	DESCRIPTION_LONGDESCRIPTION	16	LONGALN	32000	0	0	1	
JOBTOOL	LINECOST	13	AMOUNT	10	2	0	0	
JOBTOOL	UNITCOST	18	AMOUNT	10	2	0	0	
JPASSETSPLINK	ASSETDESCRIPTION_LONGDESCRIPTION	13	LONGALN	32000	0	0	1	
JPASSETSPLINK	ASSETDESCRIPTION	14	ALN	80	0	0	0	
KPIMAIN	DESCRIPTION_LONGDESCRIPTION	21	LONGALN	32000	0	0	0	
KPITRENDCFG	COMPAREWITH	7	ALN	135	0	0	0	
LABOR	SHIFT	14	UPPER	8	0	0	0	
LABOR	AVAILABILITY	15	DURATION	8	0	0	0	
LABOR	ATTENDANCE	16	DURATION	8	0	0	0	
LABOR	DAILYTIME	17	DURATION	8	0	0	0	
LABOR	DAY1	24	DURATION	8	0	0	1	
LABOR	DAY2	25	DURATION	8	0	0	1	
LABOR	DAY3	26	DURATION	8	0	0	1	
LABOR	DAY4	27	DURATION	8	0	0	1	
LABOR	DAY5	28	DURATION	8	0	0	1	
LABOR	DAY6	29	DURATION	8	0	0	1	
LABOR	DAY7	30	DURATION	8	0	0	1	
LABOR	PERCENTALLOC	31	INTEGER	12	0	0	1	
LABOR	NP_STATUSMEMO	32	ALN	50	0	0	0	WFTRANSACTION.MEMO
LABOR	CALNUM	34	UPPER	8	0	0	0	CALENDAR.CALNUM
LABOR	SHIFTNUM	35	UPPER	8	0	0	0	SHIFT.SHIFTNUM
LABORCERTHIST	ISSUINGAUTHORITY_LONGDESCRIPTION	14	LONGALN	32000	0	0	0	
LABORCERTHIST	EVALUATIONMETHOD_LONGDESCRIPTION	15	LONGALN	32000	0	0	0	
LABORCERTHIST	VALIDATEDBY_LONGDESCRIPTION	16	LONGALN	32000	0	0	0	
LABORCRAFTRATE	ISACTIVE	11	YORN	1	0	1	0	

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
LABORCRAFTRATE	DISPLAYRATE	12	AMOUNT	10	2	0	0	
LABORCRAFTRATE	STANDARDRATE	15	AMOUNT	10	2	0	0	CRAFTRATE.STANDARDRATE
LABORQUAL	VALIDATEDBY_LONGDESCRIPTION	17	LONGALN	32000	0	0	1	
LABORQUAL	ISSUINGAUTHORITY_LONGDESCRIPTION	18	LONGALN	32000	0	0	1	
LABORQUAL	EVALUATIONMETHOD_LONGDESCRIPTION	19	LONGALN	32000	0	0	1	
LABORQUAL	CURRENT	20	YORN	1	0	1	0	
LABORQUAL	NP_STATUSMEMO	22	ALN	50	0	0	0	WFTRANSACTION.MEMO
LABORVIEW	DESCRIPTION_LONGDESCRIPTION	46	LONGALN	32000	0	0	1	
LABORVIEW	FREIGHTTERMS_LONGDESCRIPTION	47	LONGALN	32000	0	0	1	
LABORVIEW	ADJUSTPERCENT	55	DECIMAL	5	2	0	0	
LABORVIEW	NP_STATUSMEMO	56	ALN	50	0	0	0	WFTRANSACTION.MEMO
LABORVIEW	REVCOMMENTS_LONGDESCRIPTION	59	LONGALN	32000	0	0	0	
LABTRANS	TASKID	41	INTEGER	12	0	0	0	
LABTRANS	WONUM	42	UPPER	10	0	0	0	
LABTRANS	ACTUALSTASKID	43	INTEGER	12	0	0	0	
LABTRANS	ACTIVITY	47	UPPER	10	0	0	0	WORKORDER.WONUM
LABTRANS	FCPROJECTID	48	ALN	25	0	0	0	FINCNTRL.PROJECTID
LABTRANS	FCTASKID	49	ALN	25	0	0	0	FINCNTRL.TASKID
LAYOUT	RSCONDITIONATTR	10	UPPER	50	0	0	0	RSCONFIG.QUERYCOLUMN
LAYOUT	RSGRAPHATTR	11	UPPER	50	0	0	0	RSCONFIG.QUERYCOLUMN
LAYOUT	QUERYNAME	13	ALN	100	0	0	0	QUERY.DESCRPTION
LEASEVIEW	DESCRIPTION_LONGDESCRIPTION	46	LONGALN	32000	0	0	1	
LEASEVIEW	FREIGHTTERMS_LONGDESCRIPTION	47	LONGALN	32000	0	0	1	
LEASEVIEW	LINESTATUS	86	UPPER	6	0	0	0	CONTRACT.STATUS
LEASEVIEW	NP_STATUSMEMO	87	ALN	50	0	0	0	WFTRANSACTION.MEMO
LEASEVIEW	REVCOMMENTS_LONGDESCRIPTION	90	LONGALN	32000	0	0	0	
LEASEVIEWLINE	DESCRIPTION_LONGDESCRIPTION	22	LONGALN	32000	0	0	1	
LEASEVIEWLINE	REMARK_LONGDESCRIPTION	23	LONGALN	32000	0	0	1	
LEASEVIEWLINE	NEWPRICE	24	DECIMAL	10	2	0	0	CONTRACTLINE.LINECOST
LNKCLAUSEATRNAME	DATATYPE	26	UPPER	8	0	0	0	CLASSSPEC.DATATYPE
LNKCLAUSEATRNAME	SPECVALUE	27	ALN	16	0	0	0	CLASSSPEC.SPECVALUE
LOCATIONMETER	REMARKS_LONGDESCRIPTION	18	LONGALN	32000	0	0	1	
LOCATIONMETER	DOMAINID	19	UPPER	18	0	0	1	MAXDOMAIN.DOMAINID
LOCATIONMETER	INSPECTOR	20	UPPER	30	0	0	0	PERSON.PERSONID
LOCATIONMETER	NEWREADINGDATE	23	DATETIME	10	0	0	1	
LOCATIONMETER	DELTAVALUE	24	DECIMAL	15	2	0	0	
LOCATIONMETER	ISDELTA	25	YORN	1	0	0	0	
LOCATIONMETER	NEWREADING	26	ALN	16	0	0	0	
LOCATIONMETER	PREVIOUSREADING	30	ALN	16	0	0	0	ASSETMETER.NEWREADING
LOCATIONMETER	PREVIOUSREADINGDATE	31	DATETIME	10	0	0	1	ASSETMETER.NEWREADINGDATE
LOCATIONMETER	PREVIOUSREADINGINSPECTOR	33	UPPER	30	0	0	0	PERSON.PERSONID
LOCATIONMETER	NEWREADINGROLLOVERINCLUSIVE	34	ALN	16	0	0	0	LOCATIONMETER.NEWREADING
LOCATIONMETER	SINCELASTREPAIRNEW	36	DECIMAL	15	2	0	1	ASSETMETER.SINCELASTREPAIR
LOCATIONMETER	SINCELASTOVERHAULNEW	37	DECIMAL	15	2	0	1	ASSETMETER.SINCELASTOVERHAUL
LOCATIONMETER	SINCELASTINSPECTNEW	38	DECIMAL	15	2	0	1	ASSETMETER.SINCELASTINSPECT
LOCATIONMETER	SINCEINSTALLNEW	39	DECIMAL	15	2	0	1	ASSETMETER.SINCEINSTALL

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
LOCATIONMETER	ROLLOVERNEW	40	DECIMAL	15	2	0	1	METERINGROUP.ROLLOVER
LOCATIONMETER	AVERAGENEW	41	DECIMAL	15	2	0	1	ASSETMETER.AVERAGE
LOCATIONMETER	LASTREADINGNEW	42	DECIMAL	15	2	0	1	METERREADING.READING
LOCATIONMETER	LASTREADINGDATENEW	43	DATETIME	10	0	0	1	ASSETMETER.NEWREADINGDATE
LOCATIONMETER	LASTREADINGINSPCTRNEW	44	UPPER	30	0	0	0	PERSON.PERSONID
LOCATIONMETER	DOROLLOVER	46	YORN	1	0	1	1	
LOCATIONS	DESCRIPTION_LONGDESCRIPTION	34	LONGALN	32000	0	0	1	
LOCATIONS	CHILDREN	35	YORN	1	0	0	0	
LOCATIONS	ADDTOSTORELOC	36	UPPER	12	0	0	0	LOCATIONS.LOCATION
LOCATIONS	WARRANTYEXPDATE	37	DATE	4	0	0	0	
LOCATIONS	CALNUM	38	UPPER	8	0	0	0	CALENDAR.CALNUM
LOCATIONS	FAILURECODE	39	UPPER	8	0	0	0	
LOCATIONS	PARENT	40	UPPER	8	0	0	0	
LOCATIONS	NEWPERCENT	41	INTEGER	12	0	0	0	
LOCATIONS	LOCPRIORITY	42	INTEGER	12	0	0	0	
LOCATIONS	ITEMNUM	44	UPPER	30	0	0	0	
LOCATIONS	SYSTEMID	45	UPPER	8	0	0	0	
LOCATIONS	ITEMSETID	46	UPPER	8	0	0	0	SETS.SETID
LOCATIONS	SHIFTNUM	47	UPPER	8	0	0	0	SHIFT.SHIFTNUM
LOCATIONS	GROUPNAME	49	UPPER	10	0	0	0	METERGROUP.GROUPNAME
LOCATIONS	HASCHILDREN	51	YORN	1	0	1	0	
LOCATIONS	HASPARENT	52	YORN	1	0	1	0	
LOCATIONS	OBJECTNAME	53	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
LOCATIONS	ADDTOSTORESITID	57	UPPER	8	0	0	0	SITE.SITID
LOCHIERARCHY	NEWPARENT	10	UPPER	8	0	0	0	
LOCKOUT	DESCRIPTION_LONGDESCRIPTION	19	LONGALN	32000	0	0	1	
LOCKOUT	DEVICEDescription_LONGDESCRIPTION	20	LONGALN	32000	0	0	1	
LOCKOUT	REMOVESEQ	21	SMALLINT	10	0	0	0	
LOCKOUT	APPLYSEQ	22	SMALLINT	10	0	0	0	
LOCMETERREADING	ISMODIFICATIONDELTA	16	YORN	1	0	0	0	
LOCMETERREADING	READINGISDELTA	17	YORN	1	0	0	0	
LOCMETERREADING	MODIFIEDDELTA	18	DECIMAL	15	2	0	0	
LOCMETERREADING	MODIFIEDREADING	19	DECIMAL	15	2	0	0	
LOCMETERREADING	DOROLLOVER	21	YORN	1	0	1	1	
LOCSYSTEM	DESCRIPTION_LONGDESCRIPTION	13	LONGALN	32000	0	0	1	
LOCSYSTEM	LOCATION	14	UPPER	12	0	0	0	
MASTERPM	LEADTIMEACTIVE	16	YORN	1	0	1	0	PM.LEADTIMEACTIVE
MASTERPM	DESCRIPTION_LONGDESCRIPTION	18	LONGALN	32000	0	0	1	
MASTERSVIEW	DESCRIPTION_LONGDESCRIPTION	46	LONGALN	32000	0	0	1	CONTRACT.DESCRPTION_LONGDESCRIPTION
MASTERSVIEW	FREIGHTTERMS_LONGDESCRIPTION	47	LONGALN	32000	0	0	1	CONTRACT.FREIGHTTERMS_LONGDESCRIPTION
MASTERSVIEW	NP_STATUSMEMO	60	ALN	50	0	0	0	WFTRANSACTION.MEMO
MASTERSVIEW	REVCOMMENTS_LONGDESCRIPTION	65	LONGALN	32000	0	0	0	
MATRECTRANS	DESCRIPTION_LONGDESCRIPTION	99	LONGALN	32000	0	0	1	
MATRECTRANS	REMARK_LONGDESCRIPTION	100	LONGALN	32000	0	0	1	
MATRECTRANS	INVOICEMATUNITCOST	101	DECIMAL	10	2	0	0	
MATRECTRANS	UNINVOICEDCOST	102	DECIMAL	10	2	0	0	

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
MATRECTRANS	UNINVOICEDQUANTITY	103	DECIMAL	15	2	0	0	
MATRECTRANS	NEWSITE	104	UPPER	8	0	0	0	
MATRECTRANS	NEWPHYSICNTDATE	105	DATETIME	10	0	0	0	
MATRECTRANS	NEWPHYSICNT	106	DECIMAL	15	2	0	0	
MATRECTRANS	TASKID	107	INTEGER	12	0	0	0	
MATRECTRANS	WONUM	108	UPPER	10	0	0	0	
MATRECTRANS	RESERVEDQTY	109	DECIMAL	15	2	0	0	
MATRECTRANS	REQUESTNUM	110	UPPER	20	0	0	0	
MATRECTRANS	POLINECOST	111	DECIMAL	10	2	0	0	
MATRECTRANS	POUNITCOST	112	DECIMAL	10	2	0	0	
MATRECTRANS	USEBY	113	DATE	4	0	0	0	
MATRECTRANS	MFGLOTNUM	114	UPPER	8	0	0	0	
MATRECTRANS	SHELFLIFE	115	FLOAT	8	0	0	0	
MATRECTRANS	CURRENCYORDERUNITCOST	116	DECIMAL	10	2	0	0	
MATRECTRANS	CURRENCYTAX5	117	DECIMAL	10	2	0	0	
MATRECTRANS	CURRENCYTAX4	118	DECIMAL	10	2	0	0	
MATRECTRANS	CURRENCYTAX3	119	DECIMAL	10	2	0	0	
MATRECTRANS	CURRENCYTAX2	120	DECIMAL	10	2	0	0	
MATRECTRANS	CURRENCYTAX1	121	DECIMAL	10	2	0	0	
MATRECTRANS	CURRENCYLOADED COST	122	DECIMAL	10	2	0	0	
MATRECTRANS	CATEGORY	123	UPPER	16	0	0	1	INVENTORY.CATEGORY
MATRECTRANS	ISDISTRIBUTED	124	YORN	1	0	0	0	
MATRECTRANS	ROTATINGASSETDESC	125	ALN	80	0	0	0	
MATRECTRANS	ORDERQTY	126	FLOAT	8	0	0	0	
MATRECTRANS	QTYALREADYRECD	127	FLOAT	8	0	0	0	
MATRECTRANS	ASN	128	YORN	1	0	1	0	
MATRECTRANS	RECEIPTQUANTITY	129	DECIMAL	15	2	0	0	
MATRECTRANS	FCPROJECTID	135	ALN	25	0	0	0	FINCNTRL.PROJECTID
MATRECTRANS	FCTASKID	136	ALN	25	0	0	0	FINCNTRL.TASKID
MATRECTRANS	ACCEPTEDQTY	141	DECIMAL	15	2	0	0	
MATRECTRANS	INSPECTEDQTYDSPY	143	DECIMAL	15	2	0	1	MATRECTRANS.INSPECTEDQTY
MATRECTRANS	REJECTQTYDISPLAY	144	DECIMAL	15	2	0	1	MATRECTRANS.REJECTQTY
MATRECTRANS	DISPLAYUNITCOST	147	AMOUNT	10	2	0	0	
MATUSETRANS	DESCRIPTION_LONGDESCRIPTION	72	LONGALN	32000	0	0	1	
MATUSETRANS	TASKID	73	INTEGER	12	0	0	0	
MATUSETRANS	WONUM	74	UPPER	10	0	0	0	
MATUSETRANS	ACTUALSTASKID	75	INTEGER	12	0	0	0	
MATUSETRANS	NEWPHYSICNTDATE	76	DATETIME	10	0	0	0	
MATUSETRANS	NEWPHYSICNT	77	DECIMAL	15	2	0	0	
MATUSETRANS	POSITIVEQUANTITY	78	DECIMAL	15	2	0	0	
MATUSETRANS	RESERVEDQTY	79	DECIMAL	15	2	0	0	
MATUSETRANS	REQUESTNUM	80	UPPER	20	0	0	0	
MATUSETRANS	FCPROJECTID	86	ALN	25	0	0	0	FINCNTRL.PROJECTID
MATUSETRANS	FCTASKID	87	ALN	25	0	0	0	FINCNTRL.TASKID
MAXAPPS	GROUPNAME	10	UPPER	30	0	0	1	MAXGROUP.GROUPNAME
MAXAPPS	READ	11	YORN	1	0	1	1	

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
MAXAPPS	INSERT	12	YORN	1	0	1	1	
MAXAPPS	SAVE	13	YORN	1	0	1	1	
MAXAPPS	DELETE	14	YORN	1	0	1	1	
MAXAPPS	MODULE	15	UPPER	10	0	0	1	MAXMODULES.MODULE
MAXATTRIBUTECFG	EAUDITBNAME	29	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
MAXATTRIBUTECFG	VIEWCHANGED	30	ALN	30	0	0	0	MAXOBJECTCFG.VIEWCHANGED
MAXATTRIBUTECFG	LANGTABLENAME	35	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
MAXATTRIBUTECFG	ISHANDLECOLUMN	36	YORN	1	0	1	1	
MAXATTRIBUTECFG	SEQUENCENAME	38	UPPER	21	0	0	0	MAXSEQUENCE.SEQUENCENAME
MAXATTRIBUTECFG	NEXTSEQUENCENO	39	DECIMAL	15	0	0	1	MAXSEQUENCE.MAXRESERVED
MAXCONDDETAIL	COMPVALUE	13	ALN	25	0	0	0	MAXCONDDETAIL.VALUE
MAXCONDDETAIL	COMPFIELD	14	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
MAXCONDDETAIL	COMPCONTROL	15	UPPER	20	0	0	1	MAXIFACECONTROL.IFACECONTROL
MAXCONDDETAIL	MAXVARNAME	16	ALN	18	0	0	1	MAXVARS.VARNAME
MAXCONDDETAIL	RELMAXVAR	17	ALN	18	0	0	1	MAXVARS.VARNAME
MAXCONDDETAIL	COMPMBONAME	18	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
MAXCONDDETAIL	COMPRELATION	19	UPPER	50	0	0	0	MAXATTRIBUTE.ATTRIBUTENAME
MAXCONDDETAIL	COMPCOLUMNNAME	20	UPPER	50	0	0	0	MAXATTRIBUTE.ATTRIBUTENAME
MAXCONDDETAIL	COLUMNTYPE	21	UPPER	8	0	0	1	MAXATTRIBUTE.MAXTYPE
MAXCONDDETAIL	RELRELATION	22	UPPER	50	0	0	0	MAXATTRIBUTE.ATTRIBUTENAME
MAXCONDDETAIL	RELCOLUMNNAME	23	UPPER	50	0	0	0	MAXATTRIBUTE.ATTRIBUTENAME
MAXCONDDETAIL	RELCOLUMNTYPE	24	UPPER	8	0	0	1	MAXATTRIBUTE.MAXTYPE
MAXCONDDETAIL	COMPONENTNAME	25	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
MAXCONDDETAIL	COMPBOOLEAN	28	ALN	10	0	0	0	
MAXCONDDETAIL	RELMBONAME	30	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
MAXCONDDETAIL	RELCONTROL	33	UPPER	20	0	0	1	MAXIFACECONTROL.IFACECONTROL
MAXENDPOINT	DESCRIPTION_LONGDESCRIPTION	5	LONGALN	32000	0	0	1	
MAXEXTIFACEIN	IFACEDESCRIPTION	6	ALN	100	0	0	1	MAXIFACE.DESCRPTION
MAXEXTIFACEIN	IFACETYPE	9	UPPER	10	0	0	1	MAXIFACETYPE.IFACETYPE
MAXEXTIFACEOUT	IFACEDESCRIPTION	5	ALN	100	0	0	1	MAXIFACE.DESCRPTION
MAXEXTIFACEOUT	EXPORTWHERE	8	ALN	4000	0	0	1	
MAXEXTIFACEOUT	INTPOINTNAME	9	UPPER	20	0	0	1	MAXINTPOINT.INTPOINTNAME
MAXEXTIFACEOUT	IFACETYPE	10	UPPER	10	0	0	1	MAXIFACETYPE.IFACETYPE
MAXEXTSYSCONTROL	IFACETYPE	7	UPPER	10	0	0	1	MAXIFACETYPE.IFACETYPE
MAXEXTSYSCONTROL	ORGOVERRIDE	8	YORN	1	0	1	1	MAXIFACECONTROL.ORGOVERRIDE
MAXEXTSYSCONTROL	SITEOVERRIDE	9	YORN	1	0	1	1	MAXIFACECONTROL.SITEOVERRIDE
MAXEXTSYSCONTROL	DESCRIPTION	10	ALN	100	0	0	1	MAXIFACECONTROL.DESCRPTION
MAXEXTSYSCONTROL	USESISTEMVALUE	11	YORN	1	0	1	1	MAXIFACECONTROL.USESISTEMVALUE
MAXEXTSYSCONTROL	DOMAINID	12	UPPER	18	0	0	1	MAXDOMAIN.DOMAINID
MAXEXTSYSTEM	DESCRIPTION_LONGDESCRIPTION	9	LONGALN	32000	0	0	1	
MAXGROUP	DESCRIPTION_LONGDESCRIPTION	31	LONGALN	32000	0	0	1	
MAXIFACE	INTERNAL	9	YORN	1	0	1	1	
MAXIFACE	DESCRIPTION_LONGDESCRIPTION	10	LONGALN	32000	0	0	1	
MAXIFACE	INBOUND	14	YORN	1	0	1	1	
MAXIFACE	OUTBOUND	15	YORN	1	0	1	1	
MAXIFACE	XMLDATA	17	ALN	50000	0	0	0	

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
MAXIFACE	SCHEMADATA	18	ALN	50000	0	0	0	
MAXIFACE	WSDLDATA	19	ALN	50000	0	0	0	
MAXIFACECOND	HASMBOEVAL	4	YORN	1	0	1	1	MAXIFACEPROC.ENABLED
MAXIFACECOND	HASXMLLEVEL	5	YORN	1	0	1	1	MAXIFACEPROC.ENABLED
MAXIFACECOND	HASMAXVAREVAL	6	YORN	1	0	1	1	MAXIFACEPROC.ENABLED
MAXIFACECOND	MBONAME	10	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
MAXIFACECOND	HASMBOSETEVAL	11	YORN	1	0	1	1	
MAXIFACECONTROL	DESCRIPTION_LONGDESCRIPTION	8	LONGALN	32000	0	0	1	
MAXIFACEIN	INTERNAL	5	YORN	1	0	1	1	
MAXIFACEIN	DESCRIPTION	6	ALN	100	0	0	1	MAXIFACE.DESCRPTION
MAXIFACEIN	INTOBJECTNAME	13	UPPER	20	0	0	1	MAXINTOBJECT.INTOBJECTNAME
MAXIFACEOUT	INTERNAL	4	YORN	1	0	1	1	
MAXIFACEOUT	DESCRIPTION	5	ALN	100	0	0	1	MAXIFACE.DESCRPTION
MAXIFACEOUT	INTOBJECTNAME	8	UPPER	20	0	0	1	MAXINTOBJECT.INTOBJECTNAME
MAXIFACEPROC	DESCRIPTION_LONGDESCRIPTION	14	LONGALN	32000	0	0	1	
MAXIFACEPROC	PARENTAPPLIED	24	ALN	5	0	0	1	
MAXIFACEPROC	PROCMSGVALUE	27	ALN	500	0	0	0	MAXMESSAGES.VALUE
MAXIFACETYPE	DESCRIPTION_LONGDESCRIPTION	6	LONGALN	32000	0	0	1	
MAXINTOBJDETAIL	TABLELEVEL	7	UPPER	18	0	0	1	MAXOBJECT.SITEORGTTYPE
MAXINTOBJDETAIL	INTPOINTNAME	12	UPPER	20	0	0	1	MAXINTPOINT.INTPOINTNAME
MAXINTOBJDETAIL	IFACENAME	13	ALN	20	0	0	1	MAXIFACE.IFACENAME
MAXINTOBJDETAIL	IFACETYPE	14	UPPER	10	0	0	1	MAXIFACETYPE.IFACETYPE
MAXINTOBJECT	DESCRIPTION_LONGDESCRIPTION	8	LONGALN	32000	0	0	1	
MAXINTOBJECT	XMLDATA	10	ALN	8000	0	0	0	
MAXINTPOINT	DESCRIPTION_LONGDESCRIPTION	4	LONGALN	32000	0	0	0	
MAXOBJECTCFG	ISAUDITTABLE	17	YORN	1	0	1	1	MAXTABLE.ISAUDITTABLE
MAXOBJECTCFG	EAUDITBNAME	18	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
MAXOBJECTCFG	VIEWCHANGED	19	ALN	30	0	0	0	
MAXOBJECTCFG	STORAGEPARTITION	21	ALN	30	0	0	0	MAXTABLE.STORAGEPARTITION
MAXOBJECTCFG	ADDROWSTAMP	22	YORN	1	0	1	0	MAXTABLE.ADDROWSTAMP
MAXOBJECTCFG	RESTOREDATA	23	UPPER	1	0	0	0	MAXTABLE.RESTOREDATA
MAXOBJECTCFG	TEXTSEARCHENABLED	24	YORN	1	0	1	1	MAXTABLE.TEXTSEARCHENABLED
MAXOBJECTCFG	AUTOSELECT	25	YORN	1	0	1	1	MAXVIEW.AUTOSELECT
MAXOBJECTCFG	VIEWSELECT	26	ALN	4000	0	0	0	MAXVIEW.VIEWSELECT
MAXOBJECTCFG	VIEWWHERE	27	ALN	4000	0	0	0	MAXVIEW.VIEWWHERE
MAXOBJECTCFG	LANGTABLENAME	28	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
MAXOBJECTCFG	LANGCOLUMNNAME	29	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
MAXOBJECTCFG	UNIQUECOLUMNNAME	30	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
MAXOBJECTCFG	ISLANGTABLE	31	YORN	1	0	1	0	
MAXOBJECTCFG	JOINOBJECT	32	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
MAXOBJECTCFG	VIEWFROM	34	ALN	500	0	0	0	MAXVIEW.VIEWFROM
MAXPROCCOLS	MBONAME	8	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
MAXREPLACEPROC	REPLACEVALUE	8	ALN	25	0	0	1	MAXREPLACEPROC.VALUE
MAXREPLACEPROC	REPLACECONTROL	9	UPPER	20	0	0	1	MAXIFACECONTROL.IFACECONTROL
MAXREPLACEPROC	COMPCOLUMNNAME	10	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
MAXREPLACEPROC	MAXVARIABLE	11	ALN	18	0	0	1	MAXVARS.VARIABLE

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
MAXREPLACEPROC	MBOCOLUMNNAME	12	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
MAXROLE	SENDTO	13	YORN	1	0	1	0	
MAXROLE	CC	14	YORN	1	0	1	0	
MAXROLE	BCC	15	YORN	1	0	1	0	
MAXROLE	TYPE	16	UPPER	13	0	1	0	
MAXROLE	VALUE	17	ALN	254	0	1	0	
MAXROLE	DESCRIPTION_LONGDESCRIPTION	18	LONGALN	32000	0	0	1	
MAXROLE	REOBJECTNAME	20	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
MAXSYSINDEXES	UNIQUE	7	YORN	1	0	1	0	
MAXSYSINDEXES	VIEWCHANGED	8	ALN	30	0	0	0	
MAXSYSKEYS	ASCENDING	6	YORN	1	0	1	0	
MAXSYSKEYS	VIEWCHANGED	7	ALN	30	0	0	0	
MAXUSER	PASSWORDCHECK	16	ALN	35	0	0	0	MAXUSER.PASSWORDINPUT
MAXUSER	PASSWORDOLD	17	ALN	35	0	0	0	MAXUSER.PASSWORDINPUT
MAXUSER	NP_STATUSMEMO	20	ALN	50	0	0	0	WFTRANSACTION.MEMO
MAXUSER	SYNCPASSWORDS	21	YORN	1	0	1	1	
MAXUSER	DBPASSWORD	22	ALN	35	0	0	0	
MAXUSER	DBPASSWORDCHECK	23	ALN	35	0	0	0	MAXUSER.DBPASSWORD
MAXUSER	NEWPERSONID	25	UPPER	30	0	0	0	PERSON.PERSONID
MAXUSER	PASSWORDINPUT	27	ALN	35	0	0	0	
MAXVIEWCOLUMNCFG	VIEWCHANGED	7	ALN	30	0	0	0	MAXOBJECTCFG.VIEWCHANGED
MEASUREMENT	DOMAINID	7	UPPER	18	0	0	1	MAXDOMAIN.DOMAINID
MEASUREPOINT	DESCRIPTION_LONGDESCRIPTION	10	LONGALN	32000	0	0	1	
MEASUREPOINT	MEASUREUNITID	21	UPPER	8	0	0	0	MEASUREUNIT.MEASUREUNITID
METER	DESCRIPTION_LONGDESCRIPTION	7	LONGALN	32000	0	0	1	
METERGROUP	DESCRIPTION_LONGDESCRIPTION	3	LONGALN	32000	0	0	1	
METERGROUP	PROPAGATEMOD	4	YORN	1	0	0	0	
METERINGROUP	PROPAGATEMETERGROUPMOD	4	YORN	1	0	0	0	
METERREADING	ISMODIFICATIONDELTA	20	YORN	1	0	0	0	
METERREADING	READINGISDELTA	21	YORN	1	0	0	0	
METERREADING	MODIFIEDDELTA	22	DECIMAL	15	2	0	0	
METERREADING	MODIFIEDREADING	23	DECIMAL	15	2	0	0	
METERREADING	DOROLLOVER	28	YORN	1	0	1	1	
MR	DESCRIPTION_LONGDESCRIPTION	48	LONGALN	32000	0	0	1	
MR	CURRENCYCODE	49	UPPER	50	0	0	0	
MR	TRANSTYPE	50	UPPER	50	0	0	0	
MR	FCPROJECTID	52	ALN	25	0	0	0	FINCNTRL.PROJECTID
MR	FCTASKID	53	ALN	25	0	0	0	FINCNTRL.TASKID
MR	NP_STATUSMEMO	54	ALN	50	0	0	0	WFTRANSACTION.MEMO
MR	MRTMPLTNUM	57	UPPER	8	0	0	0	MR.MRNUM
MR	DESCRIPTION_TMPLT	58	ALN	100	0	0	0	
MRCOST	FCPROJECTID	10	ALN	25	0	0	0	FINCNTRL.PROJECTID
MRCOST	FCTASKID	11	ALN	25	0	0	0	FINCNTRL.TASKID
MRLINE	DESCRIPTION_LONGDESCRIPTION	60	LONGALN	32000	0	0	1	
MRLINE	TASKID	61	INTEGER	12	0	0	0	
MRLINE	WONUM	62	UPPER	10	0	0	0	

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
MRLINE	FCPROJECTID	69	ALN	25	0	0	0	FINCNTRL.PROJECTID
MRLINE	FCTASKID	70	ALN	25	0	0	0	FINCNTRL.TASKID
MRLINE	QTY_V	72	DECIMAL	15	0	0	0	
MRLINE	REQUIREDDATE_V	73	DATETIME	10	0	0	0	
NETDEVICE	VRAMSIZE	24	ALN	32	0	0	0	
NETPRINTER	VMAXRAMSIZE	30	ALN	32	0	0	0	
NETPRINTER	VCURRENTRAMSIZE	31	ALN	32	0	0	0	
NETPRINTER	VMAXWIDTH	32	ALN	32	0	0	0	
NETPRINTER	VMAXLENGTH	33	ALN	32	0	0	0	
ORGANIZATION	DESCRIPTION_LONGDESCRIPTION	9	LONGALN	32000	0	0	1	
PERSON	DISPLAYNAME_LONGDESCRIPTION	46	LONGALN	32000	0	0	0	
PERSON	NP_STATUSMEMO	47	ALN	50	0	0	0	WFTRANSACTION.MEMO
PERSON	DISPLAYFROM	53	DATE	4	0	0	0	
PERSON	PRIMARYEMAIL	57	ALN	50	0	0	1	EMAIL.EMAILADDRESS
PERSON	PRIMARYPHONE	58	ALN	20	0	0	1	PHONE.PHONENUM
PERSON	PRIMARYCALORG	59	UPPER	8	0	0	0	ORGANIZATION.ORGID
PERSON	PRIMARYCALNUM	60	UPPER	8	0	0	0	CALENDAR.CALNUM
PERSON	PRIMARYSHIFTNUM	61	UPPER	8	0	0	0	SHIFT.SHIFTNUM
PERSONGROUP	DESCRIPTION_LONGDESCRIPTION	4	LONGALN	32000	0	0	0	
PERSONGROUP	CC	5	YORN	1	0	1	0	
PERSONGROUP	BCC	6	YORN	1	0	1	0	
PERSONGROUP	SENDTO	7	YORN	1	0	1	0	
PM	DESCRIPTION_LONGDESCRIPTION	43	LONGALN	32000	0	0	1	
PM	LEADTIMEACTIVE	44	YORN	1	0	0	0	
PM	NP_STATUSMEMO	61	ALN	50	0	0	0	WFTRANSACTION.MEMO
PM	PMCOUNT	64	INTEGER	12	0	0	1	
PM	ERLSTWOGENDATE	65	DATE	4	0	0	0	
PM	JPASSETS	67	YORN	1	0	1	1	
PMMETER	UNITSTOGO	11	DECIMAL	15	2	0	0	
PMMETER	DATEOFNEXTWO	13	DATE	4	0	0	0	
PMMETER	AVERAGE	17	DECIMAL	15	2	0	1	ASSETMETER.AVERAGE
PMMETER	ROLLOVER	18	DECIMAL	15	2	0	1	METERINGROUP.ROLLOVER
PMMETER	NEWREADINGATNXTWO	19	DECIMAL	15	0	0	1	
PO	DESCRIPTION_LONGDESCRIPTION	67	LONGALN	32000	0	0	1	
PO	FREIGHTTERMS_LONGDESCRIPTION	68	LONGALN	32000	0	0	1	
PO	RECEIVEDTOTALCOST	69	DECIMAL	10	2	0	0	
PO	POTYPEMODE	70	ALN	50	0	0	0	
PO	TOTALBASECOST	71	DECIMAL	10	2	0	0	
PO	PRETAXTOTAL	72	DECIMAL	10	2	0	0	
PO	NP_STATUSMEMO	81	ALN	50	0	0	0	WFTRANSACTION.MEMO
POCOST	FCPROJECTID	12	ALN	25	0	0	0	FINCNTRL.PROJECTID
POCOST	FCTASKID	13	ALN	25	0	0	0	FINCNTRL.TASKID
POINTWO	DESCRIPTION_LONGDESCRIPTION	7	LONGALN	32000	0	0	1	
POLINE	DESCRIPTION_LONGDESCRIPTION	91	LONGALN	32000	0	0	1	
POLINE	REMARK_LONGDESCRIPTION	92	LONGALN	32000	0	0	1	
POLINE	UNINVOICEDCOST	93	DECIMAL	10	2	0	0	

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
POLINE	UNINVOICEDQUANTITY	94	DECIMAL	15	2	0	0	
POLINE	TASKID	95	INTEGER	12	0	0	0	
POLINE	WONUM	96	UPPER	10	0	0	0	
POLINE	PRLINENUM	97	INTEGER	12	0	0	0	
POLINE	PRNUM	98	UPPER	50	0	0	0	
POLINE	PERCENTAGE	99	FLOAT	8	0	0	0	
POLINE	AMOUNTTORECEIVE	100	FLOAT	8	0	0	0	
POLINE	RECEIVEDLINECOST	101	FLOAT	8	0	0	0	
POLINE	QTYTORECEIVE	102	FLOAT	8	0	0	0	
POLINE	FCPROJECTID	110	ALN	25	0	0	0	FINCNTRL.PROJECTID
POLINE	FCTASKID	111	ALN	25	0	0	0	FINCNTRL.TASKID
POLINE	INTRANSITQTY	117	DECIMAL	15	2	0	0	
POTERM	DESCRIPTION_LONGDESCRIPTION	7	LONGALN	32000	0	0	1	
PPCRAFTRATE	DISPLAYRATE	6	DECIMAL	10	2	0	0	
PPCRAFTRATE	LABORINHERIT	7	YORN	1	0	1	0	
PPCRAFTRATE	DISPLAYRATETYPE	8	UPPER	10	0	0	0	
PR	DESCRIPTION_LONGDESCRIPTION	67	LONGALN	32000	0	0	1	
PR	FREIGHTTERMS_LONGDESCRIPTION	68	LONGALN	32000	0	0	1	
PR	TOTALBASECOST	69	DECIMAL	10	2	0	0	
PR	PRETAXTOTAL	70	DECIMAL	10	2	0	0	
PR	NP_STATUSMEMO	79	ALN	50	0	0	0	WFTRANSACTION.MEMO
PRCOST	FCPROJECTID	12	ALN	25	0	0	0	FINCNTRL.PROJECTID
PRCOST	FCTASKID	13	ALN	25	0	0	0	FINCNTRL.TASKID
PRECAUTION	DESCRIPTION_LONGDESCRIPTION	15	LONGALN	32000	0	0	1	
PREMIUMPAY	DESCRIPTION_LONGDESCRIPTION	6	LONGALN	32000	0	0	0	
PRLINE	DESCRIPTION_LONGDESCRIPTION	90	LONGALN	32000	0	0	1	
PRLINE	REMARK_LONGDESCRIPTION	91	LONGALN	32000	0	0	1	
PRLINE	TASKID	92	INTEGER	12	0	0	0	
PRLINE	WONUM	93	UPPER	10	0	0	0	
PRLINE	FCPROJECTID	106	ALN	25	0	0	0	FINCNTRL.PROJECTID
PRLINE	FCTASKID	107	ALN	25	0	0	0	FINCNTRL.TASKID
PROBLEM	DESCRIPTION_LONGDESCRIPTION	55	LONGALN	32000	0	0	1	TICKET.DESCRPTION_LONGDESCRIPTION
PROBLEM	REMARKDESC	56	ALN	100	0	0	0	FAILUREREMARK.DESCRPTION
PROBLEM	REMARKENTERDATE	57	DATETIME	10	0	0	1	FAILUREREMARK.ENTERDATE
PROBLEM	REMARKDESC_LONGDESCRIPTION	58	LONGALN	32000	0	0	1	TICKET.REMARKDESC_LONGDESCRIPTION
PROBLEM	ORIGWOID	61	UPPER	10	0	0	0	WORKORDER.WONUM
PROBLEM	ORIGTKID	67	UPPER	10	0	0	0	TICKET.TICKETID
PROBLEM	PROBLEMCODE_LONGDESCRIPTION	68	LONGALN	32000	0	0	0	
PROBLEM	FR1CODE_LONGDESCRIPTION	70	LONGALN	32000	0	0	0	
PROBLEM	FR2CODE_LONGDESCRIPTION	72	LONGALN	32000	0	0	0	
PROBLEM	DUPFLAG	75	UPPER	10	0	0	0	
PROBLEM	ASSETUSER	76	UPPER	30	0	0	0	PERSON.PERSONID
PROBLEM	ASSETCUST	77	UPPER	30	0	0	0	PERSON.PERSONID
PROBLEM	NP_STATUSMEMO	79	ALN	50	0	0	0	WFTRANSACTION.MEMO
PROBLEM	ASSETFILTERBY	81	UPPER	10	0	1	0	
PROBLEM	SELECTSLAS_MODE	82	UPPER	10	0	0	0	

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
PROBLEM	REPORTEDBYNAME	83	ALN	62	0	0	0	PERSON.DISPLAYNAME
PROBLEM	REPORTEDBYID	84	UPPER	30	0	0	0	PERSON.PERSONID
PROBLEM	AFFECTEDPERSONID	85	UPPER	30	0	0	0	PERSON.PERSONID
PROBLEM	AFFECTEDUSERNAME	86	ALN	62	0	0	0	PERSON.DISPLAYNAME
PROBLEM	SLAAPPLIED	87	YORN	1	0	1	0	
PRTERM	DESCRIPTION_LONGDESCRIPTION	7	LONGALN	32000	0	0	1	
PURCHVIEW	DESCRIPTION_LONGDESCRIPTION	59	LONGALN	32000	0	0	0	
PURCHVIEW	FREIGHTTERMS_LONGDESCRIPTION	60	LONGALN	32000	0	0	0	
PURCHVIEW	ADJUSTPERCENT	61	DECIMAL	5	2	0	0	
PURCHVIEW	ADJUSTAMT	62	DECIMAL	10	2	0	1	PO.TOTALCOST
PURCHVIEW	LINESTATUS	66	UPPER	6	0	0	0	CONTRACT.STATUS
PURCHVIEW	NP_STATUSMEMO	72	ALN	50	0	0	0	WFTRANSACTION.MEMO
PURCHVIEW	REVCOMMENTS_LONGDESCRIPTION	75	LONGALN	32000	0	0	0	
QUALIFICATION	DESCRIPTION_LONGDESCRIPTION	4	LONGALN	32000	0	0	0	
QUALIFICATION	EVALUATIONMETHOD_LONGDESCRIPTION	12	LONGALN	32000	0	0	0	
QUALIFICATION	ISSUINGAUTHORITY_LONGDESCRIPTION	14	LONGALN	32000	0	0	0	
QUALIFICATION	NP_STATUSMEMO	18	ALN	50	0	0	0	WFTRANSACTION.MEMO
QUERY	DEFAULT	7	YORN	1	0	1	0	
QUOTATIONLINE	DESCRIPTION_LONGDESCRIPTION	43	LONGALN	32000	0	0	1	
QUOTATIONLINE	MEMO_LONGDESCRIPTION	44	LONGALN	32000	0	0	1	
RECONATTRCLAUSE	ASSETATTRIBUTEDESC	14	ALN	100	0	0	0	
RECONCOMPFLTRAST	ASSETATTRIBUTEDESC	17	ALN	100	0	0	0	
RECONCOMPRULE	CURRENTEXPRESSION	5	ALN	4000	0	0	0	
RECONCOMPRULE	DESCRIPTION_LONGDESCRIPTION	7	LONGALN	32000	0	0	0	
RECONLINKCLAUSE	ASSETATTRIBUTEDESC	14	ALN	100	0	0	0	
RECONLINKRULE	CURRENTEXPRESSION	5	ALN	4000	0	0	0	
RECONLINKRULE	DESCRIPTION_LONGDESCRIPTION	7	LONGALN	32000	0	0	0	
RECONRESULT	SHORTASSETVALUE	23	ALN	30	0	0	0	
RECONRESULT	SHORTDPAVALUE	24	ALN	30	0	0	0	
RECONRULE	CURRENTEXPRESSION	5	ALN	4000	0	0	0	
RECONRULE	DESCRIPTION_LONGDESCRIPTION	7	LONGALN	32000	0	0	0	
RECONTASK	DESCRIPTION_LONGDESCRIPTION	7	LONGALN	32000	0	0	0	
RECONTASKFILTER	DESCRIPTION_LONGDESCRIPTION	6	LONGALN	32000	0	0	0	
RELATEDRECORD	RELATEDRECWONUM	9	UPPER	10	0	0	0	WORKORDER.WONUM
RELATEDRECORD	RELATEDRECWOCLASS	10	UPPER	10	0	0	1	RELATEDRECORD.RELATEDRECCLASS
REORDERPAD	REORDERQTYINISSUEUNIT	51	DECIMAL	15	2	0	0	
RFQ	DESCRIPTION_LONGDESCRIPTION	41	LONGALN	32000	0	0	1	
RFQ	FREIGHTTERMS_LONGDESCRIPTION	42	LONGALN	32000	0	0	1	
RFQ	NP_STATUSMEMO	44	ALN	50	0	0	0	WFTRANSACTION.MEMO
RFQLINE	DESCRIPTION_LONGDESCRIPTION	64	LONGALN	32000	0	0	1	
RFQLINE	REMARK_LONGDESCRIPTION	65	LONGALN	32000	0	0	1	
RFQLINE	TASKID	66	INTEGER	12	0	0	0	
RFQLINE	WONUM	67	UPPER	10	0	0	0	
RFQLINE	FCPROJECTID	76	ALN	25	0	0	0	FINCNTRL.PROJECTID
RFQLINE	FCTASKID	77	ALN	25	0	0	0	FINCNTRL.TASKID
RFQLINE	QUOTATIONORDERUNIT	80	UPPER	8	0	0	0	MEASUREUNIT.MEASUREUNITID

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
RFQTERM	DESCRIPTION_LONGDESCRIPTION	7	LONGALN	32000	0	0	1	
RFQVENDOR	FREIGHTTERMS_LONGDESCRIPTION	27	LONGALN	32000	0	0	1	
RFQVENDORTERM	DESCRIPTION_LONGDESCRIPTION	7	LONGALN	32000	0	0	1	
ROUTES	DESCRIPTION_LONGDESCRIPTION	5	LONGALN	32000	0	0	1	
ROUTE_STOP	ASSETDESCRIPTION_LONGDESCRIPTION	15	LONGALN	32000	0	0	1	
ROUTE_STOP	ASSETDESCRIPTION	16	ALN	80	0	0	0	
ROUTE_STOP	JPASSETS	18	YORN	1	0	1	0	
SAFETYLEXICON	ASSETDESCRIPTION	10	ALN	80	0	0	0	
SAFETYLEXICON	ASSETDESCRIPTION_LONGDESCRIPTION	16	LONGALN	32000	0	0	0	
SAFETYPLAN	DESCRIPTION_LONGDESCRIPTION	7	LONGALN	32000	0	0	1	
SCHLEASEVIEW	TOTALCOSTPAID	36	DECIMAL	10	2	0	1	INVOICE.TOTALCOST
SCHLEASEVIEW	TOTALCOSTDUE	37	DECIMAL	10	2	0	1	INVOICE.TOTALCOST
SCHLEASEVIEW	TOTALCOSTDUENEXT	38	DECIMAL	10	2	0	1	INVOICE.TOTALCOST
SCHLEASEVIEW	DUEDATENEXT	39	DATE	4	0	0	1	INVOICE.DUEDATE
SERVICEITEMS	DESCRIPTION_LONGDESCRIPTION	27	LONGALN	32000	0	0	1	
SERVICEITEMS	ITEM_DESCRIPTION	28	ALN	50	0	0	0	
SERVICEITEMS	ITEM_ID	29	ALN	50	0	0	0	
SERVICEITEMS	SITEID	30	UPPER	8	0	0	0	
SERVICEITEMS	HASIAS	31	YORN	1	0	0	0	
SERVICEITEMS	INSTANCE	32	INTEGER	12	0	0	0	
SERVICEITEMS	KITCOMPONENTTOADDSTORE	42	YORN	1	0	1	1	
SERVRECTRANS	DESCRIPTION_LONGDESCRIPTION	62	LONGALN	32000	0	0	1	
SERVRECTRANS	REMARK_LONGDESCRIPTION	63	LONGALN	32000	0	0	1	
SERVRECTRANS	UNINVOICEDCOST	64	DECIMAL	10	2	0	0	
SERVRECTRANS	UNINVOICEDQUANTITY	65	DECIMAL	15	2	0	0	
SERVRECTRANS	TASKID	66	INTEGER	12	0	0	0	
SERVRECTRANS	WONUM	67	UPPER	10	0	0	0	
SERVRECTRANS	CURRENCYORDERUNITCOST	68	DECIMAL	10	2	0	0	
SERVRECTRANS	CURRENCYLOADED COST	69	DECIMAL	10	2	0	0	
SERVRECTRANS	ISDISTRIBUTED	70	YORN	1	0	0	0	
SERVRECTRANS	CURRENCYTAX5	71	DECIMAL	10	2	0	0	
SERVRECTRANS	CURRENCYTAX4	72	DECIMAL	10	2	0	0	
SERVRECTRANS	CURRENCYTAX3	73	DECIMAL	10	2	0	0	
SERVRECTRANS	CURRENCYTAX2	74	DECIMAL	10	2	0	0	
SERVRECTRANS	CURRENCYTAX1	75	DECIMAL	10	2	0	0	
SERVRECTRANS	TEMPLOADED COST	76	DECIMAL	10	2	0	0	
SERVRECTRANS	AMTTORECEIVE	77	AMOUNT	10	2	0	0	
SERVRECTRANS	PERCENTAGE	78	DECIMAL	5	2	0	0	
SERVRECTRANS	QTYTORECEIVE	79	DECIMAL	15	2	0	0	
SERVRECTRANS	ORDERQTY	80	FLOAT	8	0	0	0	
SERVRECTRANS	QTYALREADYRECD	81	FLOAT	8	0	0	0	
SERVRECTRANS	LINECOSTALREADYRECD	82	FLOAT	8	0	0	0	
SERVRECTRANS	FCPROJECTID	86	ALN	25	0	0	0	FINCNTRL.PROJECTID
SERVRECTRANS	FCTASKID	87	ALN	25	0	0	0	FINCNTRL.TASKID
SERVRECTRANS	ACCEPTEDQTY	92	DECIMAL	15	2	0	0	
SERVRECTRANS	INSPECTEDQTYDSPLY	98	DECIMAL	15	2	0	0	SERVRECTRANS.INSPECTEDQTY

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
SERVRECTRANS	REJECTQTYDISPLAY	99	DECIMAL	15	2	0	1	SERVRECTRANS.REJECTQTY
SETS	DESCRIPTION_LONGDESCRIPTION	7	LONGALN	32000	0	0	1	
SHIFT	DESCRIPTION_LONGDESCRIPTION	5	LONGALN	32000	0	0	1	
SHIFT	DAYSINPATTERN	6	SMALLINT	10	0	0	0	
SHIFTPATTERNDAY	DESCRIPTION	8	ALN	256	0	0	0	
SIGOPTION	DESCRIPTION_LONGDESCRIPTION	9	LONGALN	32000	0	0	1	
SIGOPTION	GROUPNAME	11	UPPER	30	0	0	1	MAXGROUP.GROUPNAME
SIGOPTION	AUTHORIZED	12	YORN	1	0	1	0	
SITE	DESCRIPTION_LONGDESCRIPTION	12	LONGALN	32000	0	0	1	
SITEAUTH	AUTHORIZED	5	YORN	1	0	1	1	
SLA	DESCRIPTION_LONGDESCRIPTION	22	LONGALN	32000	0	0	1	
SLA	CONTACTTIME	24	ALN	30	0	0	0	
SLA	RESPONSETIME	25	ALN	30	0	0	0	
SLA	RESOLUTIONTIME	26	ALN	30	0	0	0	
SLA	EXPOBJECT	33	UPPER	18	0	0	0	
SLA	NP_STATUSMEMO	35	ALN	50	0	0	0	WFTRANSACTION.MEMO
SLAASSETLOC	DESCRIPTION	6	ALN	100	0	0	0	
SLAASSETLOC	DESCRIPTION_LONGDESCRIPTION	7	LONGALN	32000	0	0	0	
SLACOMMITMENTS	DESCRIPTION_LONGDESCRIPTION	7	LONGALN	32000	0	0	1	
SLARECORDS	SELECTMODE	8	ALN	10	0	0	0	
SOLUTION	PROBLEMCODE_LONGDESCRIPTION	13	LONGALN	32000	0	0	0	
SOLUTION	FR1CODE_LONGDESCRIPTION	14	LONGALN	32000	0	0	0	
SOLUTION	FR2CODE_LONGDESCRIPTION	15	LONGALN	32000	0	0	0	
SOLUTION	DESCRIPTION_LONGDESCRIPTION	16	LONGALN	32000	0	0	0	
SOLUTION	NP_STATUSMEMO	19	ALN	50	0	0	0	WFTRANSACTION.MEMO
SOLUTION	CLASSIFICATION	21	UPPER	80	0	0	1	SEARCHSOLUTION.CLASSIFICATION
SPAREPART	DESCRIPTION_LONGDESCRIPTION	8	LONGALN	32000	0	0	1	
SPLEXICONLINK	CONTACTRATING	7	INTEGER	12	0	0	0	
SPLEXICONLINK	REACTIVITYRATING	8	INTEGER	12	0	0	0	
SPLEXICONLINK	FLAMMABILITYRATING	9	INTEGER	12	0	0	0	
SPLEXICONLINK	HEALTHRATING	10	INTEGER	12	0	0	0	
SPLEXICONLINK	MSDSNUM	11	ALN	10	0	0	0	
SPLEXICONLINK	HAZARDDESCRIPTION	12	ALN	50	0	0	0	
SPLEXICONLINK	WORKASSETDESCRIPTION	13	ALN	80	0	0	0	
SPLEXICONLINK	ASSETDESCRIPTION	14	ALN	80	0	0	0	
SPLEXICONLINK	TAGOUTDESCRIPTION	15	ALN	50	0	0	0	
SPLEXICONLINK	TAGOUTLOCATION	16	UPPER	12	0	0	0	LOCATIONS.LOCATION
SPLEXICONLINK	TAGOUTASSETNUM	17	UPPER	12	0	0	0	ASSET.ASSETNUM
SPLEXICONLINK	WORKLOCATION	18	UPPER	12	0	0	0	LOCATIONS.LOCATION
SPLEXICONLINK	WORKASSET	19	UPPER	12	0	0	0	ASSET.ASSETNUM
SPLEXICONLINK	LOCATION	20	UPPER	12	0	0	0	LOCATIONS.LOCATION
SPLEXICONLINK	ASSETNUM	21	UPPER	12	0	0	0	ASSET.ASSETNUM
SPLEXICONLINK	TAGOUTID	22	UPPER	8	0	0	0	
SPLEXICONLINK	HAZARDID	23	UPPER	8	0	0	0	
SPLEXICONLINK	HAZARDDESCRIPTION_LONGDESCRIPTION	25	LONGALN	32000	0	0	0	
SPLEXICONLINK	ASSETDESCRIPTION_LONGDESCRIPTION	26	LONGALN	32000	0	0	0	

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
SPLEXICONLINK	WORKASSETDESCRIPTION_LONGDESCRIPTION	27	LONGALN	32000	0	0	0	
SPLEXICONLINK	TAGOUTDESCRIPTION_LONGDESCRIPTION	28	LONGALN	32000	0	0	0	
SPRELATEDASSET	WONUM	8	UPPER	10	0	0	0	
SPRELATEDASSET	RELASSETDESCRIPTION	9	ALN	80	0	0	0	
SPRELATEDASSET	RELATEDASSETLOC	10	UPPER	12	0	0	0	
SPRELATEDASSET	RELASSETDESCRIPTION_LONGDESCRIPTION	11	LONGALN	32000	0	0	0	
SPWORKASSET	ASSETDESCRIPTION	7	ALN	80	0	0	0	
SPWORKASSET	ASSETDESCRIPTION_LONGDESCRIPTION	8	LONGALN	32000	0	0	0	
SR	DESCRIPTION_LONGDESCRIPTION	55	LONGALN	32000	0	0	1	TICKET.DESCRPTION_LONGDESCRIPTION
SR	REMARKDESC	56	ALN	100	0	0	0	FAILUREREMARK.DESCRPTION
SR	REMARKENTERDATE	57	DATETIME	10	0	0	1	FAILUREREMARK.ENTERDATE
SR	REMARKDESC_LONGDESCRIPTION	58	LONGALN	32000	0	0	1	TICKET.REMARKDESC_LONGDESCRIPTION
SR	ORIGVOID	61	UPPER	10	0	0	0	WORKORDER.WONUM
SR	ORIGTKID	67	UPPER	10	0	0	0	TICKET.TICKETID
SR	PROBLEMCODE_LONGDESCRIPTION	68	LONGALN	32000	0	0	0	
SR	FR1CODE_LONGDESCRIPTION	70	LONGALN	32000	0	0	0	
SR	FR2CODE_LONGDESCRIPTION	72	LONGALN	32000	0	0	0	
SR	DUPFLAG	75	UPPER	10	0	0	0	
SR	ASSETUSER	76	UPPER	30	0	0	0	PERSON.PERSONID
SR	ASSETCUST	77	UPPER	30	0	0	0	PERSON.PERSONID
SR	NP_STATUSMEMO	79	ALN	50	0	0	0	WFTRANSACTION.MEMO
SR	ASSETFILTERBY	81	UPPER	10	0	1	0	
SR	SELECTSLAS_MODE	82	UPPER	10	0	0	0	
SR	REPORTEDBYNAME	83	ALN	62	0	0	0	PERSON.DISPLAYNAME
SR	REPORTEDBYID	84	UPPER	30	0	0	0	PERSON.PERSONID
SR	AFFECTEDPERSONID	85	UPPER	30	0	0	0	PERSON.PERSONID
SR	AFFECTEDUSERNAME	86	ALN	62	0	0	0	PERSON.DISPLAYNAME
SR	SLAAPPLIED	87	YORN	1	0	1	0	
TAGLOCK	ASSETNUM	18	UPPER	12	0	0	0	ASSET.ASSETNUM
TAGLOCK	LOCATION	19	UPPER	12	0	0	0	LOCATIONS.LOCATION
TAGOUT	DESCRIPTION_LONGDESCRIPTION	16	LONGALN	32000	0	0	1	
TAGOUT	ASSETDESCRIPTION	17	ALN	80	0	0	0	
TAGOUT	ASSETDESCRIPTION_LONGDESCRIPTION	20	LONGALN	32000	0	0	0	
TAX	DESCRIPTION_LONGDESCRIPTION	11	LONGALN	32000	0	0	1	
TAXTYPE	DESCRIPTION_LONGDESCRIPTION	14	LONGALN	32000	0	0	1	
TERM	DESCRIPTION_LONGDESCRIPTION	6	LONGALN	32000	0	0	1	
TICKET	DESCRIPTION_LONGDESCRIPTION	55	LONGALN	32000	0	0	1	
TICKET	REMARKDESC	56	ALN	100	0	0	0	FAILUREREMARK.DESCRPTION
TICKET	REMARKENTERDATE	57	DATETIME	10	0	0	1	FAILUREREMARK.ENTERDATE
TICKET	REMARKDESC_LONGDESCRIPTION	58	LONGALN	32000	0	0	1	
TICKET	ORIGVOID	61	UPPER	10	0	0	0	WORKORDER.WONUM
TICKET	ORIGTKID	67	UPPER	10	0	0	0	TICKET.TICKETID
TICKET	PROBLEMCODE_LONGDESCRIPTION	68	LONGALN	32000	0	0	0	
TICKET	FR1CODE_LONGDESCRIPTION	70	LONGALN	32000	0	0	0	
TICKET	FR2CODE_LONGDESCRIPTION	72	LONGALN	32000	0	0	0	

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
TICKET	DUPFLAG	75	UPPER	10	0	0	0	
TICKET	ASSETUSER	76	UPPER	30	0	0	0	PERSON.PERSONID
TICKET	ASSETCUST	77	UPPER	30	0	0	0	PERSON.PERSONID
TICKET	NP_STATUSMEMO	79	ALN	50	0	0	0	WFTRANSACTION.MEMO
TICKET	ASSETFILTERBY	81	UPPER	10	0	1	0	
TICKET	SELECTSLAS_MODE	82	UPPER	10	0	0	0	
TICKET	REPORTEDBYNAME	83	ALN	62	0	0	0	PERSON.DISPLAYNAME
TICKET	REPORTEDBYID	84	UPPER	30	0	0	0	PERSON.PERSONID
TICKET	AFFECTEDPERSONID	85	UPPER	30	0	0	0	PERSON.PERSONID
TICKET	AFFECTEDUSERNAME	86	ALN	62	0	0	0	PERSON.DISPLAYNAME
TICKET	SLAAPPLIED	87	YORN	1	0	1	0	
TKTEMPLATE	DESCRIPTION_LONGDESCRIPTION	11	LONGALN	32000	0	0	0	
TKTEMPLATE	NP_STATUSMEMO	18	ALN	50	0	0	0	WFTRANSACTION.MEMO
TKTEMPLACTIVITY	DESCRIPTION_LONGDESCRIPTION	5	LONGALN	32000	0	0	1	
TOOLINV	ADDTOSTORELOC	34	UPPER	8	0	0	0	
TOOLINV	RESERVEDQTY	35	DECIMAL	15	2	0	0	
TOOLINV	EXPIREDQTY	36	DECIMAL	15	2	0	0	
TOOLINV	AVBLBALANCE	37	DECIMAL	15	2	0	0	
TOOLINV	LOTNUM	38	UPPER	8	0	0	0	
TOOLINV	CURBAL	39	DECIMAL	15	2	0	0	INVENTORY.CURBAL
TOOLINV	CURBALTOTAL	40	DECIMAL	15	2	0	0	
TOOLINV	CONDITIONCODE	41	UPPER	30	0	0	0	ITEMCONDITION.CONDITIONCODE
TOOLINV	CONDRATE	42	DECIMAL	8	0	0	1	ITEMCONDITION.CONDRATE
TOOLINV	STDCOST	43	AMOUNT	10	2	0	0	INVENTORY.STDCOST
TOOLINV	AVGCOST	44	AMOUNT	10	2	0	0	
TOOLINV	LASTCOST	45	AMOUNT	10	2	0	0	
TOOLINV	PHYSCNTDATE	46	DATETIME	10	0	0	1	INVBALANCES.PHYSCNTDATE
TOOLINV	DESCRIPTION_LONGDESCRIPTION	66	LONGALN	32000	0	0	1	
TOOLINV	ITEM_DESCRIPTION	67	ALN	50	0	0	0	
TOOLINV	ITEM_ID	68	ALN	50	0	0	0	
TOOLINV	HASIAS	69	YORN	1	0	0	0	
TOOLINV	INSTANCE	70	INTEGER	12	0	0	0	
TOOLINV	KITCOMPONENTTOADDTOSTORE	80	YORN	1	0	1	1	
TOOLINV	HOLDINGBAL	82	DECIMAL	15	2	0	0	
TOOLITEM	DESCRIPTION_LONGDESCRIPTION	27	LONGALN	32000	0	0	1	
TOOLITEM	ITEM_DESCRIPTION	28	ALN	50	0	0	0	
TOOLITEM	ITEM_ID	29	ALN	50	0	0	0	
TOOLITEM	SITEID	30	UPPER	8	0	0	0	
TOOLITEM	HASIAS	31	YORN	1	0	0	0	
TOOLITEM	INSTANCE	32	INTEGER	12	0	0	0	
TOOLITEM	KITCOMPONENTTOADDTOSTORE	42	YORN	1	0	1	1	
TOOLTRANS	TASKID	26	INTEGER	12	0	0	0	
TOOLTRANS	WONUM	27	UPPER	10	0	0	0	
TOOLTRANS	ACTUALTASKID	28	INTEGER	12	0	0	0	
TOOLTRANS	FCPROJECTID	30	ALN	25	0	0	0	FINCNTRL.PROJECTID
TOOLTRANS	FCTASKID	31	ALN	25	0	0	0	FINCNTRL.TASKID

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
WARRANTYASSET	ASSETNUM	7	UPPER	12	0	0	0	ASSET.ASSETNUM
WARRANTYASSET	SITEID	8	UPPER	8	0	0	0	SITE.SITEID
WARRANTYVIEW	DESCRIPTION_LONGDESCRIPTION	46	LONGALN	32000	0	0	1	CONTRACT.DESCRPTION_LONGDESCRIPTION
WARRANTYVIEW	FREIGHTTERMS_LONGDESCRIPTION	47	LONGALN	32000	0	0	1	CONTRACT.FREIGHTTERMS_LONGDESCRIPTION
WARRANTYVIEW	REVCOMMENTS_LONGDESCRIPTION	57	LONGALN	32000	0	0	0	
WARRANTYVIEWLINE	DESCRIPTION_LONGDESCRIPTION	22	LONGALN	32000	0	0	1	CONTRACTLINE.DESCRPTION_LONGDESCRIPTION
WARRANTYVIEWLINE	REMARK_LONGDESCRIPTION	23	LONGALN	32000	0	0	1	CONTRACTLINE.REMARK_LONGDESCRIPTION
WARRANTYVIEWLINE	NEWPRICE	24	DECIMAL	10	2	0	0	CONTRACTLINE.LINECOST
WFACTION	OBJECTNAME	10	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
WFACTION	AVAILABLE	14	YORN	1	0	1	1	
WFACTION	MEMBERNODETITLE	15	UPPER	10	0	0	0	WFNODE.TITLE
WFASSIGNMENT	DESCRIPTION_LONGDESCRIPTION	19	LONGALN	32000	0	0	1	
WFASSIGNMENT	OBJECTNAME	25	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
WFASSIGNMENT	DISPLAYONE	33	YORN	1	0	1	0	
WFASSIGNMENT	USERSQL	34	ALN	4000	0	0	0	EXPBUILDER.USERSQL
WFASSIGNMENT	ISCUSTOMCLASS	35	YORN	1	0	1	1	
WFASSIGNMENT	OWNERDESCRIPTION	36	ALN	254	0	0	0	WFINSTANCE.OWNERDESCRIPTION
WFASSIGNMENT	HOSTNAME	37	ALN	50	0	0	0	
WFASSIGNMENT	LASTMEMO	38	ALN	50	0	0	0	WFTRANSACTION.MEMO
WFINSTANCE	OWNERDESCRIPTION	10	ALN	254	0	0	0	
WFINSTANCE	HOSTNAME	11	ALN	50	0	0	0	
WFINTERACTION	DIRECTIONS_LONGDESCRIPTION	10	LONGALN	32000	0	0	0	
WFINTERACTION	OBJECTNAME	14	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
WFNODE	DESCRIPTION_LONGDESCRIPTION	9	LONGALN	32000	0	0	1	
WFNODE	TAKENEGATIVE	10	YORN	1	0	1	0	
WFNODE	TAKEPOSITIVE	11	YORN	1	0	1	0	
WFNOTIFICATION	OBJECTNAME	7	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
WFNOTIFICATION	SUBJECT	8	ALN	254	0	0	0	COMMTEMPLATE.SUBJECT
WFNOTIFICATION	MESSAGE	9	CLOB	4000	0	0	1	
WFNOTIFICATION	SENDTO	10	CLOB	32000	0	0	0	
WFNOTIFICATION	FREEFORM	11	YORN	1	0	1	0	
WFNOTIFICATION	OWNERDESCRIPTION	12	ALN	254	0	0	0	WFINSTANCE.OWNERDESCRIPTION
WFNOTIFICATION	HOSTNAME	13	ALN	50	0	0	0	
WFNOTIFICATION	TEMPDESC	14	ALN	100	0	0	0	COMMTEMPLATE.DESCRPTION
WFNOTIFICATION	TEMPDESC_LONGDESCRIPTION	15	LONGALN	32000	0	0	1	
WFPROCESS	DESCRIPTION_LONGDESCRIPTION	8	LONGALN	32000	0	0	1	
WFPROCESS	WFZOOM	18	SMALLINT	10	0	0	1	
WFPROCESS	PROCESSDESC	19	ALN	150	0	0	0	
WFSUBPROCESS	OBJECTNAME	6	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
WFTASK	OBJECTNAME	11	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
WFTRANSACTION	REASSIGNED	11	YORN	1	0	1	0	
WFTRANSACTION	ACTIONTAKEN	12	ALN	254	0	0	0	
WFTRANSACTION	DESCRIPTION	13	ALN	254	0	0	0	
WMASSIGNMENT	DESCRIPTION_LONGDESCRIPTION	82	LONGALN	32000	0	0	1	WORKORDER.DESCRPTION_LONGDESCRIPTION
WMASSIGNMENT	DISPLAYTASKID	83	INTEGER	12	0	0	0	WORKORDER.DISPLAYTASKID
WMASSIGNMENT	DISPLAYWONUM	84	UPPER	10	0	0	0	WORKORDER.DISPLAYWONUM

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
WMASSIGNMENT	FCTASKID	85	ALN	25	0	0	0	FINCNTRL.TASKID
WMASSIGNMENT	FCPROJECTID	86	ALN	25	0	0	0	FINCNTRL.PROJECTID
WMASSIGNMENT	LOCWARRANTYNOTICE	87	YORN	1	0	0	0	WORKORDER.LOCWARRANTYNOTICE
WMASSIGNMENT	ASSETWARRANTYNOTICE	88	YORN	1	0	0	0	WORKORDER.ASSETWARRANTYNOTICE
WMASSIGNMENT	REMARKDESC_LONGDESCRIPTION	89	LONGALN	32000	0	0	1	WORKORDER.REMARKDESC_LONGDESCRIPTION
WMASSIGNMENT	REMARKENTERDATE	90	DATETIME	10	0	0	0	WORKORDER.REMARKENTERDATE
WMASSIGNMENT	REMARKDESC	91	ALN	50	0	0	0	WORKORDER.REMARKDESC
WMASSIGNMENT	FR2CODE	92	UPPER	8	0	0	0	WORKORDER.FR2CODE
WMASSIGNMENT	FR1CODE	93	UPPER	8	0	0	0	WORKORDER.FR1CODE
WMASSIGNMENT	JPTASK	94	INTEGER	12	0	0	0	WORKORDER.JPTASK
WMASSIGNMENT	SAFETYPLANID	95	UPPER	8	0	0	0	WORKORDER.SAFETYPLANID
WMASSIGNMENT	ACTTOTALCOST	96	AMOUNT	10	2	0	0	WORKORDER.ACTTOTALCOST
WMASSIGNMENT	ESTATAPPRTOTALCOST	97	AMOUNT	10	2	0	0	WORKORDER.ESTATAPPRTOTALCOST
WMASSIGNMENT	ESTTOTALCOST	98	AMOUNT	10	2	0	0	WORKORDER.ESTTOTALCOST
WMASSIGNMENT	JUSTIFYPRIORITY_LONGDESCRIPTION	105	LONGALN	32000	0	0	1	WORKORDER.JUSTIFYPRIORITY_LONGDESCRIPTION
WMASSIGNMENT	ENVIRONMENT_LONGDESCRIPTION	108	LONGALN	32000	0	0	1	WORKORDER.ENVIRONMENT_LONGDESCRIPTION
WMASSIGNMENT	BACKOUTPLAN_LONGDESCRIPTION	110	LONGALN	32000	0	0	1	WORKORDER.BACKOUTPLAN_LONGDESCRIPTION
WMASSIGNMENT	ORIGTKID	111	UPPER	10	0	0	0	TICKET.TICKETID
WMASSIGNMENT	ORIGWOID	114	UPPER	10	0	0	0	WORKORDER.WONUM
WMASSIGNMENT	DUPFLAG	115	UPPER	10	0	0	1	WORKORDER.DUPFLAG
WMASSIGNMENT	WARRANTYEXPDATE	121	DATE	4	0	0	0	WORKORDER.WARRANTYEXPDATE
WMASSIGNMENT	WHOMISCHANGEFOR_LONGDESCRIPTION	126	LONGALN	32000	0	0	0	WORKORDER.WHOMISCHANGEFOR_LONGDESCRIPTION
WMASSIGNMENT	REASONFORCHANGE_LONGDESCRIPTION	128	LONGALN	32000	0	0	0	WORKORDER.REASONFORCHANGE_LONGDESCRIPTION
WMASSIGNMENT	VERIFICATION_LONGDESCRIPTION	130	LONGALN	32000	0	0	0	WORKORDER.VERIFICATION_LONGDESCRIPTION
WMASSIGNMENT	OBJECTNAME	132	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
WMASSIGNMENT	HASPARENT	133	YORN	1	0	0	0	WORKORDER.HASPARENT
WMASSIGNMENT	NAME	143	ALN	25	0	0	0	ASSIGNMENT.NAME
WMASSIGNMENT	CRAFTCODE	144	UPPER	8	0	0	0	ASSIGNMENT.CRAFTCODE
WMASSIGNMENT	LABOR	145	UPPER	8	0	0	0	ASSIGNMENT.LABOR
WMASSIGNMENT	RATE	146	AMOUNT	10	2	0	0	ASSIGNMENT.RATE
WMASSIGNMENT	WARRANTYEXIST	148	YORN	1	0	0	1	WORKORDER.WARRANTYEXIST
WMASSIGNMENT	SAFETYPLAN_LOOKUP_LIST_TYPE	151	ALN	35	0	0	0	WORKORDER.SAFETYPLAN_LOOKUP_LIST_TYPE
WMASSIGNMENT	JPASSETS	181	YORN	1	0	0	1	WORKORDER.JPASSETS
WMASSIGNMENT	SPASSETS	182	YORN	1	0	0	1	WORKORDER.SPASSETS
WMASSIGNMENT	SPLOCATIONS	183	YORN	1	0	0	1	WORKORDER.SPLOCATIONS
WMASSIGNMENT	NP_STATUSMEMO	186	ALN	50	0	0	0	WFTRANSACTION.MEMO
WMASSIGNMENT	SELECTSLAS_MODE	192	UPPER	10	0	0	0	WORKORDER.SELECTSLAS_MODE
WMASSIGNMENT	SLAAPPLIED	193	YORN	1	0	0	0	WORKORDER.SLAAPPLIED
WMASSIGNMENT	REPORTEDBYID	194	UPPER	30	0	0	0	PERSON.PERSONID
WMASSIGNMENT	REPORTEDBYNAME	195	ALN	62	0	0	0	PERSON.DISPLAYNAME
WMASSIGNMENT	ONBEHALFOFID	196	UPPER	30	0	0	0	PERSON.PERSONID
WMASSIGNMENT	ONBEHALFOFNAME	197	ALN	62	0	0	0	PERSON.DISPLAYNAME
WMASSIGNMENT	ASSETFILTERBY	199	UPPER	10	0	0	0	WORKORDER.ASSETFILTERBY
WMASSIGNMENT	ASSETCUST	200	UPPER	30	0	0	0	PERSON.PERSONID

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
WMASSIGNMENT	ASSETUSER	201	UPPER	30	0	0	0	PERSON.PERSONID
WMMATCH	CRAFT	2	UPPER	8	0	0	0	CRAFT.CRAFT
WMMATCH	SKILLLEVEL	3	UPPER	12	0	0	0	CRAFTSKILL.SKILLLEVEL
WMMATCH	VENDOR	4	UPPER	12	0	0	0	COMPANIES.COMPANY
WMMATCH	CONTRACTNUM	5	UPPER	8	0	0	0	CONTRACT.CONTRACTNUM
WMMATCH	ORGID	6	UPPER	8	0	0	0	ORGANIZATION.ORGID
WOACTIVITY	DESCRIPTION_LONGDESCRIPTION	128	LONGALN	32000	0	0	1	WORKORDER.DESCRPTION_LONGDESCRIPTION
WOACTIVITY	DISPLAYTASKID	129	INTEGER	12	0	0	0	WORKORDER.DISPLAYTASKID
WOACTIVITY	DISPLAYWONUM	130	UPPER	10	0	0	0	WORKORDER.DISPLAYWONUM
WOACTIVITY	FCTASKID	131	ALN	25	0	0	0	FINCNTRL.TASKID
WOACTIVITY	FCPROJECTID	132	ALN	25	0	0	0	FINCNTRL.PROJECTID
WOACTIVITY	LOCWARRANTYNOTICE	133	YORN	1	0	1	0	WORKORDER.LOCWARRANTYNOTICE
WOACTIVITY	ASSETWARRANTYNOTICE	134	YORN	1	0	1	0	WORKORDER.ASSETWARRANTYNOTICE
WOACTIVITY	REMARKDESC_LONGDESCRIPTION	135	LONGALN	32000	0	0	1	WORKORDER.REMARKDESC_LONGDESCRIPTION
WOACTIVITY	REMARKENTERDATE	136	DATETIME	10	0	0	0	WORKORDER.REMARKENTERDATE
WOACTIVITY	REMARKDESC	137	ALN	50	0	0	0	WORKORDER.REMARKDESC
WOACTIVITY	FR2CODE	138	UPPER	8	0	0	0	WORKORDER.FR2CODE
WOACTIVITY	FR1CODE	139	UPPER	8	0	0	0	WORKORDER.FR1CODE
WOACTIVITY	JPTASK	140	INTEGER	12	0	0	0	WORKORDER.JPTASK
WOACTIVITY	SAFETYPLANID	141	UPPER	8	0	0	0	WORKORDER.SAFETYPLANID
WOACTIVITY	ACTTOTALCOST	142	AMOUNT	10	2	0	0	WORKORDER.ACTTOTALCOST
WOACTIVITY	ESTATAPPRTOTALCOST	143	AMOUNT	10	2	0	0	WORKORDER.ESTATAPPRTOTALCOST
WOACTIVITY	ESTTOTALCOST	144	AMOUNT	10	2	0	0	WORKORDER.ESTTOTALCOST
WOACTIVITY	JUSTIFYPRIORITY_LONGDESCRIPTION	151	LONGALN	32000	0	0	1	WORKORDER.JUSTIFYPRIORITY_LONGDESCRIPTION
WOACTIVITY	ENVIRONMENT_LONGDESCRIPTION	154	LONGALN	32000	0	0	1	WORKORDER.ENVIRONMENT_LONGDESCRIPTION
WOACTIVITY	BACKOUTPLAN_LONGDESCRIPTION	156	LONGALN	32000	0	0	1	WORKORDER.BACKOUTPLAN_LONGDESCRIPTION
WOACTIVITY	ORIGTKID	157	UPPER	10	0	0	0	TICKET.TICKETID
WOACTIVITY	ORIGWOID	160	UPPER	10	0	0	0	WORKORDER.WONUM
WOACTIVITY	DUPFLAG	161	UPPER	10	0	0	1	WORKORDER.DUPFLAG
WOACTIVITY	WARRANTYEXPDATE	167	DATE	4	0	0	0	WORKORDER.WARRANTYEXPDATE
WOACTIVITY	WHOMISCHANGEFOR_LONGDESCRIPTION	172	LONGALN	32000	0	0	0	WORKORDER.WHOMISCHANGEFOR_LONGDESCRIPTION
WOACTIVITY	REASONFORCHANGE_LONGDESCRIPTION	174	LONGALN	32000	0	0	0	WORKORDER.REASONFORCHANGE_LONGDESCRIPTION
WOACTIVITY	VERIFICATION_LONGDESCRIPTION	176	LONGALN	32000	0	0	0	WORKORDER.VERIFICATION_LONGDESCRIPTION
WOACTIVITY	OBJECTNAME	178	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
WOACTIVITY	HASPARENT	179	YORN	1	0	1	0	WORKORDER.HASPARENT
WOACTIVITY	JPASSETS	181	YORN	1	0	1	1	WORKORDER.JPASSETS
WOACTIVITY	SPASSETS	182	YORN	1	0	1	1	WORKORDER.SPASSETS
WOACTIVITY	SPLOCATIONS	183	YORN	1	0	1	1	WORKORDER.SPLOCATIONS
WOACTIVITY	NP_STATUSMEMO	186	ALN	50	0	0	0	WFTRANSACTION.MEMO
WOACTIVITY	WARRANTYEXIST	188	YORN	1	0	1	1	WORKORDER.WARRANTYEXIST
WOACTIVITY	SAFETYPLAN_LOOKUP_LIST_TYPE	191	ALN	35	0	0	0	WORKORDER.SAFETYPLAN_LOOKUP_LIST_TYPE
WOACTIVITY	SELECTSLAS_MODE	192	UPPER	10	0	0	0	WORKORDER.SELECTSLAS_MODE
WOACTIVITY	SLAAPPLIED	193	YORN	1	0	1	0	WORKORDER.SLAAPPLIED
WOACTIVITY	REPORTEDBYID	194	UPPER	30	0	0	0	PERSON.PERSONID

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
WOACTIVITY	REPORTEDBYNAME	195	ALN	62	0	0	0	PERSON.DISPLAYNAME
WOACTIVITY	ONBEHALFOFID	196	UPPER	30	0	0	0	PERSON.PERSONID
WOACTIVITY	ONBEHALFOFNAME	197	ALN	62	0	0	0	PERSON.DISPLAYNAME
WOACTIVITY	ASSETFILTERBY	199	UPPER	10	0	0	0	
WOACTIVITY	ASSETCUST	200	UPPER	30	0	0	0	PERSON.PERSONID
WOACTIVITY	ASSETUSER	201	UPPER	30	0	0	0	PERSON.PERSONID
WOACTIVITY	NEWTASKPARENTPMNUM	202	UPPER	8	0	0	0	PM.PMNUM
WOCHANGE	DESCRIPTION_LONGDESCRIPTION	128	LONGALN	32000	0	0	1	WORKORDER.DESCRPTION_LONGDESCRIPTION
WOCHANGE	DISPLAYTASKID	129	INTEGER	12	0	0	0	WORKORDER.DISPLAYTASKID
WOCHANGE	DISPLAYWONUM	130	UPPER	10	0	0	0	WORKORDER.DISPLAYWONUM
WOCHANGE	FCTASKID	131	ALN	25	0	0	0	FINCNTRL.TASKID
WOCHANGE	FCPROJECTID	132	ALN	25	0	0	0	FINCNTRL.PROJECTID
WOCHANGE	LOCWARRANTYNOTICE	133	YORN	1	0	1	0	WORKORDER.LOCWARRANTYNOTICE
WOCHANGE	ASSETWARRANTYNOTICE	134	YORN	1	0	1	0	WORKORDER.ASSETWARRANTYNOTICE
WOCHANGE	REMARKDESC_LONGDESCRIPTION	135	LONGALN	32000	0	0	1	WORKORDER.REMARKDESC_LONGDESCRIPTION
WOCHANGE	REMARKENTERDATE	136	DATETIME	10	0	0	0	WORKORDER.REMARKENTERDATE
WOCHANGE	REMARKDESC	137	ALN	50	0	0	0	WORKORDER.REMARKDESC
WOCHANGE	FR2CODE	138	UPPER	8	0	0	0	WORKORDER.FR2CODE
WOCHANGE	FR1CODE	139	UPPER	8	0	0	0	WORKORDER.FR1CODE
WOCHANGE	JPTASK	140	INTEGER	12	0	0	0	WORKORDER.JPTASK
WOCHANGE	SAFETYPLANID	141	UPPER	8	0	0	0	WORKORDER.SAFETYPLANID
WOCHANGE	ACTTOTALCOST	142	AMOUNT	10	2	0	0	WORKORDER.ACTTOTALCOST
WOCHANGE	ESTATAPPRTOTALCOST	143	AMOUNT	10	2	0	0	WORKORDER.ESTATAPPRTOTALCOST
WOCHANGE	ESTTOTALCOST	144	AMOUNT	10	2	0	0	WORKORDER.ESTTOTALCOST
WOCHANGE	JUSTIFYPRIORITY_LONGDESCRIPTION	151	LONGALN	32000	0	0	1	WORKORDER.JUSTIFYPRIORITY_LONGDESCRIPTION
WOCHANGE	ENVIRONMENT_LONGDESCRIPTION	154	LONGALN	32000	0	0	1	WORKORDER.ENVIRONMENT_LONGDESCRIPTION
WOCHANGE	BACKOUTPLAN_LONGDESCRIPTION	156	LONGALN	32000	0	0	1	WORKORDER.BACKOUTPLAN_LONGDESCRIPTION
WOCHANGE	ORIGTKID	157	UPPER	10	0	0	0	TICKET.TICKETID
WOCHANGE	ORIGWOID	160	UPPER	10	0	0	0	WORKORDER.WONUM
WOCHANGE	DUPFLAG	161	UPPER	10	0	0	1	WORKORDER.DUPFLAG
WOCHANGE	WARRANTYEXPDATE	167	DATE	4	0	0	0	WORKORDER.WARRANTYEXPDATE
WOCHANGE	WHOMISCHANGEFOR_LONGDESCRIPTION	172	LONGALN	32000	0	0	0	WORKORDER.WHOMISCHANGEFOR_LONGDESCRIPTION
WOCHANGE	REASONFORCHANGE_LONGDESCRIPTION	174	LONGALN	32000	0	0	0	WORKORDER.REASONFORCHANGE_LONGDESCRIPTION
WOCHANGE	VERIFICATION_LONGDESCRIPTION	176	LONGALN	32000	0	0	0	WORKORDER.VERIFICATION_LONGDESCRIPTION
WOCHANGE	OBJECTNAME	178	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
WOCHANGE	HASPARENT	179	YORN	1	0	1	0	WORKORDER.HASPARENT
WOCHANGE	JPASSETS	181	YORN	1	0	1	1	WORKORDER.JPASSETS
WOCHANGE	SPASSETS	182	YORN	1	0	1	1	WORKORDER.SPASSETS
WOCHANGE	SPLOCATIONS	183	YORN	1	0	1	1	WORKORDER.SPLOCATIONS
WOCHANGE	NP_STATUSMEMO	186	ALN	50	0	0	0	WFTRANSACTION.MEMO
WOCHANGE	WARRANTYEXIST	188	YORN	1	0	1	1	WORKORDER.WARRANTYEXIST
WOCHANGE	SAFETYPLAN_LOOKUP_LIST_TYPE	191	ALN	35	0	0	0	WORKORDER.SAFETYPLAN_LOOKUP_LIST_TYPE
WOCHANGE	SELECTSLAS_MODE	192	UPPER	10	0	0	0	WORKORDER.SELECTSLAS_MODE
WOCHANGE	SLAAPPLIED	193	YORN	1	0	1	0	WORKORDER.SLAAPPLIED

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
WOCHANGE	REPORTEDBYID	194	UPPER	30	0	0	0	PERSON.PERSONID
WOCHANGE	REPORTEDBYNAME	195	ALN	62	0	0	0	PERSON.DISPLAYNAME
WOCHANGE	ONBEHALFOFID	196	UPPER	30	0	0	0	PERSON.PERSONID
WOCHANGE	ONBEHALFOFNAME	197	ALN	62	0	0	0	PERSON.DISPLAYNAME
WOCHANGE	ASSETFILTERBY	199	UPPER	10	0	0	0	
WOCHANGE	ASSETCUST	200	UPPER	30	0	0	0	PERSON.PERSONID
WOCHANGE	ASSETUSER	201	UPPER	30	0	0	0	PERSON.PERSONID
WOCHANGE	NEWTASKPARENTPMNUM	202	UPPER	8	0	0	0	PM.PMNUM
WOGEN	DESCRIPTION_LONGDESCRIPTION	35	LONGALN	32000	0	0	1	
WOGEN	STORELOCSITE	40	UPPER	8	0	0	0	SITE.SITEID
WOHAZARD	DESCRIPTION_LONGDESCRIPTION	36	LONGALN	32000	0	0	1	
WOHAZARD	ASSETDESCRIPTION	37	ALN	80	0	0	0	
WOHAZARD	LOCATION	38	UPPER	8	0	0	0	
WOHAZARD	ASSETNUM	39	UPPER	8	0	0	0	
WOHAZARD	ASSETDESCRIPTION_LONGDESCRIPTION	42	LONGALN	32000	0	0	0	
WOHAZARDPREC	PREC10	7	YORN	1	0	1	0	
WOHAZARDPREC	PREC09	8	ALN	10	0	0	0	
WOHAZARDPREC	PREC08	9	DECIMAL	15	2	0	0	
WOHAZARDPREC	PREC07	10	DATETIME	10	0	0	0	
WOHAZARDPREC	PREC06	11	AMOUNT	10	2	0	0	
WOHAZARDPREC	PREC05	12	ALN	10	0	0	0	
WOHAZARDPREC	PREC04	13	ALN	10	0	0	0	
WOHAZARDPREC	PREC03	14	ALN	10	0	0	0	
WOHAZARDPREC	PREC02	15	ALN	10	0	0	0	
WOHAZARDPREC	PREC01	16	ALN	10	0	0	0	
WOHAZARDPREC	DESCRIPTION	17	ALN	100	0	0	0	
WOHAZARDPREC	DESCRIPTION_LONGDESCRIPTION	19	LONGALN	32000	0	0	0	
WOLOCKOUT	DESCRIPTION_LONGDESCRIPTION	21	LONGALN	32000	0	0	1	
WOLOCKOUT	REMOVESEQ	22	SMALLINT	10	0	0	0	
WOLOCKOUT	APPLYSEQ	23	SMALLINT	10	0	0	0	
WOLOCKOUT	DEVIDEDESCRIPTION_LONGDESCRIPTION	26	LONGALN	32000	0	0	0	
WOPRECAUTION	DESCRIPTION_LONGDESCRIPTION	17	LONGALN	32000	0	0	1	
WORELEASE	DESCRIPTION_LONGDESCRIPTION	128	LONGALN	32000	0	0	1	WORKORDER.DESCRPTION_LONGDESCRIPTION
WORELEASE	DISPLAYTASKID	129	INTEGER	12	0	0	0	WORKORDER.DISPLAYTASKID
WORELEASE	DISPLAYWONUM	130	UPPER	10	0	0	0	WORKORDER.DISPLAYWONUM
WORELEASE	FCTASKID	131	ALN	25	0	0	0	FINCNTRL.TASKID
WORELEASE	FCPROJECTID	132	ALN	25	0	0	0	FINCNTRL.PROJECTID
WORELEASE	LOCWARRANTYNOTICE	133	YORN	1	0	1	0	WORKORDER.LOCWARRANTYNOTICE
WORELEASE	ASSETWARRANTYNOTICE	134	YORN	1	0	1	0	WORKORDER.ASSETWARRANTYNOTICE
WORELEASE	REMARKDESC_LONGDESCRIPTION	135	LONGALN	32000	0	0	1	WORKORDER.REMARKDESC_LONGDESCRIPTION
WORELEASE	REMARKENTERDATE	136	DATETIME	10	0	0	0	WORKORDER.REMARKENTERDATE
WORELEASE	REMARKDESC	137	ALN	50	0	0	0	WORKORDER.REMARKDESC
WORELEASE	FR2CODE	138	UPPER	8	0	0	0	WORKORDER.FR2CODE
WORELEASE	FR1CODE	139	UPPER	8	0	0	0	WORKORDER.FR1CODE
WORELEASE	JPTASK	140	INTEGER	12	0	0	0	WORKORDER.JPTASK
WORELEASE	SAFETYPLANID	141	UPPER	8	0	0	0	WORKORDER.SAFETYPLANID

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
WORELEASE	ACTTOTALCOST	142	AMOUNT	10	2	0	0	WORKORDER.ACTTOTALCOST
WORELEASE	ESTATAPPRTOTALCOST	143	AMOUNT	10	2	0	0	WORKORDER.ESTATAPPRTOTALCOST
WORELEASE	ESTTOTALCOST	144	AMOUNT	10	2	0	0	WORKORDER.ESTTOTALCOST
WORELEASE	JUSTIFYPRIORITY_LONGDESCRIPTION	151	LONGALN	32000	0	0	1	WORKORDER.JUSTIFYPRIORITY_LONGDESCRIPTION
WORELEASE	ENVIRONMENT_LONGDESCRIPTION	154	LONGALN	32000	0	0	1	WORKORDER.ENVIRONMENT_LONGDESCRIPTION
WORELEASE	BACKOUTPLAN_LONGDESCRIPTION	156	LONGALN	32000	0	0	1	WORKORDER.BACKOUTPLAN_LONGDESCRIPTION
WORELEASE	ORIGTKID	157	UPPER	10	0	0	0	TICKET.TICKETID
WORELEASE	ORIGWOID	160	UPPER	10	0	0	0	WORKORDER.WONUM
WORELEASE	DUPFLAG	161	UPPER	10	0	0	1	WORKORDER.DUPFLAG
WORELEASE	WARRANTYEXPDATE	167	DATE	4	0	0	0	WORKORDER.WARRANTYEXPDATE
WORELEASE	FILESINRELEASE_LONGDESCRIPTION	176	LONGALN	32000	0	0	1	WORELEXT.FILESINRELEASE_LONGDESCRIPTION
WORELEASE	BUILDPROCEDURES_LONGDESCRIPTION	177	LONGALN	32000	0	0	1	WORELEXT.BUILDPROCEDURES_LONGDESCRIPTION
WORELEASE	RELEASEDESIGN_LONGDESCRIPTION	178	LONGALN	32000	0	0	1	WORELEXT.RELEASEDESIGN_LONGDESCRIPTION
WORELEASE	RELEASEPOLICIES_LONGDESCRIPTION	179	LONGALN	32000	0	0	1	WORELEXT.RELEASEPOLICIES_LONGDESCRIPTION
WORELEASE	WHOMISCHANGEFOR_LONGDESCRIPTION	181	LONGALN	32000	0	0	0	WORKORDER.WHOMISCHANGEFOR_LONGDESCRIPTION
WORELEASE	REASONFORCHANGE_LONGDESCRIPTION	183	LONGALN	32000	0	0	0	WORKORDER.REASONFORCHANGE_LONGDESCRIPTION
WORELEASE	VERIFICATION_LONGDESCRIPTION	185	LONGALN	32000	0	0	0	WORKORDER.VERIFICATION_LONGDESCRIPTION
WORELEASE	OBJECTNAME	187	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
WORELEASE	HASPARENT	188	YORN	1	0	1	0	WORKORDER.HASPARENT
WORELEASE	JPASSETS	190	YORN	1	0	1	1	WORKORDER.JPASSETS
WORELEASE	SPASSETS	191	YORN	1	0	1	1	WORKORDER.SPASSETS
WORELEASE	SPLOCATIONS	192	YORN	1	0	1	1	WORKORDER.SPLOCATIONS
WORELEASE	NP_STATUSMEMO	195	ALN	50	0	0	0	WFTRANSACTION.MEMO
WORELEASE	WARRANTYEXIST	197	YORN	1	0	1	1	WORKORDER.WARRANTYEXIST
WORELEASE	SAFETYPLAN_LOOKUP_LIST_TYPE	200	ALN	35	0	0	0	WORKORDER.SAFETYPLAN_LOOKUP_LIST_TYPE
WORELEASE	SELECTSLAS_MODE	201	UPPER	10	0	0	0	WORKORDER.SELECTSLAS_MODE
WORELEASE	SLAAPPLIED	202	YORN	1	0	1	0	WORKORDER.SLAAPPLIED
WORELEASE	REPORTEDBYID	203	UPPER	30	0	0	0	PERSON.PERSONID
WORELEASE	REPORTEDBYNAME	204	ALN	62	0	0	0	PERSON.DISPLAYNAME
WORELEASE	ONBEHALFOFID	205	UPPER	30	0	0	0	PERSON.PERSONID
WORELEASE	ONBEHALFOFNAME	206	ALN	62	0	0	0	PERSON.DISPLAYNAME
WORELEASE	ASSETFILTERBY	209	UPPER	10	0	0	0	
WORELEASE	ASSETCUST	210	UPPER	30	0	0	0	PERSON.PERSONID
WORELEASE	ASSETUSER	211	UPPER	30	0	0	0	PERSON.PERSONID
WORELEASE	NEWTASKPARENTPMNUM	212	UPPER	8	0	0	0	PM.PMNUM
WORELEXT	FILESINRELEASE_LONGDESCRIPTION	9	LONGALN	32000	0	0	1	
WORELEXT	BUILDPROCEDURES_LONGDESCRIPTION	10	LONGALN	32000	0	0	1	
WORELEXT	RELEASEDESIGN_LONGDESCRIPTION	11	LONGALN	32000	0	0	1	
WORELEXT	RELEASEPOLICIES_LONGDESCRIPTION	12	LONGALN	32000	0	0	1	
WORKLOG	DESCRIPTION_LONGDESCRIPTION	11	LONGALN	32000	0	0	1	
WORKORDER	DESCRIPTION_LONGDESCRIPTION	128	LONGALN	32000	0	0	1	
WORKORDER	DISPLAYTASKID	129	INTEGER	12	0	0	0	
WORKORDER	DISPLAYWONUM	130	UPPER	10	0	0	0	
WORKORDER	FCTASKID	131	ALN	25	0	0	0	FINCNTRL.TASKID

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
WORKORDER	FCPROJECTID	132	ALN	25	0	0	0	FINCNTRL.PROJECTID
WORKORDER	LOCWARRANTYNOTICE	133	YORN	1	0	1	0	
WORKORDER	ASSETWARRANTYNOTICE	134	YORN	1	0	1	0	
WORKORDER	REMARKDESC_LONGDESCRIPTION	135	LONGALN	32000	0	0	1	
WORKORDER	REMARKENTERDATE	136	DATETIME	10	0	0	0	
WORKORDER	REMARKDESC	137	ALN	50	0	0	0	
WORKORDER	FR2CODE	138	UPPER	8	0	0	0	
WORKORDER	FR1CODE	139	UPPER	8	0	0	0	
WORKORDER	JPTASK	140	INTEGER	12	0	0	0	
WORKORDER	SAFETYPLANID	141	UPPER	8	0	0	0	
WORKORDER	ACTTOTALCOST	142	AMOUNT	10	2	0	0	
WORKORDER	ESTATAPRRTOTALCOST	143	AMOUNT	10	2	0	0	
WORKORDER	ESTTOTALCOST	144	AMOUNT	10	2	0	0	
WORKORDER	JUSTIFYPRIORITY_LONGDESCRIPTION	151	LONGALN	32000	0	0	1	
WORKORDER	ENVIRONMENT_LONGDESCRIPTION	154	LONGALN	32000	0	0	1	
WORKORDER	BACKOUTPLAN_LONGDESCRIPTION	156	LONGALN	32000	0	0	1	
WORKORDER	ORIGTKID	157	UPPER	10	0	0	0	TICKET.TICKETID
WORKORDER	ORIGWOID	160	UPPER	10	0	0	0	WORKORDER.WONUM
WORKORDER	DUPFLAG	161	UPPER	10	0	0	1	
WORKORDER	WARRANTYEXPDATE	167	DATE	4	0	0	0	
WORKORDER	WHOMISCHANGEFOR_LONGDESCRIPTION	172	LONGALN	32000	0	0	0	
WORKORDER	REASONFORCHANGE_LONGDESCRIPTION	174	LONGALN	32000	0	0	0	
WORKORDER	VERIFICATION_LONGDESCRIPTION	176	LONGALN	32000	0	0	0	
WORKORDER	OBJECTNAME	178	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
WORKORDER	HASPARENT	179	YORN	1	0	1	0	
WORKORDER	JPASSETS	181	YORN	1	0	1	1	
WORKORDER	SPASSETS	182	YORN	1	0	1	1	
WORKORDER	SPLOCATIONS	183	YORN	1	0	1	1	
WORKORDER	NP_STATUSMEMO	186	ALN	50	0	0	0	WFTRANSACTION.MEMO
WORKORDER	WARRANTYEXIST	188	YORN	1	0	1	1	
WORKORDER	SAFETYPLAN_LOOKUP_LIST_TYPE	191	ALN	35	0	0	0	
WORKORDER	SELECTSLAS_MODE	192	UPPER	10	0	0	0	
WORKORDER	SLAAPPLIED	193	YORN	1	0	1	0	
WORKORDER	REPORTEDBYID	194	UPPER	30	0	0	0	PERSON.PERSONID
WORKORDER	REPORTEDBYNAME	195	ALN	62	0	0	0	PERSON.DISPLAYNAME
WORKORDER	ONBEHALFOFID	196	UPPER	30	0	0	0	PERSON.PERSONID
WORKORDER	ONBEHALFOFNAME	197	ALN	62	0	0	0	PERSON.DISPLAYNAME
WORKORDER	ASSETFILTERBY	199	UPPER	10	0	0	0	
WORKORDER	ASSETCUST	200	UPPER	30	0	0	0	PERSON.PERSONID
WORKORDER	ASSETUSER	201	UPPER	30	0	0	0	PERSON.PERSONID
WORKORDER	NEWTASKPARENTPMNUM	202	UPPER	8	0	0	0	PM.PMNUM
WORKVIEW	TICKETID	15	UPPER	10	0	0	0	TICKET.TICKETID
WORKVIEW	WONUM	16	UPPER	10	0	0	0	WORKORDER.WONUM
WOSAFETYLINK	TAG08	12	ALN	10	0	0	0	
WOSAFETYLINK	TAG07	13	DECIMAL	15	2	0	0	
WOSAFETYLINK	TAG06	14	DATETIME	10	0	0	0	

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
WOSAFETYLINK	TAG05	15	AMOUNT	10	2	0	0	
WOSAFETYLINK	TAG04	16	ALN	10	0	0	0	
WOSAFETYLINK	TAG03	17	ALN	10	0	0	0	
WOSAFETYLINK	TAG02	18	ALN	10	0	0	0	
WOSAFETYLINK	TAG01	19	ALN	10	0	0	0	
WOSAFETYLINK	HAZ20	20	YORN	1	0	1	0	
WOSAFETYLINK	HAZ19	21	INTEGER	12	0	0	0	
WOSAFETYLINK	HAZ18	22	ALN	10	0	0	0	
WOSAFETYLINK	HAZ17	23	ALN	10	0	0	0	
WOSAFETYLINK	HAZ16	24	DECIMAL	15	2	0	0	
WOSAFETYLINK	HAZ15	25	DECIMAL	15	2	0	0	
WOSAFETYLINK	HAZ14	26	DATETIME	10	0	0	0	
WOSAFETYLINK	HAZ13	27	DATETIME	10	0	0	0	
WOSAFETYLINK	HAZ12	28	AMOUNT	10	2	0	0	
WOSAFETYLINK	HAZ11	29	AMOUNT	10	2	0	0	
WOSAFETYLINK	HAZ10	30	ALN	10	0	0	0	
WOSAFETYLINK	HAZ09	31	ALN	10	0	0	0	
WOSAFETYLINK	HAZ08	32	ALN	10	0	0	0	
WOSAFETYLINK	HAZ07	33	ALN	10	0	0	0	
WOSAFETYLINK	HAZ06	34	ALN	10	0	0	0	
WOSAFETYLINK	HAZ05	35	ALN	10	0	0	0	
WOSAFETYLINK	HAZ04	36	ALN	10	0	0	0	
WOSAFETYLINK	HAZ03	37	ALN	10	0	0	0	
WOSAFETYLINK	HAZ02	38	ALN	10	0	0	0	
WOSAFETYLINK	HAZ01	39	ALN	10	0	0	0	
WOSAFETYLINK	REQUIREDSTATE	40	UPPER	16	0	0	0	
WOSAFETYLINK	TAGOUTASSETDESCRIPTION	41	ALN	80	0	0	0	
WOSAFETYLINK	TAGOUTDESCRIPTION	42	ALN	50	0	0	0	
WOSAFETYLINK	TAGOUTLOCATION	43	UPPER	8	0	0	0	
WOSAFETYLINK	TAGOUTASSETNUM	44	UPPER	8	0	0	0	
WOSAFETYLINK	CONTACTRATING	45	INTEGER	12	0	0	0	
WOSAFETYLINK	REACTIVITYRATING	46	INTEGER	12	0	0	0	
WOSAFETYLINK	FLAMMABILITYRATING	47	INTEGER	12	0	0	0	
WOSAFETYLINK	HEALTHRATING	48	INTEGER	12	0	0	0	
WOSAFETYLINK	MSDSNUM	49	ALN	10	0	0	0	
WOSAFETYLINK	TAGOUTENABLED	50	YORN	1	0	0	0	
WOSAFETYLINK	PRECAUTIONENABLED	51	YORN	1	0	0	0	
WOSAFETYLINK	HAZMATENABLED	52	YORN	1	0	0	0	
WOSAFETYLINK	HAZARDTYPE	53	UPPER	16	0	0	0	
WOSAFETYLINK	HAZARDDESCRIPTION	54	ALN	50	0	0	0	
WOSAFETYLINK	ASSETDESCRIPTION	55	ALN	80	0	0	0	
WOSAFETYLINK	HAZARDDESCRIPTION_LONGDESCRIPTION	61	LONGALN	32000	0	0	0	
WOSAFETYLINK	ASSETDESCRIPTION_LONGDESCRIPTION	62	LONGALN	32000	0	0	0	
WOSAFETYLINK	TAGOUTDESCRIPTION_LONGDESCRIPTION	63	LONGALN	32000	0	0	0	
WOSAFETYLINK	TAGOUTASSETDESCRIPTION_LONGDESCRIPTION	64	LONGALN	32000	0	0	0	

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
WOSAFETYPLAN	DESCRIPTION_LONGDESCRIPTION	8	LONGALN	32000	0	0	1	
WOSTATUS	FCPROJECTID	11	ALN	25	0	0	0	FINCNTRL.PROJECTID
WOSTATUS	FCTASKID	12	ALN	25	0	0	0	FINCNTRL.TASKID
WOTAGLOCK	LCK10	20	INTEGER	12	0	0	0	
WOTAGLOCK	LCK09	21	ALN	10	0	0	0	
WOTAGLOCK	LCK08	22	DECIMAL	15	2	0	0	
WOTAGLOCK	LCK07	23	DATETIME	10	0	0	0	
WOTAGLOCK	LCK06	24	AMOUNT	10	2	0	0	
WOTAGLOCK	LCK05	25	ALN	10	0	0	0	
WOTAGLOCK	LCK04	26	ALN	10	0	0	0	
WOTAGLOCK	LCK03	27	ALN	10	0	0	0	
WOTAGLOCK	LCK02	28	ALN	10	0	0	0	
WOTAGLOCK	LCK01	29	ALN	10	0	0	0	
WOTAGLOCK	REQUIREDSTATE	30	UPPER	16	0	0	0	
WOTAGLOCK	DEVICEDESCRIPTION	31	ALN	50	0	0	0	
WOTAGLOCK	LOCATION	32	UPPER	8	0	0	0	
WOTAGLOCK	ASSETNUM	33	UPPER	8	0	0	0	
WOTAGLOCK	DESCRIPTION	34	ALN	100	0	0	0	
WOTAGLOCK	DESCRIPTION_LONGDESCRIPTION	35	LONGALN	32000	0	0	0	
WOTAGLOCK	DEVICEDESCRIPTION_LONGDESCRIPTION	36	LONGALN	32000	0	0	0	
WOTAGOUT	DESCRIPTION_LONGDESCRIPTION	18	LONGALN	32000	0	0	1	
WOTAGOUT	HAZARDID	19	UPPER	8	0	0	0	
WOTAGOUT	ASSETDESCRIPTION	20	ALN	80	0	0	0	
WOTAGOUT	ASSETDESCRIPTION_LONGDESCRIPTION	23	LONGALN	32000	0	0	0	
WPITEM	DESCRIPTION_LONGDESCRIPTION	3	LONGALN	32000	0	0	1	
WPITEM	DISPLAYTASKID	5	INTEGER	12	0	0	0	
WPITEM	DISPLAYWONUM	6	UPPER	10	0	0	0	
WPITEM	TASKID	24	INTEGER	12	0	0	0	
WPITEM	RESERVEREQ	44	YORN	1	0	1	0	
WPLABOR	DISPLAYTASKID	19	INTEGER	12	0	0	0	
WPLABOR	DISPLAYWONUM	20	UPPER	10	0	0	0	
WPLABOR	TASKID	21	INTEGER	12	0	0	0	
WPLABOR	LINECOST	22	AMOUNT	10	2	0	0	
WPLABOR	DISPLAYRATE	28	DECIMAL	10	2	0	0	
WPMATERIAL	DESCRIPTION_LONGDESCRIPTION	3	LONGALN	32000	0	0	1	
WPMATERIAL	DISPLAYTASKID	5	INTEGER	12	0	0	0	WPITEM.DISPLAYTASKID
WPMATERIAL	DISPLAYWONUM	6	UPPER	10	0	0	0	WPITEM.DISPLAYWONUM
WPMATERIAL	TASKID	24	INTEGER	12	0	0	0	WPITEM.TASKID
WPMATERIAL	RESERVEREQ	44	YORN	1	0	1	0	
WPSERVICE	DESCRIPTION_LONGDESCRIPTION	3	LONGALN	32000	0	0	1	
WPSERVICE	DISPLAYTASKID	5	INTEGER	12	0	0	0	WPITEM.DISPLAYTASKID
WPSERVICE	DISPLAYWONUM	6	UPPER	10	0	0	0	WPITEM.DISPLAYWONUM
WPSERVICE	TASKID	24	INTEGER	12	0	0	0	WPITEM.TASKID
WPSERVICE	RESERVEREQ	44	YORN	1	0	1	0	
WPTOOL	DESCRIPTION_LONGDESCRIPTION	3	LONGALN	32000	0	0	1	
WPTOOL	DISPLAYTASKID	5	INTEGER	12	0	0	0	WPITEM.DISPLAYTASKID

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
WPTOOL	DISPLAYWONUM	6	UPPER	10	0	0	0	WPITEM.DISPLAYWONUM
WPTOOL	TASKID	24	INTEGER	12	0	0	0	WPITEM.TASKID
WPTOOL	RESERVEREQ	44	YORN	1	0	1	0	.

MAXIMO Database Columns

Columns with persistent attributes in views

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
ASSETCUST	ASSETNUM	1	UPPER	12	0	1	0	ASSET.ASSETNUM
ASSETCUST	PARENT	2	UPPER	12	0	0	0	ASSET.ASSETNUM
ASSETCUST	SERIALNUM	3	UPPER	15	0	0	0	ASSET.SERIALNUM
ASSETCUST	ASSETTAG	4	ALN	15	0	0	0	ASSET.ASSETTAG
ASSETCUST	LOCATION	5	UPPER	12	0	0	0	LOCATIONS.LOCATION
ASSETCUST	DESCRIPTION	6	ALN	100	0	0	0	ITEM.DESCRPTION
ASSETCUST	VENDOR	7	UPPER	12	0	0	0	COMPANIES.COMPANY
ASSETCUST	FAILURECODE	8	UPPER	8	0	0	0	FAILURECODE.FAILURECODE
ASSETCUST	MANUFACTURER	9	UPPER	12	0	0	0	COMPANIES.COMPANY
ASSETCUST	PURCHASEPRICE	10	AMOUNT	10	2	1	1	ASSET.PURCHASEPRICE
ASSETCUST	REPLACECOST	11	AMOUNT	10	2	1	1	ASSET.REPLACECOST
ASSETCUST	INSTALLDATE	12	DATE	4	0	0	1	ASSET.INSTALLDATE
ASSETCUST	WARRANTYEXPDATE	13	DATE	4	0	0	1	ASSET.WARRANTYEXPDATE
ASSETCUST	TOTALCOST	14	AMOUNT	10	2	1	1	ASSET.TOTALCOST
ASSETCUST	YTDCOST	15	AMOUNT	10	2	1	1	ASSET.YTDCOST
ASSETCUST	BUDGETCOST	16	AMOUNT	10	2	1	1	ASSET.BUDGETCOST
ASSETCUST	CALNUM	17	UPPER	8	0	0	0	CALENDAR.CALNUM
ASSETCUST	ISRUNNING	18	YORN	1	0	1	1	ASSET.ISRUNNING
ASSETCUST	ITEMNUM	19	UPPER	30	0	0	0	ITEM.ITEMNUM
ASSETCUST	UNCHARGEDCOST	20	AMOUNT	10	2	1	1	ASSET.UNCHARGEDCOST
ASSETCUST	TOTUNCHARGEDCOST	21	AMOUNT	10	2	1	1	ASSET.TOTUNCHARGEDCOST
ASSETCUST	TOTDOWNTIME	22	DURATION	8	0	1	1	ASSET.TOTDOWNTIME
ASSETCUST	STATUSDATE	23	DATETIME	10	0	0	1	ASSET.STATUSDATE
ASSETCUST	CHANGEDATE	24	DATETIME	10	0	1	1	ASSET.CHANGEDATE
ASSETCUST	CHANGEBY	25	UPPER	30	0	1	0	PERSON.PERSONID
ASSETCUST	EQ1	26	ALN	10	0	0	0	ASSET.EQ1
ASSETCUST	EQ2	27	ALN	10	0	0	0	ASSET.EQ2
ASSETCUST	EQ3	28	ALN	10	0	0	0	ASSET.EQ3
ASSETCUST	EQ4	29	ALN	10	0	0	0	ASSET.EQ4
ASSETCUST	EQ5	30	AMOUNT	10	2	0	0	ASSET.EQ5
ASSETCUST	EQ6	31	DATETIME	10	0	0	0	ASSET.EQ6
ASSETCUST	EQ7	32	DECIMAL	15	2	0	0	ASSET.EQ7
ASSETCUST	EQ8	33	ALN	10	0	0	0	ASSET.EQ8
ASSETCUST	EQ9	34	ALN	10	0	0	0	ASSET.EQ9
ASSETCUST	EQ10	35	ALN	10	0	0	0	ASSET.EQ10
ASSETCUST	EQ11	36	ALN	10	0	0	0	ASSET.EQ11
ASSETCUST	EQ12	37	AMOUNT	10	2	0	0	ASSET.EQ12
ASSETCUST	EQ23	38	DATETIME	10	0	0	0	ASSET.EQ23
ASSETCUST	EQ24	39	DECIMAL	15	2	0	0	ASSET.EQ24
ASSETCUST	PRIORITY	40	INTEGER	12	0	0	1	ASSET.PRIORITY
ASSETCUST	INVCOST	41	AMOUNT	10	2	1	1	ASSET.INVCOST
ASSETCUST	GLACCOUNT	42	GL	23	0	0	1	

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
ASSETCUST	ROTSUSPACCT	43	GL	23	0	0	1	
ASSETCUST	CHILDREN	44	YORN	1	0	1	1	ASSET.CHILDREN
ASSETCUST	BINNUM	45	ALN	8	0	0	0	INVENTORY.BINNUM
ASSETCUST	DISABLED	46	YORN	1	0	1	1	ASSET.DISABLED
ASSETCUST	CLASSTRUCTUREID	47	UPPER	20	0	0	1	CLASSTRUCTURE.CLASSTRUCTUREID
ASSETCUST	SOURCESYSID	48	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
ASSETCUST	OWNERSYSID	49	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
ASSETCUST	EXTERNALREFID	50	ALN	10	0	0	0	ASSET.EXTERNALREFID
ASSETCUST	SITEID	51	UPPER	8	0	1	0	SITE.SITEID
ASSETCUST	ORGID	52	UPPER	8	0	1	0	ORGANIZATION.ORGID
ASSETCUST	AUTOWOGEN	53	YORN	1	0	1	1	ASSET.ISRUNNING
ASSETCUST	ITEMSETID	54	UPPER	8	0	0	0	SETS.SETID
ASSETCUST	CONDITIONCODE	66	UPPER	30	0	0	0	ITEMCONDITION.CONDITIONCODE
ASSETCUST	GROUPNAME	67	UPPER	10	0	0	0	METERGROUP.GROUPNAME
ASSETCUST	ASSETTYPE	69	ALN	15	0	0	0	ASSET.ASSETTYPE
ASSETCUST	USAGE	70	ALN	15	0	0	0	ASSET.USAGE
ASSETCUST	STATUS	71	ALN	20	0	0	0	ASSET.STATUS
ASSETCUST	MAINTHERCHY	72	YORN	1	0	1	0	ASSET.MAINTHERCHY
ASSETCUST	ASSETID	73	INTEGER	12	0	1	0	ASSET.ASSETID
ASSETCUST	MOVED	74	YORN	1	0	1	0	ASSET.MOVED
ASSETCUST	ASSETUID	80	INTEGER	12	0	1	1	ASSET.ASSETUID
ASSETCUST	LANGCODE	86	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
ASSETCUST	TOOLRATE	87	AMOUNT	10	2	0	0	ASSET.TOOLRATE
ASSETCUST	ITEMTYPE	88	UPPER	8	0	0	0	ASSET.ITEMTYPE
ASSETCUST	ANECSTOR	89	UPPER	12	0	0	0	ASSET.ASSETNUM
ASSETCUST	SENDERSYSID	93	ALN	50	0	0	1	ASSET.SENDERSYSID
ASSETCUST	SHIFTNUM	94	UPPER	8	0	0	0	SHIFT.SHIFTNUM
ASSETCUST	TOOLCONTROLACCOUNT	95	GL	23	0	0	1	
ASSETCUST	PERSONID	96	UPPER	30	0	1	0	PERSON.PERSONID
ASSETCUST	ISUSER	97	YORN	1	0	1	0	ASSETUSERCUST.ISUSER
ASSETCUST	ISCUSTODIAN	98	YORN	1	0	1	0	ASSETUSERCUST.ISCUSTODIAN
ASSETCUST	ASSETUSERCUSTID	99	INTEGER	12	0	1	1	ASSETUSERCUST.ASSETUSERCUSTID
ASSETCUST	ISPRIMARY	100	YORN	1	0	1	0	ASSETUSERCUST.ISPRIMARY
ASSETCUST	HASLD	101	YORN	1	0	1	1	
COMPUTERSYSTEM	NODEID	1	INTEGER	12	0	1	0	DEPLOYEDASSET.NODEID
COMPUTERSYSTEM	LOGONNAME	2	ALN	64	0	0	0	DPACOMPUTER.LOGONNAME
COMPUTERSYSTEM	SWLASTSCANDATE	3	DATETIME	10	0	0	0	DPACOMPUTER.SWLASTSCANDATE
COMPUTERSYSTEM	SWDETECTIONTOOL	4	ALN	256	0	0	0	DPACOMPUTER.SWDETECTIONTOOL
COMPUTERSYSTEM	SUPPORTSWMI	5	YORN	1	0	1	0	DPACOMPUTER.SUPPORTSWMI
COMPUTERSYSTEM	NODENAME	6	ALN	128	0	1	0	DEPLOYEDASSET.NODENAME
COMPUTERSYSTEM	DOMAINNAME	7	ALN	128	0	1	0	DEPLOYEDASSET.DOMAINNAME
COMPUTERSYSTEM	SERIALNUMBER	8	ALN	64	0	0	0	DEPLOYEDASSET.SERIALNUMBER
COMPUTERSYSTEM	ASSETTAG	9	ALN	64	0	0	0	DEPLOYEDASSET.ASSETTAG
COMPUTERSYSTEM	MAKEMODEL	10	ALN	128	0	0	0	DEPLOYEDASSET.MAKEMODEL
COMPUTERSYSTEM	DESCRIPTION	11	ALN	256	0	0	0	DEPLOYEDASSET.DESCRPTION
COMPUTERSYSTEM	HWLASTSCANDATE	12	DATETIME	10	0	0	0	DEPLOYEDASSET.HWLASTSCANDATE

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
COMPUTERSYSTEM	HWDETECTIONTOOL	13	ALN	256	0	0	0	DEPLOYEDASSET.HWDETECTIONTOOL
COMPUTERSYSTEM	SUPPORTSSNMP	14	YORN	1	0	1	0	DEPLOYEDASSET.SUPPORTSSNMP
COMPUTERSYSTEM	SOURCEID	15	ALN	128	0	0	0	DEPLOYEDASSET.SOURCEID
COMPUTERSYSTEM	SYSTEMROLE	16	ALN	32	0	0	0	DEPLOYEDASSET.SYSTEMROLE
COMPUTERSYSTEM	ASSETCLASS	17	ALN	32	0	1	0	DEPLOYEDASSET.ASSETCLASS
COMPUTERSYSTEM	SITEID	18	UPPER	8	0	0	0	SITE.SITEID
COMPUTERSYSTEM	ORGID	19	UPPER	8	0	0	0	ORGANIZATION.ORGID
COMPUTERSYSTEM	MOBOCHIPSET	20	ALN	128	0	0	0	DPACOMPUTER.MOBOCHIPSET
COMPUTERSYSTEM	RAMTYPE	21	ALN	32	0	0	0	
COMPUTERSYSTEM	RAMTOTALSLOTS	22	INTEGER	12	0	0	0	
COMPUTERSYSTEM	RAMUNUSEDLOTS	23	INTEGER	12	0	0	0	
COMPUTERSYSTEM	RAMDESCRIPTION	24	ALN	256	0	0	0	
COMPUTERSYSTEM	BIOSNAME	25	ALN	64	0	0	0	
COMPUTERSYSTEM	BIOSVERSION	26	ALN	32	0	0	0	
COMPUTERSYSTEM	BIOSDATE	27	DATETIME	10	0	0	0	
COMPUTERSYSTEM	BIOSPNP	28	YORN	1	0	1	0	
COMPUTERSYSTEM	MOBOSERIALNUMBER	29	ALN	64	0	0	0	DPACOMPUTER.MOBOSERIALNUMBER
COMPUTERSYSTEM	MOBOASSETTAG	30	ALN	64	0	0	0	DPACOMPUTER.MOBOASSETTAG
COMPUTERSYSTEM	MOBOMAKEMODEL	31	ALN	128	0	0	0	DPACOMPUTER.MOBOMAKEMODEL
COMPUTERSYSTEM	MOBOMANUFACTURER	32	ALN	128	0	0	0	DPACOMPUTER.MOBOMANUFACTURER
COMPUTERSYSTEM	MOBODESCRIPTION	33	ALN	256	0	0	0	DPACOMPUTER.MOBODESCRIPTION
COMPUTERSYSTEM	RAMSIZE	34	DECIMAL	10	2	0	0	
COMPUTERSYSTEM	RAMUNIT	35	ALN	16	0	0	0	
COMPUTERSYSTEM	SMBIOS	36	YORN	1	0	1	0	
COMPUTERSYSTEM	CREATEDATE	37	DATETIME	10	0	1	0	
COMPUTERSYSTEM	CHANGEDATE	38	DATETIME	10	0	1	0	
COMPUTERSYSTEM	CREATEDATE1	40	DATETIME	10	0	1	0	
COMPUTERSYSTEM	CHANGEDATE1	41	DATETIME	10	0	1	0	
COMPUTERSYSTEM	CMANUFACTURER	42	ALN	128	0	1	0	DPAMMANUVARIANT.MANUFACTURERNAME
COMPUTERSYSTEM	MANUFACTURERVAR	43	ALN	128	0	1	0	DPAMMANUVARIANT.MANUFACTURERVAR
COMPUTERSYSTEM	DPAMMANUVARIANTID	44	INTEGER	12	0	1	1	DPAMMANUVARIANT.DPAMMANUVARIANTID
DPACOMMMDEVICE	NODEID	1	INTEGER	12	0	1	0	DEPLOYEDASSET.NODEID
DPACOMMMDEVICE	DEVICEID	2	INTEGER	12	0	1	0	DPACOMMMDEVICE.DEVICEID
DPACOMMMDEVICE	DEVICETYPE	3	ALN	32	0	0	0	DPACOMMMDEVICE.DEVICETYPE
DPACOMMMDEVICE	DEVICENAME	4	ALN	64	0	0	0	DPACOMMMDEVICE.DEVICENAME
DPACOMMMDEVICE	BANDWIDTH	5	DECIMAL	10	2	0	0	DPACOMMMDEVICE.BANDWIDTH
DPACOMMMDEVICE	BANDWIDTHHUNIT	6	ALN	16	0	0	0	DPACOMMMDEVICE.BANDWIDTHHUNIT
DPACOMMMDEVICE	SERIALNUMBER	7	ALN	64	0	0	0	DPACOMMMDEVICE.SERIALNUMBER
DPACOMMMDEVICE	ASSETTAG	8	ALN	64	0	0	0	DPACOMMMDEVICE.ASSETTAG
DPACOMMMDEVICE	DESCRIPTION	9	ALN	256	0	0	0	DPACOMMMDEVICE.DESCRPTION
DPACOMMMDEVICE	CREATEDATE	10	DATETIME	10	0	1	0	DPACOMMMDEVICE.CREATEDATE
DPACOMMMDEVICE	CHANGEDATE	11	DATETIME	10	0	1	0	DPACOMMMDEVICE.CHANGEDATE
DPACOMMMDEVICE	CMANUFACTURER	13	ALN	128	0	1	0	DPAMMANUVARIANT.MANUFACTURERNAME
DPACOMMMDEVICE	MANUFACTURERVAR	14	ALN	128	0	1	0	DPAMMANUVARIANT.MANUFACTURERVAR
DPACOMMMDEVICE	DPAMMANUVARIANTID	15	INTEGER	12	0	1	1	DPAMMANUVARIANT.DPAMMANUVARIANTID
DPACOMMMDEVICE	CMAKEMODEL	16	ALN	128	0	1	0	DPAMADPTVARIANT.ADAPTERNAME

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
DPACCOMMDEVICE	ADAPTERVARIANT	17	ALN	128	0	1	0	DPAMADPTVARIANT.ADAPTERVARIANT
DPACCOMMDEVICE	DPAMADPTVARIANTID	18	INTEGER	12	0	1	1	DPAMADPTVARIANT.DPAMADPTVARIANTID
DPACCPU	NODEID	1	INTEGER	12	0	1	0	DEPLOYEDASSET.NODEID
DPACCPU	CPUID	2	INTEGER	12	0	1	0	DPACPU.CPUID
DPACCPU	SERIALNUMBER	3	ALN	64	0	0	0	DPACPU.SERIALNUMBER
DPACCPU	DESCRIPTION	4	ALN	256	0	0	0	DPACPU.DESCRPTION
DPACCPU	MAXSPEED	5	DECIMAL	10	2	0	0	DPACPU.MAXSPEED
DPACCPU	CURRSPEED	6	DECIMAL	10	2	0	0	DPACPU.CURRSPEED
DPACCPU	SPEEDUNIT	7	ALN	16	0	0	0	DPACPU.SPEEDUNIT
DPACCPU	CREATEDATE	8	DATETIME	10	0	1	0	DPACPU.CREATEDATE
DPACCPU	CHANGEDATE	9	DATETIME	10	0	1	0	DPACPU.CHANGEDATE
DPACCPU	CMANUFACTURER	12	ALN	128	0	1	0	DPAMMANUVARIANT.MANUFACTURERNAME
DPACCPU	MANUFACTURERVAR	13	ALN	128	0	1	0	DPAMMANUVARIANT.MANUFACTURERVAR
DPACCPU	DPAMMANUVARIANTID	14	INTEGER	12	0	1	1	DPAMMANUVARIANT.DPAMMANUVARIANTID
DPACCPU	CMAKEMODEL	15	ALN	128	0	1	0	DPAMPROCVARIANT.PROCESSORNAME
DPACCPU	PROCESSORVAR	16	ALN	128	0	1	0	DPAMPROCVARIANT.PROCESSORVAR
DPACCPU	DPAMPROCVARIANTID	17	INTEGER	12	0	1	1	DPAMPROCVARIANT.DPAMPROCVARIANTID
DPACDISK	NODEID	1	INTEGER	12	0	1	0	DPADISK.NODEID
DPACDISK	DISKID	2	INTEGER	12	0	1	0	DPADISK.DISKID
DPACDISK	DISKTYPE	3	ALN	32	0	0	0	DPADISK.DISKTYPE
DPACDISK	DISKINTERFACE	4	ALN	32	0	0	0	DPADISK.DISKINTERFACE
DPACDISK	REMOVABLEMEDIA	5	YORN	1	0	1	0	DPADISK.REMOVABLEMEDIA
DPACDISK	WRITECAPABLE	6	YORN	1	0	1	0	DPADISK.WRITECAPABLE
DPACDISK	EXTERNALDEVICE	7	YORN	1	0	1	0	DPADISK.EXTERNALDEVICE
DPACDISK	SERIALNUMBER	8	ALN	64	0	0	0	DPADISK.SERIALNUMBER
DPACDISK	ASSETTAG	9	ALN	64	0	0	0	DPADISK.ASSETTAG
DPACDISK	MAKEMODEL	10	ALN	128	0	0	0	DPADISK.MAKEMODEL
DPACDISK	DESCRIPTION	11	ALN	256	0	0	0	DPADISK.DESCRPTION
DPACDISK	SIZEUNIT	12	ALN	16	0	0	0	DPADISK.SIZEUNIT
DPACDISK	TOTALSPACE	13	DECIMAL	10	2	0	0	DPADISK.TOTALSPACE
DPACDISK	CREATEDATE	14	DATETIME	10	0	1	0	DPADISK.CREATEDATE
DPACDISK	CHANGEDATE	15	DATETIME	10	0	1	0	DPADISK.CHANGEDATE
DPACDISK	HOTSWAPPABLE	16	YORN	1	0	1	0	DPADISK.HOTSWAPPABLE
DPACDISK	SYSTEMNAME	18	ALN	64	0	0	0	DPADISK.SYSTEMNAME
DPACDISK	CMANUFACTURER	19	ALN	128	0	1	0	DPAMMANUVARIANT.MANUFACTURERNAME
DPACDISK	MANUFACTURERVAR	20	ALN	128	0	1	0	DPAMMANUVARIANT.MANUFACTURERVAR
DPACDISK	DPAMMANUVARIANTID	21	INTEGER	12	0	1	1	DPAMMANUVARIANT.DPAMMANUVARIANTID
DPACDISPLAY	NODEID	1	INTEGER	12	0	1	0	DPADISPLAY.NODEID
DPACDISPLAY	DISPLAYID	2	INTEGER	12	0	1	0	DPADISPLAY.DISPLAYID
DPACDISPLAY	DISPLAYTYPE	3	ALN	32	0	0	0	DPADISPLAY.DISPLAYTYPE
DPACDISPLAY	DISPLAYSIZE	4	INTEGER	12	0	0	0	DPADISPLAY.DISPLAYSIZE
DPACDISPLAY	MAXHORZRESOLUTION	5	INTEGER	12	0	0	0	DPADISPLAY.MAXHORZRESOLUTION
DPACDISPLAY	MAXVERTRESOLUTION	6	INTEGER	12	0	0	0	DPADISPLAY.MAXVERTRESOLUTION
DPACDISPLAY	COLORDEPTHBIT	7	INTEGER	12	0	0	0	DPADISPLAY.COLORDEPTHBIT
DPACDISPLAY	SERIALNUMBER	8	ALN	64	0	0	0	DPADISPLAY.SERIALNUMBER
DPACDISPLAY	ASSETTAG	9	ALN	64	0	0	0	DPADISPLAY.ASSETTAG

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
DPACDISPLAY	MAKEMODEL	10	ALN	128	0	0	0	DPADISPLAY.MAKEMODEL
DPACDISPLAY	DESCRIPTION	11	ALN	256	0	0	0	DPADISPLAY.DESCRPTION
DPACDISPLAY	CREATEDATE	12	DATETIME	10	0	1	0	DPADISPLAY.CREATEDATE
DPACDISPLAY	CHANGEDATE	13	DATETIME	10	0	1	0	DPADISPLAY.CHANGEDATE
DPACDISPLAY	CMANUFACTURER	14	ALN	128	0	1	0	DPAMMANUVARIANT.MANUFACTURERNAME
DPACDISPLAY	MANUFACTURERVAR	15	ALN	128	0	1	0	DPAMMANUVARIANT.MANUFACTURERVAR
DPACDISPLAY	DPAMMANUVARIANTID	16	INTEGER	12	0	1	1	DPAMMANUVARIANT.DPAMMANUVARIANTID
DPACIMAGEDEVICE	NODEID	1	INTEGER	12	0	1	0	DEPLOYEDASSET.NODEID
DPACIMAGEDEVICE	DEVICEID	2	INTEGER	12	0	1	0	DPAIMAGEDEVICE.DEVICEID
DPACIMAGEDEVICE	DEVICETYPE	3	ALN	32	0	0	0	DPAIMAGEDEVICE.DEVICETYPE
DPACIMAGEDEVICE	NAME	4	ALN	128	0	0	0	DPAIMAGEDEVICE.NAME
DPACIMAGEDEVICE	ALIAS	5	ALN	128	0	0	0	DPAIMAGEDEVICE.ALIAS
DPACIMAGEDEVICE	CURRENTRAM	6	DECIMAL	10	2	0	0	DPAIMAGEDEVICE.CURRENTRAM
DPACIMAGEDEVICE	MAXRAM	7	DECIMAL	10	2	0	0	DPAIMAGEDEVICE.MAXRAM
DPACIMAGEDEVICE	RAMUNIT	8	ALN	16	0	0	0	DPAIMAGEDEVICE.RAMUNIT
DPACIMAGEDEVICE	COLORDEPTHBIT	9	INTEGER	12	0	0	0	DPAIMAGEDEVICE.COLORDEPTHBIT
DPACIMAGEDEVICE	MAXWIDTH	10	DECIMAL	10	2	0	0	DPAIMAGEDEVICE.MAXWIDTH
DPACIMAGEDEVICE	MAXLENGTH	11	DECIMAL	10	2	0	0	DPAIMAGEDEVICE.MAXLENGTH
DPACIMAGEDEVICE	SIZEUNIT	12	ALN	16	0	0	0	DPAIMAGEDEVICE.SIZEUNIT
DPACIMAGEDEVICE	VERTICALDPI	13	INTEGER	12	0	0	0	DPAIMAGEDEVICE.VERTICALDPI
DPACIMAGEDEVICE	HORIZONTALDPI	14	INTEGER	12	0	0	0	DPAIMAGEDEVICE.HORIZONTALDPI
DPACIMAGEDEVICE	PRINTCAPABLE	15	YORN	1	0	1	0	DPAIMAGEDEVICE.PRINTCAPABLE
DPACIMAGEDEVICE	FAXCAPABLE	16	YORN	1	0	1	0	DPAIMAGEDEVICE.FAXCAPABLE
DPACIMAGEDEVICE	SCANCAPABLE	17	YORN	1	0	1	0	DPAIMAGEDEVICE.SCANCAPABLE
DPACIMAGEDEVICE	COPYCAPABLE	18	YORN	1	0	1	0	DPAIMAGEDEVICE.COPYCAPABLE
DPACIMAGEDEVICE	NUMBEROFTRAYS	19	INTEGER	12	0	0	0	DPAIMAGEDEVICE.NUMBEROFTRAYS
DPACIMAGEDEVICE	INTERFACE	20	ALN	32	0	0	0	DPAIMAGEDEVICE.INTERFACE
DPACIMAGEDEVICE	SERIALNUMBER	21	ALN	64	0	0	0	DPAIMAGEDEVICE.SERIALNUMBER
DPACIMAGEDEVICE	ASSETTAG	22	ALN	64	0	0	0	DPAIMAGEDEVICE.ASSETTAG
DPACIMAGEDEVICE	MAKEMODEL	23	ALN	128	0	0	0	DPAIMAGEDEVICE.MAKEMODEL
DPACIMAGEDEVICE	DESCRIPTION	24	ALN	256	0	0	0	DPAIMAGEDEVICE.DESCRPTION
DPACIMAGEDEVICE	CREATEDATE	25	DATETIME	10	0	1	0	DPAIMAGEDEVICE.CREATEDATE
DPACIMAGEDEVICE	CHANGEDATE	26	DATETIME	10	0	1	0	DPAIMAGEDEVICE.CHANGEDATE
DPACIMAGEDEVICE	CMANUFACTURER	31	ALN	128	0	1	0	DPAMMANUVARIANT.MANUFACTURERNAME
DPACIMAGEDEVICE	MANUFACTURERVAR	32	ALN	128	0	1	0	DPAMMANUVARIANT.MANUFACTURERVAR
DPACIMAGEDEVICE	DPAMMANUVARIANTID	33	INTEGER	12	0	1	1	DPAMMANUVARIANT.DPAMMANUVARIANTID
DPACMEDIAADAPTER	NODEID	1	INTEGER	12	0	1	0	DEPLOYEDASSET.NODEID
DPACMEDIAADAPTER	ADAPTERID	2	INTEGER	12	0	1	0	DPAMEDIAADAPTER.ADAPTERID
DPACMEDIAADAPTER	MEDIATYPE	3	ALN	32	0	0	0	DPAMEDIAADAPTER.MEDIATYPE
DPACMEDIAADAPTER	MEMORYTYPE	4	ALN	32	0	0	0	DPAMEDIAADAPTER.MEMORYTYPE
DPACMEDIAADAPTER	RAMSIZE	5	DECIMAL	10	2	0	0	DPAMEDIAADAPTER.RAMSIZE
DPACMEDIAADAPTER	RAMUNIT	6	ALN	16	0	0	0	DPAMEDIAADAPTER.RAMUNIT
DPACMEDIAADAPTER	BUSTYPE	7	ALN	32	0	0	0	DPAMEDIAADAPTER.BUSTYPE
DPACMEDIAADAPTER	CHIPSET	8	ALN	64	0	0	0	DPAMEDIAADAPTER.CHIPSET
DPACMEDIAADAPTER	SERIALNUMBER	9	ALN	64	0	0	0	DPAMEDIAADAPTER.SERIALNUMBER
DPACMEDIAADAPTER	ASSETTAG	10	ALN	64	0	0	0	DPAMEDIAADAPTER.ASSETTAG

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
DPACMEDIAADAPTER	DESCRIPTION	11	ALN	256	0	0	0	DPAMEDIAADAPTER.DESCRPTION
DPACMEDIAADAPTER	CREATEDATE	12	DATETIME	10	0	1	0	DPAMEDIAADAPTER.CREATEDATE
DPACMEDIAADAPTER	CHANGEDATE	13	DATETIME	10	0	1	0	DPAMEDIAADAPTER.CHANGEDATE
DPACMEDIAADAPTER	CMANUFACTURER	15	ALN	128	0	1	0	DPAMMANUVARIANT.MANUFACTURERNAME
DPACMEDIAADAPTER	MANUFACTURERVAR	16	ALN	128	0	1	0	DPAMMANUVARIANT.MANUFACTURERVAR
DPACMEDIAADAPTER	DPAMMANUVARIANTID	17	INTEGER	12	0	1	1	DPAMMANUVARIANT.DPAMMANUVARIANTID
DPACMEDIAADAPTER	CMAKEMODEL	18	ALN	128	0	1	0	DPAMADPTVARIANT.ADAPTERNAME
DPACMEDIAADAPTER	ADAPTERVARIANT	19	ALN	128	0	1	0	DPAMADPTVARIANT.ADAPTERVARIANT
DPACMEDIAADAPTER	DPAMADPTVARIANTID	20	INTEGER	12	0	1	1	DPAMADPTVARIANT.DPAMADPTVARIANTID
DPACNETADAPTER	NODEID	1	INTEGER	12	0	1	0	DEPLOYEDASSET.NODEID
DPACNETADAPTER	ADAPTERID	2	INTEGER	12	0	1	0	DPANETADAPTER.ADAPTERID
DPACNETADAPTER	ADAPTERTYPE	3	ALN	32	0	0	0	DPANETADAPTER.ADAPTERTYPE
DPACNETADAPTER	BANDWIDTH	4	DECIMAL	10	2	0	0	DPANETADAPTER.BANDWIDTH
DPACNETADAPTER	BANDWIDTHHUNIT	5	ALN	16	0	0	0	DPANETADAPTER.BANDWIDTHHUNIT
DPACNETADAPTER	PROTOCOL	6	ALN	64	0	0	0	DPANETADAPTER.PROTOCOL
DPACNETADAPTER	PORT	7	ALN	16	0	0	0	DPANETADAPTER.PORT
DPACNETADAPTER	NETMACADDR1	8	ALN	16	0	0	0	DPANETADAPTER.NETMACADDR1
DPACNETADAPTER	NETMACADDR2	9	ALN	16	0	0	0	DPANETADAPTER.NETMACADDR2
DPACNETADAPTER	CHIPSET	10	ALN	64	0	0	0	DPANETADAPTER.CHIPSET
DPACNETADAPTER	FIRMWAREVERSION	11	ALN	32	0	0	0	DPANETADAPTER.FIRMWAREVERSION
DPACNETADAPTER	SERIALNUMBER	12	ALN	64	0	0	0	DPANETADAPTER.SERIALNUMBER
DPACNETADAPTER	ASSETTAG	13	ALN	64	0	0	0	DPANETADAPTER.ASSETTAG
DPACNETADAPTER	DESCRIPTION	14	ALN	256	0	0	0	DPANETADAPTER.DESCRPTION
DPACNETADAPTER	CREATEDATE	15	DATETIME	10	0	1	0	DPANETADAPTER.CREATEDATE
DPACNETADAPTER	CHANGEDATE	16	DATETIME	10	0	1	0	DPANETADAPTER.CHANGEDATE
DPACNETADAPTER	CMANUFACTURER	18	ALN	128	0	1	0	DPAMMANUVARIANT.MANUFACTURERNAME
DPACNETADAPTER	MANUFACTURERVAR	19	ALN	128	0	1	0	DPAMMANUVARIANT.MANUFACTURERVAR
DPACNETADAPTER	DPAMMANUVARIANTID	20	INTEGER	12	0	1	1	DPAMMANUVARIANT.DPAMMANUVARIANTID
DPACNETADAPTER	CMAKEMODEL	21	ALN	128	0	1	0	DPAMADPTVARIANT.ADAPTERNAME
DPACNETADAPTER	ADAPTERVARIANT	22	ALN	128	0	1	0	DPAMADPTVARIANT.ADAPTERVARIANT
DPACNETADAPTER	DPAMADPTVARIANTID	23	INTEGER	12	0	1	1	DPAMADPTVARIANT.DPAMADPTVARIANTID
DPACNETDEVCARD	NODEID	1	INTEGER	12	0	1	0	DEPLOYEDASSET.NODEID
DPACNETDEVCARD	CARDID	2	INTEGER	12	0	1	0	DPANETDEVCARD.CARDID
DPACNETDEVCARD	TYPE	3	ALN	32	0	0	0	DPANETDEVCARD.TYPE
DPACNETDEVCARD	NETWORKADDRESS	4	ALN	32	0	0	0	DPANETDEVCARD.NETWORKADDRESS
DPACNETDEVCARD	NETMACADDR	5	ALN	16	0	0	0	DPANETDEVCARD.NETMACADDR
DPACNETDEVCARD	FIRMWAREVERSION	6	ALN	32	0	0	0	DPANETDEVCARD.FIRMWAREVERSION
DPACNETDEVCARD	RAMSIZE	7	DECIMAL	10	2	0	0	DPANETDEVCARD.RAMSIZE
DPACNETDEVCARD	RAMUNIT	8	ALN	16	0	0	0	DPANETDEVCARD.RAMUNIT
DPACNETDEVCARD	CHIPSET	9	ALN	64	0	0	0	DPANETDEVCARD.CHIPSET
DPACNETDEVCARD	BANDWIDTH	10	DECIMAL	10	2	0	0	DPANETDEVCARD.BANDWIDTH
DPACNETDEVCARD	BANDWIDTHHUNIT	11	ALN	16	0	0	0	DPANETDEVCARD.BANDWIDTHHUNIT
DPACNETDEVCARD	SERIALNUMBER	12	ALN	64	0	0	0	DPANETDEVCARD.SERIALNUMBER
DPACNETDEVCARD	DESCRIPTION	13	ALN	256	0	0	0	DPANETDEVCARD.DESCRPTION
DPACNETDEVCARD	ASSETTAG	14	ALN	64	0	0	0	DPANETDEVCARD.ASSETTAG
DPACNETDEVCARD	CREATEDATE	15	DATETIME	10	0	1	0	DPANETDEVCARD.CREATEDATE

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
DPACNETDEVCARD	CHANGEDATE	16	DATETIME	10	0	1	0	DPANETDEVCARD.CHANGEDATE
DPACNETDEVCARD	CMANUFACTURER	19	ALN	128	0	1	0	DPAMMANUVARIANT.MANUFACTURERNAME
DPACNETDEVCARD	MANUFACTURERVAR	20	ALN	128	0	1	0	DPAMMANUVARIANT.MANUFACTURERVAR
DPACNETDEVCARD	DPAMMANUVARIANTID	21	INTEGER	12	0	1	1	DPAMMANUVARIANT.DPAMMANUVARIANTID
DPACNETDEVCARD	CMAKEMODEL	22	ALN	128	0	1	0	DPAMADPTVARIANT.ADAPTERNAME
DPACNETDEVCARD	ADAPTERVARIANT	23	ALN	128	0	1	0	DPAMADPTVARIANT.ADAPTERVARIANT
DPACNETDEVCARD	DPAMADPTVARIANTID	24	INTEGER	12	0	1	1	DPAMADPTVARIANT.DPAMADPTVARIANTID
DPACOS	NODEID	1	INTEGER	12	0	1	0	DEPLOYEDASSET.NODEID
DPACOS	OSID	2	INTEGER	12	0	1	0	DPAOS.OSID
DPACOS	LANGUAGE	3	ALN	32	0	0	0	DPAOS.LANGUAGE
DPACOS	VERSION	4	ALN	128	0	0	0	DPAOS.VERSION
DPACOS	SERVICEPACK	5	ALN	64	0	0	0	DPAOS.SERVICEPACK
DPACOS	LICENSEDORG	6	ALN	64	0	0	0	DPAOS.LICENSEDORG
DPACOS	LICENSEDUSER	7	ALN	64	0	0	0	DPAOS.LICENSEDUSER
DPACOS	SERIALNUMBER	8	ALN	64	0	0	0	DPAOS.SERIALNUMBER
DPACOS	DESCRIPTION	9	ALN	256	0	0	0	DPAOS.DESCRPTION
DPACOS	BUILD	10	ALN	64	0	0	0	DPAOS.BUILD
DPACOS	CREATEDATE	11	DATETIME	10	0	1	0	DPAOS.CREATEDATE
DPACOS	CHANGEDATE	12	DATETIME	10	0	1	0	DPAOS.CHANGEDATE
DPACOS	CMANUFACTURER	13	ALN	128	0	1	0	DPAMMANUVARIANT.MANUFACTURERNAME
DPACOS	MANUFACTURERVAR	14	ALN	128	0	1	0	DPAMMANUVARIANT.MANUFACTURERVAR
DPACOS	DPAMMANUVARIANTID	15	INTEGER	12	0	1	1	DPAMMANUVARIANT.DPAMMANUVARIANTID
DPACOS	CNAME	16	ALN	256	0	1	0	DPAMOSVARIANT.OSNAME
DPACOS	OSVARIANT	17	ALN	256	0	1	0	DPAMOSVARIANT.OSVARIANT
DPACOS	DPAMOSVARIANTID	18	INTEGER	12	0	1	1	DPAMOSVARIANT.DPAMOSVARIANTID
DPACSOFTWARE	NODEID	1	INTEGER	12	0	1	0	DPASOFTWARE.NODEID
DPACSOFTWARE	SOFTWAREID	2	INTEGER	12	0	1	0	DPASOFTWARE.SOFTWAREID
DPACSOFTWARE	SUITEID	3	INTEGER	12	0	0	0	DPASOFTWARE.SUITEID
DPACSOFTWARE	LANGUAGE	4	ALN	32	0	0	0	DPASOFTWARE.LANGUAGE
DPACSOFTWARE	VERSION	5	ALN	128	0	0	0	DPASOFTWARE.VERSION
DPACSOFTWARE	LICENSEDORG	6	ALN	64	0	0	0	DPASOFTWARE.LICENSEDORG
DPACSOFTWARE	LICENSEDUSER	7	ALN	64	0	0	0	DPASOFTWARE.LICENSEDUSER
DPACSOFTWARE	USAGECOUNT	8	INTEGER	12	0	0	0	DPASOFTWARE.USAGECOUNT
DPACSOFTWARE	LASTUSAGEDATE	9	DATETIME	10	0	0	0	DPASOFTWARE.LASTUSAGEDATE
DPACSOFTWARE	INSTALLPATH	10	ALN	4000	0	0	0	DPASOFTWARE.INSTALLPATH
DPACSOFTWARE	INSTALLDATE	11	DATETIME	10	0	0	0	DPASOFTWARE.INSTALLDATE
DPACSOFTWARE	SERIALNUMBER	12	ALN	64	0	0	0	DPASOFTWARE.SERIALNUMBER
DPACSOFTWARE	PRODUCTID	13	ALN	128	0	0	0	DPASOFTWARE.PRODUCTID
DPACSOFTWARE	DESCRIPTION	14	ALN	256	0	0	0	DPASOFTWARE.DESCRPTION
DPACSOFTWARE	CREATEDATE	15	DATETIME	10	0	1	0	DPASOFTWARE.CREATEDATE
DPACSOFTWARE	CHANGEDATE	16	DATETIME	10	0	1	0	DPASOFTWARE.CHANGEDATE
DPACSOFTWARE	TYPE	17	ALN	64	0	0	0	DPASOFTWARE.TYPE
DPACSOFTWARE	CSOFTWARENAME	20	ALN	256	0	1	0	DPAMSWVARIANT.SOFTWARENAME
DPACSOFTWARE	SOFTWAREVARIANT	21	ALN	256	0	1	0	DPAMSWVARIANT.SOFTWAREVARIANT
DPACSOFTWARE	DPAMSWVARIANTID	22	INTEGER	12	0	1	1	DPAMSWVARIANT.DPAMSWVARIANTID
DPACSOFTWARE	CMANUFACTURER	23	ALN	128	0	1	0	DPAMMANUVARIANT.MANUFACTURERNAME

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
DPACSOFTWARE	MANUFACTURERVAR	24	ALN	128	0	1	0	DPAMMANUVARIANT.MANUFACTURERVAR
DPACSOFTWARE	DPAMMANUVARIANTID	25	INTEGER	12	0	1	1	DPAMMANUVARIANT.DPAMMANUVARIANTID
DPACSOFTWARE	SOFTWAREID1	26	INTEGER	12	0	1	0	
DPACSOFTWARE	COMPLIANCESETTING	27	ALN	32	0	0	0	
DPACSWSUITE	NODEID	1	INTEGER	12	0	1	0	DEPLOYEDASSET.NODEID
DPACSWSUITE	SUITEID	2	INTEGER	12	0	1	0	DPASWSUITE.SUITEID
DPACSWSUITE	SUITENAME	3	ALN	256	0	0	0	DPASWSUITE.SUITENAME
DPACSWSUITE	LANGUAGE	4	ALN	32	0	0	0	DPASWSUITE.LANGUAGE
DPACSWSUITE	VERSION	5	ALN	64	0	0	0	DPASWSUITE.VERSION
DPACSWSUITE	LICENSEDORG	6	ALN	64	0	0	0	DPASWSUITE.LICENSEDORG
DPACSWSUITE	LICENSEDUSER	7	ALN	64	0	0	0	DPASWSUITE.LICENSEDUSER
DPACSWSUITE	USAGECOUNT	8	INTEGER	12	0	0	0	DPASWSUITE.USAGECOUNT
DPACSWSUITE	LASTUSEDAGE	9	DATETIME	10	0	0	0	DPASWSUITE.LASTUSEDAGE
DPACSWSUITE	INSTALLDATE	10	DATETIME	10	0	0	0	DPASWSUITE.INSTALLDATE
DPACSWSUITE	SERIALNUMBER	11	ALN	64	0	0	0	DPASWSUITE.SERIALNUMBER
DPACSWSUITE	PRODUCTID	12	ALN	128	0	0	0	DPASWSUITE.PRODUCTID
DPACSWSUITE	DESCRIPTION	13	ALN	256	0	0	0	DPASWSUITE.DESCRPTION
DPACSWSUITE	CREATEDATE	14	DATETIME	10	0	1	0	DPASWSUITE.CREATEDATE
DPACSWSUITE	CHANGEDATE	15	DATETIME	10	0	1	0	DPASWSUITE.CHANGEDATE
DPACSWSUITE	DPASWSUITEID	17	INTEGER	12	0	1	0	DPASWSUITE.DPASWSUITEID
DPACSWSUITE	CMANUFACTURER	18	ALN	128	0	1	0	DPAMMANUVARIANT.MANUFACTURERNAME
DPACSWSUITE	MANUFACTURERVAR	19	ALN	128	0	1	0	DPAMMANUVARIANT.MANUFACTURERVAR
DPACSWSUITE	DPAMMANUVARIANTID	20	INTEGER	12	0	1	1	DPAMMANUVARIANT.DPAMMANUVARIANTID
INCIDENT	TICKETID	1	UPPER	10	0	1	0	TICKET.TICKETID
INCIDENT	CLASS	2	UPPER	10	0	1	1	TICKET.CLASS
INCIDENT	DESCRIPTION	3	ALN	100	0	0	1	TICKET.DESCRPTION
INCIDENT	STATUS	4	UPPER	8	0	1	1	TICKET.STATUS
INCIDENT	STATUSDATE	5	DATETIME	10	0	1	1	TICKET.STATUSDATE
INCIDENT	REPORTEDPRIORITY	6	INTEGER	12	0	0	1	TICKET.REPORTEDPRIORITY
INCIDENT	INTERNALPRIORITY	7	INTEGER	12	0	0	1	TICKET.INTERNALPRIORITY
INCIDENT	IMPACT	8	INTEGER	12	0	0	1	TICKET.IMPACT
INCIDENT	URGENCY	9	INTEGER	12	0	0	1	TICKET.URGENCY
INCIDENT	REPORTEDBY	10	ALN	62	0	0	0	PERSON.DISPLAYNAME
INCIDENT	REPORTDATE	11	DATETIME	10	0	0	1	TICKET.REPORTDATE
INCIDENT	AFFECTEDPERSON	12	ALN	62	0	0	0	PERSON.DISPLAYNAME
INCIDENT	AFFECTEDDATE	13	DATETIME	10	0	0	1	TICKET.AFFECTEDDATE
INCIDENT	SOURCE	14	ALN	20	0	0	1	TICKET.SOURCE
INCIDENT	SUPERVISOR	15	UPPER	8	0	0	1	TICKET.SUPERVISOR
INCIDENT	OWNER	16	UPPER	30	0	0	0	PERSON.PERSONID
INCIDENT	OWNERGROUP	17	UPPER	8	0	0	0	PERSONGROUP.PERSONGROUP
INCIDENT	ISGLOBAL	18	YORN	1	0	1	1	TICKET.ISGLOBAL
INCIDENT	RELATEDTOGLOBAL	19	YORN	1	0	1	1	TICKET.RELATEDTOGLOBAL
INCIDENT	GLOBALTICKETID	20	UPPER	10	0	0	1	TICKET.GLOBALTICKETID
INCIDENT	GLOBALTICKETCLASS	21	UPPER	10	0	0	1	TICKET.GLOBALTICKETCLASS
INCIDENT	EXTERNALRECID	22	ALN	20	0	0	1	TICKET.EXTERNALRECID
INCIDENT	SITEVISIT	23	YORN	1	0	1	1	TICKET.SITEVISIT

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
INCIDENT	ORIGRECORDID	24	UPPER	10	0	0	1	TICKET.ORIGRECORDID
INCIDENT	ORIGRECORDCLASS	25	UPPER	10	0	0	1	TICKET.ORIGRECORDCLASS
INCIDENT	GLACCOUNT	26	GL	23	0	0	1	
INCIDENT	COMMODITYGROUP	27	UPPER	8	0	0	1	COMMODITIES.COMMODITY
INCIDENT	COMMODITY	28	UPPER	8	0	0	1	COMMODITIES.COMMODITY
INCIDENT	INHERITSTATUS	29	YORN	1	0	1	1	TICKET.INHERITSTATUS
INCIDENT	ISKNOWNEROR	30	YORN	1	0	1	1	TICKET.ISKNOWNEROR
INCIDENT	TARGETSTART	31	DATETIME	10	0	0	1	TICKET.TARGETSTART
INCIDENT	TARGETFINISH	32	DATETIME	10	0	0	1	TICKET.TARGETFINISH
INCIDENT	ACTUALSTART	33	DATETIME	10	0	0	1	TICKET.ACTUALSTART
INCIDENT	ACTUALFINISH	34	DATETIME	10	0	0	1	TICKET.ACTUALFINISH
INCIDENT	ORIGRECSITEID	35	UPPER	8	0	0	1	TICKET.ORIGRECSITEID
INCIDENT	ORIGRECORDID	36	UPPER	8	0	0	1	TICKET.ORIGRECORDID
INCIDENT	SITEID	37	UPPER	8	0	0	0	SITE.SITEID
INCIDENT	ORGID	38	UPPER	8	0	0	0	ORGANIZATION.ORGID
INCIDENT	CHANGEDATE	39	DATETIME	10	0	1	1	TICKET.CHANGEDATE
INCIDENT	CHANGEBY	40	UPPER	30	0	1	0	PERSON.PERSONID
INCIDENT	HISTORYFLAG	41	YORN	1	0	1	1	TICKET.HISTORYFLAG
INCIDENT	TEMPLATE	42	YORN	1	0	1	1	TICKET.TEMPLATE
INCIDENT	HASACTIVITY	43	YORN	1	0	1	1	TICKET.HASACTIVITY
INCIDENT	FAILURECODE	44	UPPER	8	0	0	0	FAILURECODE.FAILURECODE
INCIDENT	PROBLEMCODE	45	UPPER	8	0	0	0	FAILURECODE.FAILURECODE
INCIDENT	ACTLABHRS	46	DURATION	8	0	1	1	TICKET.ACTLABHRS
INCIDENT	ACTLABCOST	47	AMOUNT	10	2	1	1	TICKET.ACTLABCOST
INCIDENT	AFFECTEDPHONE	48	ALN	20	0	0	0	TICKET.AFFECTEDPHONE
INCIDENT	REPORTEDPHONE	49	ALN	20	0	0	0	TICKET.REPORTEDPHONE
INCIDENT	AFFECTEDEMIL	50	ALN	50	0	0	1	EMAIL.EMAILADDRESS
INCIDENT	REPORTEDEMIL	51	ALN	50	0	0	1	EMAIL.EMAILADDRESS
INCIDENT	ASSETSITID	52	UPPER	8	0	0	0	SITE.SITEID
INCIDENT	TEMPLATEID	53	UPPER	10	0	0	0	TICKET.TEMPLATEID
INCIDENT	VENDOR	54	UPPER	12	0	0	0	COMPANIES.COMPANY
INCIDENT	ASSETNUM	59	UPPER	12	0	0	0	ASSET.ASSETNUM
INCIDENT	LOCATION	60	UPPER	12	0	0	0	LOCATIONS.LOCATION
INCIDENT	CLASSTRUCTUREID	62	UPPER	20	0	0	1	CLASSTRUCTURE.CLASSTRUCTUREID
INCIDENT	ISKNOWNERORDATE	63	DATETIME	10	0	0	0	TICKET.ISKNOWNERORDATE
INCIDENT	TARGETCONTACTDATE	64	DATETIME	10	0	0	0	TICKET.TARGETCONTACTDATE
INCIDENT	ACTUALCONTACTDATE	65	DATETIME	10	0	0	0	TICKET.ACTUALCONTACTDATE
INCIDENT	CREATEWORELASSET	66	YORN	1	0	1	0	TICKET.CREATEWORELASSET
INCIDENT	FR1CODE	69	UPPER	8	0	0	0	FAILURECODE.FAILURECODE
INCIDENT	FR2CODE	71	UPPER	8	0	0	0	FAILURECODE.FAILURECODE
INCIDENT	TICKETUID	73	INTEGER	12	0	0	1	
INCIDENT	SOLUTION	74	UPPER	8	0	0	1	SOLUTION.SOLUTION
INCIDENT	ASSETORGID	78	UPPER	8	0	0	0	ORGANIZATION.ORGID
INCIDENT	LANGCODE	80	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
INCIDENT	HASLD	88	YORN	1	0	1	1	
JOBMATERIAL	JPNUM	1	UPPER	10	0	1	0	JOBPLAN.JPNUM

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
JOBMATERIAL	DIRECTREQ	2	YORN	1	0	1	1	INVRESERVE.DIRECTREQ
JOBMATERIAL	ITEMNUM	3	UPPER	30	0	1	0	ITEM.ITEMNUM
JOBMATERIAL	ITEMQTY	4	DECIMAL	15	2	1	1	JOBITEM.ITEMQTY
JOBMATERIAL	ITEMSETID	5	UPPER	8	0	1	0	SETS.SETID
JOBMATERIAL	JM1	6	ALN	10	0	0	0	JOBITEM.JM1
JOBMATERIAL	JM2	7	ALN	10	0	0	0	JOBITEM.JM2
JOBMATERIAL	JM3	8	DECIMAL	15	2	0	0	JOBITEM.JM3
JOBMATERIAL	JM4	9	ALN	10	0	0	0	
JOBMATERIAL	JM5	10	AMOUNT	10	2	0	0	
JOBMATERIAL	JM6	11	ALN	10	0	0	0	
JOBMATERIAL	JPTASK	12	INTEGER	12	0	0	1	WORKORDER.TASKID
JOBMATERIAL	LINETYPE	14	UPPER	15	0	1	1	PRLINE.LINETYPE
JOBMATERIAL	LOCATION	15	UPPER	12	0	0	0	LOCATIONS.LOCATION
JOBMATERIAL	ORGID	16	UPPER	8	0	0	0	ORGANIZATION.ORGID
JOBMATERIAL	SITEID	17	UPPER	8	0	0	0	SITE.SITEID
JOBMATERIAL	VENDOR	19	UPPER	12	0	0	0	COMPANIES.COMPANY
JOBMATERIAL	CONDITIONCODE	20	UPPER	30	0	0	0	ITEMCONDITION.CONDITIONCODE
JOBMATERIAL	JOBITEMID	21	INTEGER	12	0	1	1	JOBITEM.JOBITEMID
JOBMATERIAL	JOBPLANID	22	INTEGER	12	0	1	1	JOBPLAN.JOBPLANID
JOBMATERIAL	STORELOCSITE	23	UPPER	8	0	0	0	SITE.SITEID
JOBMATERIAL	RATE	24	AMOUNT	10	2	1	1	
JOBMATERIAL	RESERVEREQ	25	YORN	1	0	1	0	JOBITEM.RESERVEREQ
JOBMATERIAL	HOURS	26	DURATION	8	0	1	1	
JOBSERVICE	JPNUM	1	UPPER	10	0	1	0	JOBPLAN.JPNUM
JOBSERVICE	DIRECTREQ	2	YORN	1	0	1	1	INVRESERVE.DIRECTREQ
JOBSERVICE	ITEMNUM	3	UPPER	30	0	1	0	ITEM.ITEMNUM
JOBSERVICE	ITEMQTY	4	DECIMAL	15	2	1	1	JOBITEM.ITEMQTY
JOBSERVICE	ITEMSETID	5	UPPER	8	0	1	0	SETS.SETID
JOBSERVICE	JM1	6	ALN	10	0	0	0	JOBITEM.JM1
JOBSERVICE	JM2	7	ALN	10	0	0	0	JOBITEM.JM2
JOBSERVICE	JM3	8	DECIMAL	15	2	0	0	JOBITEM.JM3
JOBSERVICE	JM4	9	ALN	10	0	0	0	
JOBSERVICE	JM5	10	AMOUNT	10	2	0	0	
JOBSERVICE	JM6	11	ALN	10	0	0	0	
JOBSERVICE	JPTASK	12	INTEGER	12	0	0	1	WORKORDER.TASKID
JOBSERVICE	LINETYPE	14	UPPER	15	0	1	1	PRLINE.LINETYPE
JOBSERVICE	LOCATION	15	UPPER	12	0	0	0	LOCATIONS.LOCATION
JOBSERVICE	ORGID	16	UPPER	8	0	0	0	ORGANIZATION.ORGID
JOBSERVICE	SITEID	17	UPPER	8	0	0	0	SITE.SITEID
JOBSERVICE	VENDOR	19	UPPER	12	0	0	0	COMPANIES.COMPANY
JOBSERVICE	CONDITIONCODE	20	UPPER	30	0	0	0	ITEMCONDITION.CONDITIONCODE
JOBSERVICE	JOBITEMID	21	INTEGER	12	0	1	1	JOBITEM.JOBITEMID
JOBSERVICE	JOBPLANID	22	INTEGER	12	0	1	1	JOBPLAN.JOBPLANID
JOBSERVICE	STORELOCSITE	23	UPPER	8	0	0	0	SITE.SITEID
JOBSERVICE	RATE	24	AMOUNT	10	2	1	1	
JOBSERVICE	RESERVEREQ	25	YORN	1	0	1	0	JOBITEM.RESERVEREQ

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
JOBSERVICE	HOURS	26	DURATION	8	0	1	1	
JOBTOOL	JPNUM	1	UPPER	10	0	1	0	JOBPLAN.JPNUM
JOBTOOL	DIRECTREQ	2	YORN	1	0	1	1	INVRESERVE.DIRECTREQ
JOBTOOL	ITEMNUM	3	UPPER	30	0	1	0	ITEM.ITEMNUM
JOBTOOL	ITEMQTY	4	DECIMAL	15	2	1	1	JOBITEM.ITEMQTY
JOBTOOL	ITEMSETID	5	UPPER	8	0	1	0	SETS.SETID
JOBTOOL	JM1	6	ALN	10	0	0	0	JOBITEM.JM1
JOBTOOL	JM2	7	ALN	10	0	0	0	JOBITEM.JM2
JOBTOOL	JM3	8	DECIMAL	15	2	0	0	JOBITEM.JM3
JOBTOOL	JM4	9	ALN	10	0	0	0	
JOBTOOL	JM5	10	AMOUNT	10	2	0	0	
JOBTOOL	JM6	11	ALN	10	0	0	0	
JOBTOOL	JPTASK	12	INTEGER	12	0	0	1	WORKORDER.TASKID
JOBTOOL	LINETYPE	14	UPPER	15	0	1	1	PRLINE.LINETYPE
JOBTOOL	LOCATION	15	UPPER	12	0	0	0	LOCATIONS.LOCATION
JOBTOOL	ORGID	16	UPPER	8	0	0	0	ORGANIZATION.ORGID
JOBTOOL	SITEID	17	UPPER	8	0	0	0	SITE.SITEID
JOBTOOL	VENDOR	19	UPPER	12	0	0	0	COMPANIES.COMPANY
JOBTOOL	CONDITIONCODE	20	UPPER	30	0	0	0	ITEMCONDITION.CONDITIONCODE
JOBTOOL	JOBITEMID	21	INTEGER	12	0	1	1	JOBITEM.JOBITEMID
JOBTOOL	JOBPLANID	22	INTEGER	12	0	1	1	JOBPLAN.JOBPLANID
JOBTOOL	STORELOCSITE	23	UPPER	8	0	0	0	SITE.SITEID
JOBTOOL	RATE	24	AMOUNT	10	2	1	1	JOBITEM.RATE
JOBTOOL	RESERVEREQ	25	YORN	1	0	1	0	JOBITEM.RESERVEREQ
JOBTOOL	HOURS	26	DURATION	8	0	1	1	JOBITEM.HOURS
LABORVIEW	CONTRACTNUM	1	UPPER	8	0	1	0	CONTRACT.CONTRACTNUM
LABORVIEW	DESCRIPTION	2	ALN	100	0	0	0	PR.DESCRPTION
LABORVIEW	MASTERNUM	3	UPPER	8	0	0	0	CONTRACT.MASTERNUM
LABORVIEW	VENDORREFNUM	4	ALN	12	0	0	0	CONTRACT.VENDORREFNUM
LABORVIEW	CONTRACTTYPE	5	UPPER	25	0	1	0	CONTRACT.CONTRACTTYPE
LABORVIEW	REVISIONNUM	6	INTEGER	12	0	0	1	CONTRACT.REVISIONNUM
LABORVIEW	PURCHASEAGENT	7	UPPER	30	0	0	0	PERSON.PERSONID
LABORVIEW	STATUS	8	UPPER	6	0	1	0	CONTRACT.STATUS
LABORVIEW	STATUSDATE	9	DATETIME	10	0	0	0	CONTRACT.STATUSDATE
LABORVIEW	STARTDATE	10	DATE	4	0	0	0	CONTRACT.STARTDATE
LABORVIEW	ENDDATE	11	DATE	4	0	0	0	CONTRACT.ENDDATE
LABORVIEW	RENEWALDATE	12	DATE	4	0	0	0	CONTRACT.RENEWALDATE
LABORVIEW	EXTENDABLE	13	YORN	1	0	1	0	CONTRACT.EXTENDABLE
LABORVIEW	AUTOEXTENDPERIOD	14	INTEGER	12	0	0	0	CONTRACT.AUTOEXTENDPERIOD
LABORVIEW	CONDFOREXT	15	ALN	20	0	0	0	CONTRACT.CONDFOREXT
LABORVIEW	CUSTTERMALLOWED	16	YORN	1	0	1	0	CONTRACT.CUSTTERMALLOWED
LABORVIEW	CUSTNOTIFYPERIOD	17	INTEGER	12	0	0	0	CONTRACT.CUSTNOTIFYPERIOD
LABORVIEW	VENDTERMALLOWED	18	YORN	1	0	1	0	CONTRACT.VENDTERMALLOWED
LABORVIEW	VENDNOTIFYPERIOD	19	INTEGER	12	0	0	0	CONTRACT.VENDNOTIFYPERIOD
LABORVIEW	VENDOR	20	UPPER	12	0	0	0	COMPANIES.COMPANY
LABORVIEW	CONTACT	21	ALN	50	0	0	0	COMPANIES.CONTACT

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
LABORVIEW	FREIGHTTERMS	22	ALN	50	0	0	0	COMPANIES.FREIGHTTERMS
LABORVIEW	PAYMENTTERMS	23	ALN	20	0	0	0	COMPANIES.PAYMENTTERMS
LABORVIEW	SHIPVIA	24	ALN	20	0	0	0	COMPANIES.SHIPVIA
LABORVIEW	CUSTOMERNUM	25	ALN	16	0	0	0	COMPANIES.CUSTOMERNUM
LABORVIEW	FOB	26	ALN	20	0	0	0	COMPANIES.FOB
LABORVIEW	TOTALCOST	27	DECIMAL	10	2	0	1	PO.TOTALCOST
LABORVIEW	CHANGEBY	28	UPPER	30	0	0	0	PERSON.PERSONID
LABORVIEW	CHANGEDATE	29	DATETIME	10	0	1	0	CONTRACT.CHANGEDATE
LABORVIEW	HISTORYFLAG	30	YORN	1	0	1	0	CONTRACT.HISTORYFLAG
LABORVIEW	CURRENCYCODE	31	UPPER	8	0	1	0	CURRENCY.CURRENCYCODE
LABORVIEW	EXCHANGERATE	32	DECIMAL	14	7	0	1	EXCHANGE.EXCHANGERATE
LABORVIEW	EXCHANGERATE2	33	DECIMAL	14	7	0	1	EXCHANGE.EXCHANGERATE
LABORVIEW	EXCHANGEDATE	34	DATE	4	0	0	0	CONTRACT.EXCHANGEDATE
LABORVIEW	BUYAHEAD	35	YORN	1	0	1	0	CONTRACT.BUYAHEAD
LABORVIEW	INCLUSIVE1	36	YORN	1	0	1	0	CONTRACT.INCLUSIVE1
LABORVIEW	INCLUSIVE2	37	YORN	1	0	1	0	CONTRACT.INCLUSIVE2
LABORVIEW	INCLUSIVE3	38	YORN	1	0	1	0	CONTRACT.INCLUSIVE3
LABORVIEW	INCLUSIVE4	39	YORN	1	0	1	0	CONTRACT.INCLUSIVE4
LABORVIEW	INCLUSIVE5	40	YORN	1	0	1	0	CONTRACT.INCLUSIVE5
LABORVIEW	EXTERNALREFID	41	ALN	10	0	0	0	CONTRACT.EXTERNALREFID
LABORVIEW	OWNERSYSID	42	ALN	10	0	0	0	CONTRACT.OWNERSYSID
LABORVIEW	SENDERSYSID	43	ALN	50	0	0	0	CONTRACT.SENDERSYSID
LABORVIEW	ORGID	44	UPPER	8	0	0	0	ORGANIZATION.ORGID
LABORVIEW	TOTALBASECOST	45	DECIMAL	10	2	1	0	CONTRACT.TOTALBASECOST
LABORVIEW	POREQUIRED	48	YORN	1	0	1	0	CONTRACT.POREQUIRED
LABORVIEW	PAYMENTSCHED	49	YORN	1	0	1	0	CONTRACT.PAYMENTSCHED
LABORVIEW	HASINSURANCE	50	YORN	1	0	1	0	CONTRACT.HASINSURANCE
LABORVIEW	INSURANCEEXPDATE	51	DATE	4	0	0	0	CONTRACT.INSURANCEEXPDATE
LABORVIEW	CONTRACTID	52	INTEGER	12	0	1	1	CONTRACT.CONTRACTID
LABORVIEW	REVCOMMENTS	53	ALN	100	0	0	0	PR.DESCRPTION
LABORVIEW	LANGCODE	54	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
LABORVIEW	MASTERRENUM	57	INTEGER	12	0	0	1	CONTRACT.REVISIONNUM
LABORVIEW	PROCESSCLAIM	58	YORN	1	0	1	0	
LABORVIEW	INSPECTIONREQUIRED	60	YORN	1	0	1	0	COMPANIES.INSPECTIONREQUIRED
LABORVIEW	HASLD	61	YORN	1	0	1	1	
LEASEVIEW	CONTRACTNUM	1	UPPER	8	0	1	0	CONTRACT.CONTRACTNUM
LEASEVIEW	DESCRIPTION	2	ALN	100	0	0	0	PR.DESCRPTION
LEASEVIEW	MASTERNUM	3	UPPER	8	0	0	0	CONTRACT.MASTERNUM
LEASEVIEW	VENDORREFNUM	4	ALN	12	0	0	0	CONTRACT.VENDORREFNUM
LEASEVIEW	CONTRACTTYPE	5	UPPER	25	0	1	0	CONTRACT.CONTRACTTYPE
LEASEVIEW	REVISIONNUM	6	INTEGER	12	0	1	1	CONTRACT.REVISIONNUM
LEASEVIEW	PURCHASEAGENT	7	UPPER	30	0	0	0	PERSON.PERSONID
LEASEVIEW	STATUS	8	UPPER	6	0	1	0	CONTRACT.STATUS
LEASEVIEW	STATUSDATE	9	DATETIME	10	0	0	0	CONTRACT.STATUSDATE
LEASEVIEW	STARTDATE	10	DATE	4	0	0	0	CONTRACT.STARTDATE
LEASEVIEW	ENDDATE	11	DATE	4	0	0	0	CONTRACT.ENDDATE

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
LEASEVIEW	RENEWALDATE	12	DATE	4	0	0	0	CONTRACT.RENEWALDATE
LEASEVIEW	EXTENDABLE	13	YORN	1	0	1	0	CONTRACT.EXTENDABLE
LEASEVIEW	AUTOEXTENDPERIOD	14	INTEGER	12	0	0	0	CONTRACT.AUTOEXTENDPERIOD
LEASEVIEW	CONDFOREXT	15	ALN	20	0	0	0	CONTRACT.CONDFOREXT
LEASEVIEW	CUSTTERMALLOWED	16	YORN	1	0	1	0	CONTRACT.CUSTTERMALLOWED
LEASEVIEW	CUSTNOTIFYPERIOD	17	INTEGER	12	0	0	0	CONTRACT.CUSTNOTIFYPERIOD
LEASEVIEW	VENDTERMALLOWED	18	YORN	1	0	1	0	CONTRACT.VENDTERMALLOWED
LEASEVIEW	VENDNOTIFYPERIOD	19	INTEGER	12	0	0	0	CONTRACT.VENDNOTIFYPERIOD
LEASEVIEW	VENDOR	20	UPPER	12	0	0	0	COMPANIES.COMPANY
LEASEVIEW	CONTACT	21	ALN	50	0	0	0	COMPANIES.CONTACT
LEASEVIEW	FREIGHTTERMS	22	ALN	50	0	0	0	COMPANIES.FREIGHTTERMS
LEASEVIEW	PAYMENTTERMS	23	ALN	20	0	0	0	COMPANIES.PAYMENTTERMS
LEASEVIEW	SHIPVIA	24	ALN	20	0	0	0	COMPANIES.SHIPVIA
LEASEVIEW	CUSTOMERNUM	25	ALN	16	0	0	0	COMPANIES.CUSTOMERNUM
LEASEVIEW	FOB	26	ALN	20	0	0	0	COMPANIES.FOB
LEASEVIEW	TOTALCOST	27	DECIMAL	10	2	0	1	PO.TOTALCOST
LEASEVIEW	CHANGEBY	28	UPPER	30	0	0	0	PERSON.PERSONID
LEASEVIEW	CHANGEDATE	29	DATETIME	10	0	1	0	CONTRACT.CHANGEDATE
LEASEVIEW	HISTORYFLAG	30	YORN	1	0	1	0	CONTRACT.HISTORYFLAG
LEASEVIEW	CURRENCYCODE	31	UPPER	8	0	1	0	CURRENCY.CURRENCYCODE
LEASEVIEW	EXCHANGERATE	32	DECIMAL	14	7	0	1	EXCHANGE.EXCHANGERATE
LEASEVIEW	EXCHANGERATE2	33	DECIMAL	14	7	0	1	EXCHANGE.EXCHANGERATE
LEASEVIEW	EXCHANGEDATE	34	DATE	4	0	0	0	CONTRACT.EXCHANGEDATE
LEASEVIEW	BUYAHEAD	35	YORN	1	0	1	0	CONTRACT.BUYAHEAD
LEASEVIEW	INCLUSIVE1	36	YORN	1	0	1	0	CONTRACT.INCLUSIVE1
LEASEVIEW	INCLUSIVE2	37	YORN	1	0	1	0	CONTRACT.INCLUSIVE2
LEASEVIEW	INCLUSIVE3	38	YORN	1	0	1	0	CONTRACT.INCLUSIVE3
LEASEVIEW	INCLUSIVE4	39	YORN	1	0	1	0	CONTRACT.INCLUSIVE4
LEASEVIEW	INCLUSIVE5	40	YORN	1	0	1	0	CONTRACT.INCLUSIVE5
LEASEVIEW	EXTERNALREFID	41	ALN	10	0	0	0	CONTRACT.EXTERNALREFID
LEASEVIEW	OWNERSYSID	42	ALN	10	0	0	0	CONTRACT.OWNERSYSID
LEASEVIEW	SENDERSYSID	43	ALN	50	0	0	0	CONTRACT.SENDERSYSID
LEASEVIEW	ORGID	44	UPPER	8	0	0	0	ORGANIZATION.ORGID
LEASEVIEW	TOTALBASECOST	45	DECIMAL	10	2	0	0	CONTRACT.TOTALBASECOST
LEASEVIEW	POREQUIRED	48	YORN	1	0	1	0	CONTRACT.POREQUIRED
LEASEVIEW	PAYMENTSCHED	49	YORN	1	0	1	0	CONTRACT.PAYMENTSCHED
LEASEVIEW	HASINSURANCE	50	YORN	1	0	1	0	CONTRACT.HASINSURANCE
LEASEVIEW	INSURANCEEXPDATE	51	DATE	4	0	0	0	CONTRACT.INSURANCEEXPDATE
LEASEVIEW	CONTRACTID	52	INTEGER	12	0	1	1	CONTRACT.CONTRACTID
LEASEVIEW	REVCOMMENTS	53	ALN	100	0	0	0	PR.DESCRPTION
LEASEVIEW	SHIPPINGLOSS	54	YORN	1	0	1	0	CONTRACTLEASE.SHIPPINGLOSS
LEASEVIEW	TECHREFRESH	55	YORN	1	0	1	0	CONTRACTLEASE.TECHREFRESH
LEASEVIEW	OUTSIDEMAINT	56	YORN	1	0	1	0	CONTRACTLEASE.OUTSIDEMAINT
LEASEVIEW	INTERIMCHG	57	AMOUNT	10	2	0	0	CONTRACTLEASE.INTERIMCHG
LEASEVIEW	INSURANCEREQ	58	YORN	1	0	1	0	CONTRACTLEASE.INSURANCEREQ
LEASEVIEW	SELFINSURED	59	YORN	1	0	1	0	CONTRACTLEASE.SELFINSURED

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
LEASEVIEW	BUYOUT	60	YORN	1	0	1	0	CONTRACTLEASE.BUYOUT
LEASEVIEW	CASUALTYBUYOUT	61	YORN	1	0	1	0	CONTRACTLEASE.CASUALTYBUYOUT
LEASEVIEW	SUBONRETURN	62	YORN	1	0	1	0	CONTRACTLEASE.SUBONRETURN
LEASEVIEW	TRANSFERWARRANTY	63	YORN	1	0	1	0	CONTRACTLEASE.TRANSFERWARRANTY
LEASEVIEW	WARRANTYSTART	64	DATE	4	0	0	0	CONTRACTLEASE.WARRANTYSTART
LEASEVIEW	NOTIFYONMOVE	65	YORN	1	0	1	0	CONTRACTLEASE.NOTIFYONMOVE
LEASEVIEW	CASUALTYNOTIFY	66	YORN	1	0	1	0	CONTRACTLEASE.CASUALTYNOTIFY
LEASEVIEW	CONFIGURENOTIFY	67	YORN	1	0	1	0	CONTRACTLEASE.CONFIGURENOTIFY
LEASEVIEW	CANAUDIT	68	YORN	1	0	1	0	CONTRACTLEASE.CANAUDIT
LEASEVIEW	ENFORCEBUNDLE	69	YORN	1	0	1	0	CONTRACTLEASE.ENFORCEBUNDLE
LEASEVIEW	LASTSCHEDULEDATE	70	DATE	4	0	0	0	CONTRACTLEASE.LASTSCHEDULEDATE
LEASEVIEW	TERM	71	INTEGER	12	0	0	0	CONTRACTLEASE.TERM
LEASEVIEW	LEASERATEFACTOR	72	DECIMAL	10	4	0	0	CONTRACTLEASE.LEASERATEFACTOR
LEASEVIEW	NOTIFYCONTACT	73	ALN	50	0	0	0	CONTRACTLEASE.NOTIFYCONTACT
LEASEVIEW	DAYSTONOTIFY	74	INTEGER	12	0	0	0	CONTRACTLEASE.DAYSTONOTIFY
LEASEVIEW	ACCEPTANCELOSS	75	YORN	1	0	1	0	CONTRACTLEASE.ACCEPTANCELOSS
LEASEVIEW	ACCEPTPERIOD	76	INTEGER	12	0	0	0	CONTRACTLEASE.ACCEPTPERIOD
LEASEVIEW	WARRANTYDURATION	77	INTEGER	12	0	0	0	CONTRACTLEASE.WARRANTYDURATION
LEASEVIEW	LEASESUSPACCT	78	GL	23	0	0	1	
LEASEVIEW	INCLUDESMAINT	79	YORN	1	0	1	0	CONTRACTLEASE.INCLUDESMAINT
LEASEVIEW	TIMEUNIT	80	UPPER	8	0	0	0	CONTRACTLEASE.TIMEUNIT
LEASEVIEW	FINANCETYPE	81	ALN	25	0	0	0	CONTRACTLEASE.FINANCETYPE
LEASEVIEW	CONTRACTLEASEID	82	INTEGER	12	0	1	1	CONTRACTLEASE.CONTRACTLEASEID
LEASEVIEW	PERIODICPAYMNT	83	AMOUNT	10	2	0	0	CONTRACTLEASE.PERIODICPAYMNT
LEASEVIEW	SCHEDULE	84	ALN	80	0	0	1	CONTRACTLEASE.SCHEDULE
LEASEVIEW	LANGCODE	85	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
LEASEVIEW	MASTERREVENUM	88	INTEGER	12	0	0	1	CONTRACT.REVISIONNUM
LEASEVIEW	PROCESSCLAIM	89	YORN	1	0	1	0	
LEASEVIEW	INSPECTIONREQUIRED	91	YORN	1	0	1	0	COMPANIES.INSPECTIONREQUIRED
LEASEVIEW	MAINTIERCHY	92	YORN	1	0	1	0	ASSET.MAINTIERCHY
LEASEVIEW	NUMOFPAYMENTS	93	INTEGER	12	0	0	0	
LEASEVIEW	HASLD	94	YORN	1	0	1	1	
LEASEVIEWLINE	CONTRACTNUM	1	UPPER	8	0	1	0	CONTRACT.CONTRACTNUM
LEASEVIEWLINE	CONTRACTLINENUM	2	INTEGER	12	0	1	0	CONTRACTLINE.CONTRACTLINENUM
LEASEVIEWLINE	CONTRACTLINEID	3	INTEGER	12	0	1	0	CONTRACTLINE.CONTRACTLINEID
LEASEVIEWLINE	LINETYPE	4	UPPER	15	0	1	1	PRLINE.LINETYPE
LEASEVIEWLINE	ITEMNUM	5	UPPER	30	0	0	0	ITEM.ITEMNUM
LEASEVIEWLINE	ITEMSETID	6	UPPER	8	0	0	0	SETS.SETID
LEASEVIEWLINE	CONDITIONCODE	7	UPPER	30	0	0	0	ITEMCONDITION.CONDITIONCODE
LEASEVIEWLINE	DESCRIPTION	8	ALN	100	0	0	0	ITEM.DESCRPTION
LEASEVIEWLINE	CATALOGCODE	9	ALN	30	0	0	0	INVENTORY.CATALOGCODE
LEASEVIEWLINE	MANUFACTURER	10	UPPER	12	0	0	0	COMPANIES.COMPANY
LEASEVIEWLINE	MODELNUM	11	ALN	8	0	0	0	INVENTORY.MODELNUM
LEASEVIEWLINE	ORDERUNIT	12	UPPER	8	0	1	0	MEASUREUNIT.MEASUREUNITID
LEASEVIEWLINE	ORDERQTY	13	DECIMAL	15	2	0	1	INVENTORY.ORDERQTY
LEASEVIEWLINE	UNITCOST	14	DECIMAL	10	2	0	0	CONTRACTLINE.UNITCOST

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
LEASEVIEWLINE	LINECOST	15	DECIMAL	10	2	0	0	CONTRACTLINE.LINECOST
LEASEVIEWLINE	LINECOST2	16	DECIMAL	10	2	0	0	CONTRACTLINE.LINECOST2
LEASEVIEWLINE	INSPECTIONREQUIRED	17	YORN	1	0	1	1	ITEM.INSPECTIONREQUIRED
LEASEVIEWLINE	ENTERBY	18	UPPER	30	0	1	0	PERSON.PERSONID
LEASEVIEWLINE	ENTERDATE	19	DATETIME	10	0	1	0	CONTRACTLINE.ENTERDATE
LEASEVIEWLINE	REMARK	20	ALN	50	0	0	0	PRLINE.REMARK
LEASEVIEWLINE	ORGID	21	UPPER	8	0	0	0	ORGANIZATION.ORGID
LEASEVIEWLINE	LINESTATUS	25	UPPER	6	0	1	0	CONTRACT.STATUS
LEASEVIEWLINE	COMMODITY	26	UPPER	8	0	0	1	COMMODITIES.COMMODITY
LEASEVIEWLINE	COMMODITYGROUP	27	UPPER	8	0	0	1	COMMODITIES.COMMODITY
LEASEVIEWLINE	REVISIONNUM	28	INTEGER	12	0	1	1	CONTRACT.REVISIONNUM
LEASEVIEWLINE	REVSTATUS	29	UPPER	7	0	0	0	CONTRACTLINE.REVSTATUS
LEASEVIEWLINE	CHGQTYONUSE	30	YORN	1	0	1	0	CONTRACTPURCH.CHGQTYONUSE
LEASEVIEWLINE	CHGPRICEONUSE	31	YORN	1	0	1	0	CONTRACTPURCH.CHGPRICEONUSE
LEASEVIEWLINE	LEADTIME	32	INTEGER	12	0	0	1	INVENTORY.DELIVERYTIME
LEASEVIEWLINE	HASPAYMENTSCHED	33	YORN	1	0	1	0	CONTRACTLINE.HASPAYMENTSCHED
LEASEVIEWLINE	POREQUIRED	34	YORN	1	0	1	0	CONTRACT.POREQUIRED
LEASEVIEWLINE	CONTRACTTYPE	35	UPPER	25	0	1	0	CONTRACT.CONTRACTTYPE
LEASEVIEWLINE	LEASEENDVALUE	36	AMOUNT	10	2	0	0	
LEASEVIEWLINE	LANGCODE	37	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
LEASEVIEWLINE	HASLD	38	YORN	1	0	1	1	
LNKCLAUSEATRNAME	CLASSTRUCTUREID	1	UPPER	20	0	1	1	CLASSTRUCTURE.CLASSTRUCTUREID
LNKCLAUSEATRNAME	MEASUREUNITID	3	UPPER	8	0	0	0	MEASUREUNIT.MEASUREUNITID
LNKCLAUSEATRNAME	DOMAINID	4	UPPER	18	0	0	1	MAXDOMAIN.DOMAINID
LNKCLAUSEATRNAME	DEFAULTNUMVALUE	5	DECIMAL	10	2	0	1	NUMERICDOMAIN.VALUE
LNKCLAUSEATRNAME	DEFAULTALNVALUE	6	ALN	25	0	0	1	ALNDOMAIN.VALUE
LNKCLAUSEATRNAME	ATTRDESCPREFIX	7	ALN	8	0	0	0	ASSETATTRIBUTE.ATTRDESCPREFIX
LNKCLAUSEATRNAME	USEINITEMSPEC	8	YORN	1	0	1	1	CLASSSPEC.USEINITEMSPEC
LNKCLAUSEATRNAME	ITEMSEQUENCE	9	SMALLINT	10	0	1	1	CLASSSPEC.ITEMSEQUENCE
LNKCLAUSEATRNAME	ITEMREQUIREVALUE	10	YORN	1	0	1	1	CLASSSPEC.ITEMREQUIREVALUE
LNKCLAUSEATRNAME	USEINITEMDESC	11	YORN	1	0	1	1	CLASSSPEC.USEINITEMDESC
LNKCLAUSEATRNAME	USEINASSETSPEC	12	YORN	1	0	1	1	CLASSSPEC.USEINASSETSPEC
LNKCLAUSEATRNAME	ASSETSEQUENCE	13	SMALLINT	10	0	1	1	CLASSSPEC.ASSETSEQUENCE
LNKCLAUSEATRNAME	ASSETREQUIREVALUE	14	YORN	1	0	1	1	CLASSSPEC.ASSETREQUIREVALUE
LNKCLAUSEATRNAME	USEINASSETDESC	15	YORN	1	0	1	1	CLASSSPEC.USEINASSETDESC
LNKCLAUSEATRNAME	USEINLOCSPEC	16	YORN	1	0	1	1	CLASSSPEC.USEINLOCSPEC
LNKCLAUSEATRNAME	LOCSEQUENCE	17	SMALLINT	10	0	1	1	CLASSSPEC.LOCSEQUENCE
LNKCLAUSEATRNAME	LOCREQUIREVALUE	18	YORN	1	0	1	1	CLASSSPEC.LOCREQUIREVALUE
LNKCLAUSEATRNAME	USEINLOCDESC	19	YORN	1	0	1	1	CLASSSPEC.USEINLOCDESC
LNKCLAUSEATRNAME	CS01	20	ALN	10	0	0	0	CLASSSPEC.CS01
LNKCLAUSEATRNAME	CS02	21	ALN	10	0	0	0	CLASSSPEC.CS02
LNKCLAUSEATRNAME	CS03	22	ALN	10	0	0	0	CLASSSPEC.CS03
LNKCLAUSEATRNAME	CS04	23	DATETIME	10	0	0	0	CLASSSPEC.CS04
LNKCLAUSEATRNAME	CS05	24	DECIMAL	15	2	0	0	CLASSSPEC.CS05
LNKCLAUSEATRNAME	ORGID	25	UPPER	8	0	0	0	ORGANIZATION.ORGID
LNKCLAUSEATRNAME	SECTION	28	UPPER	10	0	0	0	CLASSSPEC.SECTION

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
LNKCLAUSEATRNAME	SITEID	29	UPPER	8	0	0	0	SITE.SITEID
LNKCLAUSEATRNAME	CLASSSPECID	30	INTEGER	12	0	1	1	CLASSSPEC.CLASSSPECID
LNKCLAUSEATRNAME	ASSETATTRIBUTEID	31	INTEGER	12	0	1	1	ASSETATTRIBUTE.ASSETATTRIBUTEID
LNKCLAUSEATRNAME	ATTRIBUTENAME	32	UPPER	8	0	1	0	ASSETATTRIBUTE.ASSETATTRID
LNKCLAUSEATRNAME	DATATYPE1	33	UPPER	8	0	1	0	ASSETATTRIBUTE.DATATYPE
LNKCLAUSEATRNAME	MEASUREUNITID1	34	UPPER	8	0	0	0	MEASUREUNIT.MEASUREUNITID
LNKCLAUSEATRNAME	DOMAINID1	35	UPPER	18	0	0	1	MAXDOMAIN.DOMAINID
LNKCLAUSEATRNAME	ATTRDESCPREFIX1	36	ALN	8	0	0	0	ASSETATTRIBUTE.ATTRDESCPREFIX
LNKCLAUSEATRNAME	ORGID1	37	UPPER	8	0	0	0	ORGANIZATION.ORGID
LNKCLAUSEATRNAME	SITEID1	38	UPPER	8	0	0	0	SITE.SITEID
LNKCLAUSEATRNAME	TITLE	39	ALN	100	0	0	0	ASSETATTRIBUTE.DESCRPTION
MASTerview	CONTRACTNUM	1	UPPER	8	0	1	0	CONTRACT.CONTRACTNUM
MASTerview	DESCRIPTION	2	ALN	100	0	0	0	PR.DESCRPTION
MASTerview	MASTERNUM	3	UPPER	8	0	0	0	CONTRACT.MASTERNUM
MASTerview	VENDORREFNUM	4	ALN	12	0	0	0	CONTRACT.VENDORREFNUM
MASTerview	CONTRACTTYPE	5	UPPER	25	0	1	0	CONTRACT.CONTRACTTYPE
MASTerview	REVISIONNUM	6	INTEGER	12	0	1	1	CONTRACT.REVISIONNUM
MASTerview	PURCHASEAGENT	7	UPPER	30	0	0	0	PERSON.PERSONID
MASTerview	STATUS	8	UPPER	6	0	1	0	CONTRACT.STATUS
MASTerview	STATUSDATE	9	DATETIME	10	0	0	0	CONTRACT.STATUSDATE
MASTerview	STARTDATE	10	DATE	4	0	0	0	CONTRACT.STARTDATE
MASTerview	ENDDATE	11	DATE	4	0	0	0	CONTRACT.ENDDATE
MASTerview	RENEWALDATE	12	DATE	4	0	0	0	CONTRACT.RENEWALDATE
MASTerview	EXTENDABLE	13	YORN	1	0	1	0	CONTRACT.EXTENDABLE
MASTerview	AUTOEXTENDPERIOD	14	INTEGER	12	0	0	0	CONTRACT.AUTOEXTENDPERIOD
MASTerview	CONDFOREXT	15	ALN	20	0	0	0	CONTRACT.CONDFOREXT
MASTerview	CUSTTERMALLOWED	16	YORN	1	0	1	0	CONTRACT.CUSTTERMALLOWED
MASTerview	CUSTNOTIFYPERIOD	17	INTEGER	12	0	0	0	CONTRACT.CUSTNOTIFYPERIOD
MASTerview	VENDTERMALLOWED	18	YORN	1	0	1	0	CONTRACT.VENDTERMALLOWED
MASTerview	VENDNOTIFYPERIOD	19	INTEGER	12	0	0	0	CONTRACT.VENDNOTIFYPERIOD
MASTerview	VENDOR	20	UPPER	12	0	0	0	COMPANIES.COMPANY
MASTerview	CONTACT	21	ALN	50	0	0	0	COMPANIES.CONTACT
MASTerview	FREIGHTTERMS	22	ALN	50	0	0	0	COMPANIES.FREIGHTTERMS
MASTerview	PAYMENTTERMS	23	ALN	20	0	0	0	COMPANIES.PAYMENTTERMS
MASTerview	SHIPVIA	24	ALN	20	0	0	0	COMPANIES.SHIPVIA
MASTerview	CUSTOMERNUM	25	ALN	16	0	0	0	COMPANIES.CUSTOMERNUM
MASTerview	FOB	26	ALN	20	0	0	0	COMPANIES.FOB
MASTerview	TOTALCOST	27	DECIMAL	10	2	0	1	PO.TOTALCOST
MASTerview	CHANGEBY	28	UPPER	30	0	0	0	PERSON.PERSONID
MASTerview	CHANGEDATE	29	DATETIME	10	0	1	0	CONTRACT.CHANGEDATE
MASTerview	HISTORYFLAG	30	YORN	1	0	1	0	CONTRACT.HISTORYFLAG
MASTerview	CURRENCYCODE	31	UPPER	8	0	1	0	CURRENCY.CURRENCYCODE
MASTerview	EXCHANGERATE	32	DECIMAL	14	7	0	1	EXCHANGE.EXCHANGERATE
MASTerview	EXCHANGERATE2	33	DECIMAL	14	7	0	1	EXCHANGE.EXCHANGERATE
MASTerview	EXCHANGEDATE	34	DATE	4	0	0	0	CONTRACT.EXCHANGEDATE
MASTerview	BUYAHEAD	35	YORN	1	0	1	0	CONTRACT.BUYAHEAD

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
MASTerview	INCLUSIVE1	36	YORN	1	0	1	0	CONTRACT.INCLUSIVE1
MASTerview	INCLUSIVE2	37	YORN	1	0	1	0	CONTRACT.INCLUSIVE2
MASTerview	INCLUSIVE3	38	YORN	1	0	1	0	CONTRACT.INCLUSIVE3
MASTerview	INCLUSIVE4	39	YORN	1	0	1	0	CONTRACT.INCLUSIVE4
MASTerview	INCLUSIVE5	40	YORN	1	0	1	0	CONTRACT.INCLUSIVE5
MASTerview	EXTERNALREFID	41	ALN	10	0	0	0	CONTRACT.EXTERNALREFID
MASTerview	OWNERSYSID	42	ALN	10	0	0	0	CONTRACT.OWNERSYSID
MASTerview	SENDERSYSID	43	ALN	50	0	0	0	CONTRACT.SENDERSYSID
MASTerview	ORGID	44	UPPER	8	0	0	0	ORGANIZATION.ORGID
MASTerview	TOTALBASECOST	45	DECIMAL	10	2	1	0	CONTRACT.TOTALBASECOST
MASTerview	POREQUIRED	48	YORN	1	0	1	0	CONTRACT.POREQUIRED
MASTerview	PAYMENTSCHED	49	YORN	1	0	1	0	CONTRACT.PAYMENTSCHED
MASTerview	HASINSURANCE	50	YORN	1	0	1	0	CONTRACT.HASINSURANCE
MASTerview	INSURANCEEXPDATE	51	DATE	4	0	0	0	CONTRACT.INSURANCEEXPDATE
MASTerview	CONTRACTID	52	INTEGER	12	0	1	1	CONTRACT.CONTRACTID
MASTerview	REVCOMMENTS	53	ALN	100	0	0	0	PR.DESCRPTION
MASTerview	LANGCODE	54	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
MASTerview	CONTRACTMASTERID	55	INTEGER	12	0	1	1	CONTRACTMASTER.CONTRACTMASTERID
MASTerview	ACCEPTPERIOD	56	INTEGER	12	0	0	0	CONTRACTPURCH.ACCEPTPERIOD
MASTerview	MAXVOL	57	DECIMAL	10	2	0	0	CONTRACTPURCH.MAXVOL
MASTerview	CANEXCEEDVOLUME	58	YORN	1	0	1	0	CONTRACTPURCH.CANEXCEEDVOLUME
MASTerview	LASTASSOCDATE	59	DATE	4	0	0	0	CONTRACTMASTER.LASTASSOCDATE
MASTerview	MASTERRENUM	61	INTEGER	12	0	0	1	CONTRACT.REVISIONNUM
MASTerview	SHIPPINGLOSS	62	YORN	1	0	1	0	CONTRACTLEASE.SHIPPINGLOSS
MASTerview	ACCEPTANCELOSS	63	YORN	1	0	1	0	CONTRACTPURCH.ACCEPTANCELOSS
MASTerview	PROCESSCLAIM	64	YORN	1	0	1	0	
MASTerview	INSPECTIONREQUIRED	66	YORN	1	0	1	0	COMPANIES.INSPECTIONREQUIRED
MASTerview	HASLD	67	YORN	1	0	1	1	
NETDEVICE	NODEID	1	INTEGER	12	0	1	0	DEPLOYEDASSET.NODEID
NETDEVICE	NETWORKADDRESS	2	ALN	32	0	0	0	DPANETDEVICE.NETWORKADDRESS
NETDEVICE	NETMACADDR	3	ALN	16	0	0	0	DPANETDEVICE.NETMACADDR
NETDEVICE	FIRMWAREVERSION	4	ALN	128	0	0	0	DPANETDEVICE.FIRMWAREVERSION
NETDEVICE	OSVERSION	5	ALN	128	0	0	0	DPANETDEVICE.OSVERSION
NETDEVICE	RAMSIZE	6	DECIMAL	10	2	0	0	DPANETDEVICE.RAMSIZE
NETDEVICE	RAMUNIT	7	ALN	16	0	0	0	DPANETDEVICE.RAMUNIT
NETDEVICE	NODENAME	8	ALN	128	0	1	0	DEPLOYEDASSET.NODENAME
NETDEVICE	DOMAINNAME	9	ALN	128	0	1	0	DEPLOYEDASSET.DOMAINNAME
NETDEVICE	SERIALNUMBER	10	ALN	64	0	0	0	DEPLOYEDASSET.SERIALNUMBER
NETDEVICE	ASSETTAG	11	ALN	64	0	0	0	DEPLOYEDASSET.ASSETTAG
NETDEVICE	MAKEMODEL	12	ALN	128	0	0	0	DEPLOYEDASSET.MAKEMODEL
NETDEVICE	DESCRIPTION	13	ALN	256	0	0	0	DEPLOYEDASSET.DESCRPTION
NETDEVICE	HWLASTSCANDATE	14	DATETIME	10	0	0	0	DEPLOYEDASSET.HWLASTSCANDATE
NETDEVICE	HWDETECTIONTOOL	15	ALN	256	0	0	0	DEPLOYEDASSET.HWDETECTIONTOOL
NETDEVICE	SUPPORTSSNMP	16	YORN	1	0	1	0	DEPLOYEDASSET.SUPPORTSSNMP
NETDEVICE	SOURCEID	17	ALN	128	0	0	0	DEPLOYEDASSET.SOURCEID
NETDEVICE	SYSTEMROLE	18	ALN	32	0	0	0	DEPLOYEDASSET.SYSTEMROLE

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
NETDEVICE	ASSETCLASS	19	ALN	32	0	1	0	DEPLOYEDASSET.ASSETCLASS
NETDEVICE	SITEID	20	UPPER	8	0	0	0	SITE.SITEID
NETDEVICE	ORGID	21	UPPER	8	0	0	0	ORGANIZATION.ORGID
NETDEVICE	CREATEDATE	22	DATETIME	10	0	1	0	
NETDEVICE	CHANGEDATE	23	DATETIME	10	0	1	0	
NETDEVICE	CREATEDATE1	25	DATETIME	10	0	1	0	
NETDEVICE	CHANGEDATE1	26	DATETIME	10	0	1	0	
NETDEVICE	CMANUFACTURER	27	ALN	128	0	1	0	DPAMMANUVARIANT.MANUFACTURERNAME
NETDEVICE	MANUFACTURERVAR	28	ALN	128	0	1	0	DPAMMANUVARIANT.MANUFACTURERVAR
NETDEVICE	DPAMMANUVARIANTID	29	INTEGER	12	0	1	1	DPAMMANUVARIANT.DPAMMANUVARIANTID
NETPRINTER	NODEID	1	INTEGER	12	0	1	0	DEPLOYEDASSET.NODEID
NETPRINTER	NETWORKADDRESS	2	ALN	32	0	0	0	DPANETPRINTER.NETWORKADDRESS
NETPRINTER	NETMACADDR	3	ALN	16	0	0	0	DPANETPRINTER.NETMACADDR
NETPRINTER	CURRENTRAM	4	DECIMAL	10	2	0	0	DPANETPRINTER.CURRENTRAM
NETPRINTER	MAXRAM	5	DECIMAL	10	2	0	0	DPANETPRINTER.MAXRAM
NETPRINTER	RAMUNIT	6	ALN	16	0	0	0	DPANETPRINTER.RAMUNIT
NETPRINTER	COLORDEPTHBIT	7	INTEGER	12	0	0	0	DPANETPRINTER.COLORDEPTHBIT
NETPRINTER	MAXWIDTH	8	DECIMAL	10	2	0	0	DPANETPRINTER.MAXWIDTH
NETPRINTER	MAXLENGTH	9	DECIMAL	10	2	0	0	DPANETPRINTER.MAXLENGTH
NETPRINTER	SIZEUNIT	10	ALN	16	0	0	0	DPANETPRINTER.SIZEUNIT
NETPRINTER	VERTICALDPI	11	INTEGER	12	0	0	0	DPANETPRINTER.VERTICALDPI
NETPRINTER	HORIZONTALDPI	12	INTEGER	12	0	0	0	DPANETPRINTER.HORIZONTALDPI
NETPRINTER	NUMBEROFTRAYS	13	INTEGER	12	0	0	0	DPANETPRINTER.NUMBEROFTRAYS
NETPRINTER	NODENAME	14	ALN	128	0	1	0	DEPLOYEDASSET.NODENAME
NETPRINTER	DOMAINNAME	15	ALN	128	0	1	0	DEPLOYEDASSET.DOMAINNAME
NETPRINTER	SERIALNUMBER	16	ALN	64	0	0	0	DEPLOYEDASSET.SERIALNUMBER
NETPRINTER	ASSETTAG	17	ALN	64	0	0	0	DEPLOYEDASSET.ASSETTAG
NETPRINTER	MAKEMODEL	18	ALN	128	0	0	0	DEPLOYEDASSET.MAKEMODEL
NETPRINTER	DESCRIPTION	19	ALN	256	0	0	0	DEPLOYEDASSET.DESCRPTION
NETPRINTER	HWLASTSCANDATE	20	DATETIME	10	0	0	0	DEPLOYEDASSET.HWLASTSCANDATE
NETPRINTER	HWDETECTIONTOOL	21	ALN	256	0	0	0	DEPLOYEDASSET.HWDETECTIONTOOL
NETPRINTER	SUPPORTSSNMP	22	YORN	1	0	1	0	DEPLOYEDASSET.SUPPORTSSNMP
NETPRINTER	SOURCEID	23	ALN	128	0	0	0	DEPLOYEDASSET.SOURCEID
NETPRINTER	SYSTEMROLE	24	ALN	32	0	0	0	DEPLOYEDASSET.SYSTEMROLE
NETPRINTER	ASSETCLASS	25	ALN	32	0	1	0	DEPLOYEDASSET.ASSETCLASS
NETPRINTER	SITEID	26	UPPER	8	0	0	0	SITE.SITEID
NETPRINTER	ORGID	27	UPPER	8	0	0	0	ORGANIZATION.ORGID
NETPRINTER	CREATEDATE	28	DATETIME	10	0	1	0	
NETPRINTER	CHANGEDATE	29	DATETIME	10	0	1	0	
NETPRINTER	CREATEDATE1	34	DATETIME	10	0	1	0	
NETPRINTER	CHANGEDATE1	35	DATETIME	10	0	1	0	
NETPRINTER	CMANUFACTURER	36	ALN	128	0	1	0	DPAMMANUVARIANT.MANUFACTURERNAME
NETPRINTER	MANUFACTURERVAR	37	ALN	128	0	1	0	DPAMMANUVARIANT.MANUFACTURERVAR
NETPRINTER	DPAMMANUVARIANTID	38	INTEGER	12	0	1	1	DPAMMANUVARIANT.DPAMMANUVARIANTID
PROBLEM	TICKETID	1	UPPER	10	0	1	0	TICKET.TICKETID
PROBLEM	CLASS	2	UPPER	10	0	1	1	TICKET.CLASS

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
PROBLEM	DESCRIPTION	3	ALN	100	0	0	1	TICKET.DESCRPTION
PROBLEM	STATUS	4	UPPER	8	0	1	1	TICKET.STATUS
PROBLEM	STATUSDATE	5	DATETIME	10	0	1	1	TICKET.STATUSDATE
PROBLEM	REPORTEDPRIORITY	6	INTEGER	12	0	0	1	TICKET.REPORTEDPRIORITY
PROBLEM	INTERNALPRIORITY	7	INTEGER	12	0	0	1	TICKET.INTERNALPRIORITY
PROBLEM	IMPACT	8	INTEGER	12	0	0	1	TICKET.IMPACT
PROBLEM	URGENCY	9	INTEGER	12	0	0	1	TICKET.URGENCY
PROBLEM	REPORTEDBY	10	ALN	62	0	0	0	PERSON.DISPLAYNAME
PROBLEM	REPORTDATE	11	DATETIME	10	0	0	1	TICKET.REPORTDATE
PROBLEM	AFFECTEDPERSON	12	ALN	62	0	0	0	PERSON.DISPLAYNAME
PROBLEM	AFFECTEDDATE	13	DATETIME	10	0	0	1	TICKET.AFFECTEDDATE
PROBLEM	SOURCE	14	ALN	20	0	0	1	TICKET.SOURCE
PROBLEM	SUPERVISOR	15	UPPER	8	0	0	1	TICKET.SUPERVISOR
PROBLEM	OWNER	16	UPPER	30	0	0	0	PERSON.PERSONID
PROBLEM	OWNERGROUP	17	UPPER	8	0	0	0	PERSONGROUP.PERSONGROUP
PROBLEM	ISGLOBAL	18	YORN	1	0	1	1	TICKET.ISGLOBAL
PROBLEM	RELATEDTOGLOBAL	19	YORN	1	0	1	1	TICKET.RELATEDTOGLOBAL
PROBLEM	GLOBALTICKETID	20	UPPER	10	0	0	1	TICKET.GLOBALTICKETID
PROBLEM	GLOBALTICKETCLASS	21	UPPER	10	0	0	1	TICKET.GLOBALTICKETCLASS
PROBLEM	EXTERNALRECID	22	ALN	20	0	0	1	TICKET.EXTERNALRECID
PROBLEM	SITEVISIT	23	YORN	1	0	1	1	TICKET.SITEVISIT
PROBLEM	ORIGRECORDID	24	UPPER	10	0	0	1	TICKET.ORIGRECORDID
PROBLEM	ORIGRECORDCLASS	25	UPPER	10	0	0	1	TICKET.ORIGRECORDCLASS
PROBLEM	GLACCOUNT	26	GL	23	0	0	1	
PROBLEM	COMMODITYGROUP	27	UPPER	8	0	0	1	COMMODITIES.COMMODITY
PROBLEM	COMMODITY	28	UPPER	8	0	0	1	COMMODITIES.COMMODITY
PROBLEM	INHERITSTATUS	29	YORN	1	0	1	1	TICKET.INHERITSTATUS
PROBLEM	ISKNOWNERROR	30	YORN	1	0	1	1	TICKET.ISKNOWNERROR
PROBLEM	TARGETSTART	31	DATETIME	10	0	0	1	TICKET.TARGETSTART
PROBLEM	TARGETFINISH	32	DATETIME	10	0	0	1	TICKET.TARGETFINISH
PROBLEM	ACTUALSTART	33	DATETIME	10	0	0	1	TICKET.ACTUALSTART
PROBLEM	ACTUALFINISH	34	DATETIME	10	0	0	1	TICKET.ACTUALFINISH
PROBLEM	ORIGRECSITEID	35	UPPER	8	0	0	1	TICKET.ORIGRECSITEID
PROBLEM	ORIGRECORDID	36	UPPER	8	0	0	1	TICKET.ORIGRECORDID
PROBLEM	SITEID	37	UPPER	8	0	0	0	SITE.SITEID
PROBLEM	ORGID	38	UPPER	8	0	0	0	ORGANIZATION.ORGID
PROBLEM	CHANGEDATE	39	DATETIME	10	0	1	1	TICKET.CHANGEDATE
PROBLEM	CHANGEBY	40	UPPER	30	0	1	0	PERSON.PERSONID
PROBLEM	HISTORYFLAG	41	YORN	1	0	1	1	TICKET.HISTORYFLAG
PROBLEM	TEMPLATE	42	YORN	1	0	1	1	TICKET.TEMPLATE
PROBLEM	HASACTIVITY	43	YORN	1	0	1	1	TICKET.HASACTIVITY
PROBLEM	FAILURECODE	44	UPPER	8	0	0	0	FAILURECODE.FAILURECODE
PROBLEM	PROBLEMCODE	45	UPPER	8	0	0	0	FAILURECODE.FAILURECODE
PROBLEM	ACTLABHRS	46	DURATION	8	0	1	1	TICKET.ACTLABHRS
PROBLEM	ACTLABCOST	47	AMOUNT	10	2	1	1	TICKET.ACTLABCOST
PROBLEM	AFFECTEDPHONE	48	ALN	20	0	0	0	TICKET.AFFECTEDPHONE

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
PROBLEM	REPORTEDPHONE	49	ALN	20	0	0	0	TICKET.REPORTEDPHONE
PROBLEM	AFFECTEDEMMAIL	50	ALN	50	0	0	1	EMAIL.EMAILADDRESS
PROBLEM	REPORTEDEMMAIL	51	ALN	50	0	0	1	EMAIL.EMAILADDRESS
PROBLEM	ASSETSITID	52	UPPER	8	0	0	0	SITE.SITID
PROBLEM	TEMPLATEID	53	UPPER	10	0	0	0	TICKET.TEMPLATEID
PROBLEM	VENDOR	54	UPPER	12	0	0	0	COMPANIES.COMPANY
PROBLEM	ASSETNUM	59	UPPER	12	0	0	0	ASSET.ASETNUM
PROBLEM	LOCATION	60	UPPER	12	0	0	0	LOCATIONS.LOCATION
PROBLEM	CLASSTRUCTUREID	62	UPPER	20	0	0	1	CLASSTRUCTURE.CLASSTRUCTUREID
PROBLEM	ISKNOWNERRORDATE	63	DATETIME	10	0	0	0	TICKET.ISKNOWNERRORDATE
PROBLEM	TARGETCONTACTDATE	64	DATETIME	10	0	0	0	TICKET.TARGETCONTACTDATE
PROBLEM	ACTUALCONTACTDATE	65	DATETIME	10	0	0	0	TICKET.ACTUALCONTACTDATE
PROBLEM	CREATEWORELASSET	66	YORN	1	0	1	0	TICKET.CREATEWORELASSET
PROBLEM	FR1CODE	69	UPPER	8	0	0	0	FAILURECODE.FAILURECODE
PROBLEM	FR2CODE	71	UPPER	8	0	0	0	FAILURECODE.FAILURECODE
PROBLEM	TICKETUID	73	INTEGER	12	0	0	1	
PROBLEM	SOLUTION	74	UPPER	8	0	0	1	SOLUTION.SOLUTION
PROBLEM	ASSETORGID	78	UPPER	8	0	0	0	ORGANIZATION.ORGID
PROBLEM	LANGCODE	80	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
PROBLEM	HASLD	88	YORN	1	0	1	1	
PURCHVIEW	CONTRACTNUM	1	UPPER	8	0	0	0	CONTRACT.CONTRACTNUM
PURCHVIEW	DESCRIPTION	2	ALN	100	0	0	0	PR.DESCRPTION
PURCHVIEW	MASTERNUM	3	UPPER	8	0	0	0	CONTRACT.MASTERNUM
PURCHVIEW	VENDORREFNUM	4	ALN	12	0	0	0	CONTRACT.VENDORREFNUM
PURCHVIEW	CONTRACTTYPE	5	UPPER	25	0	1	0	CONTRACT.CONTRACTTYPE
PURCHVIEW	REVISIONNUM	6	INTEGER	12	0	0	1	CONTRACT.REVISIONNUM
PURCHVIEW	PURCHASEAGENT	7	UPPER	30	0	0	0	PERSON.PERSONID
PURCHVIEW	STATUS	8	UPPER	6	0	1	0	CONTRACT.STATUS
PURCHVIEW	STATUSDATE	9	DATETIME	10	0	0	0	CONTRACT.STATUSDATE
PURCHVIEW	STARTDATE	10	DATE	4	0	0	0	CONTRACT.STARTDATE
PURCHVIEW	ENDDATE	11	DATE	4	0	0	0	CONTRACT.ENDDATE
PURCHVIEW	RENEWALDATE	12	DATE	4	0	0	0	CONTRACT.RENEWALDATE
PURCHVIEW	EXTENDABLE	13	YORN	1	0	1	0	CONTRACT.EXTENDABLE
PURCHVIEW	AUTOEXTENDPERIOD	14	INTEGER	12	0	0	0	CONTRACT.AUTOEXTENDPERIOD
PURCHVIEW	CONDFOREXT	15	ALN	20	0	0	0	CONTRACT.CONDFOREXT
PURCHVIEW	CUSTTERMALLOWED	16	YORN	1	0	1	0	CONTRACT.CUSTTERMALLOWED
PURCHVIEW	CUSTNOTIFYPERIOD	17	INTEGER	12	0	0	0	CONTRACT.CUSTNOTIFYPERIOD
PURCHVIEW	VENDTERMALLOWED	18	YORN	1	0	1	0	CONTRACT.VENDTERMALLOWED
PURCHVIEW	VENDNOTIFYPERIOD	19	INTEGER	12	0	0	0	CONTRACT.VENDNOTIFYPERIOD
PURCHVIEW	VENDOR	20	UPPER	12	0	0	0	COMPANIES.COMPANY
PURCHVIEW	CONTACT	21	ALN	50	0	0	0	COMPANIES.CONTACT
PURCHVIEW	FREIGHTTERMS	22	ALN	50	0	0	0	COMPANIES.FREIGHTTERMS
PURCHVIEW	PAYMENTTERMS	23	ALN	20	0	0	0	COMPANIES.PAYMENTTERMS
PURCHVIEW	SHIPVIA	24	ALN	20	0	0	0	COMPANIES.SHIPVIA
PURCHVIEW	CUSTOMERNUM	25	ALN	16	0	0	0	COMPANIES.CUSTOMERNUM
PURCHVIEW	FOB	26	ALN	20	0	0	0	COMPANIES.FOB

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
PURCHVIEW	TOTALCOST	27	DECIMAL	10	2	0	1	PO.TOTALCOST
PURCHVIEW	CHANGEBY	28	UPPER	30	0	0	0	PERSON.PERSONID
PURCHVIEW	CHANGEDATE	29	DATETIME	10	0	1	0	CONTRACT.CHANGEDATE
PURCHVIEW	HISTORYFLAG	30	YORN	1	0	1	0	CONTRACT.HISTORYFLAG
PURCHVIEW	CURRENCYCODE	31	UPPER	8	0	1	0	CURRENCY.CURRENCYCODE
PURCHVIEW	EXCHANGERATE	32	DECIMAL	14	7	0	1	EXCHANGE.EXCHANGERATE
PURCHVIEW	EXCHANGERATE2	33	DECIMAL	14	7	0	1	EXCHANGE.EXCHANGERATE
PURCHVIEW	EXCHANGEDATE	34	DATE	4	0	0	0	CONTRACT.EXCHANGEDATE
PURCHVIEW	BUYAHEAD	35	YORN	1	0	1	0	CONTRACT.BUYAHEAD
PURCHVIEW	INCLUSIVE1	36	YORN	1	0	1	0	CONTRACT.INCLUSIVE1
PURCHVIEW	INCLUSIVE2	37	YORN	1	0	1	0	CONTRACT.INCLUSIVE2
PURCHVIEW	INCLUSIVE3	38	YORN	1	0	1	0	CONTRACT.INCLUSIVE3
PURCHVIEW	INCLUSIVE4	39	YORN	1	0	1	0	CONTRACT.INCLUSIVE4
PURCHVIEW	INCLUSIVE5	40	YORN	1	0	1	0	CONTRACT.INCLUSIVE5
PURCHVIEW	EXTERNALREFID	41	ALN	10	0	0	0	CONTRACT.EXTERNALREFID
PURCHVIEW	OWNERSYSID	42	ALN	10	0	0	0	CONTRACT.OWNERSYSID
PURCHVIEW	SENDERSYSID	43	ALN	50	0	0	0	CONTRACT.SENDERSYSID
PURCHVIEW	ORGID	44	UPPER	8	0	0	0	ORGANIZATION.ORGID
PURCHVIEW	TOTALBASECOST	45	DECIMAL	10	2	1	0	CONTRACT.TOTALBASECOST
PURCHVIEW	POREQUIRED	46	YORN	1	0	1	0	CONTRACT.POREQUIRED
PURCHVIEW	PAYMENTSCHED	47	YORN	1	0	1	0	CONTRACT.PAYMENTSCHED
PURCHVIEW	ADDLINESONUSE	48	YORN	1	0	1	0	CONTRACTPURCH.ADDLINESONUSE
PURCHVIEW	CHGPRICEONUSE	49	YORN	1	0	1	0	CONTRACTPURCH.CHGPRICEONUSE
PURCHVIEW	CHGQTYONUSE	50	YORN	1	0	1	0	CONTRACTPURCH.CHGQTYONUSE
PURCHVIEW	MAXVOL	51	DECIMAL	10	2	0	0	CONTRACTPURCH.MAXVOL
PURCHVIEW	MAXRELVOL	52	DECIMAL	10	2	0	0	CONTRACTPURCH.MAXRELVOL
PURCHVIEW	SHIPPINGLOSS	53	YORN	1	0	1	0	CONTRACTPURCH.SHIPPINGLOSS
PURCHVIEW	DELIVERYLOSS	54	YORN	1	0	1	0	CONTRACTPURCH.DELIVERYLOSS
PURCHVIEW	ACCEPTANCELOSS	55	YORN	1	0	1	0	CONTRACTPURCH.ACCEPTANCELOSS
PURCHVIEW	ACCEPTPERIOD	56	INTEGER	12	0	0	0	CONTRACTPURCH.ACCEPTPERIOD
PURCHVIEW	ENFORCEBUNDLE	57	YORN	1	0	1	0	CONTRACTPURCH.ENFORCEBUNDLE
PURCHVIEW	AMTREMAINING	58	DECIMAL	10	2	0	0	CONTRACTPURCH.AMTREMAINING
PURCHVIEW	CREATEREL	63	YORN	1	0	1	0	CONTRACTPURCH.CREATEREL
PURCHVIEW	HASINSURANCE	64	YORN	1	0	1	0	CONTRACT.HASINSURANCE
PURCHVIEW	INSURANCEEXPDATE	65	DATE	4	0	0	0	CONTRACT.INSURANCEEXPDATE
PURCHVIEW	CANEXCEEDVOLUME	67	YORN	1	0	1	0	
PURCHVIEW	CONTRACTPURCHID	68	INTEGER	12	0	0	1	
PURCHVIEW	CONTRACTID	69	INTEGER	12	0	0	1	
PURCHVIEW	REVCOMMENTS	70	ALN	100	0	0	0	PR.DESCRPTION
PURCHVIEW	LANGCODE	71	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
PURCHVIEW	MASTERREVENUM	73	INTEGER	12	0	0	1	CONTRACT.REVISIONNUM
PURCHVIEW	PROCESSCLAIM	74	YORN	1	0	1	0	
PURCHVIEW	INSPECTIONREQUIRED	76	YORN	1	0	1	0	COMPANIES.INSPECTIONREQUIRED
PURCHVIEW	MAINTHIERCHY	77	YORN	1	0	1	0	ASSET.MAINTHIERCHY
PURCHVIEW	SWLICTYPE	78	UPPER	25	0	0	0	
PURCHVIEW	HASLD	79	YORN	1	0	1	1	

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
RECONATTRCLAUSE	RECONRULECLAUSEID	1	INTEGER	12	0	1	1	RECONRULECLAUSE.RECONRULECLAUSEID
RECONATTRCLAUSE	RULENAME	2	ALN	32	0	1	0	RECONRULE.RULENAME
RECONATTRCLAUSE	RULETYPE	3	ALN	25	0	1	0	RECONRULECLAUSE.RULETYPE
RECONATTRCLAUSE	SEQUENCENUM	4	SMALLINT	10	0	1	0	RECONRULECLAUSE.SEQUENCENUM
RECONATTRCLAUSE	RECORDCOMPOPERATOR	5	ALN	25	0	1	0	RECONRULECLAUSE.RECORDCOMPOPERATOR
RECONATTRCLAUSE	ASSETOBJECTNAME	6	UPPER	18	0	1	1	MAXOBJECT.OBJECTNAME
RECONATTRCLAUSE	ASSETCLASSSTRUCTID	7	UPPER	20	0	0	1	CLASSSTRUCTURE.CLASSSTRUCTUREID
RECONATTRCLAUSE	ASSETATTRIBUTENAME	8	UPPER	50	0	1	0	MAXATTRIBUTE.ATTRIBUTENAME
RECONATTRCLAUSE	DPAOBJECTNAME	9	UPPER	18	0	1	1	MAXOBJECT.OBJECTNAME
RECONATTRCLAUSE	DPAATTRIBUTENAME	10	UPPER	50	0	1	0	MAXATTRIBUTE.ATTRIBUTENAME
RECONATTRCLAUSE	ANDOR	11	ALN	3	0	0	0	RECONRULECLAUSE.ANDOR
RECONATTRCLAUSE	OPENPARENTHESSES	12	ALN	8	0	0	0	RECONRULECLAUSE.OPENPARENTHESSES
RECONATTRCLAUSE	CLOSEPARENTHESSES	13	ALN	8	0	0	0	RECONRULECLAUSE.CLOSEPARENTHESSES
RECONATTRCLAUSE	DPAUNITATTRIBUTE	15	UPPER	50	0	0	0	MAXATTRIBUTE.ATTRIBUTENAME
RECONCOMPFLTRAST	RECONCOMPFILTERID	1	INTEGER	12	0	1	1	RECONCOMPFILTER.RECONCOMPFILTERID
RECONCOMPFLTRAST	RULENAME	2	ALN	32	0	1	0	RECONCOMPFILTER.RULENAME
RECONCOMPFLTRAST	SEQUENCENUM	3	SMALLINT	10	0	1	0	RECONCOMPFILTER.SEQUENCENUM
RECONCOMPFLTRAST	FILTERTYPE	4	ALN	25	0	1	0	RECONCOMPFILTER.FILTERTYPE
RECONCOMPFLTRAST	ASSETOBJECTNAME	5	UPPER	18	0	1	0	RECONCOMPFILTER.ASSETOBJECTNAME
RECONCOMPFLTRAST	ASSETCLASSSTRUCTID	6	ALN	20	0	0	0	RECONCOMPFILTER.ASSETCLASSSTRUCTID
RECONCOMPFLTRAST	ASSETATTRIBUTENAME	7	ALN	50	0	0	0	RECONCOMPFILTER.ASSETATTRIBUTENAME
RECONCOMPFLTRAST	DPAOBJECTNAME	8	UPPER	18	0	0	0	RECONCOMPFILTER.DPAOBJECTNAME
RECONCOMPFLTRAST	DPAATTRIBUTENAME	9	ALN	50	0	0	0	RECONCOMPFILTER.DPAATTRIBUTENAME
RECONCOMPFLTRAST	OPERATOR	10	ALN	25	0	0	0	RECONCOMPFILTER.OPERATOR
RECONCOMPFLTRAST	ALNVALUE	11	ALN	4000	0	0	0	RECONCOMPFILTER.ALNVALUE
RECONCOMPFLTRAST	ANDOR	12	ALN	3	0	0	0	RECONCOMPFILTER.ANDOR
RECONCOMPFLTRAST	OPENPARENTHESSES	13	ALN	8	0	0	0	RECONCOMPFILTER.OPENPARENTHESSES
RECONCOMPFLTRAST	CLOSEPARENTHESSES	14	ALN	8	0	0	0	RECONCOMPFILTER.CLOSEPARENTHESSES
RECONCOMPFLTRDPA	RECONCOMPFILTERID	1	INTEGER	12	0	1	1	RECONCOMPFILTER.RECONCOMPFILTERID
RECONCOMPFLTRDPA	RULENAME	2	ALN	32	0	1	0	RECONCOMPFILTER.RULENAME
RECONCOMPFLTRDPA	SEQUENCENUM	3	SMALLINT	10	0	1	0	RECONCOMPFILTER.SEQUENCENUM
RECONCOMPFLTRDPA	FILTERTYPE	4	ALN	25	0	1	0	RECONCOMPFILTER.FILTERTYPE
RECONCOMPFLTRDPA	ASSETOBJECTNAME	5	UPPER	18	0	0	0	RECONCOMPFILTER.ASSETOBJECTNAME
RECONCOMPFLTRDPA	ASSETCLASSSTRUCTID	6	ALN	20	0	0	0	RECONCOMPFILTER.ASSETCLASSSTRUCTID
RECONCOMPFLTRDPA	ASSETATTRIBUTENAME	7	ALN	50	0	0	0	RECONCOMPFILTER.ASSETATTRIBUTENAME
RECONCOMPFLTRDPA	DPAOBJECTNAME	8	UPPER	18	0	1	0	RECONCOMPFILTER.DPAOBJECTNAME
RECONCOMPFLTRDPA	DPAATTRIBUTENAME	9	ALN	50	0	0	0	RECONCOMPFILTER.DPAATTRIBUTENAME
RECONCOMPFLTRDPA	OPERATOR	10	ALN	25	0	0	0	RECONCOMPFILTER.OPERATOR
RECONCOMPFLTRDPA	ALNVALUE	11	ALN	4000	0	0	0	RECONCOMPFILTER.ALNVALUE
RECONCOMPFLTRDPA	ANDOR	12	ALN	3	0	0	0	RECONCOMPFILTER.ANDOR
RECONCOMPFLTRDPA	OPENPARENTHESSES	13	ALN	8	0	0	0	RECONCOMPFILTER.OPENPARENTHESSES
RECONCOMPFLTRDPA	CLOSEPARENTHESSES	14	ALN	8	0	0	0	RECONCOMPFILTER.CLOSEPARENTHESSES
RECONCOMPRULE	RECONRULEID	1	INTEGER	12	0	1	1	RECONRULE.RECONRULEID
RECONCOMPRULE	RULENAME	2	ALN	32	0	1	0	RECONRULE.RULENAME
RECONCOMPRULE	DESCRIPTION	3	ALN	256	0	0	0	RECONRULE.DESCRPTION
RECONCOMPRULE	RULETYPE	4	ALN	25	0	1	0	RECONRULE.RULETYPE

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
RECONCOMPRULE	LANGCODE	6	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
RECONCOMPRULE	HASLD	8	YORN	1	0	1	1	
RECONLINKCLAUSE	RECONRULECLAUSEID	1	INTEGER	12	0	1	1	RECONRULECLAUSE.RECONRULECLAUSEID
RECONLINKCLAUSE	RULENAME	2	ALN	32	0	1	0	RECONRULE.RULENAME
RECONLINKCLAUSE	RULETYPE	3	ALN	25	0	1	0	RECONRULECLAUSE.RULETYPE
RECONLINKCLAUSE	SEQUENCENUM	4	SMALLINT	10	0	1	0	RECONRULECLAUSE.SEQUENCENUM
RECONLINKCLAUSE	RECORDCOMPOPERATOR	5	ALN	25	0	0	0	RECONRULECLAUSE.RECORDCOMPOPERATOR
RECONLINKCLAUSE	ASSETOBJECTNAME	6	UPPER	18	0	1	1	MAXOBJECT.OBJECTNAME
RECONLINKCLAUSE	ASSETCLASSTRUCTID	7	UPPER	20	0	0	1	CLASSTRUCTURE.CLASSTRUCTUREID
RECONLINKCLAUSE	ASSETATTRIBUTENAME	8	UPPER	50	0	1	0	MAXATTRIBUTE.ATTRIBUTENAME
RECONLINKCLAUSE	DPAOBJECTNAME	9	UPPER	18	0	1	1	MAXOBJECT.OBJECTNAME
RECONLINKCLAUSE	DPAATTRIBUTENAME	10	UPPER	50	0	1	0	MAXATTRIBUTE.ATTRIBUTENAME
RECONLINKCLAUSE	ANDOR	11	ALN	3	0	0	0	RECONRULECLAUSE.ANDOR
RECONLINKCLAUSE	OPENPARENTHESES	12	ALN	8	0	0	0	RECONRULECLAUSE.OPENPARENTHESES
RECONLINKCLAUSE	CLOSEPARENTHESES	13	ALN	8	0	0	0	RECONRULECLAUSE.CLOSEPARENTHESES
RECONLINKCLAUSE	DPAUNITATTRIBUTE	15	UPPER	50	0	0	0	MAXATTRIBUTE.ATTRIBUTENAME
RECONLINKRULE	RECONRULEID	1	INTEGER	12	0	1	1	RECONRULE.RECONRULEID
RECONLINKRULE	RULENAME	2	ALN	32	0	1	0	RECONRULE.RULENAME
RECONLINKRULE	DESCRIPTION	3	ALN	256	0	0	0	RECONRULE.DESCRPTION
RECONLINKRULE	RULETYPE	4	ALN	25	0	1	0	RECONRULE.RULETYPE
RECONLINKRULE	LANGCODE	6	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
RECONLINKRULE	HASLD	8	YORN	1	0	1	1	
RECONRCDCLAUSE	RECONRULECLAUSEID	1	INTEGER	12	0	1	1	RECONRULECLAUSE.RECONRULECLAUSEID
RECONRCDCLAUSE	RULENAME	2	ALN	32	0	1	0	RECONRULE.RULENAME
RECONRCDCLAUSE	RULETYPE	3	ALN	25	0	1	0	RECONRULECLAUSE.RULETYPE
RECONRCDCLAUSE	SEQUENCENUM	4	SMALLINT	10	0	1	0	RECONRULECLAUSE.SEQUENCENUM
RECONRCDCLAUSE	RECORDCOMPOPERATOR	5	ALN	25	0	1	0	RECONRULECLAUSE.RECORDCOMPOPERATOR
RECONRCDCLAUSE	ASSETOBJECTNAME	6	UPPER	18	0	1	1	MAXOBJECT.OBJECTNAME
RECONRCDCLAUSE	ASSETCLASSTRUCTID	7	UPPER	20	0	0	1	CLASSTRUCTURE.CLASSTRUCTUREID
RECONRCDCLAUSE	ASSETATTRIBUTENAME	8	UPPER	50	0	0	0	MAXATTRIBUTE.ATTRIBUTENAME
RECONRCDCLAUSE	DPAOBJECTNAME	9	UPPER	18	0	1	1	MAXOBJECT.OBJECTNAME
RECONRCDCLAUSE	DPAATTRIBUTENAME	10	UPPER	50	0	0	0	MAXATTRIBUTE.ATTRIBUTENAME
RECONRCDCLAUSE	ANDOR	11	ALN	3	0	0	0	RECONRULECLAUSE.ANDOR
RECONRCDCLAUSE	OPENPARENTHESES	12	ALN	8	0	0	0	RECONRULECLAUSE.OPENPARENTHESES
RECONRCDCLAUSE	CLOSEPARENTHESES	13	ALN	8	0	0	0	RECONRULECLAUSE.CLOSEPARENTHESES
RECONRCDCLAUSE	DPAUNITATTRIBUTE	14	UPPER	50	0	0	0	MAXATTRIBUTE.ATTRIBUTENAME
SCHLEASEVIEW	SCHEDULEID	1	INTEGER	12	0	1	1	SCHEDULE.SCHEDULEID
SCHLEASEVIEW	SCHEDULENUM	2	INTEGER	12	0	1	0	SCHEDULE.SCHEDULENUM
SCHLEASEVIEW	CONTRACTNUM	3	UPPER	8	0	0	0	CONTRACT.CONTRACTNUM
SCHLEASEVIEW	REVISIONNUM	4	INTEGER	12	0	0	1	CONTRACT.REVISIONNUM
SCHLEASEVIEW	CONTRACTLINEID	5	INTEGER	12	0	0	0	CONTRACTLINE.CONTRACTLINEID
SCHLEASEVIEW	SCHEDULETYPE	6	UPPER	8	0	0	0	SCHEDULE.SCHEDULETYPE
SCHLEASEVIEW	DESCRIPTION	7	ALN	100	0	0	0	SCHEDULE.DESCRPTION
SCHLEASEVIEW	TAX1	8	DECIMAL	10	2	0	0	SCHEDULE.TAX1
SCHLEASEVIEW	TAX2	9	DECIMAL	10	2	0	0	SCHEDULE.TAX2
SCHLEASEVIEW	TAX3	10	DECIMAL	10	2	0	0	SCHEDULE.TAX3

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
SCHLEASEVIEW	TAX4	11	DECIMAL	10	2	0	0	SCHEDULE.TAX4
SCHLEASEVIEW	TAX5	12	DECIMAL	10	2	0	0	SCHEDULE.TAX5
SCHLEASEVIEW	TAX1CODE	13	UPPER	8	0	0	0	TAX.TAXCODE
SCHLEASEVIEW	TAX2CODE	14	UPPER	8	0	0	0	TAX.TAXCODE
SCHLEASEVIEW	TAX3CODE	15	UPPER	8	0	0	0	TAX.TAXCODE
SCHLEASEVIEW	TAX4CODE	16	UPPER	8	0	0	0	TAX.TAXCODE
SCHLEASEVIEW	TAX5CODE	17	UPPER	8	0	0	0	TAX.TAXCODE
SCHLEASEVIEW	STARTDATE	18	DATE	4	0	0	0	CONTRACT.STARTDATE
SCHLEASEVIEW	ENDDATE	19	DATE	4	0	0	0	CONTRACT.ENDDATE
SCHLEASEVIEW	PERIODICPAYMENT	20	DECIMAL	10	2	0	0	SCHEDULE.PERIODICPAYMENT
SCHLEASEVIEW	LEASERATEFACTOR	21	DECIMAL	10	4	0	0	SCHEDULE.LEASERATEFACTOR
SCHLEASEVIEW	SINGLELINE	22	YORN	1	0	1	0	SCHEDULE.SINGLELINE
SCHLEASEVIEW	GLDEBITACCT	23	GL	23	0	0	1	
SCHLEASEVIEW	GLCREDITACCT	24	GL	23	0	0	1	
SCHLEASEVIEW	ORGID	25	UPPER	8	0	0	0	ORGANIZATION.ORGID
SCHLEASEVIEW	LOADED COST	26	DECIMAL	10	2	0	0	SCHEDULE.LOADED COST
SCHLEASEVIEW	TARGINVSTATUS	27	UPPER	12	0	0	0	SCHEDULE.TARGINVSTATUS
SCHLEASEVIEW	INCLUSIVE1	28	YORN	1	0	1	0	SCHEDULE.INCLUSIVE1
SCHLEASEVIEW	INCLUSIVE2	29	YORN	1	0	1	0	SCHEDULE.INCLUSIVE2
SCHLEASEVIEW	INCLUSIVE3	30	YORN	1	0	1	0	SCHEDULE.INCLUSIVE3
SCHLEASEVIEW	INCLUSIVE4	31	YORN	1	0	1	0	SCHEDULE.INCLUSIVE4
SCHLEASEVIEW	INCLUSIVE5	32	YORN	1	0	1	0	SCHEDULE.INCLUSIVE5
SCHLEASEVIEW	INTERIMCHARGE	33	DECIMAL	10	2	0	0	SCHEDULE.INTERIMCHARGE
SCHLEASEVIEW	SCHEDULE	34	ALN	80	0	0	0	SCHEDULE.SCHEDULE
SCHLEASEVIEW	LINECOST	35	DECIMAL	10	2	0	0	SCHEDULE.LINECOST
SCHLEASEVIEW	CONTRACTLINENUM	40	INTEGER	12	0	0	0	CONTRACTLINE.CONTRACTLINENUM
SCHPURCHVIEW	SCHEDULEID	1	INTEGER	12	0	1	1	SCHEDULE.SCHEDULEID
SCHPURCHVIEW	SCHEDULENUM	2	INTEGER	12	0	1	0	SCHEDULE.SCHEDULENUM
SCHPURCHVIEW	CONTRACTNUM	3	UPPER	8	0	0	0	CONTRACT.CONTRACTNUM
SCHPURCHVIEW	REVISIONNUM	4	INTEGER	12	0	0	1	CONTRACT.REVISIONNUM
SCHPURCHVIEW	CONTRACTLINEID	5	INTEGER	12	0	0	0	CONTRACTLINE.CONTRACTLINEID
SCHPURCHVIEW	SCHEDULETYPE	6	UPPER	8	0	0	0	SCHEDULE.SCHEDULETYPE
SCHPURCHVIEW	DESCRIPTION	7	ALN	100	0	0	0	SCHEDULE.DESCRPTION
SCHPURCHVIEW	TAX1	8	DECIMAL	10	2	0	0	SCHEDULE.TAX1
SCHPURCHVIEW	TAX2	9	DECIMAL	10	2	0	0	SCHEDULE.TAX2
SCHPURCHVIEW	TAX3	10	DECIMAL	10	2	0	0	SCHEDULE.TAX3
SCHPURCHVIEW	TAX4	11	DECIMAL	10	2	0	0	SCHEDULE.TAX4
SCHPURCHVIEW	TAX5	12	DECIMAL	10	2	0	0	SCHEDULE.TAX5
SCHPURCHVIEW	TAX1CODE	13	UPPER	8	0	0	0	TAX.TAXCODE
SCHPURCHVIEW	TAX2CODE	14	UPPER	8	0	0	0	TAX.TAXCODE
SCHPURCHVIEW	TAX3CODE	15	UPPER	8	0	0	0	TAX.TAXCODE
SCHPURCHVIEW	TAX4CODE	16	UPPER	8	0	0	0	TAX.TAXCODE
SCHPURCHVIEW	TAX5CODE	17	UPPER	8	0	0	0	TAX.TAXCODE
SCHPURCHVIEW	STARTDATE	18	DATE	4	0	0	0	CONTRACT.STARTDATE
SCHPURCHVIEW	ENDDATE	19	DATE	4	0	0	0	CONTRACT.ENDDATE
SCHPURCHVIEW	PERIODICPAYMENT	20	DECIMAL	10	2	0	0	SCHEDULE.PERIODICPAYMENT

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
SCHPURCHVIEW	LEASERATEFACTOR	21	DECIMAL	10	4	0	0	SCHEDULE.LEASERATEFACTOR
SCHPURCHVIEW	SINGLELINE	22	YORN	1	0	1	0	SCHEDULE.SINGLELINE
SCHPURCHVIEW	GLDEBITACCT	23	GL	23	0	0	1	
SCHPURCHVIEW	GLCREDITACCT	24	GL	23	0	0	1	
SCHPURCHVIEW	ORGID	25	UPPER	8	0	0	0	ORGANIZATION.ORGID
SCHPURCHVIEW	LOADED COST	26	DECIMAL	10	2	0	0	SCHEDULE.LOADED COST
SCHPURCHVIEW	TARGINVSTATUS	27	UPPER	12	0	0	0	SCHEDULE.TARGINVSTATUS
SCHPURCHVIEW	INCLUSIVE1	28	YORN	1	0	1	0	SCHEDULE.INCLUSIVE1
SCHPURCHVIEW	INCLUSIVE2	29	YORN	1	0	1	0	SCHEDULE.INCLUSIVE2
SCHPURCHVIEW	INCLUSIVE3	30	YORN	1	0	1	0	SCHEDULE.INCLUSIVE3
SCHPURCHVIEW	INCLUSIVE4	31	YORN	1	0	1	0	SCHEDULE.INCLUSIVE4
SCHPURCHVIEW	INCLUSIVE5	32	YORN	1	0	1	0	SCHEDULE.INCLUSIVE5
SCHPURCHVIEW	INTERIMCHARGE	33	DECIMAL	10	2	0	0	SCHEDULE.INTERIMCHARGE
SCHPURCHVIEW	SCHEDULE	34	ALN	10	0	0	0	
SCHPURCHVIEW	LINECOST	35	DECIMAL	10	2	0	0	
SCHPURCHVIEW	CONTRACTLINENUM	36	INTEGER	12	0	0	0	CONTRACTLINE.CONTRACTLINENUM
SCHWARRANTYVIEW	SCHEDULEID	1	INTEGER	12	0	1	1	SCHEDULE.SCHEDULEID
SCHWARRANTYVIEW	SCHEDULENUM	2	INTEGER	12	0	1	0	SCHEDULE.SCHEDULENUM
SCHWARRANTYVIEW	CONTRACTNUM	3	UPPER	8	0	0	0	CONTRACT.CONTRACTNUM
SCHWARRANTYVIEW	REVISIONNUM	4	INTEGER	12	0	0	1	CONTRACT.REVISIONNUM
SCHWARRANTYVIEW	CONTRACTLINEID	5	INTEGER	12	0	0	0	CONTRACTLINE.CONTRACTLINEID
SCHWARRANTYVIEW	SCHEDULETYPE	6	UPPER	8	0	0	0	SCHEDULE.SCHEDULETYPE
SCHWARRANTYVIEW	DESCRIPTION	7	ALN	100	0	0	0	SCHEDULE.DESCRPTION
SCHWARRANTYVIEW	TAX1	8	DECIMAL	10	2	0	0	SCHEDULE.TAX1
SCHWARRANTYVIEW	TAX2	9	DECIMAL	10	2	0	0	SCHEDULE.TAX2
SCHWARRANTYVIEW	TAX3	10	DECIMAL	10	2	0	0	SCHEDULE.TAX3
SCHWARRANTYVIEW	TAX4	11	DECIMAL	10	2	0	0	SCHEDULE.TAX4
SCHWARRANTYVIEW	TAX5	12	DECIMAL	10	2	0	0	SCHEDULE.TAX5
SCHWARRANTYVIEW	TAX1CODE	13	UPPER	8	0	0	0	TAX.TAXCODE
SCHWARRANTYVIEW	TAX2CODE	14	UPPER	8	0	0	0	TAX.TAXCODE
SCHWARRANTYVIEW	TAX3CODE	15	UPPER	8	0	0	0	TAX.TAXCODE
SCHWARRANTYVIEW	TAX4CODE	16	UPPER	8	0	0	0	TAX.TAXCODE
SCHWARRANTYVIEW	TAX5CODE	17	UPPER	8	0	0	0	TAX.TAXCODE
SCHWARRANTYVIEW	STARTDATE	18	DATE	4	0	0	0	CONTRACT.STARTDATE
SCHWARRANTYVIEW	ENDDATE	19	DATE	4	0	0	0	CONTRACT.ENDDATE
SCHWARRANTYVIEW	PERIODICPAYMENT	20	DECIMAL	10	2	0	0	SCHEDULE.PERIODICPAYMENT
SCHWARRANTYVIEW	LEASERATEFACTOR	21	DECIMAL	10	4	0	0	SCHEDULE.LEASERATEFACTOR
SCHWARRANTYVIEW	SINGLELINE	22	YORN	1	0	1	0	SCHEDULE.SINGLELINE
SCHWARRANTYVIEW	GLDEBITACCT	23	GL	23	0	0	1	
SCHWARRANTYVIEW	GLCREDITACCT	24	GL	23	0	0	1	
SCHWARRANTYVIEW	ORGID	25	UPPER	8	0	0	0	ORGANIZATION.ORGID
SCHWARRANTYVIEW	LOADED COST	26	DECIMAL	10	2	0	0	SCHEDULE.LOADED COST
SCHWARRANTYVIEW	TARGINVSTATUS	27	UPPER	12	0	0	0	SCHEDULE.TARGINVSTATUS
SCHWARRANTYVIEW	INCLUSIVE1	28	YORN	1	0	1	0	SCHEDULE.INCLUSIVE1
SCHWARRANTYVIEW	INCLUSIVE2	29	YORN	1	0	1	0	SCHEDULE.INCLUSIVE2
SCHWARRANTYVIEW	INCLUSIVE3	30	YORN	1	0	1	0	SCHEDULE.INCLUSIVE3

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
SCHWARRANTYVIEW	INCLUSIVE4	31	YORN	1	0	1	0	SCHEDULE.INCLUSIVE4
SCHWARRANTYVIEW	INCLUSIVE5	32	YORN	1	0	1	0	SCHEDULE.INCLUSIVE5
SCHWARRANTYVIEW	INTERIMCHARGE	33	DECIMAL	10	2	0	0	SCHEDULE.INTERIMCHARGE
SCHWARRANTYVIEW	SCHEDULE	34	ALN	80	0	0	0	SCHEDULE.SCHEDULE
SCHWARRANTYVIEW	LINECOST	35	DECIMAL	10	2	0	0	SCHEDULE.LINECOST
SCHWARRANTYVIEW	CONTRACTLINENUM	36	INTEGER	12	0	0	0	CONTRACTLINE.CONTRACTLINENUM
SERVICEITEMS	ITEMNUM	1	UPPER	30	0	1	0	ITEM.ITEMNUM
SERVICEITEMS	DESCRIPTION	2	ALN	100	0	0	0	ITEM.DESCRPTION
SERVICEITEMS	ROTATING	3	YORN	1	0	1	1	ITEM.ROTATING
SERVICEITEMS	LOTTYE	4	UPPER	16	0	1	1	ITEM.LOTTYE
SERVICEITEMS	CAPITALIZED	5	YORN	1	0	1	1	ITEM.CAPITALIZED
SERVICEITEMS	MSDSNUM	6	ALN	10	0	0	0	ITEM.MSDSNUM
SERVICEITEMS	OUTSIDE	7	YORN	1	0	1	1	ITEM.OUTSIDE
SERVICEITEMS	IN19	8	ALN	10	0	0	0	ITEM.IN19
SERVICEITEMS	IN20	9	ALN	10	0	0	0	ITEM.IN20
SERVICEITEMS	IN21	10	ALN	10	0	0	0	ITEM.IN21
SERVICEITEMS	IN22	11	DATETIME	10	0	0	0	ITEM.IN22
SERVICEITEMS	IN23	12	DECIMAL	15	2	0	0	ITEM.IN23
SERVICEITEMS	SPAREPARTAUTOADD	13	YORN	1	0	1	1	ITEM.SPAREPARTAUTOADD
SERVICEITEMS	CLASSTRUCTUREID	14	UPPER	20	0	0	1	CLASSTRUCTURE.CLASSTRUCTUREID
SERVICEITEMS	INSPECTIONREQUIRED	15	YORN	1	0	1	1	ITEM.INSPECTIONREQUIRED
SERVICEITEMS	SOURCESYSID	16	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
SERVICEITEMS	OWNERSYSID	17	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
SERVICEITEMS	EXTERNALREFID	18	ALN	10	0	0	0	ITEM.EXTERNALREFID
SERVICEITEMS	IN24	19	ALN	10	0	0	0	ITEM.IN24
SERVICEITEMS	IN25	20	ALN	10	0	0	0	ITEM.IN25
SERVICEITEMS	IN26	21	ALN	10	0	0	0	ITEM.IN26
SERVICEITEMS	IN27	22	ALN	10	0	0	0	ITEM.IN27
SERVICEITEMS	SENDERSYSID	23	ALN	50	0	0	0	ITEM.SENDERSYSID
SERVICEITEMS	ITEMSETID	24	UPPER	8	0	1	0	SETS.SETID
SERVICEITEMS	ORDERUNIT	25	UPPER	8	0	0	0	MEASUREUNIT.MEASUREUNITID
SERVICEITEMS	ISSUEUNIT	26	UPPER	8	0	0	0	MEASUREUNIT.MEASUREUNITID
SERVICEITEMS	CONDITIONENABLED	33	YORN	1	0	1	0	ITEM.CONDITIONENABLED
SERVICEITEMS	GROUPNAME	34	UPPER	10	0	0	0	METERGROUP.GROUPNAME
SERVICEITEMS	METERNAME	35	UPPER	10	0	0	0	METER.METERNAME
SERVICEITEMS	COMMODITYGROUP	36	UPPER	8	0	0	1	COMMODITIES.COMMODITY
SERVICEITEMS	COMMODITY	37	UPPER	8	0	0	1	COMMODITIES.COMMODITY
SERVICEITEMS	ITEMTYPE	38	UPPER	10	0	1	0	ITEM.ITEMTYPE
SERVICEITEMS	PRORATE	39	YORN	1	0	1	1	ITEM.PRORATE
SERVICEITEMS	ITEMID	40	INTEGER	12	0	0	1	
SERVICEITEMS	ISKIT	41	YORN	1	0	1	1	
SERVICEITEMS	LANGCODE	43	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
SERVICEITEMS	ATTACHONISSUE	44	YORN	1	0	1	1	
SERVICEITEMS	HASLD	45	YORN	1	0	1	1	
SR	TICKETID	1	UPPER	10	0	1	0	TICKET.TICKETID
SR	CLASS	2	UPPER	10	0	1	1	TICKET.CLASS

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
SR	DESCRIPTION	3	ALN	100	0	0	1	TICKET.DESCRPTION
SR	STATUS	4	UPPER	8	0	1	1	TICKET.STATUS
SR	STATUSDATE	5	DATETIME	10	0	1	1	TICKET.STATUSDATE
SR	REPORTEDPRIORITY	6	INTEGER	12	0	0	1	TICKET.REPORTEDPRIORITY
SR	INTERNALPRIORITY	7	INTEGER	12	0	0	1	TICKET.INTERNALPRIORITY
SR	IMPACT	8	INTEGER	12	0	0	1	TICKET.IMPACT
SR	URGENCY	9	INTEGER	12	0	0	1	TICKET.URGENCY
SR	REPORTEDBY	10	ALN	62	0	0	0	PERSON.DISPLAYNAME
SR	REPORTDATE	11	DATETIME	10	0	0	1	TICKET.REPORTDATE
SR	AFFECTEDPERSON	12	ALN	62	0	0	0	PERSON.DISPLAYNAME
SR	AFFECTEDDATE	13	DATETIME	10	0	0	1	TICKET.AFFECTEDDATE
SR	SOURCE	14	ALN	20	0	0	1	TICKET.SOURCE
SR	SUPERVISOR	15	UPPER	8	0	0	1	TICKET.SUPERVISOR
SR	OWNER	16	UPPER	30	0	0	0	PERSON.PERSONID
SR	OWNERGROUP	17	UPPER	8	0	0	0	PERSONGROUP.PERSONGROUP
SR	ISGLOBAL	18	YORN	1	0	1	1	TICKET.ISGLOBAL
SR	RELATEDTOGLOBAL	19	YORN	1	0	1	1	TICKET.RELATEDTOGLOBAL
SR	GLOBALTICKETID	20	UPPER	10	0	0	1	TICKET.GLOBALTICKETID
SR	GLOBALTICKETCLASS	21	UPPER	10	0	0	1	TICKET.GLOBALTICKETCLASS
SR	EXTERNALRECID	22	ALN	20	0	0	1	TICKET.EXTERNALRECID
SR	SITEVISIT	23	YORN	1	0	1	1	TICKET.SITEVISIT
SR	ORIGRECORDID	24	UPPER	10	0	0	1	TICKET.ORIGRECORDID
SR	ORIGRECORDCLASS	25	UPPER	10	0	0	1	TICKET.ORIGRECORDCLASS
SR	GLACCOUNT	26	GL	23	0	0	1	
SR	COMMODITYGROUP	27	UPPER	8	0	0	1	COMMODITIES.COMMODITY
SR	COMMODITY	28	UPPER	8	0	0	1	COMMODITIES.COMMODITY
SR	INHERITSTATUS	29	YORN	1	0	1	1	TICKET.INHERITSTATUS
SR	ISKNOWNERROR	30	YORN	1	0	1	1	TICKET.ISKNOWNERROR
SR	TARGETSTART	31	DATETIME	10	0	0	1	TICKET.TARGETSTART
SR	TARGETFINISH	32	DATETIME	10	0	0	1	TICKET.TARGETFINISH
SR	ACTUALSTART	33	DATETIME	10	0	0	1	TICKET.ACTUALSTART
SR	ACTUALFINISH	34	DATETIME	10	0	0	1	TICKET.ACTUALFINISH
SR	ORIGRECSITEID	35	UPPER	8	0	0	1	TICKET.ORIGRECSITEID
SR	ORIGRECORDID	36	UPPER	8	0	0	1	TICKET.ORIGRECORDID
SR	SITEID	37	UPPER	8	0	0	0	SITE.SITEID
SR	ORGID	38	UPPER	8	0	0	0	ORGANIZATION.ORGID
SR	CHANGEDATE	39	DATETIME	10	0	1	1	TICKET.CHANGEDATE
SR	CHANGEBY	40	UPPER	30	0	1	0	PERSON.PERSONID
SR	HISTORYFLAG	41	YORN	1	0	1	1	TICKET.HISTORYFLAG
SR	TEMPLATE	42	YORN	1	0	1	1	TICKET.TEMPLATE
SR	HASACTIVITY	43	YORN	1	0	1	1	TICKET.HASACTIVITY
SR	FAILURECODE	44	UPPER	8	0	0	0	FAILURECODE.FAILURECODE
SR	PROBLEMCODE	45	UPPER	8	0	0	0	FAILURECODE.FAILURECODE
SR	ACTLABHRS	46	DURATION	8	0	1	1	TICKET.ACTLABHRS
SR	ACTLABCOST	47	AMOUNT	10	2	1	1	TICKET.ACTLABCOST
SR	AFFECTEDPHONE	48	ALN	20	0	0	0	TICKET.AFFECTEDPHONE

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
SR	REPORTEDPHONE	49	ALN	20	0	0	0	TICKET.REPORTEDPHONE
SR	AFFECTEDEMMAIL	50	ALN	50	0	0	1	EMAIL.EMAILADDRESS
SR	REPORTEDEMMAIL	51	ALN	50	0	0	1	EMAIL.EMAILADDRESS
SR	ASSETSITID	52	UPPER	8	0	0	0	SITE.SITID
SR	TEMPLATEID	53	UPPER	10	0	0	0	TICKET.TEMPLATEID
SR	VENDOR	54	UPPER	12	0	0	0	COMPANIES.COMPANY
SR	ASSETNUM	59	UPPER	12	0	0	0	ASSET.ASSETNUM
SR	LOCATION	60	UPPER	12	0	0	0	LOCATIONS.LOCATION
SR	CLASSTRUCTUREID	62	UPPER	20	0	0	1	CLASSTRUCTURE.CLASSTRUCTUREID
SR	ISKNOWNERRORDATE	63	DATETIME	10	0	0	0	TICKET.ISKNOWNERRORDATE
SR	TARGETCONTACTDATE	64	DATETIME	10	0	0	0	TICKET.TARGETCONTACTDATE
SR	ACTUALCONTACTDATE	65	DATETIME	10	0	0	0	TICKET.ACTUALCONTACTDATE
SR	CREATEWORELASSET	66	YORN	1	0	1	0	TICKET.CREATEWORELASSET
SR	FR1CODE	69	UPPER	8	0	0	0	FAILURECODE.FAILURECODE
SR	FR2CODE	71	UPPER	8	0	0	0	FAILURECODE.FAILURECODE
SR	TICKETUID	73	INTEGER	12	0	0	1	
SR	SOLUTION	74	UPPER	8	0	0	1	SOLUTION.SOLUTION
SR	ASSETORGID	78	UPPER	8	0	0	0	ORGANIZATION.ORGID
SR	LANGCODE	80	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
SR	HASLD	88	YORN	1	0	1	1	
TOOLINV	ITEMSETID	1	UPPER	8	0	1	0	SETS.SETID
TOOLINV	MANUFACTURER	2	UPPER	12	0	0	0	COMPANIES.COMPANY
TOOLINV	MODELNUM	3	ALN	8	0	0	0	INVENTORY.MODELNUM
TOOLINV	ORDERUNIT	4	UPPER	8	0	0	0	MEASUREUNIT.MEASUREUNITID
TOOLINV	SHRINKAGEACC	5	GL	23	0	0	1	
TOOLINV	SSTOCK	6	DECIMAL	15	2	0	1	INVENTORY.SSTOCK
TOOLINV	VENDOR	7	UPPER	12	0	0	0	COMPANIES.COMPANY
TOOLINV	ABCTYPE	8	UPPER	1	0	0	0	INVENTORY.ABCTYPE
TOOLINV	BINNUM	9	ALN	8	0	0	0	INVENTORY.BINNUM
TOOLINV	CATALOGCODE	10	ALN	30	0	0	0	INVENTORY.CATALOGCODE
TOOLINV	CONTROLACC	11	GL	23	0	0	1	
TOOLINV	GLACCOUNT	12	GL	23	0	0	1	
TOOLINV	INVCOSTADJACC	13	GL	23	0	0	1	
TOOLINV	ISSUEUNIT	14	UPPER	8	0	0	0	MEASUREUNIT.MEASUREUNITID
TOOLINV	LASTISSUEDATE	15	DATETIME	10	0	0	1	INVENTORY.LASTISSUEDATE
TOOLINV	ORGID	16	UPPER	8	0	1	0	ORGANIZATION.ORGID
TOOLINV	SITID	17	UPPER	8	0	1	0	SITE.SITID
TOOLINV	SOURCESYSID	18	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
TOOLINV	OWNERSYSID	19	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
TOOLINV	EXTERNALREFID	20	ALN	10	0	0	0	INVENTORY.EXTERNALREFID
TOOLINV	CATEGORY	21	UPPER	16	0	1	1	INVENTORY.CATEGORY
TOOLINV	CCF	22	INTEGER	12	0	1	1	INVENTORY.CCF
TOOLINV	DELIVERYTIME	23	INTEGER	12	0	1	1	INVENTORY.DELIVERYTIME
TOOLINV	ISSUE1YRAGO	24	DECIMAL	15	2	1	1	INVENTORY.ISSUE1YRAGO
TOOLINV	ISSUE2YRAGO	25	DECIMAL	15	2	1	1	INVENTORY.ISSUE2YRAGO
TOOLINV	ISSUE3YRAGO	26	DECIMAL	15	2	1	1	INVENTORY.ISSUE3YRAGO

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
TOOLINV	ISSUEYTD	27	DECIMAL	15	2	1	1	INVENTORY.ISSUEYTD
TOOLINV	ITEMNUM	28	UPPER	30	0	1	0	ITEM.ITEMNUM
TOOLINV	LOCATION	29	UPPER	12	0	1	0	LOCATIONS.LOCATION
TOOLINV	MAXLEVEL	30	DECIMAL	15	2	1	1	INVENTORY.MAXLEVEL
TOOLINV	MINLEVEL	31	DECIMAL	15	2	1	1	INVENTORY.MINLEVEL
TOOLINV	ORDERQTY	32	DECIMAL	15	2	1	1	INVENTORY.ORDERQTY
TOOLINV	SENDERSYSID	33	ALN	50	0	0	0	INVENTORY.SENDERSYSID
TOOLINV	INVENTORYID	47	INTEGER	12	0	1	1	INVENTORY.INVENTORYID
TOOLINV	DESCRIPTION	48	ALN	100	0	0	0	ITEM.DESCRPTION
TOOLINV	ROTATING	49	YORN	1	0	1	1	ITEM.ROTATING
TOOLINV	LOTTYPE	50	UPPER	16	0	1	1	ITEM.LOTTYPE
TOOLINV	CAPITALIZED	51	YORN	1	0	1	1	ITEM.CAPITALIZED
TOOLINV	MSDSNUM	52	ALN	10	0	0	0	ITEM.MSDSNUM
TOOLINV	OUTSIDE	53	YORN	1	0	1	1	ITEM.OUTSIDE
TOOLINV	IN19	54	ALN	10	0	0	0	ITEM.IN19
TOOLINV	IN20	55	ALN	10	0	0	0	ITEM.IN20
TOOLINV	IN21	56	ALN	10	0	0	0	ITEM.IN21
TOOLINV	IN22	57	DATETIME	10	0	0	0	ITEM.IN22
TOOLINV	IN23	58	DECIMAL	15	2	0	0	ITEM.IN23
TOOLINV	SPAREPARTAUTOADD	59	YORN	1	0	1	1	ITEM.SPAREPARTAUTOADD
TOOLINV	CLASSTRUCTUREID	60	UPPER	20	0	0	1	CLASSTRUCTURE.CLASSTRUCTUREID
TOOLINV	INSPECTIONREQUIRED	61	YORN	1	0	1	1	ITEM.INSPECTIONREQUIRED
TOOLINV	IN24	62	ALN	10	0	0	0	ITEM.IN24
TOOLINV	IN25	63	ALN	10	0	0	0	ITEM.IN25
TOOLINV	IN26	64	ALN	10	0	0	0	ITEM.IN26
TOOLINV	IN27	65	ALN	10	0	0	0	ITEM.IN27
TOOLINV	CONDITIONENABLED	71	YORN	1	0	1	0	ITEM.CONDITIONENABLED
TOOLINV	GROUPNAME	72	UPPER	10	0	0	0	METERGROUP.GROUPNAME
TOOLINV	METERNAME	73	UPPER	10	0	0	0	METER.METERNAME
TOOLINV	COMMODITYGROUP	74	UPPER	8	0	0	1	COMMODITIES.COMMODITY
TOOLINV	COMMODITY	75	UPPER	8	0	0	1	COMMODITIES.COMMODITY
TOOLINV	ITEMTYPE	76	UPPER	10	0	1	0	ITEM.ITEMTYPE
TOOLINV	PRORATE	77	YORN	1	0	1	1	ITEM.PRORATE
TOOLINV	ITEMID	78	INTEGER	12	0	1	1	ITEM.ITEMID
TOOLINV	ISKIT	79	YORN	1	0	1	1	
TOOLINV	LANGCODE	81	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
TOOLINV	ATTACHONISSUE	83	YORN	1	0	1	1	
TOOLINV	HASLD	84	YORN	1	0	1	1	
TOOLINV	STORELOC	85	UPPER	12	0	0	0	LOCATIONS.LOCATION
TOOLINV	STORELOCSITEID	86	UPPER	8	0	0	0	SITE.SITEID
TOOLINV	INTERNAL	87	YORN	1	0	1	1	PO.INTERNAL
TOOLITEM	ITEMNUM	1	UPPER	30	0	1	0	ITEM.ITEMNUM
TOOLITEM	DESCRIPTION	2	ALN	100	0	0	0	ITEM.DESCRPTION
TOOLITEM	ROTATING	3	YORN	1	0	1	1	ITEM.ROTATING
TOOLITEM	LOTTYPE	4	UPPER	16	0	1	1	ITEM.LOTTYPE
TOOLITEM	CAPITALIZED	5	YORN	1	0	1	1	ITEM.CAPITALIZED

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
TOOLITEM	MSDSNUM	6	ALN	10	0	0	0	ITEM.MSDSNUM
TOOLITEM	OUTSIDE	7	YORN	1	0	1	1	ITEM.OUTSIDE
TOOLITEM	IN19	8	ALN	10	0	0	0	ITEM.IN19
TOOLITEM	IN20	9	ALN	10	0	0	0	ITEM.IN20
TOOLITEM	IN21	10	ALN	10	0	0	0	ITEM.IN21
TOOLITEM	IN22	11	DATETIME	10	0	0	0	ITEM.IN22
TOOLITEM	IN23	12	DECIMAL	15	2	0	0	ITEM.IN23
TOOLITEM	SPAREPARTAUTOADD	13	YORN	1	0	1	1	ITEM.SPAREPARTAUTOADD
TOOLITEM	CLASSTRUCTUREID	14	UPPER	20	0	0	1	CLASSTRUCTURE.CLASSTRUCTUREID
TOOLITEM	INSPECTIONREQUIRED	15	YORN	1	0	1	1	ITEM.INSPECTIONREQUIRED
TOOLITEM	SOURCESYSID	16	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
TOOLITEM	OWNERSYSID	17	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
TOOLITEM	EXTERNALREFID	18	ALN	10	0	0	0	ITEM.EXTERNALREFID
TOOLITEM	IN24	19	ALN	10	0	0	0	ITEM.IN24
TOOLITEM	IN25	20	ALN	10	0	0	0	ITEM.IN25
TOOLITEM	IN26	21	ALN	10	0	0	0	ITEM.IN26
TOOLITEM	IN27	22	ALN	10	0	0	0	ITEM.IN27
TOOLITEM	SENDERSYSID	23	ALN	50	0	0	0	ITEM.SENDERSYSID
TOOLITEM	ITEMSETID	24	UPPER	8	0	1	0	SETS.SETID
TOOLITEM	ORDERUNIT	25	UPPER	8	0	0	0	MEASUREUNIT.MEASUREUNITID
TOOLITEM	ISSUEUNIT	26	UPPER	8	0	0	0	MEASUREUNIT.MEASUREUNITID
TOOLITEM	CONDITIONENABLED	33	YORN	1	0	1	0	ITEM.CONDITIONENABLED
TOOLITEM	GROUPNAME	34	UPPER	10	0	0	0	METERGROUP.GROUPNAME
TOOLITEM	METERNAME	35	UPPER	10	0	0	0	METER.METERNAME
TOOLITEM	COMMODITYGROUP	36	UPPER	8	0	0	1	COMMODITIES.COMMODITY
TOOLITEM	COMMODITY	37	UPPER	8	0	0	1	COMMODITIES.COMMODITY
TOOLITEM	ITEMTYPE	38	UPPER	10	0	1	0	ITEM.ITEMTYPE
TOOLITEM	PRORATE	39	YORN	1	0	1	1	ITEM.PRORATE
TOOLITEM	ITEMID	40	INTEGER	12	0	0	1	
TOOLITEM	ISKIT	41	YORN	1	0	1	1	
TOOLITEM	LANGCODE	43	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
TOOLITEM	ATTACHONISSUE	44	YORN	1	0	1	1	
TOOLITEM	HASLD	45	YORN	1	0	1	1	
WARRANTYVIEW	CONTRACTNUM	1	UPPER	8	0	1	0	CONTRACT.CONTRACTNUM
WARRANTYVIEW	DESCRIPTION	2	ALN	100	0	0	0	PR.DESCRPTION
WARRANTYVIEW	MASTERNUM	3	UPPER	8	0	0	0	CONTRACT.MASTERNUM
WARRANTYVIEW	VENDORREFNUM	4	ALN	12	0	0	0	CONTRACT.VENDORREFNUM
WARRANTYVIEW	CONTRACTTYPE	5	UPPER	25	0	1	0	CONTRACT.CONTRACTTYPE
WARRANTYVIEW	REVISIONNUM	6	INTEGER	12	0	1	1	CONTRACT.REVISIONNUM
WARRANTYVIEW	PURCHASEAGENT	7	UPPER	30	0	0	0	PERSON.PERSONID
WARRANTYVIEW	STATUS	8	UPPER	6	0	1	0	CONTRACT.STATUS
WARRANTYVIEW	STATUSDATE	9	DATETIME	10	0	0	0	CONTRACT.STATUSDATE
WARRANTYVIEW	STARTDATE	10	DATE	4	0	0	0	CONTRACT.STARTDATE
WARRANTYVIEW	ENDDATE	11	DATE	4	0	0	0	CONTRACT.ENDDATE
WARRANTYVIEW	RENEWALDATE	12	DATE	4	0	0	0	CONTRACT.RENEWALDATE
WARRANTYVIEW	EXTENDABLE	13	YORN	1	0	1	0	CONTRACT.EXTENDABLE

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
WARRANTYVIEW	AUTOEXTENDPERIOD	14	INTEGER	12	0	0	0	CONTRACT.AUTOEXTENDPERIOD
WARRANTYVIEW	CONDFOREXT	15	ALN	20	0	0	0	CONTRACT.CONDFOREXT
WARRANTYVIEW	CUSTTERMALLOWED	16	YORN	1	0	1	0	CONTRACT.CUSTTERMALLOWED
WARRANTYVIEW	CUSTNOTIFYPERIOD	17	INTEGER	12	0	0	0	CONTRACT.CUSTNOTIFYPERIOD
WARRANTYVIEW	VENDTERMALLOWED	18	YORN	1	0	1	0	CONTRACT.VENDTERMALLOWED
WARRANTYVIEW	VENDNOTIFYPERIOD	19	INTEGER	12	0	0	0	CONTRACT.VENDNOTIFYPERIOD
WARRANTYVIEW	VENDOR	20	UPPER	12	0	0	0	COMPANIES.COMPANY
WARRANTYVIEW	CONTACT	21	ALN	50	0	0	0	COMPANIES.CONTACT
WARRANTYVIEW	FREIGHTTERMS	22	ALN	50	0	0	0	COMPANIES.FREIGHTTERMS
WARRANTYVIEW	PAYMENTTERMS	23	ALN	20	0	0	0	COMPANIES.PAYMENTTERMS
WARRANTYVIEW	SHIPVIA	24	ALN	20	0	0	0	COMPANIES.SHIPVIA
WARRANTYVIEW	CUSTOMERNUM	25	ALN	16	0	0	0	COMPANIES.CUSTOMERNUM
WARRANTYVIEW	FOB	26	ALN	20	0	0	0	COMPANIES.FOB
WARRANTYVIEW	TOTALCOST	27	DECIMAL	10	2	0	1	PO.TOTALCOST
WARRANTYVIEW	CHANGEBY	28	UPPER	30	0	0	0	PERSON.PERSONID
WARRANTYVIEW	CHANGEDATE	29	DATETIME	10	0	1	0	CONTRACT.CHANGEDATE
WARRANTYVIEW	HISTORYFLAG	30	YORN	1	0	1	0	CONTRACT.HISTORYFLAG
WARRANTYVIEW	CURRENCYCODE	31	UPPER	8	0	1	0	CURRENCY.CURRENCYCODE
WARRANTYVIEW	EXCHANGERATE	32	DECIMAL	14	7	0	1	EXCHANGE.EXCHANGERATE
WARRANTYVIEW	EXCHANGERATE2	33	DECIMAL	14	7	0	1	EXCHANGE.EXCHANGERATE
WARRANTYVIEW	EXCHANGEDATE	34	DATE	4	0	0	0	CONTRACT.EXCHANGEDATE
WARRANTYVIEW	BUYAHEAD	35	YORN	1	0	1	0	CONTRACT.BUYAHEAD
WARRANTYVIEW	INCLUSIVE1	36	YORN	1	0	1	0	CONTRACT.INCLUSIVE1
WARRANTYVIEW	INCLUSIVE2	37	YORN	1	0	1	0	CONTRACT.INCLUSIVE2
WARRANTYVIEW	INCLUSIVE3	38	YORN	1	0	1	0	CONTRACT.INCLUSIVE3
WARRANTYVIEW	INCLUSIVE4	39	YORN	1	0	1	0	CONTRACT.INCLUSIVE4
WARRANTYVIEW	INCLUSIVE5	40	YORN	1	0	1	0	CONTRACT.INCLUSIVES
WARRANTYVIEW	EXTERNALREFID	41	ALN	10	0	0	0	CONTRACT.EXTERNALREFID
WARRANTYVIEW	OWNERSYSID	42	ALN	10	0	0	0	CONTRACT.OWNERSYSID
WARRANTYVIEW	SENDERSYSID	43	ALN	50	0	0	0	CONTRACT.SENDERSYSID
WARRANTYVIEW	ORGID	44	UPPER	8	0	0	0	ORGANIZATION.ORGID
WARRANTYVIEW	TOTALBASECOST	45	DECIMAL	10	2	1	0	CONTRACT.TOTALBASECOST
WARRANTYVIEW	POREQUIRED	48	YORN	1	0	1	0	CONTRACT.POREQUIRED
WARRANTYVIEW	PAYMENTSCHED	49	YORN	1	0	1	0	CONTRACT.PAYMENTSCHED
WARRANTYVIEW	HASINSURANCE	50	YORN	1	0	1	0	CONTRACT.HASINSURANCE
WARRANTYVIEW	INSURANCEEXPDATE	51	DATE	4	0	0	0	CONTRACT.INSURANCEEXPDATE
WARRANTYVIEW	CONTRACTID	52	INTEGER	12	0	1	1	CONTRACT.CONTRACTID
WARRANTYVIEW	REVCOMMENTS	53	ALN	100	0	0	0	PR.DESCRPTION
WARRANTYVIEW	LANGCODE	54	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
WARRANTYVIEW	MASTERREVENUM	55	INTEGER	12	0	0	1	CONTRACT.REVISIONNUM
WARRANTYVIEW	PROCESSCLAIM	56	YORN	1	0	1	0	
WARRANTYVIEW	INSPECTIONREQUIRED	58	YORN	1	0	1	0	COMPANIES.INSPECTIONREQUIRED
WARRANTYVIEW	HASLD	59	YORN	1	0	1	1	
WARRANTYVIEWLINE	CONTRACTNUM	1	UPPER	8	0	1	0	CONTRACT.CONTRACTNUM
WARRANTYVIEWLINE	CONTRACTLINENUM	2	INTEGER	12	0	1	0	CONTRACTLINE.CONTRACTLINENUM
WARRANTYVIEWLINE	CONTRACTLINEID	3	INTEGER	12	0	1	0	CONTRACTLINE.CONTRACTLINEID

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
WARRANTYVIEWLINE	LINETYPE	4	UPPER	15	0	1	1	PRLINE.LINETYPE
WARRANTYVIEWLINE	ITEMNUM	5	UPPER	30	0	0	0	ITEM.ITEMNUM
WARRANTYVIEWLINE	ITEMSETID	6	UPPER	8	0	0	0	SETS.SETID
WARRANTYVIEWLINE	CONDITIONCODE	7	UPPER	30	0	0	0	ITEMCONDITION.CONDITIONCODE
WARRANTYVIEWLINE	DESCRIPTION	8	ALN	100	0	0	0	ITEM.DESCRPTION
WARRANTYVIEWLINE	CATALOGCODE	9	ALN	30	0	0	0	INVENTORY.CATALOGCODE
WARRANTYVIEWLINE	MANUFACTURER	10	UPPER	12	0	0	0	COMPANIES.COMPANY
WARRANTYVIEWLINE	MODELNUM	11	ALN	8	0	0	0	INVENTORY.MODELNUM
WARRANTYVIEWLINE	ORDERUNIT	12	UPPER	8	0	0	0	MEASUREUNIT.MEASUREUNITID
WARRANTYVIEWLINE	ORDERQTY	13	DECIMAL	15	2	0	1	INVENTORY.ORDERQTY
WARRANTYVIEWLINE	UNITCOST	14	DECIMAL	10	2	0	0	CONTRACTLINE.UNITCOST
WARRANTYVIEWLINE	LINECOST	15	DECIMAL	10	2	0	0	CONTRACTLINE.LINECOST
WARRANTYVIEWLINE	LINECOST2	16	DECIMAL	10	2	0	0	CONTRACTLINE.LINECOST2
WARRANTYVIEWLINE	INSPECTIONREQUIRED	17	YORN	1	0	1	1	ITEM.INSPECTIONREQUIRED
WARRANTYVIEWLINE	ENTERBY	18	UPPER	30	0	1	0	PERSON.PERSONID
WARRANTYVIEWLINE	ENTERDATE	19	DATETIME	10	0	1	0	CONTRACTLINE.ENTERDATE
WARRANTYVIEWLINE	REMARK	20	ALN	50	0	0	0	PRLINE.REMARK
WARRANTYVIEWLINE	ORGID	21	UPPER	8	0	0	0	ORGANIZATION.ORGID
WARRANTYVIEWLINE	LINESTATUS	25	UPPER	6	0	1	0	CONTRACT.STATUS
WARRANTYVIEWLINE	COMMODITY	26	UPPER	8	0	0	1	COMMODITIES.COMMODITY
WARRANTYVIEWLINE	COMMODITYGROUP	27	UPPER	8	0	0	1	COMMODITIES.COMMODITY
WARRANTYVIEWLINE	REVISIONNUM	28	INTEGER	12	0	1	1	CONTRACT.REVISIONNUM
WARRANTYVIEWLINE	REVSTATUS	29	UPPER	7	0	0	0	CONTRACTLINE.REVSTATUS
WARRANTYVIEWLINE	CHGQTYONUSE	30	YORN	1	0	1	0	CONTRACTPURCH.CHGQTYONUSE
WARRANTYVIEWLINE	CHGPRICEONUSE	31	YORN	1	0	1	0	CONTRACTPURCH.CHGPRICEONUSE
WARRANTYVIEWLINE	LEADTIME	32	INTEGER	12	0	0	1	INVENTORY.DELIVERYTIME
WARRANTYVIEWLINE	HASPAYMENTSCHED	33	YORN	1	0	1	0	CONTRACTLINE.HASPAYMENTSCHED
WARRANTYVIEWLINE	POREQUIRED	34	YORN	1	0	1	0	CONTRACT.POREQUIRED
WARRANTYVIEWLINE	CONTRACTTYPE	35	UPPER	25	0	1	0	CONTRACT.CONTRACTTYPE
WARRANTYVIEWLINE	LEASEENDVALUE	36	AMOUNT	10	2	0	0	CONTRACTLINE.LEASEENDVALUE
WARRANTYVIEWLINE	LANGCODE	37	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
WARRANTYVIEWLINE	WARRANTYLINEID	38	INTEGER	12	0	1	1	WARRANTYLINE.WARRANTYLINEID
WARRANTYVIEWLINE	DURATION	39	INTEGER	12	0	1	0	WARRANTYLINE.DURATION
WARRANTYVIEWLINE	TIMEUNIT	40	UPPER	8	0	1	0	WARRANTYLINE.TIMEUNIT
WARRANTYVIEWLINE	PCTLABORCOVER	44	DECIMAL	5	2	0	0	WARRANTYLINE.PCTLABORCOVER
WARRANTYVIEWLINE	PCTMATCOVER	45	DECIMAL	5	2	0	0	WARRANTYLINE.PCTMATCOVER
WARRANTYVIEWLINE	PCTTOOLSCOVER	46	DECIMAL	5	2	0	0	WARRANTYLINE.PCTTOOLSCOVER
WARRANTYVIEWLINE	COVERSCHILDREN	47	YORN	1	0	1	0	WARRANTYLINE.COVERSCHILDREN
WARRANTYVIEWLINE	AMTLABORCOVER	49	AMOUNT	10	2	0	0	WARRANTYLINE.AMTLABORCOVER
WARRANTYVIEWLINE	AMTMATCOVER	50	AMOUNT	10	2	0	0	WARRANTYLINE.AMTMATCOVER
WARRANTYVIEWLINE	AMTTOOLCOVER	51	AMOUNT	10	2	0	0	WARRANTYLINE.AMTTOOLCOVER
WARRANTYVIEWLINE	HASLD	52	YORN	1	0	1	1	
WMASSIGNMENT	WONUM	1	UPPER	10	0	1	0	WORKORDER.WONUM
WMASSIGNMENT	PARENT	2	UPPER	10	0	0	0	WORKORDER.WONUM
WMASSIGNMENT	STATUS	3	UPPER	16	0	0	1	WORKORDER.STATUS
WMASSIGNMENT	STATUSDATE	4	DATETIME	10	0	0	1	WORKORDER.STATUSDATE

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
WMASSIGNMENT	WORKTYPE	5	UPPER	5	0	0	0	WORKTYPE.WORKTYPE
WMASSIGNMENT	DESCRIPTION	6	ALN	100	0	0	0	WORKORDER.DESCRPTION
WMASSIGNMENT	ASSETNUM	7	UPPER	12	0	0	0	ASSET.ASSETNUM
WMASSIGNMENT	LOCATION	8	UPPER	12	0	0	0	LOCATIONS.LOCATION
WMASSIGNMENT	JPNUM	9	UPPER	10	0	0	0	JOBPLAN.JPNUM
WMASSIGNMENT	FAILDATE	10	DATETIME	10	0	0	1	WORKORDER.FAILDATE
WMASSIGNMENT	CHANGEBY	11	UPPER	30	0	0	0	PERSON.PERSONID
WMASSIGNMENT	CHANGEDATE	12	DATETIME	10	0	0	1	WORKORDER.CHANGEDATE
WMASSIGNMENT	ESTDUR	13	DURATION	8	0	0	1	WORKORDER.ESTDUR
WMASSIGNMENT	ESTLABHRS	14	DURATION	8	0	0	1	WORKORDER.ESTLABHRS
WMASSIGNMENT	ESTMATCOST	15	AMOUNT	10	2	0	1	WORKORDER.ESTMATCOST
WMASSIGNMENT	ESTLABCOST	16	AMOUNT	10	2	0	1	WORKORDER.ESTLABCOST
WMASSIGNMENT	ESTTOOLCOST	17	AMOUNT	10	2	0	1	WORKORDER.ESTTOOLCOST
WMASSIGNMENT	PMNUM	18	UPPER	8	0	0	0	PM.PMNUM
WMASSIGNMENT	ACTLABHRS	19	DURATION	8	0	0	1	WORKORDER.ACTLABHRS
WMASSIGNMENT	ACTMATCOST	20	AMOUNT	10	2	0	1	WORKORDER.ACTMATCOST
WMASSIGNMENT	ACTLABCOST	21	AMOUNT	10	2	0	1	WORKORDER.ACTLABCOST
WMASSIGNMENT	ACTTOOLCOST	22	AMOUNT	10	2	0	1	WORKORDER.ACTTOOLCOST
WMASSIGNMENT	HASCHILDREN	23	YORN	1	0	0	1	WORKORDER.HASCHILDREN
WMASSIGNMENT	OUTLABCOST	24	AMOUNT	10	2	0	1	WORKORDER.OUTLABCOST
WMASSIGNMENT	OUTMATCOST	25	AMOUNT	10	2	0	1	WORKORDER.OUTMATCOST
WMASSIGNMENT	OUTTOOLCOST	26	AMOUNT	10	2	0	1	WORKORDER.OUTTOOLCOST
WMASSIGNMENT	HISTORYFLAG	27	YORN	1	0	0	1	WORKORDER.HISTORYFLAG
WMASSIGNMENT	CONTRACT	28	UPPER	8	0	0	0	CONTRACT.CONTRACTNUM
WMASSIGNMENT	WOPRIORITY	29	INTEGER	12	0	0	1	WORKORDER.WOPRIORITY
WMASSIGNMENT	TARGCOMPDATE	30	DATETIME	10	0	0	1	WORKORDER.TARGCOMPDATE
WMASSIGNMENT	TARGSTARTDATE	31	DATETIME	10	0	0	1	WORKORDER.TARGSTARTDATE
WMASSIGNMENT	REPORTEDBY	32	ALN	62	0	0	0	PERSON.DISPLAYNAME
WMASSIGNMENT	REPORTDATE	33	DATETIME	10	0	0	0	WORKORDER.REPORTDATE
WMASSIGNMENT	PHONE	34	ALN	20	0	0	0	WORKORDER.PHONE
WMASSIGNMENT	PROBLEMCODE	35	UPPER	8	0	0	0	FAILURECODE.FAILURECODE
WMASSIGNMENT	CALENDAR	36	UPPER	8	0	0	0	CALENDAR.CALNUM
WMASSIGNMENT	DOWNTIME	37	YORN	1	0	0	1	WORKORDER.DOWNTIME
WMASSIGNMENT	ACTSTART	38	DATETIME	10	0	0	1	WORKORDER.ACTSTART
WMASSIGNMENT	ACTFINISH	39	DATETIME	10	0	0	1	WORKORDER.ACTFINISH
WMASSIGNMENT	SCHEDSTART	40	DATETIME	10	0	0	1	WORKORDER.SCHEDSTART
WMASSIGNMENT	SCHEDFINISH	41	DATETIME	10	0	0	1	WORKORDER.SCHEDFINISH
WMASSIGNMENT	REMDUR	42	DURATION	8	0	0	1	WORKORDER.REMDUR
WMASSIGNMENT	CREWID	43	ALN	12	0	0	1	LABOR.CREWID
WMASSIGNMENT	SUPERVISOR	44	UPPER	30	0	0	0	PERSON.PERSONID
WMASSIGNMENT	WOLABLNK	45	UPPER	8	0	0	0	LABOR.LABORCODE
WMASSIGNMENT	RESPONDBY	46	DATETIME	10	0	0	1	WORKORDER.RESPONDBY
WMASSIGNMENT	ASSETLOCPRIORITY	47	INTEGER	12	0	0	1	WORKORDER.ASSETLOCPRIORITY
WMASSIGNMENT	CALCPRIORITY	48	INTEGER	12	0	0	1	WORKORDER.CALCPRIORITY
WMASSIGNMENT	CHARGESTORE	49	YORN	1	0	0	1	WORKORDER.CHARGESTORE
WMASSIGNMENT	FAILURECODE	50	UPPER	8	0	0	0	FAILURECODE.FAILURECODE

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
WMASSIGNMENT	GLACCOUNT	51	GL	23	0	0	1	
WMASSIGNMENT	ESTSERVCOST	52	AMOUNT	10	2	0	1	WORKORDER.ESTSERVCOST
WMASSIGNMENT	ACTSERVCOST	53	AMOUNT	10	2	0	1	WORKORDER.ACTSERVCOST
WMASSIGNMENT	DISABLED	54	YORN	1	0	0	1	WORKORDER.DISABLED
WMASSIGNMENT	ESTATAPPRLABHRS	55	DURATION	8	0	0	1	WORKORDER.ESTATAPPRLABHRS
WMASSIGNMENT	ESTATAPPRLABCOST	56	AMOUNT	10	2	0	1	WORKORDER.ESTATAPPRLABCOST
WMASSIGNMENT	ESTATAPPRLMATCOST	57	AMOUNT	10	2	0	1	WORKORDER.ESTATAPPRLMATCOST
WMASSIGNMENT	ESTATAPPRTOOLCOST	58	AMOUNT	10	2	0	1	WORKORDER.ESTATAPPRTOOLCOST
WMASSIGNMENT	ESTATAPPRSERVCOST	59	AMOUNT	10	2	0	1	WORKORDER.ESTATAPPRSERVCOST
WMASSIGNMENT	WOSEQUENCE	60	INTEGER	12	0	0	1	WORKORDER.WOSEQUENCE
WMASSIGNMENT	HASFOLLOWUPWORK	61	YORN	1	0	0	1	WORKORDER.HASFOLLOWUPWORK
WMASSIGNMENT	SOURCESYSID	62	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
WMASSIGNMENT	OWNERSYSID	63	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
WMASSIGNMENT	PMDUEDATE	64	DATE	4	0	0	0	WORKORDER.PMDUEDATE
WMASSIGNMENT	PMEXTDATE	65	DATE	4	0	0	0	WORKORDER.PMEXTDATE
WMASSIGNMENT	PMNEXTDUEDATE	66	DATE	4	0	0	0	WORKORDER.PMNEXTDUEDATE
WMASSIGNMENT	WORKLOCATION	67	UPPER	12	0	0	0	LOCATIONS.LOCATION
WMASSIGNMENT	EXTERNALREFID	68	ALN	10	0	0	0	WORKORDER.EXTERNALREFID
WMASSIGNMENT	SENDERSYSID	69	ALN	50	0	0	0	WORKORDER.SENDERSYSID
WMASSIGNMENT	FINCNTRLID	70	UPPER	8	0	0	0	FINCNTRL.FINCNTRLID
WMASSIGNMENT	GENERATEDFORPO	71	UPPER	8	0	0	0	PO.PONUM
WMASSIGNMENT	GENFORPOLINEID	72	INTEGER	12	0	0	1	POLINE.POLINEID
WMASSIGNMENT	ORGID	73	UPPER	8	0	0	0	ORGANIZATION.ORGID
WMASSIGNMENT	SITEID	74	UPPER	8	0	0	0	SITE.SITEID
WMASSIGNMENT	TASKID	75	INTEGER	12	0	0	1	WORKORDER.TASKID
WMASSIGNMENT	INSPECTOR	76	UPPER	30	0	0	0	PERSON.PERSONID
WMASSIGNMENT	MEASUREMENTVALUE	77	DECIMAL	15	3	0	1	MEASUREMENT.MEASUREMENTVALUE
WMASSIGNMENT	MEASUREDATE	78	DATETIME	10	0	0	1	WORKORDER.MEASUREDATE
WMASSIGNMENT	OBSERVATION	79	ALN	8	0	0	0	WORKORDER.OBSERVATION
WMASSIGNMENT	POINTNUM	80	UPPER	8	0	0	0	MEASUREPOINT.POINTNUM
WMASSIGNMENT	ISTASK	81	YORN	1	0	0	0	WORKORDER.ISTASK
WMASSIGNMENT	WOCLASS	99	UPPER	10	0	0	1	WORKTYPE.WOCLASS
WMASSIGNMENT	ONBEHALFOF	100	ALN	62	0	0	0	PERSON.DISPLAYNAME
WMASSIGNMENT	WOVENDOR	101	UPPER	12	0	0	0	COMPANIES.COMPANY
WMASSIGNMENT	ORIGRECORDCLASS	102	UPPER	10	0	0	1	WORKTYPE.WOCLASS
WMASSIGNMENT	ORIGRECORDID	103	UPPER	10	0	0	0	WORKORDER.WONUM
WMASSIGNMENT	JUSTIFYPRIORITY	104	ALN	50	0	0	0	WORKORDER.JUSTIFYPRIORITY
WMASSIGNMENT	RISK	106	ALN	10	0	0	0	WORKORDER.RISK
WMASSIGNMENT	ENVIRONMENT	107	ALN	50	0	0	0	WORKORDER.ENVIRONMENT
WMASSIGNMENT	BACKOUTPLAN	109	ALN	50	0	0	0	WORKORDER.BACKOUTPLAN
WMASSIGNMENT	MOVETOLOC	112	UPPER	12	0	0	0	LOCATIONS.LOCATION
WMASSIGNMENT	MOVETOPARENT	113	UPPER	12	0	0	0	ASSET.ASSETNUM
WMASSIGNMENT	WOACCEPTSCHARGES	116	YORN	1	0	0	0	WORKORDER.WOACCEPTSCHARGES
WMASSIGNMENT	OWNER	117	UPPER	8	0	0	1	WORKORDER.OWNER
WMASSIGNMENT	CLASSSTRUCTUREID	118	UPPER	20	0	0	1	CLASSSTRUCTURE.CLASSSTRUCTUREID
WMASSIGNMENT	PARENTCHGSSTATUS	119	YORN	1	0	0	0	WORKORDER.PARENTCHGSSTATUS

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
WMASSIGNMENT	OWNERGROUP	120	UPPER	8	0	0	0	PERSONGROUP.PERSONGROUP
WMASSIGNMENT	COMMODITYGROUP	122	UPPER	8	0	0	1	COMMODITIES.COMMODITY
WMASSIGNMENT	COMMODITY	123	UPPER	8	0	0	1	COMMODITIES.COMMODITY
WMASSIGNMENT	WORKORDERID	124	INTEGER	12	0	0	1	WORKORDER.WORKORDERID
WMASSIGNMENT	WHOMISCHANGEFOR	125	UPPER	20	0	0	0	WORKORDER.WHOMISCHANGEFOR
WMASSIGNMENT	REASONFORCHANGE	127	UPPER	20	0	0	0	WORKORDER.REASONFORCHANGE
WMASSIGNMENT	VERIFICATION	129	UPPER	20	0	0	0	WORKORDER.VERIFICATION
WMASSIGNMENT	PERSONGROUP	131	UPPER	8	0	0	0	PERSONGROUP.PERSONGROUP
WMASSIGNMENT	LEAD	134	UPPER	30	0	0	0	PERSON.PERSONID
WMASSIGNMENT	WPLABORID	135	ALN	20	0	0	1	WPLABOR.WPLABORID
WMASSIGNMENT	CRAFT	136	UPPER	8	0	0	0	CRAFT.CRAFT
WMASSIGNMENT	LABORHRS	137	DURATION	8	0	0	1	ASSIGNMENT.LABORHRS
WMASSIGNMENT	ASSIGNSTATUS	138	UPPER	12	0	1	1	ASSIGNMENT.STATUS
WMASSIGNMENT	SCHEDULEDATE	139	DATETIME	10	0	0	0	ASSIGNMENT.SCHEDULEDATE
WMASSIGNMENT	LABORCODE	140	UPPER	8	0	0	0	LABOR.LABORCODE
WMASSIGNMENT	STARTDATE	141	DATETIME	10	0	0	1	ASSIGNMENT.STARTDATE
WMASSIGNMENT	FINISHDATE	142	DATETIME	10	0	0	1	ASSIGNMENT.FINISHDATE
WMASSIGNMENT	ASSIGNMENTID	147	INTEGER	12	0	0	1	ASSIGNMENT.ASSIGNMENTID
WMASSIGNMENT	INTERRUPTIBLE	149	YORN	1	0	0	1	WORKORDER.INTERRUPTIBLE
WMASSIGNMENT	WOGROUP	150	UPPER	10	0	0	0	WORKORDER.WONUM
WMASSIGNMENT	SKILLLEVEL	152	UPPER	12	0	0	0	CRAFTSKILL.SKILLLEVEL
WMASSIGNMENT	CONTRACTNUM	153	UPPER	8	0	0	0	CONTRACT.CONTRACTNUM
WMASSIGNMENT	VENDOR	154	UPPER	12	0	0	0	COMPANIES.COMPANY
WMASSIGNMENT	MOVETOBINNUM	184	ALN	8	0	0	0	INVENTORY.BINNUM
WMASSIGNMENT	PERFORMMOVETO	185	YORN	1	0	0	0	WORKORDER.PERFORMMOVETO
WMASSIGNMENT	LANGCODE	187	UPPER	4	0	0	1	LANGUAGE.MAXLANGCODE
WMASSIGNMENT	HASLD	230	YORN	1	0	0	1	WORKORDER.HASLD
WOACTIVITY	WONUM	1	UPPER	10	0	1	0	WORKORDER.WONUM
WOACTIVITY	PARENT	2	UPPER	10	0	0	0	WORKORDER.WONUM
WOACTIVITY	STATUS	3	UPPER	16	0	1	1	WORKORDER.STATUS
WOACTIVITY	STATUSDATE	4	DATETIME	10	0	1	1	WORKORDER.STATUSDATE
WOACTIVITY	WORKTYPE	5	UPPER	5	0	0	0	WORKTYPE.WORKTYPE
WOACTIVITY	DESCRIPTION	6	ALN	100	0	0	0	WORKORDER.DESCRPTION
WOACTIVITY	ASSETNUM	7	UPPER	12	0	0	0	ASSET.ASSETNUM
WOACTIVITY	LOCATION	8	UPPER	12	0	0	0	LOCATIONS.LOCATION
WOACTIVITY	JPNUM	9	UPPER	10	0	0	0	JOBPLAN.JPNUM
WOACTIVITY	FAILDATE	10	DATETIME	10	0	0	1	WORKORDER.FAILDATE
WOACTIVITY	CHANGEBY	11	UPPER	30	0	0	0	PERSON.PERSONID
WOACTIVITY	CHANGEDATE	12	DATETIME	10	0	0	1	WORKORDER.CHANGEDATE
WOACTIVITY	ESTDUR	13	DURATION	8	0	1	1	WORKORDER.ESTDUR
WOACTIVITY	ESTLABHRS	14	DURATION	8	0	1	1	WORKORDER.ESTLABHRS
WOACTIVITY	ESTMATCOST	15	AMOUNT	10	2	1	1	WORKORDER.ESTMATCOST
WOACTIVITY	ESTLABCOST	16	AMOUNT	10	2	1	1	WORKORDER.ESTLABCOST
WOACTIVITY	ESTTOOLCOST	17	AMOUNT	10	2	1	1	WORKORDER.ESTTOOLCOST
WOACTIVITY	PMNUM	18	UPPER	8	0	0	0	PM.PMNUM
WOACTIVITY	ACTLABHRS	19	DURATION	8	0	1	1	WORKORDER.ACTLABHRS

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
WOACTIVITY	ACTMATCOST	20	AMOUNT	10	2	1	1	WORKORDER.ACTMATCOST
WOACTIVITY	ACTLABCOST	21	AMOUNT	10	2	1	1	WORKORDER.ACTLABCOST
WOACTIVITY	ACTTOOLCOST	22	AMOUNT	10	2	1	1	WORKORDER.ACTTOOLCOST
WOACTIVITY	HASCHILDREN	23	YORN	1	0	1	1	WORKORDER.HASCHILDREN
WOACTIVITY	OUTLABCOST	24	AMOUNT	10	2	1	1	WORKORDER.OUTLABCOST
WOACTIVITY	OUTMATCOST	25	AMOUNT	10	2	1	1	WORKORDER.OUTMATCOST
WOACTIVITY	OUTTOOLCOST	26	AMOUNT	10	2	1	1	WORKORDER.OUTTOOLCOST
WOACTIVITY	HISTORYFLAG	27	YORN	1	0	1	1	WORKORDER.HISTORYFLAG
WOACTIVITY	CONTRACT	28	UPPER	8	0	0	0	CONTRACT.CONTRACTNUM
WOACTIVITY	WOPRIORITY	29	INTEGER	12	0	0	1	WORKORDER.WOPRIORITY
WOACTIVITY	TARGCOMPDATE	30	DATETIME	10	0	0	1	WORKORDER.TARGCOMPDATE
WOACTIVITY	TARGSTARTDATE	31	DATETIME	10	0	0	1	WORKORDER.TARGSTARTDATE
WOACTIVITY	WOEQ1	32	ALN	10	0	0	0	ASSET.EQ1
WOACTIVITY	WOEQ2	33	ALN	10	0	0	0	ASSET.EQ2
WOACTIVITY	WOEQ3	34	ALN	10	0	0	0	ASSET.EQ3
WOACTIVITY	WOEQ4	35	ALN	10	0	0	0	ASSET.EQ4
WOACTIVITY	WOEQ5	36	AMOUNT	10	2	0	0	ASSET.EQ5
WOACTIVITY	WOEQ6	37	DATETIME	10	0	0	0	ASSET.EQ6
WOACTIVITY	WOEQ7	38	DECIMAL	15	2	0	0	ASSET.EQ7
WOACTIVITY	WOEQ8	39	ALN	10	0	0	0	ASSET.EQ8
WOACTIVITY	WOEQ9	40	ALN	10	0	0	0	ASSET.EQ9
WOACTIVITY	WOEQ10	41	ALN	10	0	0	0	ASSET.EQ10
WOACTIVITY	WOEQ11	42	ALN	10	0	0	0	ASSET.EQ11
WOACTIVITY	WOEQ12	43	AMOUNT	10	2	0	0	ASSET.EQ12
WOACTIVITY	REPORTEDBY	44	ALN	62	0	0	0	PERSON.DISPLAYNAME
WOACTIVITY	REPORTDATE	45	DATETIME	10	0	0	0	WORKORDER.REPORTDATE
WOACTIVITY	PHONE	46	ALN	20	0	0	0	WORKORDER.PHONE
WOACTIVITY	PROBLEMCODE	47	UPPER	8	0	0	0	FAILURECODE.FAILURECODE
WOACTIVITY	CALENDAR	48	UPPER	8	0	0	0	CALENDAR.CALNUM
WOACTIVITY	DOWNTIME	49	YORN	1	0	1	1	WORKORDER.DOWNTIME
WOACTIVITY	ACTSTART	50	DATETIME	10	0	0	1	WORKORDER.ACTSTART
WOACTIVITY	ACTFINISH	51	DATETIME	10	0	0	1	WORKORDER.ACTFINISH
WOACTIVITY	SCHEDSTART	52	DATETIME	10	0	0	1	WORKORDER.SCHEDSTART
WOACTIVITY	SCHEDFINISH	53	DATETIME	10	0	0	1	WORKORDER.SCHEDFINISH
WOACTIVITY	REMDUR	54	DURATION	8	0	0	1	WORKORDER.REMDUR
WOACTIVITY	CREWID	55	ALN	12	0	0	1	LABOR.CREWID
WOACTIVITY	SUPERVISOR	56	UPPER	30	0	0	0	PERSON.PERSONID
WOACTIVITY	WOEQ13	57	DATETIME	10	0	0	0	ASSET.EQ23
WOACTIVITY	WOEQ14	58	DECIMAL	15	2	0	0	ASSET.EQ24
WOACTIVITY	WOJP1	59	ALN	10	0	0	0	WORKORDER.WOJP1
WOACTIVITY	WOJP2	60	ALN	10	0	0	0	WORKORDER.WOJP2
WOACTIVITY	WOJP3	61	ALN	10	0	0	0	WORKORDER.WOJP3
WOACTIVITY	WOJP4	62	AMOUNT	10	2	0	0	WORKORDER.WOJP4
WOACTIVITY	WOJP5	63	DATETIME	10	0	0	0	WORKORDER.WOJP5
WOACTIVITY	WOL1	64	ALN	10	0	0	0	WORKORDER.WOL1
WOACTIVITY	WOL2	65	ALN	10	0	0	0	WORKORDER.WOL2

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
WOACTIVITY	WOL3	66	AMOUNT	10	2	0	0	WORKORDER.WOL3
WOACTIVITY	WOL4	67	DATETIME	10	0	0	0	WORKORDER.WOL4
WOACTIVITY	WOLABLNK	68	UPPER	8	0	0	0	LABOR.LABORCODE
WOACTIVITY	RESPONDBY	69	DATETIME	10	0	0	1	WORKORDER.RESPONDBY
WOACTIVITY	ASSETLOCPRIORITY	70	INTEGER	12	0	0	1	WORKORDER.ASSETLOCPRIORITY
WOACTIVITY	CALCPRIORITY	71	INTEGER	12	0	0	1	WORKORDER.CALCPRIORITY
WOACTIVITY	CHARGESTORE	72	YORN	1	0	1	1	WORKORDER.CHARGESTORE
WOACTIVITY	FAILURECODE	73	UPPER	8	0	0	0	FAILURECODE.FAILURECODE
WOACTIVITY	WOLO1	74	ALN	10	0	0	0	WORKORDER.WOLO1
WOACTIVITY	WOLO2	75	ALN	10	0	0	0	WORKORDER.WOLO2
WOACTIVITY	WOLO3	76	ALN	10	0	0	0	WORKORDER.WOLO3
WOACTIVITY	WOLO4	77	ALN	10	0	0	0	WORKORDER.WOLO4
WOACTIVITY	WOLO5	78	ALN	10	0	0	0	WORKORDER.WOLO5
WOACTIVITY	WOLO6	79	AMOUNT	10	2	0	0	WORKORDER.WOLO6
WOACTIVITY	WOLO7	80	DATETIME	10	0	0	0	WORKORDER.WOLO7
WOACTIVITY	WOLO8	81	DECIMAL	15	2	0	0	WORKORDER.WOLO8
WOACTIVITY	WOLO9	82	ALN	10	0	0	0	WORKORDER.WOLO9
WOACTIVITY	WOLO10	83	INTEGER	12	0	0	0	WORKORDER.WOLO10
WOACTIVITY	GLACCOUNT	84	GL	23	0	0	1	
WOACTIVITY	ESTSERVCOST	85	AMOUNT	10	2	1	1	WORKORDER.ESTSERVCOST
WOACTIVITY	ACTSERVCOST	86	AMOUNT	10	2	1	1	WORKORDER.ACTSERVCOST
WOACTIVITY	DISABLED	87	YORN	1	0	1	1	WORKORDER.DISABLED
WOACTIVITY	ESTATAPPRLABHRS	88	DURATION	8	0	1	1	WORKORDER.ESTATAPPRLABHRS
WOACTIVITY	ESTATAPPRLABCOST	89	AMOUNT	10	2	1	1	WORKORDER.ESTATAPPRLABCOST
WOACTIVITY	ESTATAPPRMATCOST	90	AMOUNT	10	2	1	1	WORKORDER.ESTATAPPRMATCOST
WOACTIVITY	ESTATAPPRTOOLCOST	91	AMOUNT	10	2	1	1	WORKORDER.ESTATAPPRTOOLCOST
WOACTIVITY	ESTATAPPRSERVCOST	92	AMOUNT	10	2	1	1	WORKORDER.ESTATAPPRSERVCOST
WOACTIVITY	WOSEQUENCE	93	INTEGER	12	0	0	1	WORKORDER.WOSEQUENCE
WOACTIVITY	HASFOLLOWUPWORK	94	YORN	1	0	1	1	WORKORDER.HASFOLLOWUPWORK
WOACTIVITY	WORTS1	95	ALN	10	0	0	0	ROUTE_STOP.RTS1
WOACTIVITY	WORTS2	96	ALN	10	0	0	0	ROUTE_STOP.RTS2
WOACTIVITY	WORTS3	97	ALN	10	0	0	0	ROUTE_STOP.RTS3
WOACTIVITY	WORTS4	98	DATETIME	10	0	0	0	ROUTE_STOP.RTS4
WOACTIVITY	WORTS5	99	DECIMAL	15	2	0	0	ROUTE_STOP.RTS5
WOACTIVITY	SOURCESYSID	100	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
WOACTIVITY	OWNERSYSID	101	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
WOACTIVITY	PMDUEDATE	102	DATE	4	0	0	0	WORKORDER.PMDUEDATE
WOACTIVITY	PMEXTDATE	103	DATE	4	0	0	0	WORKORDER.PMEXTDATE
WOACTIVITY	PMNEXTDUE DATE	104	DATE	4	0	0	0	WORKORDER.PMNEXTDUE DATE
WOACTIVITY	WORKLOCATION	105	UPPER	12	0	0	0	LOCATIONS.LOCATION
WOACTIVITY	EXTERNALREFID	106	ALN	10	0	0	0	WORKORDER.EXTERNALREFID
WOACTIVITY	SENDERSYSID	107	ALN	50	0	0	0	WORKORDER.SENDERSYSID
WOACTIVITY	FINCNTRLID	108	UPPER	8	0	0	0	FINCNTRL.FINCNTRLID
WOACTIVITY	GENERATEDFORPO	109	UPPER	8	0	0	0	PO.PONUM
WOACTIVITY	GENFORPOLINEID	110	INTEGER	12	0	0	1	POLINE.POLINEID
WOACTIVITY	ORGID	111	UPPER	8	0	1	0	ORGANIZATION.ORGID

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
WOACTIVITY	SITEID	112	UPPER	8	0	1	0	SITE.SITEID
WOACTIVITY	TASKID	113	INTEGER	12	0	0	1	WORKORDER.TASKID
WOACTIVITY	INSPECTOR	114	UPPER	8	0	0	0	LABOR.LABORCODE
WOACTIVITY	MEASUREMENTVALUE	115	DECIMAL	15	3	0	1	MEASUREMENT.MEASUREMENTVALUE
WOACTIVITY	MEASUREDATE	116	DATETIME	10	0	0	1	WORKORDER.MEASUREDATE
WOACTIVITY	OBSERVATION	117	ALN	8	0	0	0	WORKORDER.OBSERVATION
WOACTIVITY	POINTNUM	118	UPPER	8	0	0	0	MEASUREPOINT.POINTNUM
WOACTIVITY	WOJO1	119	ALN	10	0	0	0	JOBTASK.JO1
WOACTIVITY	WOJO2	120	ALN	10	0	0	0	JOBTASK.JO2
WOACTIVITY	WOJO3	121	ALN	10	0	0	0	JOBTASK.JO3
WOACTIVITY	WOJO4	122	DECIMAL	15	2	0	0	JOBTASK.JO4
WOACTIVITY	WOJO5	123	ALN	10	0	0	0	JOBTASK.JO5
WOACTIVITY	WOJO6	124	ALN	10	0	0	0	JOBTASK.JO6
WOACTIVITY	WOJO7	125	ALN	10	0	0	0	JOBTASK.JO7
WOACTIVITY	WOJO8	126	ALN	10	0	0	0	JOBTASK.JO8
WOACTIVITY	ISTASK	127	YORN	1	0	1	0	WORKORDER.ISTASK
WOACTIVITY	WOCLASS	145	UPPER	10	0	1	1	WORKTYPE.WOCLASS
WOACTIVITY	ONBEHALFOF	146	ALN	62	0	0	0	PERSON.DISPLAYNAME
WOACTIVITY	VENDOR	147	UPPER	12	0	0	0	COMPANIES.COMPANY
WOACTIVITY	ORIGRECORDCLASS	148	UPPER	10	0	0	1	WORKTYPE.WOCLASS
WOACTIVITY	ORIGRECORDID	149	UPPER	10	0	0	0	WORKORDER.WONUM
WOACTIVITY	JUSTIFYPRIORITY	150	ALN	50	0	0	0	WORKORDER.JUSTIFYPRIORITY
WOACTIVITY	RISK	152	ALN	10	0	0	0	WORKORDER.RISK
WOACTIVITY	ENVIRONMENT	153	ALN	50	0	0	0	WORKORDER.ENVIRONMENT
WOACTIVITY	BACKOUTPLAN	155	ALN	50	0	0	0	WORKORDER.BACKOUTPLAN
WOACTIVITY	MOVETOLOC	158	UPPER	12	0	0	0	LOCATIONS.LOCATION
WOACTIVITY	MOVETOPARENT	159	UPPER	12	0	0	0	ASSET.ASSETNUM
WOACTIVITY	WOACCEPTSCHARGES	162	YORN	1	0	1	0	WORKORDER.WOACCEPTSCHARGES
WOACTIVITY	OWNER	163	UPPER	8	0	0	1	WORKORDER.OWNER
WOACTIVITY	CLASSTRUCTUREID	164	UPPER	20	0	0	1	CLASSTRUCTURE.CLASSTRUCTUREID
WOACTIVITY	PARENTCHGSSTATUS	165	YORN	1	0	1	0	WORKORDER.PARENTCHGSSTATUS
WOACTIVITY	OWNERGROUP	166	UPPER	8	0	0	0	PERSONGROUP.PERSONGROUP
WOACTIVITY	COMMODITYGROUP	168	UPPER	8	0	0	1	COMMODITIES.COMMODITY
WOACTIVITY	COMMODITY	169	UPPER	8	0	0	1	COMMODITIES.COMMODITY
WOACTIVITY	WORKORDERID	170	INTEGER	12	0	1	1	WORKORDER.WORKORDERID
WOACTIVITY	WHOMISCHANGEFOR	171	UPPER	20	0	0	0	WORKORDER.WHOMISCHANGEFOR
WOACTIVITY	REASONFORCHANGE	173	UPPER	20	0	0	0	WORKORDER.REASONFORCHANGE
WOACTIVITY	VERIFICATION	175	UPPER	20	0	0	0	WORKORDER.VERIFICATION
WOACTIVITY	PERSONGROUP	177	UPPER	8	0	0	0	PERSONGROUP.PERSONGROUP
WOACTIVITY	LEAD	180	UPPER	30	0	0	0	PERSON.PERSONID
WOACTIVITY	MOVETOBINNUM	184	ALN	8	0	0	0	INVENTORY.BINNUM
WOACTIVITY	PERFORMMOVETO	185	YORN	1	0	1	0	WORKORDER.PERFORMMOVETO
WOACTIVITY	LANGCODE	187	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
WOACTIVITY	INTERRUPTIBLE	189	YORN	1	0	1	1	WORKORDER.INTERRUPTIBLE
WOACTIVITY	WOGROUP	190	UPPER	10	0	0	0	WORKORDER.WONUM
WOACTIVITY	HASLD	198	YORN	1	0	1	1	

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
WOCHANGE	WONUM	1	UPPER	10	0	1	0	WORKORDER.WONUM
WOCHANGE	PARENT	2	UPPER	10	0	0	0	WORKORDER.WONUM
WOCHANGE	STATUS	3	UPPER	16	0	1	1	WORKORDER.STATUS
WOCHANGE	STATUSDATE	4	DATETIME	10	0	1	1	WORKORDER.STATUSDATE
WOCHANGE	WORKTYPE	5	UPPER	5	0	0	0	WORKTYPE.WORKTYPE
WOCHANGE	DESCRIPTION	6	ALN	100	0	0	0	WORKORDER.DESCRPTION
WOCHANGE	ASSETNUM	7	UPPER	12	0	0	0	ASSET.ASSETNUM
WOCHANGE	LOCATION	8	UPPER	12	0	0	0	LOCATIONS.LOCATION
WOCHANGE	JPNUM	9	UPPER	10	0	0	0	JOBPLAN.JPNUM
WOCHANGE	FAILDATE	10	DATETIME	10	0	0	1	WORKORDER.FAILDATE
WOCHANGE	CHANGEBY	11	UPPER	30	0	0	0	PERSON.PERSONID
WOCHANGE	CHANGEDATE	12	DATETIME	10	0	0	1	WORKORDER.CHANGEDATE
WOCHANGE	ESTDUR	13	DURATION	8	0	1	1	WORKORDER.ESTDUR
WOCHANGE	ESTLABHRS	14	DURATION	8	0	1	1	WORKORDER.ESTLABHRS
WOCHANGE	ESTMATCOST	15	AMOUNT	10	2	1	1	WORKORDER.ESTMATCOST
WOCHANGE	ESTLABCOST	16	AMOUNT	10	2	1	1	WORKORDER.ESTLABCOST
WOCHANGE	ESTTOOLCOST	17	AMOUNT	10	2	1	1	WORKORDER.ESTTOOLCOST
WOCHANGE	PMNUM	18	UPPER	8	0	0	0	PM.PMNUM
WOCHANGE	ACTLABHRS	19	DURATION	8	0	1	1	WORKORDER.ACTLABHRS
WOCHANGE	ACTMATCOST	20	AMOUNT	10	2	1	1	WORKORDER.ACTMATCOST
WOCHANGE	ACTLABCOST	21	AMOUNT	10	2	1	1	WORKORDER.ACTLABCOST
WOCHANGE	ACTTOOLCOST	22	AMOUNT	10	2	1	1	WORKORDER.ACTTOOLCOST
WOCHANGE	HASCHILDREN	23	YORN	1	0	1	1	WORKORDER.HASCHILDREN
WOCHANGE	OUTLABCOST	24	AMOUNT	10	2	1	1	WORKORDER.OUTLABCOST
WOCHANGE	OUTMATCOST	25	AMOUNT	10	2	1	1	WORKORDER.OUTMATCOST
WOCHANGE	OUTTOOLCOST	26	AMOUNT	10	2	1	1	WORKORDER.OUTTOOLCOST
WOCHANGE	HISTORYFLAG	27	YORN	1	0	1	1	WORKORDER.HISTORYFLAG
WOCHANGE	CONTRACT	28	UPPER	8	0	0	0	CONTRACT.CONTRACTNUM
WOCHANGE	WOPRIORITY	29	INTEGER	12	0	0	1	WORKORDER.WOPRIORITY
WOCHANGE	TARGCOMPDATE	30	DATETIME	10	0	0	1	WORKORDER.TARGCOMPDATE
WOCHANGE	TARGSTARTDATE	31	DATETIME	10	0	0	1	WORKORDER.TARGSTARTDATE
WOCHANGE	WOEQ1	32	ALN	10	0	0	0	ASSET.EQ1
WOCHANGE	WOEQ2	33	ALN	10	0	0	0	ASSET.EQ2
WOCHANGE	WOEQ3	34	ALN	10	0	0	0	ASSET.EQ3
WOCHANGE	WOEQ4	35	ALN	10	0	0	0	ASSET.EQ4
WOCHANGE	WOEQ5	36	AMOUNT	10	2	0	0	ASSET.EQ5
WOCHANGE	WOEQ6	37	DATETIME	10	0	0	0	ASSET.EQ6
WOCHANGE	WOEQ7	38	DECIMAL	15	2	0	0	ASSET.EQ7
WOCHANGE	WOEQ8	39	ALN	10	0	0	0	ASSET.EQ8
WOCHANGE	WOEQ9	40	ALN	10	0	0	0	ASSET.EQ9
WOCHANGE	WOEQ10	41	ALN	10	0	0	0	ASSET.EQ10
WOCHANGE	WOEQ11	42	ALN	10	0	0	0	ASSET.EQ11
WOCHANGE	WOEQ12	43	AMOUNT	10	2	0	0	ASSET.EQ12
WOCHANGE	REPORTEDBY	44	ALN	62	0	0	0	PERSON.DISPLAYNAME
WOCHANGE	REPORTDATE	45	DATETIME	10	0	0	0	WORKORDER.REPORTDATE
WOCHANGE	PHONE	46	ALN	20	0	0	0	WORKORDER.PHONE

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
WOCHANGE	PROBLEMCODE	47	UPPER	8	0	0	0	FAILURECODE.FAILURECODE
WOCHANGE	CALENDAR	48	UPPER	8	0	0	0	CALENDAR.CALNUM
WOCHANGE	DOWNTIME	49	YORN	1	0	1	1	WORKORDER.DOWNTIME
WOCHANGE	ACTSTART	50	DATETIME	10	0	0	1	WORKORDER.ACTSTART
WOCHANGE	ACTFINISH	51	DATETIME	10	0	0	1	WORKORDER.ACTFINISH
WOCHANGE	SCHEDSTART	52	DATETIME	10	0	0	1	WORKORDER.SCHEDSTART
WOCHANGE	SCHEDFINISH	53	DATETIME	10	0	0	1	WORKORDER.SCHEDFINISH
WOCHANGE	REMDUR	54	DURATION	8	0	0	1	WORKORDER.REMDUR
WOCHANGE	CREWID	55	ALN	12	0	0	1	LABOR.CREWID
WOCHANGE	SUPERVISOR	56	UPPER	30	0	0	0	PERSON.PERSONID
WOCHANGE	WOEQ13	57	DATETIME	10	0	0	0	ASSET.EQ23
WOCHANGE	WOEQ14	58	DECIMAL	15	2	0	0	ASSET.EQ24
WOCHANGE	WOJP1	59	ALN	10	0	0	0	WORKORDER.WOJP1
WOCHANGE	WOJP2	60	ALN	10	0	0	0	WORKORDER.WOJP2
WOCHANGE	WOJP3	61	ALN	10	0	0	0	WORKORDER.WOJP3
WOCHANGE	WOJP4	62	AMOUNT	10	2	0	0	WORKORDER.WOJP4
WOCHANGE	WOJP5	63	DATETIME	10	0	0	0	WORKORDER.WOJP5
WOCHANGE	WOL1	64	ALN	10	0	0	0	WORKORDER.WOL1
WOCHANGE	WOL2	65	ALN	10	0	0	0	WORKORDER.WOL2
WOCHANGE	WOL3	66	AMOUNT	10	2	0	0	WORKORDER.WOL3
WOCHANGE	WOL4	67	DATETIME	10	0	0	0	WORKORDER.WOL4
WOCHANGE	WOLABLNK	68	UPPER	8	0	0	0	LABOR.LABORCODE
WOCHANGE	RESPONDBY	69	DATETIME	10	0	0	1	WORKORDER.RESPONDBY
WOCHANGE	ASSETLOC PRIORITY	70	INTEGER	12	0	0	1	WORKORDER.ASSETLOC PRIORITY
WOCHANGE	CALC PRIORITY	71	INTEGER	12	0	0	1	WORKORDER.CALC PRIORITY
WOCHANGE	CHARGE STORE	72	YORN	1	0	1	1	WORKORDER.CHARGE STORE
WOCHANGE	FAILURECODE	73	UPPER	8	0	0	0	FAILURECODE.FAILURECODE
WOCHANGE	WOLO1	74	ALN	10	0	0	0	WORKORDER.WOLO1
WOCHANGE	WOLO2	75	ALN	10	0	0	0	WORKORDER.WOLO2
WOCHANGE	WOLO3	76	ALN	10	0	0	0	WORKORDER.WOLO3
WOCHANGE	WOLO4	77	ALN	10	0	0	0	WORKORDER.WOLO4
WOCHANGE	WOLO5	78	ALN	10	0	0	0	WORKORDER.WOLO5
WOCHANGE	WOLO6	79	AMOUNT	10	2	0	0	WORKORDER.WOLO6
WOCHANGE	WOLO7	80	DATETIME	10	0	0	0	WORKORDER.WOLO7
WOCHANGE	WOLO8	81	DECIMAL	15	2	0	0	WORKORDER.WOLO8
WOCHANGE	WOLO9	82	ALN	10	0	0	0	WORKORDER.WOLO9
WOCHANGE	WOLO10	83	INTEGER	12	0	0	0	WORKORDER.WOLO10
WOCHANGE	GLACCOUNT	84	GL	23	0	0	1	
WOCHANGE	ESTSERVCOST	85	AMOUNT	10	2	1	1	WORKORDER.ESTSERVCOST
WOCHANGE	ACTSERVCOST	86	AMOUNT	10	2	1	1	WORKORDER.ACTSERVCOST
WOCHANGE	DISABLED	87	YORN	1	0	1	1	WORKORDER.DISABLED
WOCHANGE	ESTATAPPR LABHRS	88	DURATION	8	0	1	1	WORKORDER.ESTATAPPR LABHRS
WOCHANGE	ESTATAPPR LABCOST	89	AMOUNT	10	2	1	1	WORKORDER.ESTATAPPR LABCOST
WOCHANGE	ESTATAPPR MATCOST	90	AMOUNT	10	2	1	1	WORKORDER.ESTATAPPR MATCOST
WOCHANGE	ESTATAPPR TOOLCOST	91	AMOUNT	10	2	1	1	WORKORDER.ESTATAPPR TOOLCOST
WOCHANGE	ESTATAPPR SERVCOST	92	AMOUNT	10	2	1	1	WORKORDER.ESTATAPPR SERVCOST

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
WOCHANGE	WOSEQUENCE	93	INTEGER	12	0	0	1	WORKORDER.WOSEQUENCE
WOCHANGE	HASFOLLOWUPWORK	94	YORN	1	0	1	1	WORKORDER.HASFOLLOWUPWORK
WOCHANGE	WORTS1	95	ALN	10	0	0	0	ROUTE_STOP.RTS1
WOCHANGE	WORTS2	96	ALN	10	0	0	0	ROUTE_STOP.RTS2
WOCHANGE	WORTS3	97	ALN	10	0	0	0	ROUTE_STOP.RTS3
WOCHANGE	WORTS4	98	DATETIME	10	0	0	0	ROUTE_STOP.RTS4
WOCHANGE	WORTS5	99	DECIMAL	15	2	0	0	ROUTE_STOP.RTS5
WOCHANGE	SOURCESYSID	100	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
WOCHANGE	OWNERSYSID	101	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
WOCHANGE	PMDUEDATE	102	DATE	4	0	0	0	WORKORDER.PMDUEDATE
WOCHANGE	PMEXTDATE	103	DATE	4	0	0	0	WORKORDER.PMEXTDATE
WOCHANGE	PMNEXTDUEDATE	104	DATE	4	0	0	0	WORKORDER.PMNEXTDUEDATE
WOCHANGE	WORKLOCATION	105	UPPER	12	0	0	0	LOCATIONS.LOCATION
WOCHANGE	EXTERNALREFID	106	ALN	10	0	0	0	WORKORDER.EXTERNALREFID
WOCHANGE	SENDERSYSID	107	ALN	50	0	0	0	WORKORDER.SENDERSYSID
WOCHANGE	FINCNTRLID	108	UPPER	8	0	0	0	FINCNTRL.FINCNTRLID
WOCHANGE	GENERATEDFORPO	109	UPPER	8	0	0	0	PO.PONUM
WOCHANGE	GENFORPOLINEID	110	INTEGER	12	0	0	1	POLINE.POLINEID
WOCHANGE	ORGID	111	UPPER	8	0	1	0	ORGANIZATION.ORGID
WOCHANGE	SITEID	112	UPPER	8	0	1	0	SITE.SITEID
WOCHANGE	TASKID	113	INTEGER	12	0	0	1	WORKORDER.TASKID
WOCHANGE	INSPECTOR	114	UPPER	30	0	0	0	PERSON.PERSONID
WOCHANGE	MEASUREMENTVALUE	115	DECIMAL	15	3	0	1	MEASUREMENT.MEASUREMENTVALUE
WOCHANGE	MEASUREDATE	116	DATETIME	10	0	0	1	WORKORDER.MEASUREDATE
WOCHANGE	OBSERVATION	117	ALN	8	0	0	0	WORKORDER.OBSERVATION
WOCHANGE	POINTNUM	118	UPPER	8	0	0	0	MEASUREPOINT.POINTNUM
WOCHANGE	WOJO1	119	ALN	10	0	0	0	JOBTASK.JO1
WOCHANGE	WOJO2	120	ALN	10	0	0	0	JOBTASK.JO2
WOCHANGE	WOJO3	121	ALN	10	0	0	0	JOBTASK.JO3
WOCHANGE	WOJO4	122	DECIMAL	15	2	0	0	JOBTASK.JO4
WOCHANGE	WOJO5	123	ALN	10	0	0	0	JOBTASK.JO5
WOCHANGE	WOJO6	124	ALN	10	0	0	0	JOBTASK.JO6
WOCHANGE	WOJO7	125	ALN	10	0	0	0	JOBTASK.JO7
WOCHANGE	WOJO8	126	ALN	10	0	0	0	JOBTASK.JO8
WOCHANGE	ISTASK	127	YORN	1	0	1	0	WORKORDER.ISTASK
WOCHANGE	WOCLASS	145	UPPER	10	0	1	1	WORKTYPE.WOCLASS
WOCHANGE	ONBEHALFOF	146	ALN	62	0	0	0	PERSON.DISPLAYNAME
WOCHANGE	VENDOR	147	UPPER	12	0	0	0	COMPANIES.COMPANY
WOCHANGE	ORIGRECORDCLASS	148	UPPER	10	0	0	1	WORKTYPE.WOCLASS
WOCHANGE	ORIGRECORDID	149	UPPER	10	0	0	0	WORKORDER.WONUM
WOCHANGE	JUSTIFYPRIORITY	150	ALN	50	0	0	0	WORKORDER.JUSTIFYPRIORITY
WOCHANGE	RISK	152	ALN	10	0	0	0	WORKORDER.RISK
WOCHANGE	ENVIRONMENT	153	ALN	50	0	0	0	WORKORDER.ENVIRONMENT
WOCHANGE	BACKOUTPLAN	155	ALN	50	0	0	0	WORKORDER.BACKOUTPLAN
WOCHANGE	MOVETOLOC	158	UPPER	12	0	0	0	LOCATIONS.LOCATION
WOCHANGE	MOVETOPARENT	159	UPPER	12	0	0	0	ASSET.ASSETNUM

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
WOCHANGE	WOACCEPTSCHARGES	162	YORN	1	0	1	0	WORKORDER.WOACCEPTSCHARGES
WOCHANGE	OWNER	163	UPPER	8	0	0	1	WORKORDER.OWNER
WOCHANGE	CLASSTRUCTUREID	164	UPPER	20	0	0	1	CLASSTRUCTURE.CLASSTRUCTUREID
WOCHANGE	PARENTCHGSSTATUS	165	YORN	1	0	1	0	WORKORDER.PARENTCHGSSTATUS
WOCHANGE	OWNERGROUP	166	UPPER	8	0	0	0	PERSONGROUP.PERSONGROUP
WOCHANGE	COMMODITYGROUP	168	UPPER	8	0	0	1	COMMODITIES.COMMODITY
WOCHANGE	COMMODITY	169	UPPER	8	0	0	1	COMMODITIES.COMMODITY
WOCHANGE	WORKORDERID	170	INTEGER	12	0	1	1	WORKORDER.WORKORDERID
WOCHANGE	WHOMISCHANGEFOR	171	UPPER	20	0	0	0	WORKORDER.WHOMISCHANGEFOR
WOCHANGE	REASONFORCHANGE	173	UPPER	20	0	0	0	WORKORDER.REASONFORCHANGE
WOCHANGE	VERIFICATION	175	UPPER	20	0	0	0	WORKORDER.VERIFICATION
WOCHANGE	PERSONGROUP	177	UPPER	8	0	0	0	PERSONGROUP.PERSONGROUP
WOCHANGE	LEAD	180	UPPER	30	0	0	0	PERSON.PERSONID
WOCHANGE	MOVETOBINNUM	184	ALN	8	0	0	0	INVENTORY.BINNUM
WOCHANGE	PERFORMMOVETO	185	YORN	1	0	1	0	WORKORDER.PERFORMMOVETO
WOCHANGE	LANGCODE	187	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
WOCHANGE	INTERRUPTIBLE	189	YORN	1	0	1	1	WORKORDER.INTERRUPTIBLE
WOCHANGE	WOGROUP	190	UPPER	10	0	0	0	WORKORDER.WONUM
WOCHANGE	HASLD	198	YORN	1	0	1	1	
WORELEASE	WONUM	1	UPPER	10	0	1	0	WORKORDER.WONUM
WORELEASE	PARENT	2	UPPER	10	0	0	0	WORKORDER.WONUM
WORELEASE	STATUS	3	UPPER	16	0	1	1	WORKORDER.STATUS
WORELEASE	STATUSDATE	4	DATETIME	10	0	1	1	WORKORDER.STATUSDATE
WORELEASE	WORKTYPE	5	UPPER	5	0	0	0	WORKTYPE.WORKTYPE
WORELEASE	DESCRIPTION	6	ALN	100	0	0	0	WORKORDER.DESCRPTION
WORELEASE	ASSETNUM	7	UPPER	12	0	0	0	ASSET.ASSETNUM
WORELEASE	LOCATION	8	UPPER	12	0	0	0	LOCATIONS.LOCATION
WORELEASE	JPNUM	9	UPPER	10	0	0	0	JOBPLAN.JPNUM
WORELEASE	FAILDATE	10	DATETIME	10	0	0	1	WORKORDER.FAILDATE
WORELEASE	CHANGEBY	11	UPPER	30	0	0	0	PERSON.PERSONID
WORELEASE	CHANGEDATE	12	DATETIME	10	0	0	1	WORKORDER.CHANGEDATE
WORELEASE	ESTDUR	13	DURATION	8	0	1	1	WORKORDER.ESTDUR
WORELEASE	ESTLABHRS	14	DURATION	8	0	1	1	WORKORDER.ESTLABHRS
WORELEASE	ESTMATCOST	15	AMOUNT	10	2	1	1	WORKORDER.ESTMATCOST
WORELEASE	ESTLABCOST	16	AMOUNT	10	2	1	1	WORKORDER.ESTLABCOST
WORELEASE	ESTTOOLCOST	17	AMOUNT	10	2	1	1	WORKORDER.ESTTOOLCOST
WORELEASE	PMNUM	18	UPPER	8	0	0	0	PM.PMNUM
WORELEASE	ACTLABHRS	19	DURATION	8	0	1	1	WORKORDER.ACTLABHRS
WORELEASE	ACTMATCOST	20	AMOUNT	10	2	1	1	WORKORDER.ACTMATCOST
WORELEASE	ACTLABCOST	21	AMOUNT	10	2	1	1	WORKORDER.ACTLABCOST
WORELEASE	ACTTOOLCOST	22	AMOUNT	10	2	1	1	WORKORDER.ACTTOOLCOST
WORELEASE	HASCHILDREN	23	YORN	1	0	1	1	WORKORDER.HASCHILDREN
WORELEASE	OUTLABCOST	24	AMOUNT	10	2	1	1	WORKORDER.OUTLABCOST
WORELEASE	OUTMATCOST	25	AMOUNT	10	2	1	1	WORKORDER.OUTMATCOST
WORELEASE	OUTTOOLCOST	26	AMOUNT	10	2	1	1	WORKORDER.OUTTOOLCOST
WORELEASE	HISTORYFLAG	27	YORN	1	0	1	1	WORKORDER.HISTORYFLAG

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
WORELEASE	CONTRACT	28	UPPER	8	0	0	0	CONTRACT.CONTRACTNUM
WORELEASE	WOPRIORITY	29	INTEGER	12	0	0	1	WORKORDER.WOPRIORITY
WORELEASE	TARGCOMPDATE	30	DATETIME	10	0	0	1	WORKORDER.TARGCOMPDATE
WORELEASE	TARGSTARTDATE	31	DATETIME	10	0	0	1	WORKORDER.TARGSTARTDATE
WORELEASE	WOEQ1	32	ALN	10	0	0	0	ASSET.EQ1
WORELEASE	WOEQ2	33	ALN	10	0	0	0	ASSET.EQ2
WORELEASE	WOEQ3	34	ALN	10	0	0	0	ASSET.EQ3
WORELEASE	WOEQ4	35	ALN	10	0	0	0	ASSET.EQ4
WORELEASE	WOEQ5	36	AMOUNT	10	2	0	0	ASSET.EQ5
WORELEASE	WOEQ6	37	DATETIME	10	0	0	0	ASSET.EQ6
WORELEASE	WOEQ7	38	DECIMAL	15	2	0	0	ASSET.EQ7
WORELEASE	WOEQ8	39	ALN	10	0	0	0	ASSET.EQ8
WORELEASE	WOEQ9	40	ALN	10	0	0	0	ASSET.EQ9
WORELEASE	WOEQ10	41	ALN	10	0	0	0	ASSET.EQ10
WORELEASE	WOEQ11	42	ALN	10	0	0	0	ASSET.EQ11
WORELEASE	WOEQ12	43	AMOUNT	10	2	0	0	ASSET.EQ12
WORELEASE	REPORTEDBY	44	ALN	62	0	0	0	PERSON.DISPLAYNAME
WORELEASE	REPORTDATE	45	DATETIME	10	0	0	0	WORKORDER.REPORTDATE
WORELEASE	PHONE	46	ALN	20	0	0	0	WORKORDER.PHONE
WORELEASE	PROBLEMCODE	47	UPPER	8	0	0	0	FAILURECODE.FAILURECODE
WORELEASE	CALENDAR	48	UPPER	8	0	0	0	CALENDAR.CALNUM
WORELEASE	DOWNTIME	49	YORN	1	0	1	1	WORKORDER.DOWNTIME
WORELEASE	ACTSTART	50	DATETIME	10	0	0	1	WORKORDER.ACTSTART
WORELEASE	ACTFINISH	51	DATETIME	10	0	0	1	WORKORDER.ACTFINISH
WORELEASE	SCHEDSTART	52	DATETIME	10	0	0	1	WORKORDER.SCHEDSTART
WORELEASE	SCHEDFINISH	53	DATETIME	10	0	0	1	WORKORDER.SCHEDFINISH
WORELEASE	REMDUR	54	DURATION	8	0	0	1	WORKORDER.REMDUR
WORELEASE	CREWID	55	ALN	12	0	0	1	LABOR.CREWID
WORELEASE	SUPERVISOR	56	UPPER	30	0	0	0	PERSON.PERSONID
WORELEASE	WOEQ13	57	DATETIME	10	0	0	0	ASSET.EQ23
WORELEASE	WOEQ14	58	DECIMAL	15	2	0	0	ASSET.EQ24
WORELEASE	WOJP1	59	ALN	10	0	0	0	WORKORDER.WOJP1
WORELEASE	WOJP2	60	ALN	10	0	0	0	WORKORDER.WOJP2
WORELEASE	WOJP3	61	ALN	10	0	0	0	WORKORDER.WOJP3
WORELEASE	WOJP4	62	AMOUNT	10	2	0	0	WORKORDER.WOJP4
WORELEASE	WOJP5	63	DATETIME	10	0	0	0	WORKORDER.WOJP5
WORELEASE	WOL1	64	ALN	10	0	0	0	WORKORDER.WOL1
WORELEASE	WOL2	65	ALN	10	0	0	0	WORKORDER.WOL2
WORELEASE	WOL3	66	AMOUNT	10	2	0	0	WORKORDER.WOL3
WORELEASE	WOL4	67	DATETIME	10	0	0	0	WORKORDER.WOL4
WORELEASE	WOLABLNK	68	UPPER	8	0	0	0	LABOR.LABORCODE
WORELEASE	RESPONDBY	69	DATETIME	10	0	0	1	WORKORDER.RESPONDBY
WORELEASE	ASSETLOCPRIORITY	70	INTEGER	12	0	0	1	WORKORDER.ASSETLOCPRIORITY
WORELEASE	CALCPRIORITY	71	INTEGER	12	0	0	1	WORKORDER.CALCPRIORITY
WORELEASE	CHARGESTORE	72	YORN	1	0	1	1	WORKORDER.CHARGESTORE
WORELEASE	FAILURECODE	73	UPPER	8	0	0	0	FAILURECODE.FAILURECODE

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
WORELEASE	WOLO1	74	ALN	10	0	0	0	WORKORDER.WOLO1
WORELEASE	WOLO2	75	ALN	10	0	0	0	WORKORDER.WOLO2
WORELEASE	WOLO3	76	ALN	10	0	0	0	WORKORDER.WOLO3
WORELEASE	WOLO4	77	ALN	10	0	0	0	WORKORDER.WOLO4
WORELEASE	WOLO5	78	ALN	10	0	0	0	WORKORDER.WOLO5
WORELEASE	WOLO6	79	AMOUNT	10	2	0	0	WORKORDER.WOLO6
WORELEASE	WOLO7	80	DATETIME	10	0	0	0	WORKORDER.WOLO7
WORELEASE	WOLO8	81	DECIMAL	15	2	0	0	WORKORDER.WOLO8
WORELEASE	WOLO9	82	ALN	10	0	0	0	WORKORDER.WOLO9
WORELEASE	WOLO10	83	INTEGER	12	0	0	0	WORKORDER.WOLO10
WORELEASE	GLACCOUNT	84	GL	23	0	0	1	
WORELEASE	ESTSERVCOST	85	AMOUNT	10	2	1	1	WORKORDER.ESTSERVCOST
WORELEASE	ACTSERVCOST	86	AMOUNT	10	2	1	1	WORKORDER.ACTSERVCOST
WORELEASE	DISABLED	87	YORN	1	0	1	1	WORKORDER.DISABLED
WORELEASE	ESTATAPPRLABHRS	88	DURATION	8	0	1	1	WORKORDER.ESTATAPPRLABHRS
WORELEASE	ESTATAPPRLABCOST	89	AMOUNT	10	2	1	1	WORKORDER.ESTATAPPRLABCOST
WORELEASE	ESTATAPPRMATCOST	90	AMOUNT	10	2	1	1	WORKORDER.ESTATAPPRMATCOST
WORELEASE	ESTATAPPRTOOLCOST	91	AMOUNT	10	2	1	1	WORKORDER.ESTATAPPRTOOLCOST
WORELEASE	ESTATAPPRSERVCOST	92	AMOUNT	10	2	1	1	WORKORDER.ESTATAPPRSERVCOST
WORELEASE	WOSEQUENCE	93	INTEGER	12	0	0	1	WORKORDER.WOSEQUENCE
WORELEASE	HASFOLLOWUPWORK	94	YORN	1	0	1	1	WORKORDER.HASFOLLOWUPWORK
WORELEASE	WORTS1	95	ALN	10	0	0	0	ROUTE_STOP.RTS1
WORELEASE	WORTS2	96	ALN	10	0	0	0	ROUTE_STOP.RTS2
WORELEASE	WORTS3	97	ALN	10	0	0	0	ROUTE_STOP.RTS3
WORELEASE	WORTS4	98	DATETIME	10	0	0	0	ROUTE_STOP.RTS4
WORELEASE	WORTS5	99	DECIMAL	15	2	0	0	ROUTE_STOP.RTS5
WORELEASE	SOURCESYSID	100	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
WORELEASE	OWNERSYSID	101	ALN	10	0	0	0	MXCOLLAB.OWNER1SYSID
WORELEASE	PMDUEDATE	102	DATE	4	0	0	0	WORKORDER.PMDUEDATE
WORELEASE	PMEXTDATE	103	DATE	4	0	0	0	WORKORDER.PMEXTDATE
WORELEASE	PMNEXTDUEDATE	104	DATE	4	0	0	0	WORKORDER.PMNEXTDUEDATE
WORELEASE	WORKLOCATION	105	UPPER	12	0	0	0	LOCATIONS.LOCATION
WORELEASE	EXTERNALREFID	106	ALN	10	0	0	0	WORKORDER.EXTERNALREFID
WORELEASE	SENDERSYSID	107	ALN	50	0	0	0	WORKORDER.SENDERSYSID
WORELEASE	FINCNTRLID	108	UPPER	8	0	0	0	FINCNTRL.FINCNTRLID
WORELEASE	GENERATEDFORPO	109	UPPER	8	0	0	0	PO.PONUM
WORELEASE	GENFORPOLINEID	110	INTEGER	12	0	0	1	POLINE.POLINEID
WORELEASE	ORGID	111	UPPER	8	0	1	0	ORGANIZATION.ORGID
WORELEASE	SITEID	112	UPPER	8	0	1	0	SITE.SITEID
WORELEASE	TASKID	113	INTEGER	12	0	0	1	WORKORDER.TASKID
WORELEASE	INSPECTOR	114	UPPER	30	0	0	0	PERSON.PERSONID
WORELEASE	MEASUREMENTVALUE	115	DECIMAL	15	3	0	1	MEASUREMENT.MEASUREMENTVALUE
WORELEASE	MEASUREDATE	116	DATETIME	10	0	0	1	WORKORDER.MEASUREDATE
WORELEASE	OBSERVATION	117	ALN	8	0	0	0	WORKORDER.OBSERVATION
WORELEASE	POINTNUM	118	UPPER	8	0	0	0	MEASUREPOINT.POINTNUM
WORELEASE	WOJO1	119	ALN	10	0	0	0	JOBTASK.JO1

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
WORELEASE	WOJO2	120	ALN	10	0	0	0	JOBTASK.JO2
WORELEASE	WOJO3	121	ALN	10	0	0	0	JOBTASK.JO3
WORELEASE	WOJO4	122	DECIMAL	15	2	0	0	JOBTASK.JO4
WORELEASE	WOJO5	123	ALN	10	0	0	0	JOBTASK.JO5
WORELEASE	WOJO6	124	ALN	10	0	0	0	JOBTASK.JO6
WORELEASE	WOJO7	125	ALN	10	0	0	0	JOBTASK.JO7
WORELEASE	WOJO8	126	ALN	10	0	0	0	JOBTASK.JO8
WORELEASE	ISTASK	127	YORN	1	0	1	0	WORKORDER.ISTASK
WORELEASE	WOCLASS	145	UPPER	10	0	1	1	WORKTYPE.WOCLASS
WORELEASE	ONBEHALFOF	146	ALN	62	0	0	0	PERSON.DISPLAYNAME
WORELEASE	VENDOR	147	UPPER	12	0	0	0	COMPANIES.COMPANY
WORELEASE	ORIGRECORDCLASS	148	UPPER	10	0	0	1	WORKTYPE.WOCLASS
WORELEASE	ORIGRECORDID	149	UPPER	10	0	0	0	WORKORDER.WONUM
WORELEASE	JUSTIFYPRIORITY	150	ALN	50	0	0	0	WORKORDER.JUSTIFYPRIORITY
WORELEASE	RISK	152	ALN	10	0	0	0	WORKORDER.RISK
WORELEASE	ENVIRONMENT	153	ALN	50	0	0	0	WORKORDER.ENVIRONMENT
WORELEASE	BACKOUTPLAN	155	ALN	50	0	0	0	WORKORDER.BACKOUTPLAN
WORELEASE	MOVETOLOC	158	UPPER	12	0	0	0	LOCATIONS.LOCATION
WORELEASE	MOVETOPARENT	159	UPPER	12	0	0	0	ASSET.ASSETNUM
WORELEASE	WOACCEPTSCHARGES	162	YORN	1	0	1	0	WORKORDER.WOACCEPTSCHARGES
WORELEASE	OWNER	163	UPPER	8	0	0	1	WORKORDER.OWNER
WORELEASE	CLASSTRUCTUREID	164	UPPER	20	0	0	1	CLASSTRUCTURE.CLASSTRUCTUREID
WORELEASE	PARENTCHGSSTATUS	165	YORN	1	0	1	0	WORKORDER.PARENTCHGSSTATUS
WORELEASE	OWNERGROUP	166	UPPER	8	0	0	0	PERSONGROUP.PERSONGROUP
WORELEASE	COMMODITYGROUP	168	UPPER	8	0	0	1	COMMODITIES.COMMODITY
WORELEASE	COMMODITY	169	UPPER	8	0	0	1	COMMODITIES.COMMODITY
WORELEASE	WORKORDERID	170	INTEGER	12	0	1	1	WORKORDER.WORKORDERID
WORELEASE	RELEASEPOLICIES	171	ALN	50	0	0	0	WOREEXT.RELEASEPOLICIES
WORELEASE	RELEASEDESIGN	172	ALN	50	0	0	0	WOREEXT.RELEASEDESIGN
WORELEASE	BUILDPROCEDURES	173	ALN	50	0	0	0	WOREEXT.BUILDPROCEDURES
WORELEASE	FILESINRELEASE	174	ALN	50	0	0	0	WOREEXT.FILESINRELEASE
WORELEASE	WOREXTID	175	INTEGER	12	0	1	1	WOREEXT.WOREXTID
WORELEASE	WHOMISCHANGEFOR	180	UPPER	20	0	0	0	WORKORDER.WHOMISCHANGEFOR
WORELEASE	REASONFORCHANGE	182	UPPER	20	0	0	0	WORKORDER.REASONFORCHANGE
WORELEASE	VERIFICATION	184	UPPER	20	0	0	0	WORKORDER.VERIFICATION
WORELEASE	PERSONGROUP	186	UPPER	8	0	0	0	PERSONGROUP.PERSONGROUP
WORELEASE	LEAD	189	UPPER	30	0	0	0	PERSON.PERSONID
WORELEASE	MOVETOBINNUM	193	ALN	8	0	0	0	INVENTORY.BINNUM
WORELEASE	PERFORMMOVETO	194	YORN	1	0	1	0	WORKORDER.PERFORMMOVETO
WORELEASE	LANGCODE	196	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
WORELEASE	INTERRUPTIBLE	198	YORN	1	0	1	1	WORKORDER.INTERRUPTIBLE
WORELEASE	WOGROUP	199	UPPER	10	0	0	0	WORKORDER.WONUM
WORELEASE	HASLD	207	YORN	1	0	1	1	
WORELEASE	HASLD1	208	YORN	1	0	1	1	
WPMATERIAL	CATALOGCODE	1	ALN	30	0	0	0	INVENTORY.CATALOGCODE
WPMATERIAL	DESCRIPTION	2	ALN	100	0	0	0	ITEM.DESCRPTION

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
WPMATERIAL	DIRECTREQ	4	YORN	1	0	1	1	INVRESERVE.DIRECTREQ
WPMATERIAL	ISSUETO	7	UPPER	8	0	0	0	LABOR.LABORCODE
WPMATERIAL	ITEMNUM	8	UPPER	30	0	0	0	ITEM.ITEMNUM
WPMATERIAL	ITEMQTY	9	DECIMAL	15	2	1	1	JOBITEM.ITEMQTY
WPMATERIAL	ITEMSETID	10	UPPER	8	0	0	0	SETS.SETID
WPMATERIAL	LINECOST	11	AMOUNT	10	2	0	0	WPITEM.LINECOST
WPMATERIAL	LINETYPE	12	UPPER	15	0	1	1	PRLINE.LINETYPE
WPMATERIAL	LOCATION	13	UPPER	12	0	0	0	LOCATIONS.LOCATION
WPMATERIAL	MANUFACTURER	14	UPPER	12	0	0	0	COMPANIES.COMPANY
WPMATERIAL	MODELNUM	15	ALN	8	0	0	0	INVENTORY.MODELNUM
WPMATERIAL	ORDERUNIT	16	UPPER	8	0	0	0	MEASUREUNIT.MEASUREUNITID
WPMATERIAL	ORGID	17	UPPER	8	0	1	0	ORGANIZATION.ORGID
WPMATERIAL	PR	18	UPPER	8	0	0	0	PR.PRNUM
WPMATERIAL	PRLINENUM	19	INTEGER	12	0	0	1	PRLINE.PRLINENUM
WPMATERIAL	REQUESTBY	20	UPPER	18	0	0	0	
WPMATERIAL	REQUESTNUM	21	UPPER	20	0	0	0	INVRESERVE.REQUESTNUM
WPMATERIAL	REQUIREDATE	22	DATETIME	10	0	0	0	
WPMATERIAL	SITEID	23	UPPER	8	0	1	0	SITE.SITEID
WPMATERIAL	UNITCOST	25	AMOUNT	10	2	1	1	WPITEM.UNITCOST
WPMATERIAL	UNITCOSTHASCHANGED	26	YORN	1	0	1	1	WPITEM.UNITCOSTHASCHANGED
WPMATERIAL	VENDOR	27	UPPER	12	0	0	0	COMPANIES.COMPANY
WPMATERIAL	VENDORPACKCODE	28	ALN	12	0	0	0	MRLINE.VENDORPACKCODE
WPMATERIAL	VENDORPACKQUANTITY	29	ALN	12	0	0	0	MRLINE.VENDORPACKQUANTITY
WPMATERIAL	VENDORUNITCOST	30	AMOUNT	10	2	0	1	WPITEM.UNITCOST
WPMATERIAL	VENDORWAREHOUSE	31	ALN	12	0	0	0	MRLINE.VENDORWAREHOUSE
WPMATERIAL	WONUM	32	UPPER	10	0	1	0	WORKORDER.WONUM
WPMATERIAL	WPM1	33	ALN	10	0	0	0	JOBITEM.JM1
WPMATERIAL	WPM2	34	ALN	10	0	0	0	JOBITEM.JM2
WPMATERIAL	WPM3	35	DECIMAL	15	2	0	0	JOBITEM.JM3
WPMATERIAL	WPM4	36	ALN	10	0	0	0	
WPMATERIAL	WPM5	37	AMOUNT	10	2	0	0	
WPMATERIAL	WPM6	38	ALN	10	0	0	0	
WPMATERIAL	CONDITIONCODE	39	UPPER	30	0	0	0	ITEMCONDITION.CONDITIONCODE
WPMATERIAL	WPITEMID	40	INTEGER	12	0	0	1	
WPMATERIAL	STORELOCSITE	41	UPPER	8	0	0	0	SITE.SITEID
WPMATERIAL	LANGCODE	42	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
WPMATERIAL	RATE	43	AMOUNT	10	2	1	1	
WPMATERIAL	RATEHASCHANGED	45	YORN	1	0	1	1	
WPMATERIAL	HOURS	46	DURATION	8	0	1	1	
WPMATERIAL	HASLD	47	YORN	1	0	1	1	
WPMATERIAL	MKTPLCITEM	48	YORN	1	0	1	0	
WPSERVICE	CATALOGCODE	1	ALN	30	0	0	0	INVENTORY.CATALOGCODE
WPSERVICE	DESCRIPTION	2	ALN	100	0	0	0	ITEM.DESCRPTION
WPSERVICE	DIRECTREQ	4	YORN	1	0	1	1	INVRESERVE.DIRECTREQ
WPSERVICE	ISSUETO	7	UPPER	8	0	0	0	LABOR.LABORCODE
WPSERVICE	ITEMNUM	8	UPPER	30	0	0	0	ITEM.ITEMNUM

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
WPSERVICE	ITEMQTY	9	DECIMAL	15	2	0	1	JOBITEM.ITEMQTY
WPSERVICE	ITEMSETID	10	UPPER	8	0	0	0	SETS.SETID
WPSERVICE	LINECOST	11	AMOUNT	10	2	0	0	WPITEM.LINECOST
WPSERVICE	LINETYPE	12	UPPER	15	0	1	1	PRLINE.LINETYPE
WPSERVICE	LOCATION	13	UPPER	12	0	0	0	LOCATIONS.LOCATION
WPSERVICE	MANUFACTURER	14	UPPER	12	0	0	0	COMPANIES.COMPANY
WPSERVICE	MODELNUM	15	ALN	8	0	0	0	INVENTORY.MODELNUM
WPSERVICE	ORDERUNIT	16	UPPER	8	0	0	0	MEASUREUNIT.MEASUREUNITID
WPSERVICE	ORGID	17	UPPER	8	0	1	0	ORGANIZATION.ORGID
WPSERVICE	PR	18	UPPER	8	0	0	0	PR.PRNUM
WPSERVICE	PRLINENUM	19	INTEGER	12	0	0	1	PRLINE.PRLINENUM
WPSERVICE	REQUESTBY	20	UPPER	30	0	0	0	PERSON.PERSONID
WPSERVICE	REQUESTNUM	21	UPPER	20	0	0	0	INVRESERVE.REQUESTNUM
WPSERVICE	REQUIREDATE	22	DATETIME	10	0	0	0	WPITEM.REQUIREDATE
WPSERVICE	SITEID	23	UPPER	8	0	1	0	SITE.SITEID
WPSERVICE	UNITCOST	25	AMOUNT	10	2	0	1	WPITEM.UNITCOST
WPSERVICE	UNITCOSTHASCHANGED	26	YORN	1	0	1	1	WPITEM.UNITCOSTHASCHANGED
WPSERVICE	VENDOR	27	UPPER	12	0	0	0	COMPANIES.COMPANY
WPSERVICE	VENDORPACKCODE	28	ALN	12	0	0	0	MRLINE.VENDORPACKCODE
WPSERVICE	VENDORPACKQUANTITY	29	ALN	12	0	0	0	MRLINE.VENDORPACKQUANTITY
WPSERVICE	VENDORUNITCOST	30	AMOUNT	10	2	0	1	WPITEM.UNITCOST
WPSERVICE	VENDORWAREHOUSE	31	ALN	12	0	0	0	MRLINE.VENDORWAREHOUSE
WPSERVICE	WONUM	32	UPPER	10	0	1	0	WORKORDER.WONUM
WPSERVICE	WPM1	33	ALN	10	0	0	0	JOBITEM.JM1
WPSERVICE	WPM2	34	ALN	10	0	0	0	JOBITEM.JM2
WPSERVICE	WPM3	35	DECIMAL	15	2	0	0	JOBITEM.JM3
WPSERVICE	WPM4	36	ALN	10	0	0	0	
WPSERVICE	WPM5	37	AMOUNT	10	2	0	0	
WPSERVICE	WPM6	38	ALN	10	0	0	0	
WPSERVICE	CONDITIONCODE	39	UPPER	30	0	0	0	ITEMCONDITION.CONDITIONCODE
WPSERVICE	WPITEMID	40	INTEGER	12	0	0	1	
WPSERVICE	STORELOCSITE	41	UPPER	8	0	0	0	SITE.SITEID
WPSERVICE	LANGCODE	42	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
WPSERVICE	RATE	43	AMOUNT	10	2	1	1	
WPSERVICE	RATEHASCHANGED	45	YORN	1	0	1	1	
WPSERVICE	HOURS	46	DURATION	8	0	1	1	
WPSERVICE	HASLD	47	YORN	1	0	1	1	
WPSERVICE	MKTPLCITEM	48	YORN	1	0	1	0	
WPTOOL	CATALOGCODE	1	ALN	30	0	0	0	INVENTORY.CATALOGCODE
WPTOOL	DESCRIPTION	2	ALN	100	0	0	0	ITEM.DESCRPTION
WPTOOL	DIRECTREQ	4	YORN	1	0	1	1	INVRESERVE.DIRECTREQ
WPTOOL	ISSUETO	7	UPPER	8	0	0	0	LABOR.LABORCODE
WPTOOL	ITEMNUM	8	UPPER	30	0	1	0	ITEM.ITEMNUM
WPTOOL	ITEMQTY	9	DECIMAL	15	2	1	1	JOBITEM.ITEMQTY
WPTOOL	ITEMSETID	10	UPPER	8	0	1	0	SETS.SETID
WPTOOL	LINECOST	11	AMOUNT	10	2	0	0	WPITEM.LINECOST

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
WPTOOL	LINETYPE	12	UPPER	15	0	1	1	PRLINE.LINETYPE
WPTOOL	LOCATION	13	UPPER	12	0	0	0	LOCATIONS.LOCATION
WPTOOL	MANUFACTURER	14	UPPER	12	0	0	0	COMPANIES.COMPANY
WPTOOL	MODELNUM	15	ALN	8	0	0	0	INVENTORY.MODELNUM
WPTOOL	ORDERUNIT	16	UPPER	8	0	0	0	MEASUREUNIT.MEASUREUNITID
WPTOOL	ORGID	17	UPPER	8	0	1	0	ORGANIZATION.ORGID
WPTOOL	PR	18	UPPER	8	0	0	0	PR.PRNUM
WPTOOL	PRLINENUM	19	INTEGER	12	0	0	1	PRLINE.PRLINENUM
WPTOOL	REQUESTBY	20	UPPER	30	0	0	0	PERSON.PERSONID
WPTOOL	REQUESTNUM	21	UPPER	20	0	0	0	INVRESERVE.REQUESTNUM
WPTOOL	REQUIREDATE	22	DATETIME	10	0	0	0	WPITEM.REQUIREDATE
WPTOOL	SITEID	23	UPPER	8	0	1	0	SITE.SITEID
WPTOOL	UNITCOST	25	AMOUNT	10	2	1	1	WPITEM.UNITCOST
WPTOOL	UNITCOSTHASCHANGED	26	YORN	1	0	1	1	WPITEM.UNITCOSTHASCHANGED
WPTOOL	VENDOR	27	UPPER	12	0	0	0	COMPANIES.COMPANY
WPTOOL	VENDORPACKCODE	28	ALN	12	0	0	0	MRLINE.VENDORPACKCODE
WPTOOL	VENDORPACKQUANTITY	29	ALN	12	0	0	0	MRLINE.VENDORPACKQUANTITY
WPTOOL	VENDORUNITCOST	30	AMOUNT	10	2	0	1	WPITEM.UNITCOST
WPTOOL	VENDORWAREHOUSE	31	ALN	12	0	0	0	MRLINE.VENDORWAREHOUSE
WPTOOL	WONUM	32	UPPER	10	0	1	0	WORKORDER.WONUM
WPTOOL	WPM1	33	ALN	10	0	0	0	JOBITEM.JM1
WPTOOL	WPM2	34	ALN	10	0	0	0	JOBITEM.JM2
WPTOOL	WPM3	35	DECIMAL	15	2	0	0	JOBITEM.JM3
WPTOOL	WPM4	36	ALN	10	0	0	0	
WPTOOL	WPM5	37	AMOUNT	10	2	0	0	
WPTOOL	WPM6	38	ALN	10	0	0	0	
WPTOOL	CONDITIONCODE	39	UPPER	30	0	0	0	ITEMCONDITION.CONDITIONCODE
WPTOOL	WPITEMID	40	INTEGER	12	0	1	1	WPITEM.WPITEMID
WPTOOL	STORELOCSITE	41	UPPER	8	0	0	0	SITE.SITEID
WPTOOL	LANGCODE	42	UPPER	4	0	1	1	LANGUAGE.MAXLANGCODE
WPTOOL	RATE	43	AMOUNT	10	2	1	1	WPITEM.RATE
WPTOOL	RATEHASCHANGED	45	YORN	1	0	1	1	WPITEM.RATEHASCHANGED
WPTOOL	HOURS	46	DURATION	8	0	1	1	WPITEM.HOURS
WPTOOL	HASLD	47	YORN	1	0	1	1	
WPTOOL	MKTPLCITEM	48	YORN	1	0	1	0	

MAXIMO Database Columns

Columns with non-persistent attributes in views

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
ASSETCUST	DESCRIPTION_LONGDESCRIPTION	55	LONGALN	32000	0	0	1	ASSET.DESCRPTION_LONGDESCRIPTION
ASSETCUST	ADDTOSTORE	56	YORN	1	0	1	0	ASSET.ADDTOSTORE
ASSETCUST	GLCREDITACCT	57	GL	23	0	0	1	
ASSETCUST	GLDEBITACCT	58	GL	23	0	0	1	
ASSETCUST	MOVEDATE	59	DATETIME	10	0	0	0	ASSET.MOVEDATE
ASSETCUST	MOVEDBY	60	UPPER	18	0	0	0	ASSET.MOVEDBY
ASSETCUST	MOVEMEMO	61	ALN	254	0	0	0	ASSET.MOVEMEMO
ASSETCUST	MOVEMODIFYBINNUM	62	ALN	8	0	0	0	ASSET.MOVEMODIFYBINNUM
ASSETCUST	NEWPARENT	63	UPPER	12	0	0	0	ASSET.ASSETNUM
ASSETCUST	NEWSITE	64	UPPER	8	0	0	0	SITE.SITEID
ASSETCUST	NEWLOCATION	65	UPPER	12	0	0	0	LOCATIONS.LOCATION
ASSETCUST	FROMCONDITIONCODE	68	UPPER	30	0	0	0	ITEMCONDITION.CONDITIONCODE
ASSETCUST	NEWASSETNUM	75	UPPER	12	0	0	0	ASSET.ASSETNUM
ASSETCUST	NEWDEPARTMENT	76	ALN	15	0	0	0	ASSET.NEWDEPARTMENT
ASSETCUST	WONUM	77	UPPER	10	0	0	0	WORKORDER.WONUM
ASSETCUST	TASKID	78	INTEGER	12	0	0	1	WORKORDER.TASKID
ASSETCUST	REFWO	79	UPPER	10	0	0	0	WORKORDER.WONUM
ASSETCUST	NEWSTATUS	81	ALN	20	0	0	0	ASSET.STATUS
ASSETCUST	HASCHILDREN	82	YORN	1	0	1	0	ASSET.HASCHILDREN
ASSETCUST	HASPARENT	83	YORN	1	0	1	0	ASSET.HASPARENT
ASSETCUST	OBJECTNAME	84	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
ASSETCUST	NP_STATUSMEMO	85	ALN	50	0	0	0	WFTRANSACTION.MEMO
ASSETCUST	REPLACEASSETNUM	90	UPPER	12	0	0	0	ASSET.ASSETNUM
ASSETCUST	REPLACEASSETSITE	91	UPPER	8	0	0	0	SITE.SITEID
ASSETCUST	NEWREPLACEASSETNUM	92	UPPER	12	0	0	0	ASSET.ASSETNUM
COMPUTERSYSTEM	VRAMSIZE	39	ALN	32	0	0	0	
DPACCOMMDEVICE	VBANDWIDTH	12	ALN	32	0	0	0	DPACCOMMDEVICE.VBANDWIDTH
DPACCPU	VMAXSPEED	10	ALN	32	0	0	0	DPACPU.VMAXSPEED
DPACCPU	VCURRSPEED	11	ALN	32	0	0	0	DPACPU.VCURRSPEED
DPACDISK	VTOTALSPACE	17	ALN	32	0	0	0	DPADISK.VTOTALSPACE
DPACIMAGEDEVICE	VMAXRAMSIZE	27	ALN	32	0	0	0	DPACIMAGEDEVICE.VMAXRAMSIZE
DPACIMAGEDEVICE	VCURRENTRAMSIZE	28	ALN	32	0	0	0	DPACIMAGEDEVICE.VCURRENTRAMSIZE
DPACIMAGEDEVICE	VMAXWIDTH	29	ALN	32	0	0	0	DPACIMAGEDEVICE.VMAXWIDTH
DPACIMAGEDEVICE	VMAXLENGTH	30	ALN	32	0	0	0	DPACIMAGEDEVICE.VMAXLENGTH
DPACMEDIAADAPTER	VRAMSIZE	14	ALN	32	0	0	0	DPACMEDIAADAPTER.VRAMSIZE
DPACNETADAPTER	VBANDWIDTH	17	ALN	32	0	0	0	DPACNETADAPTER.VBANDWIDTH
DPACNETDEVCARD	VBANDWIDTH	17	ALN	32	0	0	0	DPACNETDEVCARD.VBANDWIDTH
DPACNETDEVCARD	VRAMSIZE	18	ALN	32	0	0	0	DPACNETDEVCARD.VRAMSIZE
DPACSOFTWARE	SUITENAME	18	ALN	254	0	0	0	DPACSOFTWARE.SUITENAME
DPACSOFTWARE	VUSAGEDISPLAYTEXT	19	ALN	64	0	0	0	DPACSOFTWARE.VUSAGEDISPLAYTEXT
DPACSWSUITE	VUSAGEDISPLAYTEXT	16	ALN	64	0	0	0	DPACSWSUITE.VUSAGEDISPLAYTEXT
INCIDENT	DESCRIPTION_LONGDESCRIPTION	55	LONGALN	32000	0	0	1	TICKET.DESCRPTION_LONGDESCRIPTION

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
INCIDENT	REMARKDESC	56	ALN	100	0	0	0	FAILUREREMARK.DESCRPTION
INCIDENT	REMARKENTERDATE	57	DATETIME	10	0	0	1	FAILUREREMARK.ENTERDATE
INCIDENT	REMARKDESC_LONGDESCRIPTION	58	LONGALN	32000	0	0	1	TICKET.REMARKDESC_LONGDESCRIPTION
INCIDENT	ORIGWOID	61	UPPER	10	0	0	0	WORKORDER.WONUM
INCIDENT	ORIGTKID	67	UPPER	10	0	0	0	TICKET.TICKETID
INCIDENT	PROBLEMCODE_LONGDESCRIPTION	68	LONGALN	32000	0	0	0	
INCIDENT	FR1CODE_LONGDESCRIPTION	70	LONGALN	32000	0	0	0	
INCIDENT	FR2CODE_LONGDESCRIPTION	72	LONGALN	32000	0	0	0	
INCIDENT	DUPFLAG	75	UPPER	10	0	0	0	
INCIDENT	ASSETUSER	76	UPPER	30	0	0	0	PERSON.PERSONID
INCIDENT	ASSETCUST	77	UPPER	30	0	0	0	PERSON.PERSONID
INCIDENT	NP_STATUSMEMO	79	ALN	50	0	0	0	WFTRANSACTION.MEMO
INCIDENT	ASSETFILTERBY	81	UPPER	10	0	1	0	
INCIDENT	SELECTSLAS_MODE	82	UPPER	10	0	0	0	
INCIDENT	REPORTEDBYNAME	83	ALN	62	0	0	0	PERSON.DISPLAYNAME
INCIDENT	REPORTEDBYID	84	UPPER	30	0	0	0	PERSON.PERSONID
INCIDENT	AFFECTEDPERSONID	85	UPPER	30	0	0	0	PERSON.PERSONID
INCIDENT	AFFECTEDUSERNAME	86	ALN	62	0	0	0	PERSON.DISPLAYNAME
INCIDENT	SLAAPPLIED	87	YORN	1	0	1	0	
JOBMATERIAL	LINECOST	13	AMOUNT	10	2	0	0	JOBITEM.LINECOST
JOBMATERIAL	UNITCOST	18	AMOUNT	10	2	0	0	JOBITEM.UNITCOST
JOBSERVICE	LINECOST	13	AMOUNT	10	2	0	0	JOBITEM.LINECOST
JOBSERVICE	UNITCOST	18	AMOUNT	10	2	0	0	JOBITEM.UNITCOST
JOBTOL	LINECOST	13	AMOUNT	10	2	0	0	
JOBTOL	UNITCOST	18	AMOUNT	10	2	0	0	
LABORVIEW	DESCRIPTION_LONGDESCRIPTION	46	LONGALN	32000	0	0	1	
LABORVIEW	FREIGHTTERMS_LONGDESCRIPTION	47	LONGALN	32000	0	0	1	
LABORVIEW	ADJUSTPERCENT	55	DECIMAL	5	2	0	0	
LABORVIEW	NP_STATUSMEMO	56	ALN	50	0	0	0	WFTRANSACTION.MEMO
LABORVIEW	REVCOMMENTS_LONGDESCRIPTION	59	LONGALN	32000	0	0	0	
LEASEVIEW	DESCRIPTION_LONGDESCRIPTION	46	LONGALN	32000	0	0	1	
LEASEVIEW	FREIGHTTERMS_LONGDESCRIPTION	47	LONGALN	32000	0	0	1	
LEASEVIEW	LINESTATUS	86	UPPER	6	0	0	0	CONTRACT.STATUS
LEASEVIEW	NP_STATUSMEMO	87	ALN	50	0	0	0	WFTRANSACTION.MEMO
LEASEVIEW	REVCOMMENTS_LONGDESCRIPTION	90	LONGALN	32000	0	0	0	
LEASEVIEWLINE	DESCRIPTION_LONGDESCRIPTION	22	LONGALN	32000	0	0	1	
LEASEVIEWLINE	REMARK_LONGDESCRIPTION	23	LONGALN	32000	0	0	1	
LEASEVIEWLINE	NEWPRICE	24	DECIMAL	10	2	0	0	CONTRACTLINE.LINECOST
LNKCLAUSEATRNAME	DATATYPE	26	UPPER	8	0	0	0	CLASSSPEC.DATATYPE
LNKCLAUSEATRNAME	SPECVALUE	27	ALN	16	0	0	0	CLASSSPEC.SPECVALUE
MASTVIEW	DESCRIPTION_LONGDESCRIPTION	46	LONGALN	32000	0	0	1	CONTRACT.DESCRPTION_LONGDESCRIPTION
MASTVIEW	FREIGHTTERMS_LONGDESCRIPTION	47	LONGALN	32000	0	0	1	CONTRACT.FREIGHTTERMS_LONGDESCRIPTION
MASTVIEW	NP_STATUSMEMO	60	ALN	50	0	0	0	WFTRANSACTION.MEMO
MASTVIEW	REVCOMMENTS_LONGDESCRIPTION	65	LONGALN	32000	0	0	0	
NETDEVICE	VRAMSIZE	24	ALN	32	0	0	0	
NETPRINTER	VMAXRAMSIZE	30	ALN	32	0	0	0	

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
NETPRINTER	VCURRENTRAMSIZE	31	ALN	32	0	0	0	
NETPRINTER	VMAXWIDTH	32	ALN	32	0	0	0	
NETPRINTER	VMAXLENGTH	33	ALN	32	0	0	0	
PROBLEM	DESCRIPTION_LONGDESCRIPTION	55	LONGALN	32000	0	0	1	TICKET.DESCRPTION_LONGDESCRIPTION
PROBLEM	REMARKDESC	56	ALN	100	0	0	0	FAILUREREMARK.DESCRPTION
PROBLEM	REMARKENTERDATE	57	DATETIME	10	0	0	1	FAILUREREMARK.ENTERDATE
PROBLEM	REMARKDESC_LONGDESCRIPTION	58	LONGALN	32000	0	0	1	TICKET.REMARKDESC_LONGDESCRIPTION
PROBLEM	ORIGWVOID	61	UPPER	10	0	0	0	WORKORDER.WONUM
PROBLEM	ORIGTKID	67	UPPER	10	0	0	0	TICKET.TICKETID
PROBLEM	PROBLEMCODE_LONGDESCRIPTION	68	LONGALN	32000	0	0	0	
PROBLEM	FR1CODE_LONGDESCRIPTION	70	LONGALN	32000	0	0	0	
PROBLEM	FR2CODE_LONGDESCRIPTION	72	LONGALN	32000	0	0	0	
PROBLEM	DUPFLAG	75	UPPER	10	0	0	0	
PROBLEM	ASSETUSER	76	UPPER	30	0	0	0	PERSON.PERSONID
PROBLEM	ASSETCUST	77	UPPER	30	0	0	0	PERSON.PERSONID
PROBLEM	NP_STATUSMEMO	79	ALN	50	0	0	0	WFTRANSACTION.MEMO
PROBLEM	ASSETFILTERBY	81	UPPER	10	0	1	0	
PROBLEM	SELECTSLAS_MODE	82	UPPER	10	0	0	0	
PROBLEM	REPORTEDBYNAME	83	ALN	62	0	0	0	PERSON.DISPLAYNAME
PROBLEM	REPORTEDBYID	84	UPPER	30	0	0	0	PERSON.PERSONID
PROBLEM	AFFECTEDPERSONID	85	UPPER	30	0	0	0	PERSON.PERSONID
PROBLEM	AFFECTEDUSERNAME	86	ALN	62	0	0	0	PERSON.DISPLAYNAME
PROBLEM	SLAAPPLIED	87	YORN	1	0	1	0	
PURCHVIEW	DESCRIPTION_LONGDESCRIPTION	59	LONGALN	32000	0	0	0	
PURCHVIEW	FREIGHTTERMS_LONGDESCRIPTION	60	LONGALN	32000	0	0	0	
PURCHVIEW	ADJUSTPERCENT	61	DECIMAL	5	2	0	0	
PURCHVIEW	ADJUSTAMT	62	DECIMAL	10	2	0	1	PO.TOTALCOST
PURCHVIEW	LINESTATUS	66	UPPER	6	0	0	0	CONTRACT.STATUS
PURCHVIEW	NP_STATUSMEMO	72	ALN	50	0	0	0	WFTRANSACTION.MEMO
PURCHVIEW	REVCOMMENTS_LONGDESCRIPTION	75	LONGALN	32000	0	0	0	
RECONATTRCLAUSE	ASSETATTRIBUTEDESC	14	ALN	100	0	0	0	
RECONCOMPFLTRAST	ASSETATTRIBUTEDESC	17	ALN	100	0	0	0	
RECONCOMPRULE	CURRENTEXPRESSION	5	ALN	4000	0	0	0	
RECONCOMPRULE	DESCRIPTION_LONGDESCRIPTION	7	LONGALN	32000	0	0	0	
RECONLINKCLAUSE	ASSETATTRIBUTEDESC	14	ALN	100	0	0	0	
RECONLINKRULE	CURRENTEXPRESSION	5	ALN	4000	0	0	0	
RECONLINKRULE	DESCRIPTION_LONGDESCRIPTION	7	LONGALN	32000	0	0	0	
SCHLEASEVIEW	TOTALCOSTPAID	36	DECIMAL	10	2	0	1	INVOICE.TOTALCOST
SCHLEASEVIEW	TOTALCOSTDUE	37	DECIMAL	10	2	0	1	INVOICE.TOTALCOST
SCHLEASEVIEW	TOTALCOSTDUENEXT	38	DECIMAL	10	2	0	1	INVOICE.TOTALCOST
SCHLEASEVIEW	DUEDATENEXT	39	DATE	4	0	0	1	INVOICE.DUEDATE
SERVICEITEMS	DESCRIPTION_LONGDESCRIPTION	27	LONGALN	32000	0	0	1	
SERVICEITEMS	ITEM_DESCRIPTION	28	ALN	50	0	0	0	
SERVICEITEMS	ITEM_ID	29	ALN	50	0	0	0	
SERVICEITEMS	SITEID	30	UPPER	8	0	0	0	
SERVICEITEMS	HASIAS	31	YORN	1	0	0	0	

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
SERVICEITEMS	INSTANCE	32	INTEGER	12	0	0	0	
SERVICEITEMS	KITCOMPONENTTOADDTOSTORE	42	YORN	1	0	1	1	
SR	DESCRIPTION_LONGDESCRIPTION	55	LONGALN	32000	0	0	1	TICKET.DESCRPTION_LONGDESCRIPTION
SR	REMARKDESC	56	ALN	100	0	0	0	FAILUREREMARK.DESCRPTION
SR	REMARKENTERDATE	57	DATETIME	10	0	0	1	FAILUREREMARK.ENTERDATE
SR	REMARKDESC_LONGDESCRIPTION	58	LONGALN	32000	0	0	1	TICKET.REMARKDESC_LONGDESCRIPTION
SR	ORIGWOID	61	UPPER	10	0	0	0	WORKORDER.WONUM
SR	ORIGTKID	67	UPPER	10	0	0	0	TICKET.TICKETID
SR	PROBLEMCODE_LONGDESCRIPTION	68	LONGALN	32000	0	0	0	
SR	FR1CODE_LONGDESCRIPTION	70	LONGALN	32000	0	0	0	
SR	FR2CODE_LONGDESCRIPTION	72	LONGALN	32000	0	0	0	
SR	DUPFLAG	75	UPPER	10	0	0	0	
SR	ASSETUSER	76	UPPER	30	0	0	0	PERSON.PERSONID
SR	ASSETCUST	77	UPPER	30	0	0	0	PERSON.PERSONID
SR	NP_STATUSMEMO	79	ALN	50	0	0	0	WFTRANSACTION.MEMO
SR	ASSETFILTERBY	81	UPPER	10	0	1	0	
SR	SELECTSLAS_MODE	82	UPPER	10	0	0	0	
SR	REPORTEDBYNAME	83	ALN	62	0	0	0	PERSON.DISPLAYNAME
SR	REPORTEDBYID	84	UPPER	30	0	0	0	PERSON.PERSONID
SR	AFFECTEDPERSONID	85	UPPER	30	0	0	0	PERSON.PERSONID
SR	AFFECTEDUSERNAME	86	ALN	62	0	0	0	PERSON.DISPLAYNAME
SR	SLAAPPLIED	87	YORN	1	0	1	0	
TOOLINV	ADDTOSTORELOC	34	UPPER	8	0	0	0	
TOOLINV	RESERVEDQTY	35	DECIMAL	15	2	0	0	
TOOLINV	EXPIREDQTY	36	DECIMAL	15	2	0	0	
TOOLINV	AVLBALANCE	37	DECIMAL	15	2	0	0	
TOOLINV	LOTNUM	38	UPPER	8	0	0	0	
TOOLINV	CURBAL	39	DECIMAL	15	2	0	0	INVENTORY.CURBAL
TOOLINV	CURBALTOTAL	40	DECIMAL	15	2	0	0	
TOOLINV	CONDITIONCODE	41	UPPER	30	0	0	0	ITEMCONDITION.CONDITIONCODE
TOOLINV	CONDRATE	42	DECIMAL	8	0	0	1	ITEMCONDITION.CONDRATE
TOOLINV	STDCOST	43	AMOUNT	10	2	0	0	INVENTORY.STDCOST
TOOLINV	AVGCOST	44	AMOUNT	10	2	0	0	
TOOLINV	LASTCOST	45	AMOUNT	10	2	0	0	
TOOLINV	PHYSNTDATE	46	DATETIME	10	0	0	1	INVBALANCES.PHYSNTDATE
TOOLINV	DESCRIPTION_LONGDESCRIPTION	66	LONGALN	32000	0	0	1	
TOOLINV	ITEM_DESCRIPTION	67	ALN	50	0	0	0	
TOOLINV	ITEM_ID	68	ALN	50	0	0	0	
TOOLINV	HASIAS	69	YORN	1	0	0	0	
TOOLINV	INSTANCE	70	INTEGER	12	0	0	0	
TOOLINV	KITCOMPONENTTOADDTOSTORE	80	YORN	1	0	1	1	
TOOLINV	HOLDINGBAL	82	DECIMAL	15	2	0	0	
TOOLITEM	DESCRIPTION_LONGDESCRIPTION	27	LONGALN	32000	0	0	1	
TOOLITEM	ITEM_DESCRIPTION	28	ALN	50	0	0	0	
TOOLITEM	ITEM_ID	29	ALN	50	0	0	0	
TOOLITEM	SITEID	30	UPPER	8	0	0	0	

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
TOOLITEM	HASIAS	31	YORN	1	0	0	0	
TOOLITEM	INSTANCE	32	INTEGER	12	0	0	0	
TOOLITEM	KITCOMPONENTTOADDSTORE	42	YORN	1	0	1	1	
WARRANTYVIEW	DESCRIPTION_LONGDESCRIPTION	46	LONGALN	32000	0	0	1	CONTRACT.DESCRPTION_LONGDESCRIPTION
WARRANTYVIEW	FREIGHTTERMS_LONGDESCRIPTION	47	LONGALN	32000	0	0	1	CONTRACT.FREIGHTTERMS_LONGDESCRIPTION
WARRANTYVIEW	REVCOMMENTS_LONGDESCRIPTION	57	LONGALN	32000	0	0	0	
WARRANTYVIEWLINE	DESCRIPTION_LONGDESCRIPTION	22	LONGALN	32000	0	0	1	CONTRACTLINE.DESCRPTION_LONGDESCRIPTION
WARRANTYVIEWLINE	REMARK_LONGDESCRIPTION	23	LONGALN	32000	0	0	1	CONTRACTLINE.REMARK_LONGDESCRIPTION
WARRANTYVIEWLINE	NEWPRICE	24	DECIMAL	10	2	0	0	CONTRACTLINE.LINECOST
WMASSIGNMENT	DESCRIPTION_LONGDESCRIPTION	82	LONGALN	32000	0	0	1	WORKORDER.DESCRPTION_LONGDESCRIPTION
WMASSIGNMENT	DISPLAYTASKID	83	INTEGER	12	0	0	0	WORKORDER.DISPLAYTASKID
WMASSIGNMENT	DISPLAYWONUM	84	UPPER	10	0	0	0	WORKORDER.DISPLAYWONUM
WMASSIGNMENT	FACTASKID	85	ALN	25	0	0	0	FINCNTRL.TASKID
WMASSIGNMENT	FCPROJECTID	86	ALN	25	0	0	0	FINCNTRL.PROJECTID
WMASSIGNMENT	LOCWARRANTYNOTICE	87	YORN	1	0	0	0	WORKORDER.LOCWARRANTYNOTICE
WMASSIGNMENT	ASSETWARRANTYNOTICE	88	YORN	1	0	0	0	WORKORDER.ASSETWARRANTYNOTICE
WMASSIGNMENT	REMARKDESC_LONGDESCRIPTION	89	LONGALN	32000	0	0	1	WORKORDER.REMARKDESC_LONGDESCRIPTION
WMASSIGNMENT	REMARKENTERDATE	90	DATETIME	10	0	0	0	WORKORDER.REMARKENTERDATE
WMASSIGNMENT	REMARKDESC	91	ALN	50	0	0	0	WORKORDER.REMARKDESC
WMASSIGNMENT	FR2CODE	92	UPPER	8	0	0	0	WORKORDER.FR2CODE
WMASSIGNMENT	FR1CODE	93	UPPER	8	0	0	0	WORKORDER.FR1CODE
WMASSIGNMENT	JPTASK	94	INTEGER	12	0	0	0	WORKORDER.JPTASK
WMASSIGNMENT	SAFETYPLANID	95	UPPER	8	0	0	0	WORKORDER.SAFETYPLANID
WMASSIGNMENT	ACTTOTALCOST	96	AMOUNT	10	2	0	0	WORKORDER.ACTTOTALCOST
WMASSIGNMENT	ESTATAPRRTOTALCOST	97	AMOUNT	10	2	0	0	WORKORDER.ESTATAPRRTOTALCOST
WMASSIGNMENT	ESTTOTALCOST	98	AMOUNT	10	2	0	0	WORKORDER.ESTTOTALCOST
WMASSIGNMENT	JUSTIFYPRIORITY_LONGDESCRIPTION	105	LONGALN	32000	0	0	1	WORKORDER.JUSTIFYPRIORITY_LONGDESCRIPTION
WMASSIGNMENT	ENVIRONMENT_LONGDESCRIPTION	108	LONGALN	32000	0	0	1	WORKORDER.ENVIRONMENT_LONGDESCRIPTION
WMASSIGNMENT	BACKOUTPLAN_LONGDESCRIPTION	110	LONGALN	32000	0	0	1	WORKORDER.BACKOUTPLAN_LONGDESCRIPTION
WMASSIGNMENT	ORIGTKID	111	UPPER	10	0	0	0	TICKET.TICKETID
WMASSIGNMENT	ORIGVOID	114	UPPER	10	0	0	0	WORKORDER.WONUM
WMASSIGNMENT	DUPFLAG	115	UPPER	10	0	0	1	WORKORDER.DUPFLAG
WMASSIGNMENT	WARRANTYEXPDATE	121	DATE	4	0	0	0	WORKORDER.WARRANTYEXPDATE
WMASSIGNMENT	WHOMISCHANGEFOR_LONGDESCRIPTION	126	LONGALN	32000	0	0	0	WORKORDER.WHOMISCHANGEFOR_LONGDESCRIPTION
WMASSIGNMENT	REASONFORCHANGE_LONGDESCRIPTION	128	LONGALN	32000	0	0	0	WORKORDER.REASONFORCHANGE_LONGDESCRIPTION
WMASSIGNMENT	VERIFICATION_LONGDESCRIPTION	130	LONGALN	32000	0	0	0	WORKORDER.VERIFICATION_LONGDESCRIPTION
WMASSIGNMENT	OBJECTNAME	132	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
WMASSIGNMENT	HASPARENT	133	YORN	1	0	0	0	WORKORDER.HASPARENT
WMASSIGNMENT	NAME	143	ALN	25	0	0	0	ASSIGNMENT.NAME
WMASSIGNMENT	CRAFTCODE	144	UPPER	8	0	0	0	ASSIGNMENT.CRAFTCODE
WMASSIGNMENT	LABOR	145	UPPER	8	0	0	0	ASSIGNMENT.LABOR
WMASSIGNMENT	RATE	146	AMOUNT	10	2	0	0	ASSIGNMENT.RATE
WMASSIGNMENT	WARRANTYEXIST	148	YORN	1	0	0	1	WORKORDER.WARRANTYEXIST
WMASSIGNMENT	SAFETYPLAN_LOOKUP_LIST_TYPE	151	ALN	35	0	0	0	WORKORDER.SAFETYPLAN_LOOKUP_LIST_TYPE
WMASSIGNMENT	JPASSETS	181	YORN	1	0	0	1	WORKORDER.JPASSETS
WMASSIGNMENT	SPASSETS	182	YORN	1	0	0	1	WORKORDER.SPASSETS

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
WMASSIGNMENT	SPLOCATIONS	183	YORN	1	0	0	1	WORKORDER.SPLOCATIONS
WMASSIGNMENT	NP_STATUSEMEMO	186	ALN	50	0	0	0	WFTRANSACTION.MEMO
WMASSIGNMENT	SELECTSLAS_MODE	192	UPPER	10	0	0	0	WORKORDER.SELECTSLAS_MODE
WMASSIGNMENT	SLAAPPLIED	193	YORN	1	0	0	0	WORKORDER.SLAAPPLIED
WMASSIGNMENT	REPORTEDBYID	194	UPPER	30	0	0	0	PERSON.PERSONID
WMASSIGNMENT	REPORTEDBYNAME	195	ALN	62	0	0	0	PERSON.DISPLAYNAME
WMASSIGNMENT	ONBEHALFOFID	196	UPPER	30	0	0	0	PERSON.PERSONID
WMASSIGNMENT	ONBEHALFOFNAME	197	ALN	62	0	0	0	PERSON.DISPLAYNAME
WMASSIGNMENT	ASSETFILTERBY	199	UPPER	10	0	0	0	WORKORDER.ASSETFILTERBY
WMASSIGNMENT	ASSETCUST	200	UPPER	30	0	0	0	PERSON.PERSONID
WMASSIGNMENT	ASSETUSER	201	UPPER	30	0	0	0	PERSON.PERSONID
WOACTIVITY	DESCRIPTION_LONGDESCRIPTION	128	LONGALN	32000	0	0	1	WORKORDER.DESCRPTION_LONGDESCRIPTION
WOACTIVITY	DISPLAYTASKID	129	INTEGER	12	0	0	0	WORKORDER.DISPLAYTASKID
WOACTIVITY	DISPLAYWONUM	130	UPPER	10	0	0	0	WORKORDER.DISPLAYWONUM
WOACTIVITY	FCTASKID	131	ALN	25	0	0	0	FINCNTRL.TASKID
WOACTIVITY	FCPROJECTID	132	ALN	25	0	0	0	FINCNTRL.PROJECTID
WOACTIVITY	LOCWARRANTYNOTICE	133	YORN	1	0	1	0	WORKORDER.LOCWARRANTYNOTICE
WOACTIVITY	ASSETWARRANTYNOTICE	134	YORN	1	0	1	0	WORKORDER.ASSETWARRANTYNOTICE
WOACTIVITY	REMARKDESC_LONGDESCRIPTION	135	LONGALN	32000	0	0	1	WORKORDER.REMARKDESC_LONGDESCRIPTION
WOACTIVITY	REMARKENTERDATE	136	DATETIME	10	0	0	0	WORKORDER.REMARKENTERDATE
WOACTIVITY	REMARKDESC	137	ALN	50	0	0	0	WORKORDER.REMARKDESC
WOACTIVITY	FR2CODE	138	UPPER	8	0	0	0	WORKORDER.FR2CODE
WOACTIVITY	FR1CODE	139	UPPER	8	0	0	0	WORKORDER.FR1CODE
WOACTIVITY	JPTASK	140	INTEGER	12	0	0	0	WORKORDER.JPTASK
WOACTIVITY	SAFETYPLANID	141	UPPER	8	0	0	0	WORKORDER.SAFETYPLANID
WOACTIVITY	ACTTOTALCOST	142	AMOUNT	10	2	0	0	WORKORDER.ACTTOTALCOST
WOACTIVITY	ESTATAPPRTOTALCOST	143	AMOUNT	10	2	0	0	WORKORDER.ESATAPPRTOTALCOST
WOACTIVITY	ESTTOTALCOST	144	AMOUNT	10	2	0	0	WORKORDER.ESTTOTALCOST
WOACTIVITY	JUSTIFYPRIORITY_LONGDESCRIPTION	151	LONGALN	32000	0	0	1	WORKORDER.JUSTIFYPRIORITY_LONGDESCRIPTION
WOACTIVITY	ENVIRONMENT_LONGDESCRIPTION	154	LONGALN	32000	0	0	1	WORKORDER.ENVIRONMENT_LONGDESCRIPTION
WOACTIVITY	BACKOUTPLAN_LONGDESCRIPTION	156	LONGALN	32000	0	0	1	WORKORDER.BACKOUTPLAN_LONGDESCRIPTION
WOACTIVITY	ORIGTKID	157	UPPER	10	0	0	0	TICKET.TICKETID
WOACTIVITY	ORIGWVOID	160	UPPER	10	0	0	0	WORKORDER.WONUM
WOACTIVITY	DUPFLAG	161	UPPER	10	0	0	1	WORKORDER.DUPFLAG
WOACTIVITY	WARRANTYEXPDATE	167	DATE	4	0	0	0	WORKORDER.WARRANTYEXPDATE
WOACTIVITY	WHOMISCHANGEFOR_LONGDESCRIPTION	172	LONGALN	32000	0	0	0	WORKORDER.WHOMISCHANGEFOR_LONGDESCRIPTION
WOACTIVITY	REASONFORCHANGE_LONGDESCRIPTION	174	LONGALN	32000	0	0	0	WORKORDER.REASONFORCHANGE_LONGDESCRIPTION
WOACTIVITY	VERIFICATION_LONGDESCRIPTION	176	LONGALN	32000	0	0	0	WORKORDER.VERIFICATION_LONGDESCRIPTION
WOACTIVITY	OBJECTNAME	178	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
WOACTIVITY	HASPARENT	179	YORN	1	0	1	0	WORKORDER.HASPARENT
WOACTIVITY	JPASSETS	181	YORN	1	0	1	1	WORKORDER.JPASSETS
WOACTIVITY	SPASSETS	182	YORN	1	0	1	1	WORKORDER.SPASSETS
WOACTIVITY	SPLOCATIONS	183	YORN	1	0	1	1	WORKORDER.SPLOCATIONS
WOACTIVITY	NP_STATUSEMEMO	186	ALN	50	0	0	0	WFTRANSACTION.MEMO
WOACTIVITY	WARRANTYEXIST	188	YORN	1	0	1	1	WORKORDER.WARRANTYEXIST
WOACTIVITY	SAFETYPLAN_LOOKUP_LIST_TYPE	191	ALN	35	0	0	0	WORKORDER.SAFETYPLAN_LOOKUP_LIST_TYPE

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
WOACTIVITY	SELECTSLAS_MODE	192	UPPER	10	0	0	0	WORKORDER.SELECTSLAS_MODE
WOACTIVITY	SLAAPPLIED	193	YORN	1	0	1	0	WORKORDER.SLAAPPLIED
WOACTIVITY	REPORTEDBYID	194	UPPER	30	0	0	0	PERSON.PERSONID
WOACTIVITY	REPORTEDBYNAME	195	ALN	62	0	0	0	PERSON.DISPLAYNAME
WOACTIVITY	ONBEHALFOFID	196	UPPER	30	0	0	0	PERSON.PERSONID
WOACTIVITY	ONBEHALFOFNAME	197	ALN	62	0	0	0	PERSON.DISPLAYNAME
WOACTIVITY	ASSETFILTERBY	199	UPPER	10	0	0	0	.
WOACTIVITY	ASSETCUST	200	UPPER	30	0	0	0	PERSON.PERSONID
WOACTIVITY	ASSETUSER	201	UPPER	30	0	0	0	PERSON.PERSONID
WOACTIVITY	NEWTASKPARENTPMNUM	202	UPPER	8	0	0	0	PM.PMNUM
WOCHANGE	DESCRIPTION_LONGDESCRIPTION	128	LONGALN	32000	0	0	1	WORKORDER.DESCRPTION_LONGDESCRIPTION
WOCHANGE	DISPLAYTASKID	129	INTEGER	12	0	0	0	WORKORDER.DISPLAYTASKID
WOCHANGE	DISPLAYWONUM	130	UPPER	10	0	0	0	WORKORDER.DISPLAYWONUM
WOCHANGE	FCTASKID	131	ALN	25	0	0	0	FINCNTRL.TASKID
WOCHANGE	FCPROJECTID	132	ALN	25	0	0	0	FINCNTRL.PROJECTID
WOCHANGE	LOCWARRANTYNOTICE	133	YORN	1	0	1	0	WORKORDER.LOCWARRANTYNOTICE
WOCHANGE	ASSETWARRANTYNOTICE	134	YORN	1	0	1	0	WORKORDER.ASSETWARRANTYNOTICE
WOCHANGE	REMARKDESC_LONGDESCRIPTION	135	LONGALN	32000	0	0	1	WORKORDER.REMARKDESC_LONGDESCRIPTION
WOCHANGE	REMARKENTERDATE	136	DATETIME	10	0	0	0	WORKORDER.REMARKENTERDATE
WOCHANGE	REMARKDESC	137	ALN	50	0	0	0	WORKORDER.REMARKDESC
WOCHANGE	FR2CODE	138	UPPER	8	0	0	0	WORKORDER.FR2CODE
WOCHANGE	FR1CODE	139	UPPER	8	0	0	0	WORKORDER.FR1CODE
WOCHANGE	JPTASK	140	INTEGER	12	0	0	0	WORKORDER.JPTASK
WOCHANGE	SAFETYPLANID	141	UPPER	8	0	0	0	WORKORDER.SAFETYPLANID
WOCHANGE	ACTTOTALCOST	142	AMOUNT	10	2	0	0	WORKORDER.ACTTOTALCOST
WOCHANGE	ESTATAPRRTOTALCOST	143	AMOUNT	10	2	0	0	WORKORDER.ESTATAPRRTOTALCOST
WOCHANGE	ESTTOTALCOST	144	AMOUNT	10	2	0	0	WORKORDER.ESTTOTALCOST
WOCHANGE	JUSTIFYPRIORITY_LONGDESCRIPTION	151	LONGALN	32000	0	0	1	WORKORDER.JUSTIFYPRIORITY_LONGDESCRIPTION
WOCHANGE	ENVIRONMENT_LONGDESCRIPTION	154	LONGALN	32000	0	0	1	WORKORDER.ENVIRONMENT_LONGDESCRIPTION
WOCHANGE	BACKOUTPLAN_LONGDESCRIPTION	156	LONGALN	32000	0	0	1	WORKORDER.BACKOUTPLAN_LONGDESCRIPTION
WOCHANGE	ORIGTKID	157	UPPER	10	0	0	0	TICKET.TICKETID
WOCHANGE	ORIGVOID	160	UPPER	10	0	0	0	WORKORDER.WONUM
WOCHANGE	DUPFLAG	161	UPPER	10	0	0	1	WORKORDER.DUPFLAG
WOCHANGE	WARRANTYEXPDATE	167	DATE	4	0	0	0	WORKORDER.WARRANTYEXPDATE
WOCHANGE	WHOMISCHANGEFOR_LONGDESCRIPTION	172	LONGALN	32000	0	0	0	WORKORDER.WHOMISCHANGEFOR_LONGDESCRIPTION
WOCHANGE	REASONFORCHANGE_LONGDESCRIPTION	174	LONGALN	32000	0	0	0	WORKORDER.REASONFORCHANGE_LONGDESCRIPTION
WOCHANGE	VERIFICATION_LONGDESCRIPTION	176	LONGALN	32000	0	0	0	WORKORDER.VERIFICATION_LONGDESCRIPTION
WOCHANGE	OBJECTNAME	178	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
WOCHANGE	HASPARENT	179	YORN	1	0	1	0	WORKORDER.HASPARENT
WOCHANGE	JPASSETS	181	YORN	1	0	1	1	WORKORDER.JPASSETS
WOCHANGE	SPASSETS	182	YORN	1	0	1	1	WORKORDER.SPASSETS
WOCHANGE	SPLOCATIONS	183	YORN	1	0	1	1	WORKORDER.SPLOCATIONS
WOCHANGE	NP_STATUSMEMO	186	ALN	50	0	0	0	WFTRANSACTION.MEMO
WOCHANGE	WARRANTYEXIST	188	YORN	1	0	1	1	WORKORDER.WARRANTYEXIST
WOCHANGE	SAFETYPLAN_LOOKUP_LIST_TYPE	191	ALN	35	0	0	0	WORKORDER.SAFETYPLAN_LOOKUP_LIST_TYPE
WOCHANGE	SELECTSLAS_MODE	192	UPPER	10	0	0	0	WORKORDER.SELECTSLAS_MODE

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
WOCHANGE	SLAAPPLIED	193	YORN	1	0	1	0	WORKORDER.SLAAPPLIED
WOCHANGE	REPORTEDBYID	194	UPPER	30	0	0	0	PERSON.PERSONID
WOCHANGE	REPORTEDBYNAME	195	ALN	62	0	0	0	PERSON.DISPLAYNAME
WOCHANGE	ONBEHALFOFID	196	UPPER	30	0	0	0	PERSON.PERSONID
WOCHANGE	ONBEHALFOFNAME	197	ALN	62	0	0	0	PERSON.DISPLAYNAME
WOCHANGE	ASSETFILTERBY	199	UPPER	10	0	0	0	
WOCHANGE	ASSETCUST	200	UPPER	30	0	0	0	PERSON.PERSONID
WOCHANGE	ASSETUSER	201	UPPER	30	0	0	0	PERSON.PERSONID
WOCHANGE	NEWTASKPARENTPMNUM	202	UPPER	8	0	0	0	PM.PMNUM
WORELEASE	DESCRIPTION_LONGDESCRIPTION	128	LONGALN	32000	0	0	1	WORKORDER.DESCRPTION_LONGDESCRIPTION
WORELEASE	DISPLAYTASKID	129	INTEGER	12	0	0	0	WORKORDER.DISPLAYTASKID
WORELEASE	DISPLAYWONUM	130	UPPER	10	0	0	0	WORKORDER.DISPLAYWONUM
WORELEASE	FCTASKID	131	ALN	25	0	0	0	FINCNTRL.TASKID
WORELEASE	FCPROJECTID	132	ALN	25	0	0	0	FINCNTRL.PROJECTID
WORELEASE	LOCWARRANTYNOTICE	133	YORN	1	0	1	0	WORKORDER.LOCWARRANTYNOTICE
WORELEASE	ASSETWARRANTYNOTICE	134	YORN	1	0	1	0	WORKORDER.ASSETWARRANTYNOTICE
WORELEASE	REMARKDESC_LONGDESCRIPTION	135	LONGALN	32000	0	0	1	WORKORDER.REMARKDESC_LONGDESCRIPTION
WORELEASE	REMARKENTERDATE	136	DATETIME	10	0	0	0	WORKORDER.REMARKENTERDATE
WORELEASE	REMARKDESC	137	ALN	50	0	0	0	WORKORDER.REMARKDESC
WORELEASE	FR2CODE	138	UPPER	8	0	0	0	WORKORDER.FR2CODE
WORELEASE	FR1CODE	139	UPPER	8	0	0	0	WORKORDER.FR1CODE
WORELEASE	JPTASK	140	INTEGER	12	0	0	0	WORKORDER.JPTASK
WORELEASE	SAFETYPLANID	141	UPPER	8	0	0	0	WORKORDER.SAFETYPLANID
WORELEASE	ACTTOTALCOST	142	AMOUNT	10	2	0	0	WORKORDER.ACTTOTALCOST
WORELEASE	ESTATAPPRTOTALCOST	143	AMOUNT	10	2	0	0	WORKORDER.ESTATAPPRTOTALCOST
WORELEASE	ESTTOTALCOST	144	AMOUNT	10	2	0	0	WORKORDER.ESTTOTALCOST
WORELEASE	JUSTIFYPRIORITY_LONGDESCRIPTION	151	LONGALN	32000	0	0	1	WORKORDER.JUSTIFYPRIORITY_LONGDESCRIPTION
WORELEASE	ENVIRONMENT_LONGDESCRIPTION	154	LONGALN	32000	0	0	1	WORKORDER.ENVIRONMENT_LONGDESCRIPTION
WORELEASE	BACKOUTPLAN_LONGDESCRIPTION	156	LONGALN	32000	0	0	1	WORKORDER.BACKOUTPLAN_LONGDESCRIPTION
WORELEASE	ORIGTKID	157	UPPER	10	0	0	0	TICKET.TICKETID
WORELEASE	ORIGWOID	160	UPPER	10	0	0	0	WORKORDER.WONUM
WORELEASE	DUPFLAG	161	UPPER	10	0	0	1	WORKORDER.DUPFLAG
WORELEASE	WARRANTYEXPDATE	167	DATE	4	0	0	0	WORKORDER.WARRANTYEXPDATE
WORELEASE	FILESINRELEASE_LONGDESCRIPTION	176	LONGALN	32000	0	0	1	WORELEXT.FILESINRELEASE_LONGDESCRIPTION
WORELEASE	BUILDPROCEDURES_LONGDESCRIPTION	177	LONGALN	32000	0	0	1	WORELEXT.BUILDPROCEDURES_LONGDESCRIPTION
WORELEASE	RELEASEDESIGN_LONGDESCRIPTION	178	LONGALN	32000	0	0	1	WORELEXT.RELEASEDESIGN_LONGDESCRIPTION
WORELEASE	RELEASEPOLICIES_LONGDESCRIPTION	179	LONGALN	32000	0	0	1	WORELEXT.RELEASEPOLICIES_LONGDESCRIPTION
WORELEASE	WHOMISCHANGEFOR_LONGDESCRIPTION	181	LONGALN	32000	0	0	0	WORKORDER.WHOMISCHANGEFOR_LONGDESCRIPTION
WORELEASE	REASONFORCHANGE_LONGDESCRIPTION	183	LONGALN	32000	0	0	0	WORKORDER.REASONFORCHANGE_LONGDESCRIPTION
WORELEASE	VERIFICATION_LONGDESCRIPTION	185	LONGALN	32000	0	0	0	WORKORDER.VERIFICATION_LONGDESCRIPTION
WORELEASE	OBJECTNAME	187	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
WORELEASE	HASPARENT	188	YORN	1	0	1	0	WORKORDER.HASPARENT
WORELEASE	JPASSETS	190	YORN	1	0	1	1	WORKORDER.JPASSETS
WORELEASE	SPASSETS	191	YORN	1	0	1	1	WORKORDER.SPASSETS
WORELEASE	SPLOCATIONS	192	YORN	1	0	1	1	WORKORDER.SPLOCATIONS
WORELEASE	NP_STATUSMEMO	195	ALN	50	0	0	0	WFTRANSACTION.MEMO

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
WORELEASE	WARRANTYEXIST	197	YORN	1	0	1	1	WORKORDER.WARRANTYEXIST
WORELEASE	SAFETYPLAN_LOOKUP_LIST_TYPE	200	ALN	35	0	0	0	WORKORDER.SAFETYPLAN_LOOKUP_LIST_TYPE
WORELEASE	SELECTSLAS_MODE	201	UPPER	10	0	0	0	WORKORDER.SELECTSLAS_MODE
WORELEASE	SLAAPPLIED	202	YORN	1	0	1	0	WORKORDER.SLAAPPLIED
WORELEASE	REPORTEDBYID	203	UPPER	30	0	0	0	PERSON.PERSONID
WORELEASE	REPORTEDBYNAME	204	ALN	62	0	0	0	PERSON.DISPLAYNAME
WORELEASE	ONBEHALFOFID	205	UPPER	30	0	0	0	PERSON.PERSONID
WORELEASE	ONBEHALFOFNAME	206	ALN	62	0	0	0	PERSON.DISPLAYNAME
WORELEASE	ASSETFILTERBY	209	UPPER	10	0	0	0	
WORELEASE	ASSETCUST	210	UPPER	30	0	0	0	PERSON.PERSONID
WORELEASE	ASSETUSER	211	UPPER	30	0	0	0	PERSON.PERSONID
WORELEASE	NEWTASKPARENTPMNUM	212	UPPER	8	0	0	0	PM.PMNUM
WPMATERIAL	DESCRIPTION_LONGDESCRIPTION	3	LONGALN	32000	0	0	1	
WPMATERIAL	DISPLAYTASKID	5	INTEGER	12	0	0	0	WPITEM.DISPLAYTASKID
WPMATERIAL	DISPLAYWONUM	6	UPPER	10	0	0	0	WPITEM.DISPLAYWONUM
WPMATERIAL	TASKID	24	INTEGER	12	0	0	0	WPITEM.TASKID
WPMATERIAL	RESERVEREQ	44	YORN	1	0	1	0	
WPSERVICE	DESCRIPTION_LONGDESCRIPTION	3	LONGALN	32000	0	0	1	
WPSERVICE	DISPLAYTASKID	5	INTEGER	12	0	0	0	WPITEM.DISPLAYTASKID
WPSERVICE	DISPLAYWONUM	6	UPPER	10	0	0	0	WPITEM.DISPLAYWONUM
WPSERVICE	TASKID	24	INTEGER	12	0	0	0	WPITEM.TASKID
WPSERVICE	RESERVEREQ	44	YORN	1	0	1	0	
WPTOOL	DESCRIPTION_LONGDESCRIPTION	3	LONGALN	32000	0	0	1	
WPTOOL	DISPLAYTASKID	5	INTEGER	12	0	0	0	WPITEM.DISPLAYTASKID
WPTOOL	DISPLAYWONUM	6	UPPER	10	0	0	0	WPITEM.DISPLAYWONUM
WPTOOL	TASKID	24	INTEGER	12	0	0	0	WPITEM.TASKID
WPTOOL	RESERVEREQ	44	YORN	1	0	1	0	

MAXIMO Database Columns

Columns in non-persistent tables

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
ADDUSER	USERNAME	1	UPPER	30	0	1	0	PERSON.PERSONID
ADDUSER	PASSWORD	2	ALN	18	0	1	0	
ADDUSER	PASSWORDCHECK	3	ALN	18	0	1	0	ADDUSER.PASSWORD
ADDUSER	SITEID	4	UPPER	8	0	0	0	SITE.SITEID
ADDUSER	ORGID	5	UPPER	8	0	0	0	ORGANIZATION.ORGID
ADDUSER	SUPERVISOR	6	UPPER	8	0	0	0	LABOR.LABORCODE
ADDUSER	ADDRESS1	7	ALN	36	0	0	0	
ADDUSER	ADDRESS2	8	ALN	36	0	0	0	
ADDUSER	ADDRESS3	9	ALN	36	0	0	0	
ADDUSER	ADDRESS4	10	ALN	36	0	0	0	
ADDUSER	CALLID	11	ALN	20	0	0	0	
ADDUSER	PHONENUM	12	ALN	20	0	0	1	PHONE.PHONENUM
ADDUSER	BIRTHDATE	13	DATE	4	0	0	0	
ADDUSER	PAGEPIN	14	ALN	50	0	1	0	
ADDUSER	SHIPTOLOCATION	15	UPPER	30	0	0	0	ADDRESS.ADDRESSCODE
ADDUSER	SHIPADDRESS1	16	ALN	50	0	0	0	ADDRESS.ADDRESS1
ADDUSER	SHIPADDRESS2	17	ALN	50	0	0	0	ADDRESS.ADDRESS2
ADDUSER	SHIPADDRESS3	18	ALN	50	0	0	0	ADDRESS.ADDRESS3
ADDUSER	SHIPADDRESS4	19	ALN	50	0	0	0	ADDRESS.ADDRESS4
ADDUSER	DROPPPOINT	20	ALN	12	0	0	0	MR.DROPPPOINT
ADDUSER	GLACCOUNT	21	GL	23	0	0	1	
ADDUSER	DEFAULTSTORELOC	22	UPPER	12	0	0	0	LOCATIONS.LOCATION
ADDUSER	PCARDNUM	23	ALN	30	0	0	0	
ADDUSER	PCARDTYPE	24	ALN	20	0	0	0	
ADDUSER	PCARDEXPDATE	25	ALN	7	0	0	0	
ADDUSER	PCARDVERIFICATION	26	ALN	4	0	0	0	
ADDUSER	FIRSTNAME	27	ALN	30	0	1	0	PERSON.FIRSTNAME
ADDUSER	LASTNAME	28	ALN	30	0	1	0	PERSON.LASTNAME
ADDUSER	EMAILTYPE	29	UPPER	10	0	0	1	EMAIL.TYPE
ADDUSER	PHONETYPE	30	UPPER	10	0	0	1	PHONE.TYPE
ADDUSER	ADDITIONALINFO	31	ALN	256	0	0	0	MAXUSER.MEMO
ADDUSER	LANGCODE	32	UPPER	4	0	0	1	LANGUAGE.MAXLANGCODE
ADDUSER	LOCALE	33	ALN	10	0	0	0	PERSON.LOCALE
ADDUSER	TIMEZONE	34	ALN	22	0	0	0	PERSON.TIMEZONE
AGREEMENTINPUT	VENDOR	1	UPPER	12	0	0	0	COMPANIES.COMPANY
AGREEMENTINPUT	MANUFACTURER	2	UPPER	12	0	0	0	COMPANIES.COMPANY
AGREEMENTINPUT	MODELNUM	3	ALN	8	0	0	0	INVENTORY.MODELNUM
AGREEMENTINPUT	CATALOGCODE	4	ALN	30	0	0	0	INVENTORY.CATALOGCODE
AGREEMENTINPUT	ORDERQTY	5	DECIMAL	15	2	0	1	INVENTORY.ORDERQTY

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
AGREEMENTINPUT	ORDERUNIT	6	UPPER	8	0	0	0	MEASUREUNIT.MEASUREUNITID
AGREEMENTINPUT	UNITCOST	7	DECIMAL	10	2	0	1	POLINE.UNITCOST
AGREEMENTINPUT	CONTRACTREFNUM	8	UPPER	8	0	0	0	CONTRACT.CONTRACTNUM
AGREEMENTINPUT	CONTRACTTYPE	9	UPPER	25	0	0	0	CONTRACT.CONTRACTTYPE
AGREEMENTINPUT	DESCRIPTION	10	ALN	100	0	0	0	ITEM.DESCRPTION
AGREEMENTINPUT	GLDEBITACCT	11	GL	23	0	0	1	
AGREEMENTINPUT	ORGID	12	UPPER	8	0	0	0	ORGANIZATION.ORGID
AGREEMENTINPUT	LINECOST	13	DECIMAL	10	2	0	0	CONTRACTLINE.LINECOST
AGREEMENTINPUT	REVISIONNUM	14	INTEGER	12	0	0	1	CONTRACT.REVISIONNUM
AGREEMENTINPUT	CONTRACTLINEID	15	INTEGER	12	0	0	0	CONTRACTLINE.CONTRACTLINEID
AGREEMENTINPUT	LEADTIME	16	INTEGER	12	0	0	1	INVENTORY.DELIVERYTIME
AGREEMENTINPUT	COMMODITYGROUP	17	UPPER	8	0	0	1	COMMODITIES.COMMODITY
AGREEMENTINPUT	COMMODITY	18	UPPER	8	0	0	1	COMMODITIES.COMMODITY
AGREEMENTINPUT	CONDITIONCODE	19	UPPER	30	0	0	0	ITEMCONDITION.CONDITIONCODE
AGREEMENTINPUT	INSPECTIONREQUIRED	20	YORN	1	0	1	1	ITEM.INSPECTIONREQUIRED
AMOUNTFORMAT	LENGTH	1	INTEGER	12	0	1	1	
AMOUNTFORMAT	SCALE	2	INTEGER	12	0	1	1	
AMOUNTFORMAT	INTEGERLENGTH	3	INTEGER	12	0	1	1	
AMOUNTFORMAT	SMALLINTEGRAL	4	INTEGER	12	0	1	1	
APPLYNONWORKTIME	NONWORKTIME	1	UPPER	16	0	0	0	
APPLYNONWORKTIME	STARTDATE	2	DATE	4	0	0	1	CALENDAR.STARTDATE
APPLYNONWORKTIME	ENDDATE	3	DATE	4	0	0	1	CALENDAR.ENDDATE
APPSUPPORT	OBJECTNAME	1	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
APPSUPPORT	APP	2	UPPER	10	0	0	1	MAXAPPS.APP
APPSUPPORT	CURRENTSUPPORT	3	ALN	10	0	0	0	
APPSUPPORT	ADDSUPPORT	4	YORN	1	0	1	0	
APPSUPPORT	ROUTEWF	5	YORN	1	0	1	0	
APPSUPPORT	STOPWF	6	YORN	1	0	1	0	
APPSUPPORT	HISTORYWF	7	YORN	1	0	1	0	
APPSUPPORT	ASSIGNWF	8	YORN	1	0	1	0	
APPSUPPORT	VIEWWF	9	YORN	1	0	1	0	
APPSUPPORT	HELPWF	10	YORN	1	0	1	1	
ASCHANGESTATUS	STATUS	1	ALN	20	0	1	0	ASSET.STATUS
ASCHANGESTATUS	ROLLTOALLCHILDREN	2	YORN	1	0	1	0	
ASCHANGESTATUS	REMOVEFROMACTIVEROUTES	3	YORN	1	0	1	0	
ASCHANGESTATUS	REMOVEFROMACTIVESP	4	YORN	1	0	1	0	
ASCHANGESTATUS	CHANGEPMSTATUS	5	YORN	1	0	1	0	
ASSETINPUT	ASSETNUM	1	UPPER	12	0	0	0	ASSET.ASSETNUM
ASSETINPUT	DESCRIPTION	2	ALN	100	0	0	0	ITEM.DESCRPTION
ASSETINPUT	ITEMNUM	3	UPPER	30	0	0	0	ITEM.ITEMNUM
ASSETINPUT	UNITCOST	4	AMOUNT	10	2	0	1	ASSET.PURCHASEPRICE
ASSETINPUT	GLACCOUNT	5	GL	23	0	0	1	
ASSETINPUT	SERIALNUM	6	UPPER	15	0	0	0	ASSET.SERIALNUM
ASSETINPUT	MATRECTRANSID	7	INTEGER	12	0	0	1	MATRECTRANS.MATRECTRANSID
ASSETINPUT	ROTSUSPACCT	8	GL	23	0	0	1	
ASSETINPUT	ORGID	9	UPPER	8	0	1	0	ORGANIZATION.ORGID

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
ASSETINPUT	SITEID	10	UPPER	8	0	0	0	SITE.SITEID
ASSETINPUT	ITEMSETID	11	UPPER	8	0	0	0	SETS.SETID
ASSETINPUT	CONDITIONCODE	12	UPPER	30	0	0	0	ITEMCONDITION.CONDITIONCODE
ASSETINPUT	LOCATION	13	UPPER	12	0	0	0	LOCATIONS.LOCATION
ASSETINPUT	CONTRACTNUM	14	UPPER	8	0	0	0	CONTRACT.CONTRACTNUM
ASSETINPUT	REVISIONNUM	15	INTEGER	12	0	0	1	CONTRACT.REVISIONNUM
ASSETINPUT	ASSETID	16	INTEGER	12	0	0	0	ASSET.ASSETID
ASSETMODIFYDFLT	DFLTASSETATTRID	1	UPPER	8	0	0	0	ASSETATTRIBUTE.ASSETATTRID
ASSETMODIFYDFLT	DFLTALNVALUE	2	ALN	25	0	0	1	ALNDOMAIN.VALUE
ASSETMODIFYDFLT	DFLTNUMVALUE	3	DECIMAL	10	2	0	1	NUMERICDOMAIN.VALUE
ASSETMOVEDFLT	DFLTNEWSITE	1	UPPER	8	0	0	0	SITE.SITEID
ASSETMOVEDFLT	DFLTNEWLOCATION	2	UPPER	12	0	0	0	LOCATIONS.LOCATION
ASSETMOVEDFLT	DFLTNEWPARENT	3	UPPER	12	0	0	0	ASSET.ASSETNUM
ASSETMOVEDFLT	DFLTNEWBINNUM	4	ALN	8	0	0	0	INVENTORY.BINNUM
ASSETMOVEDFLT	DFLTNEWLOCATIONCHKBOX	5	YORN	1	0	1	0	
ASSETMOVEDFLT	DFLTNEWBINNUMCHKBOX	6	YORN	1	0	1	0	
ASSETMOVEDFLT	DFLTNEWPARENTCHKBOX	7	YORN	1	0	1	0	
ASSETSTATUSDUMMY	ASSETNUM	1	UPPER	12	0	0	0	ASSET.ASSETNUM
ASSETSTATUSDUMMY	CHANGEDATE	2	DATETIME	10	0	0	0	
ASSETSTATUSDUMMY	CHANGEBY	3	ALN	18	0	0	0	
ASSETSTATUSDUMMY	SITEID	4	UPPER	8	0	0	0	SITE.SITEID
ASSETSTATUSDUMMY	MEMO	5	ALN	50	0	0	0	
ASSETSTATUSDUMMY	ORGID	6	UPPER	8	0	0	0	ORGANIZATION.ORGID
ASSETUSERCUSDFLT	DFLTPERSON	1	UPPER	30	0	0	0	PERSON.PERSONID
ASSETUSERCUSDFLT	DFLTISUSER	2	YORN	1	0	1	0	
ASSETUSERCUSDFLT	DFLTISCUSTODIAN	3	YORN	1	0	1	0	
ASSETUSERCUSDFLT	CANDELETE	4	YORN	1	0	1	0	
ASSETZEROCOSTS	YTD COST	1	YORN	1	0	1	0	
ASSETZEROCOSTS	TOTALCOST	2	YORN	1	0	1	0	
ASSIGNLABOR	CRAFT	1	UPPER	8	0	0	0	LABOR.LABORCODE
ASSIGNLABOR	LOCATION	2	UPPER	12	0	0	0	LOCATIONS.LOCATION
ASSIGNLABOR	SUPERVISOR	3	UPPER	8	0	0	0	LABOR.LABORCODE
ASSIGNLABOR	WORKTYPE	4	UPPER	5	0	0	0	WORKTYPE.WORKTYPE
ASSIGNLABOR	SHIFTNUM	5	UPPER	8	0	0	0	SHIFT.SHIFTNUM
ASSIGNLABOR	FROMDATE	6	DATETIME	10	0	0	0	
ASSIGNLABOR	TODATE	7	DATETIME	10	0	0	0	
ASSIGNLABOR	ASSIGNED	8	YORN	1	0	1	1	
ASSOCCONTINPUT	CONTRACTNUM	1	UPPER	8	0	1	0	CONTRACT.CONTRACTNUM
ASSOCCONTINPUT	CONTRACTTYPE	2	UPPER	25	0	1	0	CONTRACT.CONTRACTTYPE
ASSOCCONTINPUT	DESCRIPTION	3	ALN	100	0	0	0	PR.DESCRPTION
ASSOCCONTINPUT	ORGID	4	UPPER	8	0	1	0	ORGANIZATION.ORGID
ASSOCIATEDFOLDER	APP	1	UPPER	10	0	1	1	MAXAPPS.APP
ASSOCIATEDFOLDER	DOCTYPE	2	ALN	16	0	1	0	DOCTYPES.DOCTYPE
CALCWORKHOURS	STARTDATE	1	DATE	4	0	0	1	CALENDAR.STARTDATE
CALCWORKHOURS	ENDDATE	2	DATE	4	0	0	1	CALENDAR.ENDDATE
CALCWORKHOURS	WORKHOURS	3	DURATION	8	0	0	1	WORKPERIOD.WORKHOURS

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
CALENDARVIEW	DAY1	1	DATE	4	0	0	0	
CALENDARVIEW	DAY2	2	DATE	4	0	0	0	
CALENDARVIEW	DAY3	3	DATE	4	0	0	0	
CALENDARVIEW	DAY4	4	DATE	4	0	0	0	
CALENDARVIEW	DAY5	5	DATE	4	0	0	0	
CALENDARVIEW	DAY6	6	DATE	4	0	0	0	
CALENDARVIEW	DAY7	7	DATE	4	0	0	0	
CALENDARVIEW	WORKDATE	8	DATE	4	0	0	0	
CHANGECAPSTATUS	CURRENTSTATUS	1	YORN	1	0	1	1	ITEM.CAPITALIZED
CHANGECAPSTATUS	CAPITALACC	2	GL	23	0	0	1	
CHANGECAPSTATUS	MEMO	3	ALN	254	0	0	0	
CHANGECAPSTATUS	ORGID	4	UPPER	8	0	0	0	ORGANIZATION.ORGID
CHANGEITEMNUM	CURRENTITEMNUM	1	UPPER	30	0	0	0	ITEM.ITEMNUM
CHANGEITEMNUM	NEWITEMNUM	2	UPPER	30	0	0	0	ITEM.ITEMNUM
CHANGEITEMNUM	ITEMSETID	3	UPPER	8	0	0	0	SETS.SETID
CHANGEPASSWORDS	USERID	1	UPPER	30	0	0	0	PERSON.PERSONID
CHANGEPASSWORDS	PASSWORDINPUT	2	ALN	35	0	0	0	MAXUSER.PASSWORDINPUT
CHANGEPASSWORDS	PASSWORDCHECK	3	ALN	35	0	0	0	MAXUSER.PASSWORDINPUT
CHANGEPASSWORDS	DATABASEUSERID	4	ALN	18	0	0	0	MAXUSER.DATABASEUSERID
CHANGEPASSWORDS	DBPASSWORD	5	ALN	35	0	0	0	MAXUSER.DBPASSWORD
CHANGEPASSWORDS	DBPASSWORDCHECK	6	ALN	35	0	0	0	MAXUSER.DBPASSWORD
CHANGEPASSWORDS	SYNCHPASSWORDS	7	YORN	1	0	1	1	MAXUSER.SYNCHPASSWORDS
CHANGEPASSWORDS	FORCEEXPIRATION	8	YORN	1	0	1	1	MAXUSER.FORCEEXPIRATION
COMMTMPLTCHGSTAT	STATUS	1	UPPER	8	0	1	0	
COMMTMPLTCHGSTAT	STATUSDATE	2	DATETIME	10	0	0	0	
COMPLETEWF	MEMO	1	ALN	50	0	0	0	WFTRANSACTION.MEMO
COMPLETEWF	TASKDESCRIPTION	2	ALN	100	0	0	0	WFASSIGNMENT.DESCRPTION
COMPLETEWF	ACTIONID	3	INTEGER	12	0	0	1	WFACTION.ACTIONID
CONFIRMLABTRANS	STARTDATE	1	DATE	4	0	0	1	LABTRANS.STARTDATE
CONFIRMLABTRANS	STARTTIME	2	TIME	3	0	0	1	LABTRANS.STARTTIME
CONFIRMLABTRANS	FINISHDATE	3	DATE	4	0	0	1	LABTRANS.FINISHDATE
CONFIRMLABTRANS	FINISHTIME	4	TIME	3	0	0	1	LABTRANS.FINISHTIME
CONFIRMLABTRANS	HOURS	5	DURATION	8	0	0	1	LABTRANS.REGULARHRS
CONFIRMLABTRANS	CLASS	6	UPPER	10	0	0	1	TICKET.CLASS
CONFIRMLABTRANS	RECORDKEY	7	UPPER	10	0	0	0	WORKVIEW.RECORDKEY
CONTRACTFROMPO	CONTRACTNUM	1	UPPER	8	0	0	0	CONTRACT.CONTRACTNUM
CONTRACTFROMPO	DESCRIPTION	2	ALN	100	0	0	0	PR.DESCRPTION
CONTRACTFROMPO	CONTRACTTYPE	3	UPPER	25	0	0	1	CONTRACTTYPE.CONTRACTTYPEID
CONTRACTFROMPO	ORGID	4	UPPER	8	0	0	0	ORGANIZATION.ORGID
CONTRACTFROMPR	CONTRACTNUM	1	UPPER	8	0	0	0	CONTRACT.CONTRACTNUM
CONTRACTFROMPR	DESCRIPTION	2	ALN	100	0	0	0	PR.DESCRPTION
CONTRACTFROMPR	CONTRACTTYPE	3	UPPER	25	0	0	1	CONTRACTTYPE.CONTRACTTYPEID
CONTRACTFROMPR	ORGID	4	UPPER	8	0	0	0	ORGANIZATION.ORGID
CONTRACTFROMRFQ	CONTRACTNUM	1	UPPER	8	0	0	0	CONTRACT.CONTRACTNUM
CONTRACTFROMRFQ	DESCRIPTION	2	ALN	100	0	0	0	PR.DESCRPTION
CONTRACTFROMRFQ	CONTRACTTYPE	3	UPPER	25	0	0	1	CONTRACTTYPE.CONTRACTTYPEID

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
CONTRACTFROMRFQ	ORGID	4	UPPER	8	0	0	0	ORGANIZATION.ORGID
COSTINPUT	COMMITTEDCOST	1	AMOUNT	10	2	0	0	
COSTINPUT	UNCOMMITTEDCOST	2	AMOUNT	10	2	0	0	
COSTINPUT	AMTREMAINING	3	AMOUNT	10	2	0	0	
COSTINPUT	AMTONORDER	4	AMOUNT	10	2	0	0	
COSTINPUT	NUMOFCOMMREL	5	INTEGER	12	0	0	1	
COSTINPUT	NUMOFUNCOMMREL	6	INTEGER	12	0	0	1	
COSTINPUT	AMTRECEIVED	7	AMOUNT	10	2	0	0	
COSTINPUT	ORGID	8	UPPER	8	0	0	0	ORGANIZATION.ORGID
COSTINPUT	CONTRACTNUM	9	UPPER	8	0	0	0	CONTRACT.CONTRACTNUM
COSTINPUT	REVISIONNUM	10	INTEGER	12	0	0	1	CONTRACT.REVISIONNUM
COSTINPUT	TOTALCOST	11	DECIMAL	10	2	0	1	PO.TOTALCOST
COSTINPUT	INVVARIANCE	12	AMOUNT	10	2	0	0	
CREATEINVOICE	ORGID	1	UPPER	8	0	0	0	ORGANIZATION.ORGID
CREATEINVOICE	SITEID	2	UPPER	8	0	0	0	SITE.SITEID
CREATEINVOICE	INVOICENUM	3	UPPER	8	0	0	0	INVOICE.INVOICENUM
CREATEINVOICE	DESCRIPTION	4	ALN	100	0	0	0	PR.DESCRPTION
CREATEINVOICE	VENDOR	5	UPPER	12	0	0	0	COMPANIES.COMPANY
CREATEINVOICE	VENDORDESC	6	ALN	50	0	0	0	COMPANIES.NAME
CREATEINVOICE	SUMMARIZEBY	7	YORN	1	0	1	0	
CREATERELINPUT	PONUM	1	UPPER	8	0	0	0	PO.PONUM
CREATERELINPUT	DESCRIPTION	2	ALN	100	0	0	0	PR.DESCRPTION
CREATERELINPUT	GLDEBITACCT	3	GL	23	0	0	1	
CREATERELINPUT	LOCATION	4	UPPER	12	0	0	0	LOCATIONS.LOCATION
CREATERELINPUT	WONUM	5	UPPER	10	0	0	0	WORKORDER.WONUM
CREATERELINPUT	ASSETNUM	6	UPPER	12	0	0	0	ASSET.ASSETNUM
CREATERELINPUT	STORELOC	7	UPPER	12	0	0	0	LOCATIONS.LOCATION
CREATERELINPUT	RFQNUM	8	UPPER	8	0	0	0	RFQ.RFQNUM
CREATERELINPUT	SITEID	9	UPPER	8	0	0	0	SITE.SITEID
CREATERELINPUT	ORGID	10	UPPER	8	0	0	0	ORGANIZATION.ORGID
CREATERELINPUT	VENDOR	11	UPPER	12	0	0	0	COMPANIES.COMPANY
CREATERELINPUT	VENDESCRIPTION	12	ALN	50	0	0	0	COMPANIES.NAME
CREATERELINPUT	CONTRACTNUM	13	UPPER	8	0	0	0	CONTRACT.CONTRACTNUM
CREATERELINPUT	REVISIONNUM	14	INTEGER	12	0	0	1	CONTRACT.REVISIONNUM
CREATESERVREC	ISSUMMARY	1	YORN	1	0	1	1	
CREATESERVREC	STARTDATE	2	DATE	4	0	0	1	LABTRANS.STARTDATE
CREATESERVREC	ENDDATE	3	DATE	4	0	0	1	LABTRANS.FINISHDATE
CTRL_ACTION	ID	1	ALN	128	0	1	0	MAXLABELS.ID
CTRL_ACTION	METHOD	2	ALN	128	0	1	0	
CTRL_APPBAR	ID	1	ALN	128	0	1	0	MAXLABELS.ID
CTRL_APPBAR	LABEL	2	ALN	4000	0	0	0	MAXLABELS.VALUE
CTRL_ATTACHDOC	ID	1	ALN	128	0	1	0	MAXLABELS.ID
CTRL_ATTACHDOC	LABEL	2	ALN	4000	0	0	0	MAXLABELS.VALUE
CTRL_BLANKLINE	ID	1	ALN	128	0	1	0	MAXLABELS.ID
CTRL_BUTTONGROUP	ID	1	ALN	128	0	1	0	MAXLABELS.ID
CTRL_BUTTONGROUP	LABEL	2	ALN	4000	0	0	0	MAXLABELS.VALUE

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
CTRL_BUTTONGROUP	LABELALIGN	3	UPPER	6	0	0	0	CTRL_STATICTEXT.ALIGN
CTRL_BUTTONGROUP	ALIGN	4	UPPER	6	0	0	0	CTRL_STATICTEXT.ALIGN
CTRL_BUTTONGROUP	SHOW	5	YORN	1	0	1	0	
CTRL_CHECKBOX	ID	1	ALN	128	0	1	0	MAXLABELS.ID
CTRL_CHECKBOX	LABEL	2	ALN	4000	0	0	0	MAXLABELS.VALUE
CTRL_CHECKBOX	DATAATTRIBUTE	3	UPPER	254	0	0	0	CTRL_DEFAULT.DATAATTRIBUTE
CTRL_CHECKBOX	VALUE	4	ALN	254	0	0	0	CTRL_DEFAULT.VALUE
CTRL_CHECKBOX	INPUTMODE	5	UPPER	18	0	0	0	CTRL_TEXTBOX.INPUTMODE
CTRL_CHECKBOX	ONDATACHANGE	6	UPPER	18	0	0	0	CTRL_TEXTBOX.ONDATACHANGE
CTRL_CHECKBOX	DATASRC	7	ALN	128	0	0	0	MAXLABELS.ID
CTRL_COMBOBOX	ID	1	ALN	128	0	1	0	MAXLABELS.ID
CTRL_COMBOBOX	LABEL	2	ALN	4000	0	0	0	MAXLABELS.VALUE
CTRL_COMBOBOX	WIDTH	3	INTEGER	12	0	0	0	
CTRL_COMBOBOX	KEYATTRIBUTE	4	UPPER	254	0	0	0	CTRL_DEFAULT.DATAATTRIBUTE
CTRL_COMBOBOX	DISPLAYATTRIBUTE	5	UPPER	254	0	0	0	CTRL_DEFAULT.DATAATTRIBUTE
CTRL_COMBOBOX	DATAATTRIBUTE	6	UPPER	254	0	0	0	CTRL_DEFAULT.DATAATTRIBUTE
CTRL_COMBOBOX	INPUTMODE	7	UPPER	18	0	0	0	CTRL_TEXTBOX.INPUTMODE
CTRL_COMBOBOX	ONDATACHANGE	8	UPPER	18	0	0	0	CTRL_TEXTBOX.ONDATACHANGE
CTRL_COMBOBOX	DATASRC	9	ALN	128	0	0	0	MAXLABELS.ID
CTRL_CTCONTAINER	ID	1	ALN	128	0	1	0	MAXLABELS.ID
CTRL_DATASRC	ID	1	ALN	128	0	1	0	MAXLABELS.ID
CTRL_DATASRC	BEANCLASS	2	UPPER	254	0	0	0	CTRL_DEFAULT.DATAATTRIBUTE
CTRL_DATASRC	MBONAME	3	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
CTRL_DATASRC	PARENTDATASRC	4	ALN	128	0	0	0	MAXLABELS.ID
CTRL_DATASRC	RELATIONSHIP	5	UPPER	50	0	0	0	MAXATTRIBUTE.ATTRIBUTENAME
CTRL_DATASRC	ORDERBY	6	ALN	254	0	0	1	MAXAPPS.ORDERBY
CTRL_DATASRC	WHERECLAUSE	7	ALN	4000	0	0	1	QUERY.CLAUSE
CTRL_DATASRC	LISTENERS	8	ALN	254	0	0	0	
CTRL_DEFAULT	ID	1	ALN	128	0	1	0	MAXLABELS.ID
CTRL_DEFAULT	VALUE	2	ALN	254	0	0	0	
CTRL_DEFAULT	FROMDATASRC	3	ALN	128	0	0	0	MAXLABELS.ID
CTRL_DEFAULT	FROMATTRIBUTE	4	UPPER	254	0	0	0	CTRL_DEFAULT.DATAATTRIBUTE
CTRL_DEFAULT	DEFAULTTYPE	5	UPPER	8	0	0	0	
CTRL_DEFAULT	DATAATTRIBUTE	6	UPPER	254	0	0	0	
CTRL_DIALOG	ID	1	ALN	128	0	1	0	MAXLABELS.ID
CTRL_DIALOG	LABEL	2	ALN	4000	0	0	0	MAXLABELS.VALUE
CTRL_DIALOG	ICON	3	ALN	64	0	0	0	CTRL_IMAGE.IMAGENAME
CTRL_DIALOG	HIDEHELP	4	YORN	1	0	1	0	
CTRL_DIALOG	HEIGHT	5	INTEGER	12	0	0	0	
CTRL_DIALOG	WIDTH	6	INTEGER	12	0	0	0	
CTRL_DIALOG	BEANCLASS	7	UPPER	254	0	0	0	CTRL_DEFAULT.DATAATTRIBUTE
CTRL_DIALOG	LISTACTION	8	YORN	1	0	1	0	
CTRL_DIALOG	ALLOWCANCEL	9	YORN	1	0	1	0	
CTRL_DIALOG	INPUTMODE	10	UPPER	18	0	0	0	CTRL_TEXTBOX.INPUTMODE
CTRL_DIALOG	DATASRC	11	ALN	128	0	0	0	MAXLABELS.ID
CTRL_DIALOG	MBONAME	12	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
CTRL_DIALOG	PARENTDATASRC	13	ALN	128	0	0	0	
CTRL_DIALOG	RELATIONSHIP	14	UPPER	50	0	0	0	MAXATTRIBUTE.ATTRIBUTENAME
CTRL_DIALOG	ORDERBY	15	ALN	254	0	0	1	MAXAPPS.ORDERBY
CTRL_DIALOG	WHERECLAUSE	16	ALN	4000	0	0	1	QUERY.CLAUSE
CTRL_DIALOG	LISTENERS	17	ALN	254	0	0	0	CTRL_DATASRC.LISTENERS
CTRL_DISPLAYRULE	ID	1	ALN	128	0	1	0	MAXLABELS.ID
CTRL_DISPLAYRULE	DATAATTRIBUTE	2	UPPER	254	0	0	0	CTRL_DEFAULT.DATAATTRIBUTE
CTRL_DOCLINKBTN	ID	1	ALN	128	0	1	0	MAXLABELS.ID
CTRL_DOCLINKBTN	LABEL	2	ALN	4000	0	0	0	MAXLABELS.VALUE
CTRL_EXACT	ID	1	ALN	128	0	1	0	MAXLABELS.ID
CTRL_EXACT	CLASSNAME	2	ALN	64	0	0	0	CTRL_HYPERLINK.CLASSNAME
CTRL_EXACT	VALUE	3	ALN	254	0	0	0	CTRL_DEFAULT.VALUE
CTRL_HELPGRID	ID	1	ALN	128	0	1	0	MAXLABELS.ID
CTRL_HELPGRID	LABEL	2	ALN	4000	0	0	0	MAXLABELS.VALUE
CTRL_HELPGRID	INNERHTML	3	ALN	4000	0	1	0	MAXLABELS.VALUE
CTRL_HYPERLINK	ID	1	ALN	128	0	1	0	MAXLABELS.ID
CTRL_HYPERLINK	LABEL	2	ALN	4000	0	1	0	MAXLABELS.VALUE
CTRL_HYPERLINK	ALIGN	3	UPPER	6	0	0	0	CTRL_STATICTEXT.ALIGN
CTRL_HYPERLINK	COLUMN	4	INTEGER	12	0	0	0	CTRL_STATICTEXT.COLUMN
CTRL_HYPERLINK	IMAGE	5	ALN	64	0	0	0	CTRL_IMAGE.IMAGENAME
CTRL_HYPERLINK	IMAGEALIGN	6	UPPER	6	0	0	0	CTRL_STATICTEXT.ALIGN
CTRL_HYPERLINK	SEPARATOR	7	YORN	1	0	1	0	
CTRL_HYPERLINK	CLASSNAME	8	ALN	64	0	0	0	
CTRL_HYPERLINK	ACCESSKEY	9	ALN	128	0	0	0	
CTRL_HYPERLINK	TARGETID	10	ALN	128	0	0	0	MAXLABELS.ID
CTRL_HYPERLINK	MXEVENT	11	ALN	254	0	0	0	CTRL_PUSHBUTTON.MXEVENT
CTRL_HYPERLINK	EVENTVALUE	12	ALN	254	0	0	0	CTRL_PUSHBUTTON.VALUE
CTRL_IMAGE	ID	1	ALN	128	0	1	0	MAXLABELS.ID
CTRL_IMAGE	IMAGENAME	2	ALN	64	0	1	0	
CTRL_IMAGE	HEIGHT	3	INTEGER	12	0	0	0	
CTRL_IMAGE	WIDTH	4	INTEGER	12	0	0	0	
CTRL_IMAGE	ALIGN	5	UPPER	6	0	0	0	CTRL_STATICTEXT.ALIGN
CTRL_IMAGE	COLUMN	6	INTEGER	12	0	0	0	CTRL_STATICTEXT.COLUMN
CTRL_INCLUDE	ID	1	ALN	128	0	1	0	MAXLABELS.ID
CTRL_INCLUDE	CONTROLTOCLONE	2	ALN	128	0	0	0	MAXLABELS.ID
CTRL_KPIGRAPH	ID	1	ALN	128	0	1	0	MAXLABELS.ID
CTRL_KPIGRAPH	BORDER	2	YORN	1	0	1	0	
CTRL_KPIGRAPH	HEIGHT	3	INTEGER	12	0	0	0	
CTRL_KPIGRAPH	WIDTH	4	INTEGER	12	0	0	0	
CTRL_KPIGRAPH	SERVLET	5	ALN	4000	0	0	0	
CTRL_KPIGRAPH	DATASRC	6	ALN	128	0	0	0	MAXLABELS.ID
CTRL_KPIGRAPH	TYPE	7	UPPER	18	0	0	0	
CTRL_LISTBOX	ID	1	ALN	128	0	1	0	MAXLABELS.ID
CTRL_LISTBOX	LABEL	2	ALN	4000	0	0	0	MAXLABELS.VALUE
CTRL_LISTBOX	HEIGHT	3	INTEGER	12	0	0	0	
CTRL_LISTBOX	WIDTH	4	INTEGER	12	0	0	0	

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
CTRL_LISTBOX	BEANCLASS	5	UPPER	254	0	0	0	CTRL_DEFAULT.DATAATTRIBUTE
CTRL_LISTBOX	DATAATTRIBUTE	6	UPPER	254	0	0	0	CTRL_DEFAULT.DATAATTRIBUTE
CTRL_LISTBOX	INPUTMODE	7	UPPER	18	0	0	0	CTRL_TEXTBOX.INPUTMODE
CTRL_LISTBOX	MBONAME	8	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
CTRL_LISTBOX	PARENTDATASRC	9	ALN	128	0	0	0	MAXLABELS.ID
CTRL_LISTBOX	ORDERBY	10	ALN	254	0	0	1	MAXAPPS.ORDERBY
CTRL_LISTBOX	WHERECLAUSE	11	ALN	4000	0	0	1	QUERY.CLAUSE
CTRL_LISTBOX	AUTOREFRESH	12	YORN	1	0	1	0	
CTRL_LISTBOX	KEYATTRIBUTE	13	UPPER	254	0	0	0	CTRL_DEFAULT.DATAATTRIBUTE
CTRL_LISTBOX	KEYVALUE	14	ALN	254	0	0	0	CTRL_DEFAULT.VALUE
CTRL_MENUBAR	ID	1	ALN	128	0	1	0	MAXLABELS.ID
CTRL_MENUBAR	LABEL	2	ALN	128	0	0	0	MAXLABELS.ID
CTRL_MENUBAR	SOURCEMETHOD	3	ALN	128	0	0	0	CTRL_ACTION.METHOD
CTRL_MENUBAR	EVENT	4	ALN	254	0	0	0	CTRL_PUSHBUTTON.MXEVENT
CTRL_MLNETEXTBOX	ID	1	ALN	128	0	1	0	MAXLABELS.ID
CTRL_MLNETEXTBOX	LABEL	2	ALN	4000	0	0	0	MAXLABELS.VALUE
CTRL_MLNETEXTBOX	HIDELABEL	3	YORN	1	0	1	0	
CTRL_MLNETEXTBOX	COLUMNS	4	INTEGER	12	0	0	0	
CTRL_MLNETEXTBOX	ROWS	5	INTEGER	12	0	0	0	
CTRL_MLNETEXTBOX	DATAATTRIBUTE	6	UPPER	254	0	0	0	CTRL_DEFAULT.DATAATTRIBUTE
CTRL_MLNETEXTBOX	MENUTYPE	7	UPPER	128	0	0	0	CTRL_TEXTBOX.MENUTYPE
CTRL_MLNETEXTBOX	LOOKUP	8	UPPER	128	0	0	0	CTRL_TEXTBOX.LOOKUP
CTRL_MLNETEXTBOX	INPUTMODE	9	UPPER	18	0	0	0	CTRL_TEXTBOX.INPUTMODE
CTRL_MLNETEXTBOX	ONDATACHANGE	10	UPPER	18	0	0	0	CTRL_TEXTBOX.ONDATACHANGE
CTRL_MLNETEXTBOX	MOVETODATASRC	11	ALN	128	0	0	0	MAXLABELS.ID
CTRL_MLNETEXTBOX	DATASRC	12	ALN	128	0	0	0	MAXLABELS.ID
CTRL_MPRTTEXTBOX	ID	1	ALN	128	0	1	0	MAXLABELS.ID
CTRL_MPRTTEXTBOX	LABEL	2	ALN	4000	0	0	0	MAXLABELS.VALUE
CTRL_MPRTTEXTBOX	DATAATTRIBUTE	3	UPPER	254	0	0	0	CTRL_DEFAULT.DATAATTRIBUTE
CTRL_MPRTTEXTBOX	MENUTYPE	4	UPPER	128	0	0	0	CTRL_TEXTBOX.MENUTYPE
CTRL_MPRTTEXTBOX	LOOKUP	5	UPPER	128	0	0	0	CTRL_TEXTBOX.LOOKUP
CTRL_MPRTTEXTBOX	INPUTMODE	6	UPPER	18	0	0	0	CTRL_TEXTBOX.INPUTMODE
CTRL_MPRTTEXTBOX	ONDATACHANGE	7	UPPER	18	0	0	0	CTRL_TEXTBOX.ONDATACHANGE
CTRL_MPRTTEXTBOX	SMARTFILLOFF	8	YORN	1	0	1	0	
CTRL_MPRTTEXTBOX	APPLINK	9	UPPER	10	0	0	1	MAXAPPS.APP
CTRL_MPRTTEXTBOX	MOVETODATASRC	10	ALN	128	0	0	0	MAXLABELS.ID
CTRL_MPRTTEXTBOX	DESCDATAATTRIBUTE	11	UPPER	254	0	0	0	CTRL_DEFAULT.DATAATTRIBUTE
CTRL_MPRTTEXTBOX	DESCLOOKUP	12	UPPER	128	0	0	0	CTRL_TEXTBOX.LOOKUP
CTRL_MPRTTEXTBOX	DESCINPUTMODE	13	UPPER	18	0	0	0	CTRL_TEXTBOX.INPUTMODE
CTRL_MPRTTEXTBOX	LONGDESCINPUTMODE	14	UPPER	18	0	0	0	CTRL_TEXTBOX.INPUTMODE
CTRL_MPRTTEXTBOX	DATASRC	15	ALN	128	0	0	0	MAXLABELS.ID
CTRL_PARAMVALUE	ID	1	ALN	128	0	1	0	MAXLABELS.ID
CTRL_PARAMVALUE	POSITION	2	INTEGER	12	0	0	0	
CTRL_PARAMVALUE	DATAATTRIBUTE	3	UPPER	254	0	0	0	CTRL_DEFAULT.DATAATTRIBUTE
CTRL_PARAMVALUE	DATASRC	4	ALN	128	0	0	0	MAXLABELS.ID
CTRL_PARAMVALUES	ID	1	ALN	128	0	1	0	MAXLABELS.ID

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
CTRL_PARAMVALUES	PROPERTY	2	ALN	254	0	0	0	
CTRL_PUSHBUTTON	ID	1	ALN	128	0	1	0	MAXLABELS.ID
CTRL_PUSHBUTTON	LABEL	2	ALN	4000	0	0	0	MAXLABELS.VALUE
CTRL_PUSHBUTTON	IMAGE	3	ALN	64	0	0	0	CTRL_IMAGE.IMAGENAME
CTRL_PUSHBUTTON	DEFAULT	4	YORN	1	0	1	0	
CTRL_PUSHBUTTON	MENUTYPE	5	UPPER	128	0	0	0	CTRL_TEXTBOX.MENUTYPE
CTRL_PUSHBUTTON	MXEVENT	6	ALN	254	0	0	0	
CTRL_PUSHBUTTON	VALUE	7	ALN	254	0	0	0	
CTRL_PUSHBUTTON	TARGETID	8	ALN	128	0	0	0	MAXLABELS.ID
CTRL_RADIOBTNGRP	ID	1	ALN	128	0	1	0	MAXLABELS.ID
CTRL_RADIOBTNGRP	LABEL	2	ALN	4000	0	0	0	MAXLABELS.VALUE
CTRL_RADIOBTNGRP	HIDELABEL	3	YORN	1	0	1	0	
CTRL_RADIOBTNGRP	ORIENTATION	4	UPPER	18	0	0	0	
CTRL_RADIOBTNGRP	ALIGN	5	UPPER	6	0	0	0	CTRL_STATICTEXT.ALIGN
CTRL_RADIOBTNGRP	BORDER	6	YORN	1	0	1	0	
CTRL_RADIOBTNGRP	DATAATTRIBUTE	7	UPPER	254	0	0	0	CTRL_DEFAULT.DATAATTRIBUTE
CTRL_RADIOBTNGRP	INPUTMODE	8	UPPER	18	0	0	0	CTRL_TEXTBOX.INPUTMODE
CTRL_RADIOBTNGRP	UPDATEONCHANGE	9	UPPER	18	0	0	0	CTRL_TEXTBOX.ONDATACHANGE
CTRL_RADIOBTNGRP	VALUEATTRIBUTE	10	UPPER	254	0	0	0	CTRL_DEFAULT.DATAATTRIBUTE
CTRL_RADIOBTNGRP	DESCATTRIBUTE	11	UPPER	254	0	0	0	CTRL_DEFAULT.DATAATTRIBUTE
CTRL_RADIOBTNGRP	DATASRC	12	ALN	128	0	0	0	MAXLABELS.ID
CTRL_RADIOBUTTON	ID	1	ALN	128	0	1	0	MAXLABELS.ID
CTRL_RADIOBUTTON	LABEL	2	ALN	4000	0	0	0	MAXLABELS.VALUE
CTRL_RADIOBUTTON	VALUE	3	ALN	254	0	0	0	CTRL_PUSHBUTTON.VALUE
CTRL_RANGE	ID	1	ALN	128	0	1	0	MAXLABELS.ID
CTRL_RANGE	CLASSNAME	2	ALN	64	0	0	0	CTRL_HYPERLINK.CLASSNAME
CTRL_RANGE	LOWER	3	ALN	254	0	0	0	CTRL_DEFAULT.VALUE
CTRL_RANGE	UPPER	4	ALN	254	0	0	0	CTRL_DEFAULT.VALUE
CTRL_SECTION	ID	1	ALN	128	0	1	0	MAXLABELS.ID
CTRL_SECTION	LABEL	2	ALN	4000	0	0	0	MAXLABELS.VALUE
CTRL_SECTION	LABELALIGN	3	UPPER	6	0	0	0	CTRL_STATICTEXT.ALIGN
CTRL_SECTION	BORDER	4	YORN	1	0	1	0	
CTRL_SECTION	COLLAPSED	5	YORN	1	0	1	0	
CTRL_SECTION	DESCRIPTION	6	ALN	4000	0	0	0	MAXLABELS.VALUE
CTRL_SECTION	DATASRC	7	ALN	128	0	0	0	MAXLABELS.ID
CTRL_SECTION	MBONAME	8	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
CTRL_SECTION	PARENTDATASRC	9	ALN	128	0	0	0	MAXLABELS.ID
CTRL_SECTION	INPUTMODE	10	UPPER	18	0	0	0	CTRL_TEXTBOX.INPUTMODE
CTRL_SECTION	LISTENERS	11	ALN	254	0	0	0	CTRL_DATASRC.LISTENERS
CTRL_SECTIONCOL	ID	1	ALN	128	0	1	0	MAXLABELS.ID
CTRL_SECTIONHDR	ID	1	ALN	128	0	1	0	MAXLABELS.ID
CTRL_SECTIONHDR	LABEL	2	ALN	4000	0	1	0	MAXLABELS.VALUE
CTRL_SECTIONHDR	PLAINTEXT	3	YORN	1	0	1	0	
CTRL_SECTIONHDR	DATASRC	4	ALN	128	0	0	0	MAXLABELS.ID
CTRL_SECTIONROW	ID	1	ALN	128	0	1	0	MAXLABELS.ID
CTRL_STATICTEXT	ID	1	ALN	128	0	1	0	MAXLABELS.ID

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
CTRL_STATICTEXT	LABEL	2	ALN	4000	0	1	0	MAXLABELS.VALUE
CTRL_STATICTEXT	ALIGN	3	UPPER	6	0	0	0	
CTRL_STATICTEXT	COLUMN	4	INTEGER	12	0	0	0	
CTRL_STATICTEXT	SPAN	5	INTEGER	12	0	0	0	
CTRL_STATICTEXT	DATAATTRIBUTE	6	UPPER	254	0	0	0	CTRL_DEFAULT.DATAATTRIBUTE
CTRL_STATICTEXT	LINK	7	YORN	1	0	1	0	
CTRL_STATICTEXT	PLAINTEXT	8	YORN	1	0	1	0	
CTRL_SYSTEMPROP	ID	1	ALN	128	0	1	0	MAXLABELS.ID
CTRL_SYSTEMPROP	LABEL	2	ALN	4000	0	1	0	MAXLABELS.VALUE
CTRL_SYSTEMPROP	DATAATTRIBUTE	3	UPPER	254	0	0	0	CTRL_DEFAULT.DATAATTRIBUTE
CTRL_TAB	ID	1	ALN	128	0	1	0	MAXLABELS.ID
CTRL_TAB	LABEL	2	ALN	4000	0	0	0	MAXLABELS.VALUE
CTRL_TAB	TYPE	3	UPPER	128	0	0	0	
CTRL_TAB	DEFAULT	4	ALN	128	0	0	0	
CTRL_TAB	BEANCLASS	5	UPPER	254	0	0	0	CTRL_DEFAULT.DATAATTRIBUTE
CTRL_TAB	MBONAME	6	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
CTRL_TAB	PARENTDATASRC	7	ALN	128	0	0	0	MAXLABELS.ID
CTRL_TAB	RELATIONSHIP	8	UPPER	50	0	0	0	MAXATTRIBUTE.ATTRIBUTENAME
CTRL_TAB	ORDERBY	9	ALN	254	0	0	1	MAXAPPS.ORDERBY
CTRL_TAB	WHERECLAUSE	10	ALN	4000	0	0	1	QUERY.CLAUSE
CTRL_TAB	LISTENERS	11	ALN	254	0	0	0	CTRL_DATASRC.LISTENERS
CTRL_TABGROUP	ID	1	ALN	128	0	1	0	MAXLABELS.ID
CTRL_TABGROUP	LABEL	2	ALN	4000	0	1	0	MAXLABELS.VALUE
CTRL_TABGROUP	FORMAT	3	UPPER	128	0	0	0	
CTRL_TABGROUP	STYLE	4	UPPER	128	0	0	0	
CTRL_TABGROUP	TABCHANGEEVENT	5	ALN	128	0	0	0	
CTRL_TABLE	ID	1	ALN	128	0	1	0	MAXLABELS.ID
CTRL_TABLE	LABEL	2	ALN	4000	0	0	0	MAXLABELS.VALUE
CTRL_TABLE	WIDTH	3	INTEGER	12	0	0	0	
CTRL_TABLE	DESCRIPTION	4	ALN	4000	0	0	0	MAXLABELS.VALUE
CTRL_TABLE	TITLEATTRIBUTES	5	ALN	128	0	0	0	
CTRL_TABLE	STARTEMPT	6	YORN	1	0	1	0	
CTRL_TABLE	NOROWMSG	7	ALN	4000	0	0	0	MAXLABELS.VALUE
CTRL_TABLE	NOROWMSGATTRIBUTES	8	ALN	128	0	0	0	
CTRL_TABLE	FILTEREXPANDED	9	YORN	1	0	1	0	
CTRL_TABLE	ROWDETAILSEXPANDED	10	YORN	1	0	1	0	
CTRL_TABLE	COLLAPSABLE	11	YORN	1	0	1	0	
CTRL_TABLE	COLLAPSED	12	YORN	1	0	1	0	
CTRL_TABLE	COLLAPSEDEMPYLABEL	13	ALN	4000	0	0	0	MAXLABELS.VALUE
CTRL_TABLE	COLLAPSEDLABEL	14	ALN	4000	0	0	0	MAXLABELS.VALUE
CTRL_TABLE	PARENTEMPYLABEL	15	ALN	4000	0	0	0	MAXLABELS.VALUE
CTRL_TABLE	BEANCLASS	16	UPPER	254	0	0	0	CTRL_DEFAULT.DATAATTRIBUTE
CTRL_TABLE	SELECTMODE	17	UPPER	18	0	0	0	
CTRL_TABLE	INPUTMODE	18	UPPER	18	0	0	0	CTRL_TEXTBOX.INPUTMODE
CTRL_TABLE	DATASRC	19	ALN	128	0	0	0	MAXLABELS.ID
CTRL_TABLE	MBONAME	20	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
CTRL_TABLE	PARENTDATASRC	21	ALN	128	0	0	0	MAXLABELS.ID
CTRL_TABLE	RELATIONSHIP	22	UPPER	50	0	0	0	MAXATTRIBUTE.ATTRIBUTENAME
CTRL_TABLE	ORDERBY	23	ALN	254	0	0	1	MAXAPPS.ORDERBY
CTRL_TABLE	APPRESTRICTIONS	24	ALN	4000	0	0	1	QUERY.CLAUSE
CTRL_TABLE	LISTENERS	25	ALN	254	0	0	0	CTRL_DATASRC.LISTENERS
CTRL_TABLE	DISPLAYROWSPERPAGE	26	INTEGER	12	0	0	0	
CTRL_TABLE	FILTERABLE	27	YORN	1	0	1	0	
CTRL_TABLE	CUSTOMIZABLE	28	YORN	1	0	1	0	
CTRL_TABLECOLUMN	ID	1	ALN	128	0	1	0	MAXLABELS.ID
CTRL_TABLECOLUMN	LABEL	2	ALN	4000	0	0	0	MAXLABELS.VALUE
CTRL_TABLECOLUMN	LABELSRCID	3	ALN	128	0	0	0	MAXLABELS.ID
CTRL_TABLECOLUMN	CLASSNAME	4	ALN	64	0	0	0	CTRL_HYPERLINK.CLASSNAME
CTRL_TABLECOLUMN	SHOWFILTERFIELD	5	YORN	1	0	1	0	
CTRL_TABLECOLUMN	FILTERABLE	6	YORN	1	0	1	0	
CTRL_TABLECOLUMN	SORTABLE	7	YORN	1	0	1	0	
CTRL_TABLECOLUMN	TYPE	8	UPPER	18	0	0	0	
CTRL_TABLECOLUMN	DATAATTRIBUTE	9	UPPER	254	0	0	0	CTRL_DEFAULT.DATAATTRIBUTE
CTRL_TABLECOLUMN	LINKEDCONTROLID	10	ALN	128	0	0	0	MAXLABELS.ID
CTRL_TABLECOLUMN	APPLINK	11	UPPER	10	0	0	1	MAXAPPS.APP
CTRL_TABLECOLUMN	INPUTMODE	12	UPPER	18	0	0	0	CTRL_TEXTBOX.INPUTMODE
CTRL_TABLECOLUMN	MENUTYPE	13	UPPER	128	0	0	0	CTRL_TEXTBOX.MENUTYPE
CTRL_TABLECOLUMN	LOOKUP	14	UPPER	128	0	0	0	CTRL_TEXTBOX.LOOKUP
CTRL_TABLECOLUMN	ONDATACHANGE	15	UPPER	18	0	0	0	CTRL_TEXTBOX.ONDATACHANGE
CTRL_TABLECOLUMN	SMARTFILLOFF	16	YORN	1	0	1	0	
CTRL_TABLECOLUMN	LONGDESCREADONLY	17	YORN	1	0	1	0	
CTRL_TABLECOLUMN	URLATTRIBUTE	18	UPPER	254	0	0	0	CTRL_DEFAULT.DATAATTRIBUTE
CTRL_TABLECOLUMN	MXEVENT	19	ALN	254	0	0	0	CTRL_PUSHBUTTON.MXEVENT
CTRL_TABLECOLUMN	MXEVENT_DESC	20	ALN	4000	0	0	0	MAXLABELS.VALUE
CTRL_TABLECOLUMN	MXEVENT_ICON	21	ALN	64	0	0	0	CTRL_IMAGE.IMAGENAME
CTRL_TABLECOLUMN	TARGETID	22	ALN	128	0	0	0	MAXLABELS.ID
CTRL_TABLECOLUMN	LABELATTRIBUTES	23	ALN	128	0	0	0	
CTRL_TABLECOLUMN	TITLEATTRIBUTES	24	ALN	128	0	0	0	
CTRL_TEXTBOX	ID	1	ALN	128	0	1	0	MAXLABELS.ID
CTRL_TEXTBOX	LABEL	2	ALN	4000	0	0	0	MAXLABELS.VALUE
CTRL_TEXTBOX	HIDELABEL	3	YORN	1	0	1	0	
CTRL_TEXTBOX	DATAATTRIBUTE	4	UPPER	254	0	0	0	CTRL_DEFAULT.DATAATTRIBUTE
CTRL_TEXTBOX	LOOKUP	5	UPPER	128	0	0	0	
CTRL_TEXTBOX	MENUTYPE	6	UPPER	128	0	0	0	
CTRL_TEXTBOX	DETAILIMAGE	7	ALN	64	0	0	0	CTRL_IMAGE.IMAGENAME
CTRL_TEXTBOX	INPUTMODE	8	UPPER	18	0	0	0	
CTRL_TEXTBOX	PREPEND	9	ALN	254	0	0	0	
CTRL_TEXTBOX	SMARTFILLOFF	10	YORN	1	0	1	0	
CTRL_TEXTBOX	ONDATACHANGE	11	UPPER	18	0	0	0	
CTRL_TEXTBOX	LONGDESCREADONLY	12	YORN	1	0	1	0	
CTRL_TEXTBOX	APPLINK	13	UPPER	10	0	0	1	MAXAPPS.APP
CTRL_TEXTBOX	DEFAULTFOCUS	14	YORN	1	0	1	0	

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
CTRL_TEXTBOX	DISPLAYTYPE	15	ALN	128	0	0	0	
CTRL_TEXTBOX	MOVETODATASRC	16	ALN	128	0	0	0	MAXLABELS.ID
CTRL_TEXTBOX	DATASRC	17	ALN	128	0	0	0	MAXLABELS.ID
CTRL_TREE	ID	1	ALN	128	0	1	0	MAXLABELS.ID
CTRL_TREE	HEIGHT	2	INTEGER	12	0	0	0	
CTRL_TREE	WIDTH	3	INTEGER	12	0	0	0	
CTRL_TREE	BEANCLASS	4	UPPER	254	0	0	0	CTRL_DEFAULT.DATAATTRIBUTE
CTRL_TREE	MBONAME	5	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
CTRL_TREE	RELATIONSHIP	6	UPPER	50	0	0	0	MAXATTRIBUTE.ATTRIBUTENAME
CTRL_TREE	USEDATASRC	7	YORN	1	0	1	0	
CTRL_TREE	ORDERBY	8	ALN	254	0	0	1	MAXAPPS.ORDERBY
CTRL_TREEATTRIB	ID	1	ALN	128	0	1	0	MAXLABELS.ID
CTRL_TREEATTRIB	DISPLAY	2	YORN	1	0	1	0	
CTRL_TREEATTRIB	DATAATTRIBUTE	3	UPPER	254	0	0	0	CTRL_DEFAULT.DATAATTRIBUTE
CTRL_TREENODE	ID	1	ALN	128	0	1	0	MAXLABELS.ID
CTRL_TREENODE	IMAGE	2	ALN	64	0	0	0	CTRL_IMAGE.IMAGENAME
CTRL_TREENODE	SELECTIMAGE	3	ALN	64	0	0	0	CTRL_IMAGE.IMAGENAME
CTRL_TREENODE	DISPLAYKEYATTRIBUTE	4	YORN	1	0	1	0	
CTRL_TREENODE	DISPLAYOBJECTNAME	5	YORN	1	0	1	0	
CTRL_TREENODE	DISPLAYNODEIMAGE	6	YORN	1	0	1	0	
CTRL_TREENODE	KEYATTRIBUTE	7	UPPER	254	0	0	0	CTRL_DEFAULT.DATAATTRIBUTE
CTRL_TREENODE	OBJECTNAME	8	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
CTRL_TREENODE	KEYVALUE	9	ALN	254	0	0	0	CTRL_DEFAULT.VALUE
CTRL_TREENODE	RETURNATTRIBUTE	10	UPPER	254	0	0	0	CTRL_DEFAULT.DATAATTRIBUTE
CTRL_TREENODE	ENABLEReturn	11	YORN	1	0	1	0	
CTRL_WALLCALENDR	ID	1	ALN	128	0	1	0	MAXLABELS.ID
CTRL_WALLCALENDR	DATEATTRIBUTE	2	UPPER	254	0	0	0	CTRL_DEFAULT.DATAATTRIBUTE
CTRL_WALLCALENDR	DATAATTRIBUTE	3	UPPER	254	0	0	0	CTRL_DEFAULT.DATAATTRIBUTE
CTRL_WALLCALENDR	RELATIONSHIP	4	UPPER	50	0	0	0	MAXATTRIBUTE.ATTRIBUTENAME
DATABASEACCESS	OBJECTNAME	1	UPPER	18	0	1	1	MAXOBJECT.OBJECTNAME
DATABASEACCESS	ENTITYNAME	2	UPPER	18	0	1	1	MAXOBJECT.OBJECTNAME
DATABASEACCESS	ISVIEW	3	YORN	1	0	1	0	MAXOBJECT.ISVIEW
DATABASEACCESS	READ	4	YORN	1	0	1	1	
DATABASEACCESS	INSERT	5	YORN	1	0	1	1	
DATABASEACCESS	UPDATE	6	YORN	1	0	1	1	
DATABASEACCESS	DELETE	7	YORN	1	0	1	1	
DATABASEACCESSID	USERID	1	UPPER	30	0	0	0	PERSON.PERSONID
DATABASEACCESSID	DISPLAYNAME	2	ALN	62	0	0	0	PERSON.DISPLAYNAME
DATABASEACCESSID	DATABASEUSERID	3	ALN	18	0	0	0	MAXUSER.DATABASEUSERID
DATABASEACCESSID	DBPASSWORD	4	ALN	35	0	0	0	MAXUSER.DBPASSWORD
DATABASEACCESSID	DBPASSWORDCHECK	5	ALN	35	0	0	0	MAXUSER.DBPASSWORD
DATESELECTOR	SECOND	1	INTEGER	12	0	0	0	
DATESELECTOR	MINUTE	2	INTEGER	12	0	0	0	
DATESELECTOR	HOUR	3	INTEGER	12	0	0	0	
DATESELECTOR	HOURLMINUTE	4	ALN	5	0	0	0	
DATESELECTOR	DAY	5	INTEGER	12	0	0	0	

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
DATESELECTOR	DAYTIME	6	TIME	3	0	0	0	
DATESELECTOR	WEEK	7	INTEGER	12	0	0	0	
DATESELECTOR	WEEKDAY	8	ALN	20	0	0	0	
DATESELECTOR	WEEKTIME	9	TIME	3	0	0	0	
DATESELECTOR	MONTH	10	INTEGER	12	0	0	0	
DATESELECTOR	MONTHDAY	11	ALN	10	0	0	0	
DATESELECTOR	MONTHDAYTIME	12	TIME	3	0	0	0	
DATESELECTOR	MONTHFIRST	13	ALN	20	0	0	0	
DATESELECTOR	MONTHWEEKDAY	14	ALN	20	0	0	0	
DATESELECTOR	MONTHWEEKTIME	15	TIME	3	0	0	0	
DATESELECTOR	YEAR	16	INTEGER	12	0	0	0	
DATESELECTOR	YEARMONTH	17	ALN	20	0	0	0	
DATESELECTOR	YEARMONTHDAY	18	ALN	10	0	0	0	
DATESELECTOR	YEARMONTHTIME	19	TIME	3	0	0	0	
DATESELECTOR	YEARFIRST	20	ALN	20	0	0	0	
DATESELECTOR	YEARWEEKDAY	21	ALN	20	0	0	0	
DATESELECTOR	YEARWEEKTIME	22	TIME	3	0	0	0	
DATESELECTOR	PREVIEW	23	ALN	1000	0	0	0	
DATESELECTOR	REPEAT	24	ALN	20	0	0	0	
DATESELECTOR	RADIOMONTH	25	ALN	20	0	0	0	
DATESELECTOR	RADIOYEAR	26	ALN	20	0	0	0	
DATESELECTOR	PATTERN	27	ALN	50	0	0	0	
DATESELECTORDOM	DAYOFMONTH	1	ALN	10	0	1	0	
DATESELECTORDOW	DOW	1	ALN	20	0	1	0	
DATESELECTRFIRST	FIRSTORLAST	1	ALN	20	0	1	0	
DATESELECTRMONTH	MONTH	1	ALN	20	0	1	0	
DATESELMINUTE	MINUTE	1	INTEGER	12	0	0	0	
DATESELPREVIEW	PREVIEWDATE	1	DATETIME	10	0	0	0	
DEFINEFILTER	LABORSELECT	1	YORN	1	0	1	1	
DEFINEFILTER	CRAFTSELECT	2	YORN	1	0	1	1	
DEFINEFILTER	SAVESETTINGS	3	YORN	1	0	1	1	
DELETEWORKPERIOD	STARTDATE	1	DATE	4	0	0	1	CALENDAR.STARTDATE
DELETEWORKPERIOD	ENDDATE	2	DATE	4	0	0	1	CALENDAR.ENDDATE
DISPATCHASSIGN	WONUM	1	UPPER	10	0	0	0	WORKORDER.WONUM
DISPATCHASSIGN	DESCRIPTION	2	ALN	100	0	0	0	WORKORDER.DESCRPTION
DISPATCHASSIGN	SCHEDULEDATE	3	DATETIME	10	0	0	0	ASSIGNMENT.SCHEDULEDATE
DISPATCHASSIGN	FINISHDATE	4	DATETIME	10	0	0	1	ASSIGNMENT.FINISHDATE
DISPATCHASSIGN	STATUS	5	UPPER	16	0	0	1	WORKORDER.STATUS
DISPATCHASSIGN	MEMO	6	ALN	50	0	0	0	WFTRANSACTION.MEMO
DISPATCHASSIGN	ASSIGNMENTID	7	INTEGER	12	0	1	1	
DOWNTIMEREPORT	CODE	1	UPPER	12	0	0	0	ASSETSTATUS.CODE
DOWNTIMEREPORT	OPERATIONAL	2	ALN	2	0	1	0	
DOWNTIMEREPORT	STARTDATE	3	DATETIME	10	0	0	1	ASSETSTATUS.CHANGEDATE
DOWNTIMEREPORT	ENDDATE	4	DATETIME	10	0	0	1	ASSETSTATUS.CHANGEDATE
DOWNTIMEREPORT	DOWNTIME	5	DURATION	8	0	0	1	ASSETSTATUS.DOWNTIME
DOWNTIMEREPORT	STARTDATESOURCE	6	ALN	14	0	1	1	

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
DOWNTIMEREPORT	STATUSCHANGEDATE	7	DATETIME	10	0	0	1	ASSETSTATUS.CHANGEDATE
DOWNTIMEREPORT	STATUSCHANGECODE	8	UPPER	12	0	0	0	ASSETSTATUS.CODE
DOWNTIMEREPORT	ISDOWNTIMEREPORT	9	ALN	2	0	1	1	
DOWNTIMEREPORT	CURRENTSTATUS	10	UPPER	8	0	0	0	
DPAMADAPTMOVE	ADAPTERNAME	1	ALN	256	0	0	0	
DPAMADAPTMOVE	TARGETNAME	2	ALN	256	0	1	0	
DPAMMANUMOVE	MANUFACTURERNAME	1	ALN	256	0	0	0	
DPAMMANUMOVE	TARGETNAME	2	ALN	256	0	1	0	
DPAMOSMOVE	OSNAME	1	ALN	256	0	0	0	
DPAMOSMOVE	TARGETNAME	2	ALN	256	0	1	0	
DPAMPROCMOVE	PROCESSORNAME	1	ALN	256	0	0	0	
DPAMPROCMOVE	TARGETNAME	2	ALN	256	0	1	0	
DPAMSWMOVE	SOFTWARENAME	1	ALN	256	0	0	0	
DPAMSWMOVE	TARGETNAME	2	ALN	256	0	1	0	
DRILLDOWN	TBNAME	1	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
DRILLDOWN	ASSETATTRIBUTE	2	UPPER	80	0	0	0	
DRILLDOWN	ASSETVALUE	3	UPPER	12	0	0	0	ASSET.ASSETNUM
DRILLDOWN	LOCATTRIBUTE	4	UPPER	80	0	0	0	
DRILLDOWN	LOCVALUE	5	UPPER	12	0	0	0	LOCATIONS.LOCATION
DRILLDOWN	SYSTEMID	6	UPPER	8	0	0	0	LOCSYSTEM.SYSTEMID
DRILLDOWN	SITEID	7	UPPER	8	0	0	0	SITE.SITEID
DRILLDOWN	ISQBE	8	YORN	1	0	1	1	
DRILLDOWN	FROMSITEID	9	UPPER	8	0	0	0	SITE.SITEID
DRILLDOWN	ASSETINHIERARCHY	10	UPPER	12	0	0	0	ASSET.ASSETNUM
DRILLDOWN	LOCINHIERARCHY	11	UPPER	12	0	0	0	LOCATIONS.LOCATION
DRILLDOWN	ASSETCOUNT	12	INTEGER	12	0	0	0	
DRILLDOWN	SYSCOUNT	13	INTEGER	12	0	0	0	
DRILLDOWN	ISNETWORK	14	YORN	1	0	1	0	LOCSYSTEM.NETWORK
DRILLDOWN	SYSIDS	15	ALN	254	0	0	0	
DRILLDOWN	SYSTEXT	16	ALN	254	0	0	0	
DRILLDOWN	ASSETINLOC	17	UPPER	12	0	0	0	ASSET.ASSETNUM
DRILLDOWN	ASSETMESSAGE	18	ALN	50	0	0	0	
DRILLDOWN	LOCATIONSID	19	INTEGER	12	0	0	1	LOCATIONS.LOCATIONSID
DRILLDOWN	ASSETUID	20	INTEGER	12	0	0	0	
DRILLDOWN	ORGID	21	UPPER	8	0	0	0	ORGANIZATION.ORGID
DRILLDOWN	LOCISON	22	YORN	1	0	1	1	.
DRPOLDTAB	TABLERNAME	1	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
ECOMMADAPT	ERRORMSG	1	ALN	500	0	0	0	MAXMESSAGES.VALUE
EDITWFAPPTOOLBAR	APPNAME	1	UPPER	10	0	0	1	MAXAPPS.APP
EDITWFAPPTOOLBAR	PROCESSNAME	2	UPPER	10	0	0	0	WFPROCESS.PROCESSNAME
EDITWFAPPTOOLBAR	OBJECTNAME	3	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
ESIGLOGIN	PASSWORD	1	ALN	32	0	0	0	
ESIGLOGIN	REASON	2	ALN	50	0	0	0	LOGINTRACKING.REASON
ESIGLOGIN	USERID	3	UPPER	30	0	0	0	PERSON.PERSONID
ESIGLOGIN	MSGTEXT	4	ALN	255	0	0	0	
ESIGLOGIN	CHANGELIST	5	ALN	50	0	0	0	LOGINTRACKING.REASON

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
ESIGLOGIN	LOGINID	6	ALN	50	0	1	0	MAXUSER.LOGINID
EXPBUILDATTR	OBJECTNAME	1	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
EXPBUILDATTR	ATTRIBUTENAME	2	UPPER	50	0	0	0	MAXATTRIBUTE.ATTRIBUTENAME
EXPBUILDATTR	REMARKS	3	ALN	4000	0	0	0	MAXATTRIBUTE.REMARKS
EXPBUILDATTR	MAXTYPE	4	UPPER	8	0	0	1	MAXATTRIBUTE.MAXTYPE
EXPBUILDATTR	LENGTH	5	INTEGER	12	0	0	1	MAXATTRIBUTE.LENGTH
EXPBUILDATTR	HASCHILDREN	6	YORN	1	0	1	0	
EXPBUILDATTR	HASPARENT	7	YORN	1	0	1	0	
EXPBUILDATTR	CHILD	8	UPPER	50	0	0	0	MAXATTRIBUTE.ATTRIBUTENAME
EXPBUILDATTR	MAXATTRIBUTEID	9	INTEGER	12	0	0	1	MAXATTRIBUTE.MAXATTRIBUTEID
EXPBUILDATTR	NAME	10	UPPER	50	0	0	0	MAXATTRIBUTE.ATTRIBUTENAME
EXPBUILDER	USERSQL	1	ALN	4000	0	0	0	
EXPBUILDER	CUSTCLASS	2	ALN	100	0	0	0	
EXPBUILDER	EXPRESSION	3	YORN	1	0	1	0	
EXPBUILDER	CLASSSTRUCTUREID	4	UPPER	20	0	0	1	CLASSSTRUCTURE.CLASSSTRUCTUREID
EXPBUILDER	ISCUSTOMCLASS	5	YORN	1	0	1	1	
EXPBUILDTREE	NAME	1	UPPER	50	0	0	0	MAXATTRIBUTE.ATTRIBUTENAME
EXPBUILDTREE	PARENT	2	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
EXPBUILDTREE	CHILD	3	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
EXPBUILDTREE	REMARKS	4	ALN	4000	0	0	0	MAXRELATIONSHIP.REMARKS
EXPBUILDTREE	OBJECTTYPE	5	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
EXPBUILDTREE	WHERECLAUSE	6	ALN	4000	0	0	1	QUERY.CLAUSE
EXPBUILDTREE	MAXRELATIONSHIPID	7	INTEGER	12	0	0	1	MAXRELATIONSHIP.MAXRELATIONSHIPID
EXPBUILDTREE	HASCHILDREN	8	YORN	1	0	1	0	
EXPBUILDTREE	HASPARENT	9	YORN	1	0	1	0	
EXPBUILDTREE	OBJECTNAME	10	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
GENERATEWO	EFFECTIVEDATE	1	DATETIME	10	0	0	0	
GENERATEWO	MEMO	2	ALN	254	0	0	0	
GENERATEWO	USEACTIONLIMIT	3	YORN	1	0	1	0	
GENERATEWO	PMNUM	4	UPPER	8	0	0	0	PM.PMNUM
GENERATEWO	JPNUM	5	UPPER	10	0	0	0	JOBPLAN.JPNUM
GENERATEWO	SITEID	6	UPPER	8	0	0	0	SITE.SITEID
GENERATEWO	ORGID	7	UPPER	8	0	0	0	ORGANIZATION.ORGID
GENERATEWO	ASSETNUM	8	UPPER	12	0	0	0	ASSET.ASSETNUM
GENERATEWO	LOCATION	9	UPPER	12	0	0	0	LOCATIONS.LOCATION
GLNAVTEMPORG	ORGID	1	UPPER	8	0	0	0	ORGANIZATION.ORGID
GLNAVTEMPORG	SITEID	2	UPPER	8	0	0	0	SITE.SITEID
GLUPDATEDATABASE	ORGID	1	UPPER	8	0	0	0	ORGANIZATION.ORGID
GLUPDATEDATABASE	UPDATEDATABASE	2	ALN	20	0	0	0	
INITIATEWORKFLOW	PROCESSNAME	1	UPPER	10	0	1	0	WFPROCESS.PROCESSNAME
INITIATEWORKFLOW	MEMO	2	ALN	50	0	0	0	WFTRANSACTION.MEMO
INITIATEWORKFLOW	OWNERTABLE	3	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
INITIATEWORKFLOW	OWNERID	4	INTEGER	12	0	0	1	
INPUTWF	MEMO	1	ALN	50	0	0	0	WFTRANSACTION.MEMO
INPUTWF	ACTIONID	2	INTEGER	12	0	0	1	WFACTION.ACTIONID
INTOBJRELATION	SOURCE	1	ALN	18	0	0	0	

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
INTOBJRELATION	DEST	2	ALN	18	0	0	0	
INTOBJRELATION	RELATION	3	UPPER	50	0	0	0	
INTOBJRELATION	RELSQLWHERE	4	ALN	2000	0	0	1	QUERY.CLAUSE
INVADJUSTMENT	ITEMNUM	1	UPPER	30	0	0	0	ITEM.ITEMNUM
INVADJUSTMENT	LOCATION	2	UPPER	12	0	0	0	LOCATIONS.LOCATION
INVADJUSTMENT	BINNUM	3	ALN	8	0	0	0	INVENTORY.BINNUM
INVADJUSTMENT	LOTNUM	4	UPPER	8	0	0	0	INVLOT.LOTNUM
INVADJUSTMENT	NEWCOST	5	AMOUNT	10	2	0	0	
INVADJUSTMENT	OLDCURBAL	6	DECIMAL	15	2	0	0	
INVADJUSTMENT	QUANTITY	7	DECIMAL	15	2	0	0	
INVADJUSTMENT	CONTROLACC	8	GL	23	0	0	1	
INVADJUSTMENT	SHRINKAGEACC	9	GL	23	0	0	1	
INVADJUSTMENT	INVCOSTADJACC	10	GL	23	0	0	1	
INVADJUSTMENT	MEMO	11	ALN	254	0	0	0	
INVADJUSTMENT	PERCENTAGEINCREASE	12	DECIMAL	15	2	0	0	
INVADJUSTMENT	ADJUSTMENTDATE	13	DATETIME	10	0	1	0	
INVADJUSTMENT	ADJUSTMENTTYPE	14	UPPER	18	0	1	1	INVTRANS.TRANSTYPE
INVADJUSTMENT	OLDPHYSCT	15	DECIMAL	15	2	0	0	
INVADJUSTMENT	OLDAVGCOST	16	AMOUNT	10	2	0	0	
INVADJUSTMENT	OLDSTDCOST	17	AMOUNT	10	2	0	0	
INVADJUSTMENT	ITEMSETID	18	UPPER	8	0	0	0	SETS.SETID
INVADJUSTMENT	CONDITIONCODE	19	UPPER	30	0	0	0	ITEMCONDITION.CONDITIONCODE
INVADJUSTMENT	ORGID	20	UPPER	8	0	0	0	ORGANIZATION.ORGID
INVADJUSTMENT	SITEID	21	UPPER	8	0	0	0	SITE.SITEID
INVOICECHGSTAT	STATUS	1	UPPER	12	0	1	1	INVOICE.STATUS
INVOICECHGSTAT	STATUSDATE	2	DATETIME	10	0	1	1	INVOICE.STATUSDATE
INVOICECHGSTAT	MEMO	3	ALN	50	0	0	0	WFTRANSACTION.MEMO
INVOICECHGSTAT	POCLOSE	4	YORN	1	0	1	0	
ISSUECURRENTITEM	ITEMNUM	1	UPPER	30	0	1	0	ITEM.ITEMNUM
ISSUECURRENTITEM	STORELOC	2	UPPER	12	0	1	0	LOCATIONS.LOCATION
ISSUECURRENTITEM	ENTERDATE	3	DATETIME	10	0	0	0	
ISSUECURRENTITEM	ENTERBY	4	UPPER	30	0	0	0	PERSON.PERSONID
ISSUECURRENTITEM	QUANTITY	5	DECIMAL	15	2	0	0	
ISSUECURRENTITEM	ISSUETYPE	6	UPPER	20	0	1	1	MATUSETRANS.ISSUETYPE
ISSUECURRENTITEM	WONUM	7	UPPER	10	0	0	0	WORKORDER.WONUM
ISSUECURRENTITEM	ASSETNUM	8	UPPER	12	0	0	0	ASSET.ASSETNUM
ISSUECURRENTITEM	LOCATION	9	UPPER	12	0	0	0	LOCATIONS.LOCATION
ISSUECURRENTITEM	BINNUM	10	ALN	8	0	0	0	INVENTORY.BINNUM
ISSUECURRENTITEM	LOTNUM	11	UPPER	8	0	0	0	INVLOT.LOTNUM
ISSUECURRENTITEM	UNITCOST	12	AMOUNT	10	2	0	0	
ISSUECURRENTITEM	LINECOST	13	AMOUNT	10	2	0	0	
ISSUECURRENTITEM	OUTSIDE	14	YORN	1	0	1	0	
ISSUECURRENTITEM	ROTASSETNUM	15	UPPER	12	0	0	0	ASSET.ASSETNUM
ISSUECURRENTITEM	MEMO	16	ALN	254	0	0	0	
ISSUECURRENTITEM	GLDEBITACCT	17	GL	23	0	0	1	
ISSUECURRENTITEM	GLCREDITACCT	18	GL	23	0	0	1	

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
ISSUECURRENTITEM	ISSUETO	19	UPPER	30	0	0	0	PERSON.PERSONID
ISSUECURRENTITEM	MRNUM	20	UPPER	8	0	0	0	MR.MRNUM
ISSUECURRENTITEM	MRLINENUM	21	INTEGER	12	0	0	1	MRLINE.MRLINENUM
ISSUECURRENTITEM	AVBLBALANCE	22	DECIMAL	15	2	0	1	INVBALANCES.CURBAL
ISSUECURRENTITEM	ROTATING	23	YORN	1	0	1	0	
ISSUECURRENTITEM	ISLOT	24	YORN	1	0	1	0	
ISSUECURRENTITEM	CURBAL	25	DECIMAL	15	2	0	1	INVBALANCES.CURBAL
ISSUECURRENTITEM	TASKID	26	INTEGER	12	0	0	0	
ISSUECURRENTITEM	REFWO	27	UPPER	10	0	0	0	WORKORDER.WONUM
ISSUECURRENTITEM	SITEID	28	UPPER	8	0	1	0	SITE.SITEID
ISSUECURRENTITEM	ORGID	29	UPPER	8	0	1	0	ORGANIZATION.ORGID
ISSUECURRENTITEM	ENTEREDASTASK	30	YORN	1	0	1	1	
ISSUECURRENTITEM	ITEMSETID	31	UPPER	8	0	1	0	SETS.SETID
ISSUECURRENTITEM	CONDITIONCODE	32	UPPER	30	0	0	0	ITEMCONDITION.CONDITIONCODE
ISSUECURRENTITEM	TOSITEID	33	UPPER	8	0	1	0	SITE.SITEID
JOBPLANFILTER	LOCATIONSELECT	1	UPPER	12	0	0	0	LOCATIONS.LOCATION
JOBPLANFILTER	ASSETSELECT	2	UPPER	12	0	0	0	ASSET.ASSETNUM
JOBPLANFILTER	ITEMNUMSELECT	3	UPPER	30	0	0	0	ITEM.ITEMNUM
JOBPLANFILTER	ITEMSETID	4	UPPER	8	0	0	0	SETS.SETID
JPCHANGESTATUS	STATUS	1	UPPER	16	0	1	0	JOBPLAN.STATUS
JPCHANGESTATUS	ASOFDATE	2	DATETIME	10	0	0	0	
JPCHANGESTATUS	MEMO	3	ALN	80	0	0	0	
JPDUMMYSTATUS	CHANGEBY	1	ALN	18	0	0	0	
JPDUMMYSTATUS	CHANGEDATE	2	DATETIME	10	0	0	0	
JPDUMMYSTATUS	MEMO	3	ALN	50	0	0	0	
JPDUMMYSTATUS	ORGID	4	UPPER	8	0	0	0	ORGANIZATION.ORGID
JPDUMMYSTATUS	SITEID	5	UPPER	8	0	0	0	SITE.SITEID
JPDUMMYSTATUS	JPNUM	6	UPPER	10	0	0	0	JOBPLAN.JPNUM
JPFROMWOINPUT	JPNUM	1	UPPER	10	0	1	0	JOBPLAN.JPNUM
JPFROMWOINPUT	DESCRIPTION	2	ALN	100	0	0	0	JOBPLAN.DESCRPTION
JPFROMWOINPUT	ORGID	3	UPPER	8	0	0	0	ORGANIZATION.ORGID
JPFROMWOINPUT	SITEID	4	UPPER	8	0	0	0	SITE.SITEID
JPTOTAL	LABORHRS	1	DURATION	8	0	0	1	JOBLABOR.LABORHRS
JPTOTAL	LABORCOST	2	AMOUNT	10	2	0	0	JOBLABOR.LINECOST
JPTOTAL	MATERIALCOST	3	AMOUNT	10	2	0	0	JOBITEM.LINECOST
JPTOTAL	SERVICECOST	4	AMOUNT	10	2	0	0	JOBITEM.LINECOST
JPTOTAL	TOOLCOST	5	AMOUNT	10	2	0	0	JOBTOOL.LINECOST
JPTOTAL	TOTALCOST	6	AMOUNT	10	2	0	0	JOBLABOR.LINECOST
JPTOTAL	SITEID	7	UPPER	8	0	0	0	SITE.SITEID
JPTOTAL	ORGID	8	UPPER	8	0	0	0	ORGANIZATION.ORGID
KIT	ITEMNUM	1	UPPER	30	0	0	0	ITEM.ITEMNUM
KIT	LOCATION	2	UPPER	12	0	0	0	LOCATIONS.LOCATION
KIT	ITEMSETID	3	UPPER	8	0	0	0	SETS.SETID
KIT	CURBAL	4	DECIMAL	15	2	0	1	INVBALANCES.CURBAL
KIT	POSSIBLEQUANTITY	5	DECIMAL	15	2	0	1	INVBALANCES.CURBAL
KIT	QUANTITY	6	DECIMAL	15	2	0	1	INVBALANCES.CURBAL

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
KIT	UNITCOST	7	AMOUNT	10	2	0	1	INVCOST.STDCOST
KIT	MEMO	8	ALN	50	0	0	0	PRLINE.REMARK
KIT	SITEID	9	UPPER	8	0	0	0	SITE.SITEID
KIT	ORGID	10	UPPER	8	0	0	0	ORGANIZATION.ORGID
LABCHANGESTATUS	STATUS	1	UPPER	8	0	1	0	LABOR.STATUS
LABCHANGESTATUS	STATDATE	2	DATETIME	10	0	0	0	LABORSTATUS.CHANGEDATE
LABCHANGESTATUS	MEMO	3	ALN	50	0	0	0	
LABINVLOCCHANGE	SITEID	1	UPPER	8	0	1	0	SITE.SITEID
LABINVLOCCHANGE	LOCATION	2	UPPER	12	0	1	0	LOCATIONS.LOCATION
LABINVLOCCHANGE	DESCRIPTION	3	ALN	100	0	0	0	ITEM.DESCRPTION
LABINVLOCCHANGE	CONTROLACC	4	GL	23	0	0	1	
LABINVLOCCHANGE	SHRINKAGEACC	5	GL	23	0	0	1	
LABINVLOCCHANGE	GLACCOUNT	6	GL	23	0	0	1	
LABINVLOCCHANGE	ORGID	7	UPPER	8	0	1	0	ORGANIZATION.ORGID
LABORVIEWCHGSTAT	STATUS	1	UPPER	6	0	1	0	CONTRACT.STATUS
LABORVIEWCHGSTAT	STATDATE	2	DATETIME	10	0	1	0	CONTRACT.STATUSDATE
LABORVIEWCHGSTAT	MEMO	3	ALN	50	0	0	0	WFTRANSACTION.MEMO
LABQUALCHSTATUS	STATUS	1	UPPER	8	0	1	0	LABOR.STATUS
LABQUALCHSTATUS	MEMO	2	ALN	50	0	0	0	LABORSTATUS.MEMO
LABQUALCHSTATUS	STATUSDATE	3	DATE	4	0	1	0	
LABTRANSENTERBY	LABORCODE	1	UPPER	8	0	0	0	LABOR.LABORCODE
LABTRANSENTERBY	WONUM	2	UPPER	10	0	0	0	WORKORDER.WONUM
LABTRANSENTERBY	TASKID	3	INTEGER	12	0	0	1	WORKORDER.TASKID
LABTRANSENTERBY	TICKETID	4	UPPER	10	0	0	0	TICKET.TICKETID
LABTRANSENTERBY	CLASS	5	UPPER	10	0	0	1	TICKET.CLASS
LABTRANSENTERBY	CONTRACTNUM	6	UPPER	8	0	0	0	CONTRACT.CONTRACTNUM
LABTRANSENTERBY	ORGID	7	UPPER	8	0	0	0	ORGANIZATION.ORGID
LABTRANSENTERBY	SITEID	8	UPPER	8	0	0	0	SITE.SITEID
LABTRANSENTERBY	VENDOR	9	UPPER	12	0	0	0	COMPANIES.COMPANY
LEASEVIEWCHGSTAT	STATUS	1	UPPER	6	0	1	0	CONTRACT.STATUS
LEASEVIEWCHGSTAT	STATDATE	2	DATETIME	10	0	1	0	CONTRACT.STATUSDATE
LEASEVIEWCHGSTAT	MEMO	3	ALN	50	0	0	0	WFTRANSACTION.MEMO
LINKCLASSSPEC	CLASSSTRUCTUREID	1	UPPER	20	0	0	1	CLASSSTRUCTURE.CLASSSTRUCTUREID
LOCCHANGESTATUS	STATUS	1	UPPER	14	0	1	0	
LOCCHANGESTATUS	ASOFDATE	2	DATETIME	10	0	0	0	
LOCCHANGESTATUS	MEMO	3	ALN	25	0	0	0	LOCSTATUS.MEMO
LOCCHANGESTATUS	ROLLTOALLCHILDREN	4	YORN	1	0	1	0	
LOCCHANGESTATUS	REMOVEFROMALLJP	5	YORN	1	0	1	0	
LOCCHANGESTATUS	ROLLTOALLEQUIPMENT	6	YORN	1	0	1	0	
LOCCHANGESTATUS	REMOVEFROMALLROUTES	7	YORN	1	0	1	0	
LOCCHANGESTATUS	REMOVEFROMACTIVESP	8	YORN	1	0	1	0	
LOCCHANGESTATUS	CHANGEPMSTATUS	9	YORN	1	0	1	0	
MASTERPMWORKTYPE	WORKTYPE	1	UPPER	5	0	0	0	WORKTYPE.WORKTYPE
MASTERPMWORKTYPE	WTYPEDESC	2	ALN	50	0	0	0	WORKTYPE.WTYPEDESC
MASTERPMWORKTYPE	ORGID	3	UPPER	8	0	0	0	ORGANIZATION.ORGID
MASTVIEWCHGSTAT	STATUS	1	UPPER	6	0	1	0	CONTRACT.STATUS

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
MASTVIEWCHGSTAT	STATDATE	2	DATETIME	10	0	1	0	CONTRACT.STATUSDATE
MASTVIEWCHGSTAT	MEMO	3	ALN	50	0	0	0	WFTRANSACTION.MEMO
MAXADAPTERINST	ADAPTERNAME	1	UPPER	10	0	0	1	MAXIFACETYPE.IFACETYPE
MAXADPTINSTDET	ADAPTERNAME	1	UPPER	10	0	0	1	MAXIFACETYPE.IFACETYPE
MAXADPTINSTDET	INSTALLTYPE	2	ALN	20	0	0	0	
MAXADPTINSTDET	VERSION	3	DECIMAL	5	0	0	0	MAXIFACETYPE.VERSION
MAXADPTINSTDET	DESCRIPTION	4	ALN	200	0	0	0	
MAXADPTINSTDET	ISINSTALLED	5	YORN	1	0	1	0	
MAXADPTINSTDET	INSTALL	6	YORN	1	0	1	0	
MAXADPTINSTDET	CFGFILE	7	ALN	200	0	0	0	
MAXAVLINSADAPTER	ADAPTERNAME	1	UPPER	10	0	0	1	MAXIFACETYPE.IFACETYPE
MAXEXTIFACELIST	IFACENAME	1	ALN	20	0	0	1	MAXIFACE.IFACENAME
MAXEXTIFACELIST	DESCRIPTION	3	ALN	100	0	0	1	MAXIFACE.DESCRPTION
MAXIFACELOAD	FILETYPE	1	ALN	18	0	0	1	
MAXIFACELOAD	DIRECTORY	2	ALN	80	0	0	1	
MAXIFACELOAD	DELIMITER	3	ALN	1	0	0	1	
MAXIFACELOAD	FILENAME	4	ALN	1000	0	0	0	
MAXIFACETBDATA	IFACETBNAME	1	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
MAXIFACETBDATA	ITBEXISTANCE	2	YORN	1	0	1	1	
MAXIFACETBPROPS	BACKUPTABLE	1	YORN	1	0	1	1	
MAXIFACETBPROPS	ISREMOTE	2	YORN	1	0	1	1	
MAXIFACETBPROPS	DRIVER	3	ALN	80	0	0	1	
MAXIFACETBPROPS	URL	4	ALN	80	0	0	1	
MAXIFACETBPROPS	USERNAME	5	ALN	50	0	0	1	
MAXIFACETBPROPS	PASSWORD	6	ALN	50	0	0	1	
MAXIFACETBPROPS	ENDPOINTNAME	7	UPPER	20	0	1	1	MAXENDPOINT.ENDPOINTNAME
MAXIFACETBPROPS	EPDESCRIPTION	8	ALN	80	0	0	0	MAXENDPOINT.DESCRPTION
MAXINTFILELOOKUP	FILENAME	1	ALN	150	0	0	0	
MAXINTTBJUNK	IFACETBNAME	11	UPPER	18	0	1	1	
MAXINTTBJUNK	ITBEXISTANCE	12	YORN	1	0	1	1	
MAXVARINPUT	ORGID	1	UPPER	8	0	0	0	ORGANIZATION.ORGID
MAXVARINPUT	SITEID	2	UPPER	8	0	0	0	SITE.SITEID
MAXVARINPUT	SETACTSTARTONINIT	3	ALN	2	0	1	0	
MAXVARINPUT	DOWNTIMEDFLTS	4	ALN	10	0	0	0	
MAXVARINPUT	SAVEOPERATIONS	5	YORN	1	0	1	0	
MAXVARINPUT	SAVEMATERIAL	6	YORN	1	0	1	0	
MAXVARINPUT	SAVELABOR	7	YORN	1	0	1	0	
MAXVARINPUT	SAVETOOLS	8	YORN	1	0	1	0	
MAXVARINPUT	WARREXPDATE	9	YORN	1	0	1	0	
MAXVARINPUT	DOWNPROMPT	10	YORN	1	0	1	0	
MAXVARINPUT	SKIPDUPATLOC	11	YORN	1	0	1	0	
MAXVARINPUT	SKIPDUPWITHASSET	12	YORN	1	0	1	0	
MAXVARINPUT	WFONPMGENERATION	13	UPPER	10	0	0	0	WFPROCESS.PROCESSNAME
MAXVARINPUT	WFONPRREORDER	14	UPPER	10	0	0	0	WFPROCESS.PROCESSNAME
MAXVARINPUT	WFONPOREORDER	15	UPPER	10	0	0	0	WFPROCESS.PROCESSNAME
MAXVARINPUT	WFONPOAPPROVAL	16	UPPER	10	0	0	0	WFPROCESS.PROCESSNAME

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
MAXVARINPUT	PRAPPROVAL	17	YORN	1	0	1	0	
MAXVARINPUT	PRCHANGE	18	YORN	1	0	1	0	
MAXVARINPUT	PRSPECIALDIRECT	19	YORN	1	0	1	0	
MAXVARINPUT	AUTOBLANKETPOREL	20	YORN	1	0	1	0	
MAXVARINPUT	PORECEIPTIAS	21	YORN	1	0	1	0	
MAXVARINPUT	AUTOCLOSEPO	22	YORN	1	0	1	0	
MAXVARINPUT	INVOICEMGT	23	YORN	1	0	1	0	
MAXVARINPUT	A_BREAKPOINT	24	DECIMAL	3	3	0	1	
MAXVARINPUT	B_BREAKPOINT	25	DECIMAL	3	3	0	1	
MAXVARINPUT	C_BREAKPOINT	26	DECIMAL	3	3	0	1	
MAXVARINPUT	A_CCF	27	INTEGER	12	0	0	1	
MAXVARINPUT	B_CCF	28	INTEGER	12	0	0	1	
MAXVARINPUT	C_CCF	29	INTEGER	12	0	0	1	
MAXVARINPUT	NEGATIVECURBAL	30	ALN	14	0	0	1	
MAXVARINPUT	NEGATIVEAVAIL	31	ALN	14	0	0	1	
MAXVARINPUT	AUTOPOEXT	32	ALN	14	0	0	1	
MAXVARINPUT	AUTOPOINT	33	ALN	14	0	0	1	
MAXVARINPUT	MAXPRLINES	34	INTEGER	12	0	0	1	
MAXVARINPUT	DEFISSUECOST	35	ALN	14	0	0	1	
MAXVARINPUT	DEFORDERCOST	36	ALN	14	0	0	1	
MAXVARINPUT	COSTFROMASSET	37	ALN	2	0	1	0	
MAXVARINPUT	ASHIST_ON_WOSTATUS	38	ALN	14	0	0	1	
MAXVARINPUT	ASMETERWEIGHTPRCNT	39	DECIMAL	5	2	0	1	
MAXVARINPUT	PRIMARYSYSTEM	40	UPPER	8	0	0	0	LOCSYSTEM.SYSTEMID
MAXVARINPUT	WOGENWHERECLAUSE	41	ALN	254	0	0	1	MAXVARS.VARVALUE
MAXVARINPUT	LR_APPR_IN_LABOR	42	YORN	1	0	1	1	
MAXVARINPUT	LR_APPR_OUT_LABOR	43	YORN	1	0	1	1	
MAXVARINPUT	LR_PO_OUTLAB_RQRD	44	YORN	1	0	1	1	
MAXVARINPUT	PMUSEJPPRIORITY	45	YORN	1	0	1	1	
MAXVARINPUT	WOGENERATIONDAYS	46	INTEGER	12	0	0	0	
MAXVARINPUT	WOGENUSEFREQCRITRA	47	YORN	1	0	1	1	
MAXVARINPUT	AUTOPMWOGEN	48	YORN	1	0	1	0	
MAXVARINPUT	TASKSEED	49	INTEGER	12	0	0	0	
MAXVARINPUT	TASKINTERVAL	50	INTEGER	12	0	0	0	
MAXVARINPUT	WOGENEMAIL	51	ALN	254	0	0	0	
MAXVARINPUT	PMACTUALMETER	52	YORN	1	0	1	1	PM.USEFREQUENCY
MAXVARINPUT	ASSETDRILLDOWNTOP	53	ALN	18	0	0	0	
MAXVARINPUT	DDASSETCOUNT	54	YORN	1	0	1	0	
MAXVARINPUT	SHOWDUPATLOC	55	YORN	1	0	1	0	
MAXVARINPUT	SHOWDUPWITHASSET	56	YORN	1	0	1	0	
MAXVARINPUT	ALLOWSPORDER	57	YORN	1	0	1	0	
MAXVARINPUT	NAMESEQ	58	INTEGER	12	0	1	0	
MAXVARINPUT	SHOWWORKASSETHAZ	59	YORN	1	0	1	0	
MAXVARINPUT	LR_PO_INLAB_RQRD	60	YORN	1	0	1	0	
MAXVARINPUT	UPDATEINVENTORY	61	YORN	1	0	1	0	
MAXVARINPUT	WOSTATUSCLEARRESV	62	ALN	15	0	0	0	

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
MAXVARINPUT	DISABLEGLSWITCH	63	YORN	1	0	1	0	
MAXVARINPUT	GLCHECKCOA	64	YORN	1	0	1	0	
MAXVARINPUT	GLVALIDATEFP	65	YORN	1	0	1	0	
MAXVARINPUT	GLREQUIREDFORTRANS	66	YORN	1	0	1	0	
MAXVARINPUT	BASELANGUAGE	67	ALN	4	0	0	0	
MAXVARINPUT	SERVRECEIPTDEFAULT	68	YORN	1	0	1	0	
MAXVARINPUT	APPLYSINGLESLA	69	ALN	2	0	1	0	
MAXVARINPUT	USESLARANKING	70	ALN	2	0	1	0	
MAXVARINPUT	CONFIRMLABTRANS	71	YORN	1	0	1	0	
MAXVARINPUT	AUTOAPPRLABINVOICE	72	YORN	1	0	1	0	
MAXVARINPUT	STARTDATE	73	DATE	4	0	0	1	CALENDAR.STARTDATE
MAXVARINPUT	ENDDATE	74	DATE	4	0	0	1	CALENDAR.ENDDATE
MAXVARINPUT	GLQUESTION	75	ALN	4	0	0	0	
MAXVARINPUT	ASSETDESCDELIMITER	76	ALN	4	0	0	0	
MAXVARINPUT	LABTRNALLOWANYCRFT	77	YORN	1	0	1	0	
MAXVARINPUT	LABTRANSONDISPATCH	78	YORN	1	0	1	1	
MAXVARINPUT	WOSTATUSONASNTCOMP	79	UPPER	8	0	0	0	
MAXVARINPUT	AUTOMPWGEN	80	YORN	1	0	1	1	
MAXVARINPUT	MPWOGENEMAIL	81	ALN	254	0	0	0	
MAXVARINPUT	MPWOGENUSECRITERIA	82	YORN	1	0	1	1	
MAXVARINPUT	PMALERT	83	ALN	8	0	0	0	
MAXVARINPUT	MODAVAILROWS	84	INTEGER	12	0	0	1	
MAXVARINPUT	MXINTDBUSER	85	ALN	50	0	0	0	
MAXVARINPUT	INTGLOBALDIR	86	ALN	200	0	0	0	
MAXVARINPUT	INTEXPUPDSENDER	87	YORN	1	0	1	0	
MAXVARINPUT	INTADMINTOEMAIL	88	ALN	200	0	0	0	
MAXVARINPUT	INTADMINFROMEMAIL	89	ALN	200	0	0	0	
MAXVARINPUT	MXINTDOMAIN	90	YORN	1	0	1	1	
MPWOGENCRONPARAM	EMAILTO	1	ALN	256	0	0	0	
MPWOGENCRONPARAM	LOGFILE	2	ALN	256	0	0	0	
MPWOGENCRONPARAM	ORGID	3	UPPER	8	0	0	0	ORGANIZATION.ORGID
MPWOGENCRONPARAM	SITEID	4	UPPER	8	0	0	0	SITE.SITEID
MRCHANGESTATUS	STATUS	1	UPPER	12	0	1	1	MR.STATUS
MRCHANGESTATUS	STATDATE	2	DATETIME	10	0	0	1	MR.STATUSDATE
MRCHANGESTATUS	MEMO	3	ALN	50	0	0	0	WFTRANSACTION.MEMO
MRTEMPLATE	DESCRIPTION	1	ALN	100	0	0	0	
MRTEMPLATE	DESCRIPTION_LONGDESCRIPTION	2	LONGALN	32000	0	0	0	
MYPROFILECHNGEPW	USERID	1	UPPER	30	0	1	0	PERSON.PERSONID
MYPROFILECHNGEPW	PASSWORDINPUT	2	ALN	35	0	0	0	MAXUSER.PASSWORDINPUT
MYPROFILECHNGEPW	PASSWORDCHECK	3	ALN	35	0	0	0	MAXUSER.PASSWORDINPUT
MYPROFILECHNGEPW	PASSWORD	4	CRYPTOX	50	0	0	0	MAXUSER.PASSWORD
MYPROFILECHNGEPW	PASSWORDOLD	5	ALN	35	0	1	0	MAXUSER.PASSWORDINPUT
MYPROFILECHNGEPW	PWHINTQUESTION	6	UPPER	25	0	0	0	MAXUSER.PWHINTQUESTION
MYPROFILECHNGEPW	PWHINTANSWER	7	CRYPTO	2000	0	0	0	MAXUSER.PWHINTANSWER
NOTIFICATIONWF	SUBJECT	1	ALN	254	0	0	0	
NOTIFICATIONWF	MESSAGE	2	CLOB	32000	0	0	0	

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
NOTIFICATIONWF	PERSONID	3	UPPER	30	0	0	0	PERSON.PERSONID
NOTIFICATIONWF	TEMPLATEID	4	UPPER	10	0	0	1	COMMTEMPLATE.TEMPLATEID
NOTIFICATIONWF	SENDTO	5	CLOB	32000	0	1	0	
PERSCHANGESTATUS	STATUS	1	UPPER	10	0	1	0	PERSON.STATUS
PERSCHANGESTATUS	STATDATE	2	DATETIME	10	0	0	1	PERSON.STATUSDATE
PERSCHANGESTATUS	MEMO	3	ALN	50	0	0	1	
PERSONAVAIL	DAY	1	ALN	15	0	1	0	
PERSONAVAIL	STARTTIME	2	TIME	3	0	0	0	MODAVAIL.STARTTIME
PERSONAVAIL	ENDTIME	3	TIME	3	0	0	0	MODAVAIL.ENDTIME
PERSONAVAIL	WORKHOURS	4	DURATION	8	0	0	0	MODAVAIL.WORKHOURS
PERSONAVAIL	REASONCODE	5	UPPER	16	0	0	0	MODAVAIL.REASONCODE
PERSONAVAIL	DESCRIPTION	6	ALN	256	0	0	1	SYNONYMDOMAIN.DESCRPTION
PERSONAVAIL	PERSONID	7	UPPER	30	0	1	0	PERSON.PERSONID
PERSONAVAIL	WORKDATE	8	DATE	4	0	1	0	
PMCHANGESTATUS	STATUS	1	UPPER	20	0	1	0	PM.STATUS
PMCHANGESTATUS	ROLLTOALLCHILDREN	2	YORN	1	0	1	0	
PMSTATUSDUMMY	PMNUM	1	UPPER	8	0	0	0	PM.PMNUM
PMVIAROUTE	PMNUM	1	UPPER	8	0	1	0	PM.PMNUM
PMVIAROUTE	ROUTE	2	UPPER	8	0	1	0	ROUTES.ROUTE
PMVIAROUTE	JPNUM	3	UPPER	10	0	1	0	JOBPLAN.JPNUM
PMVIAROUTE	NEXTDATE	4	DATE	4	0	0	1	PM.NEXTDATE
PMWORKGENERATION	LEADTIME	1	INTEGER	12	0	1	1	PM.LEADTIME
PMWORKGENERATION	USEFREQUENCY	2	YORN	1	0	1	1	PM.USEFREQUENCY
PMWORKGENERATION	ASYNC	3	YORN	1	0	1	0	
PMWORKGENERATION	TOEMAILADDR	4	ALN	50	0	0	1	EMAIL.EMAILADDRESS
POCHANGESTATUS	STATUS	1	UPPER	20	0	1	1	PO.STATUS
POCHANGESTATUS	STATDATE	2	DATETIME	10	0	1	1	PO.STATUSDATE
POCHANGESTATUS	MEMO	3	ALN	50	0	0	0	WFTRANSACTION.MEMO
POFROMPRINPUT	PONUM	1	UPPER	8	0	0	0	PO.PONUM
POFROMPRINPUT	DESCRIPTION	2	ALN	100	0	0	0	PR.DESCRPTION
POFROMPRINPUT	ORGID	3	UPPER	8	0	0	0	ORGANIZATION.ORGID
POFROMPRINPUT	SITEID	4	UPPER	8	0	0	0	SITE.SITEID
POFROMRFQINPUT	PONUM	1	UPPER	8	0	0	0	PO.PONUM
POFROMRFQINPUT	DESCRIPTION	2	ALN	100	0	0	0	PR.DESCRPTION
POFROMRFQINPUT	VENDOR	3	UPPER	12	0	0	0	COMPANIES.COMPANY
POFROMRFQINPUT	ORGID	4	UPPER	8	0	0	0	ORGANIZATION.ORGID
POFROMRFQINPUT	SITEID	5	UPPER	8	0	0	0	SITE.SITEID
PRCHANGESTATUS	STATUS	1	UPPER	12	0	1	1	PR.STATUS
PRCHANGESTATUS	STATDATE	2	DATETIME	10	0	1	1	PR.STATUSDATE
PRCHANGESTATUS	MEMO	3	ALN	50	0	0	0	WFTRANSACTION.MEMO
PRODUCTINFO	PRICE	1	DECIMAL	10	0	0	0	
PRODUCTINFO	AVAILABILITY	2	DECIMAL	15	0	0	0	
PRODUCTINFO	ITEM	3	ALN	30	0	0	0	
PRODUCTINFO	DESCRIPTION	4	ALN	100	0	0	0	
PRODUCTINFO	VENDORPARTNUM	5	ALN	25	0	0	0	
PRODUCTINFO	STATUS	6	ALN	10	0	0	0	

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
PRODUCTINFO	ALTERNATE	7	ALN	30	0	0	0	
PRODUCTINFO	MINQUANTITY	8	DECIMAL	10	0	0	0	
PRODUCTINFO	MULQUANTITY	9	DECIMAL	10	0	0	0	
PRODUCTINFO	OPTIONAL	10	ALN	10	0	0	0	
PRODUCTINFO	PACKQUANTITY	11	DECIMAL	10	0	0	0	
PRODUCTINFO	SUBSTITUTE	12	ALN	30	0	0	0	
PRODUCTINFO	NOTES	13	ALN	30	0	0	0	
PRODUCTINFO	PACKING	14	ALN	15	0	0	0	
PRODUCTINFO	UNITOFMEASURE	15	ALN	15	0	0	0	
PROPERTYINPUT	CONTRACTTYPEID	1	UPPER	25	0	0	1	CONTRACTTYPE.CONTRACTTYPEID
PROPERTYINPUT	PROPERTYID	2	UPPER	18	0	1	1	MAXOBJECT.OBJECTNAME
PROPERTYINPUT	DESCRIPTION	3	ALN	120	0	0	0	CONTRACTPROPERTY.DESCRPTION
PROPERTYINPUT	DEFAULTVALUE	4	ALN	50	0	0	1	PROPERTYDEFAULT.DEFAULTVALUE
PROPERTYINPUT	EDITABLE	5	YORN	1	0	1	1	PROPERTYDEFAULT.EDITABLE
PROPERTYINPUT	DATATYPE	6	UPPER	8	0	0	1	MAXATTRIBUTE.MAXTYPE
PURCHVIEWCHGSTAT	STATUS	1	UPPER	6	0	1	0	CONTRACT.STATUS
PURCHVIEWCHGSTAT	STATDATE	2	DATETIME	10	0	1	0	CONTRACT.STATUSDATE
PURCHVIEWCHGSTAT	MEMO	3	ALN	50	0	0	0	WFTRANSACTION.MEMO
QUALCHANGESTATUS	STATUS	1	UPPER	8	0	1	0	LABOR.STATUS
QUALCHANGESTATUS	STATUSDATE	2	DATETIME	10	0	1	0	
QUALCHANGESTATUS	MEMO	3	ALN	50	0	0	0	
QUEUENAME	QUEUENAME	1	ALN	50	0	1	1	MAXQUEUE.QUEUENAME
RCNTSKFLTVAL	VALUE	1	ALN	64	0	0	0	RECONTASKFLTRVAL.FILTERVALUE
RCNTSKFLTVAL	DESCRIPTION	2	ALN	256	0	0	0	
REASSIGNWF	ASSIGNEE	1	UPPER	30	0	1	0	PERSON.PERSONID
REASSIGNWF	MEMO	2	ALN	50	0	0	0	WFTRANSACTION.MEMO
REASSIGNWF	SENDEMAIL	3	YORN	1	0	1	1	
REASSIGNWF	TASKDESC	4	ALN	100	0	0	0	WFASSIGNMENT.DESCRPTION
RECEIPTINPUT	ORGID	1	UPPER	8	0	1	0	ORGANIZATION.ORGID
RECEIPTINPUT	SITEID	2	UPPER	8	0	1	0	SITE.SITEID
RECEIPTINPUT	PONUM	3	UPPER	8	0	0	0	PO.PONUM
RECEIPTINPUT	POLINENUM	4	INTEGER	12	0	0	1	PRLINE.PRLINENUM
RECEIPTINPUT	ORDERQTY	5	DECIMAL	15	2	0	1	INVENTORY.ORDERQTY
RECEIPTINPUT	CURRENCYLINECOST	6	DECIMAL	10	2	0	1	MATRECTRANS.CURRENCYLINECOST
RECEIPTINPUT	RECEIVEDQTY	7	DECIMAL	15	2	0	1	INVENTORY.ORDERQTY
RECEIPTINPUT	QTYREQUESTED	8	DECIMAL	15	2	0	1	INVENTORY.ORDERQTY
RECEIPTINPUT	CURRENCYAMTRCVD	9	DECIMAL	10	2	0	1	MATRECTRANS.CURRENCYLINECOST
RECEIPTINPUT	CURRENCYAMTTORCV	10	DECIMAL	10	2	0	1	MATRECTRANS.CURRENCYLINECOST
RECEIPTINPUT	ASN	11	YORN	1	0	1	0	
RECEIPTINPUT	PACKINGSLIPNUM	12	ALN	50	0	0	0	SHIPMENTLINE.PACKINGSLIPNUM
RECEIPTINPUT	ITEMNUM	13	UPPER	30	0	0	0	ITEM.ITEMNUM
RECEIPTINPUT	DESCRIPTION	14	ALN	100	0	0	0	ITEM.DESCRPTION
RECEIPTINPUT	TOSTORELOC	15	UPPER	12	0	0	0	LOCATIONS.LOCATION
RECEIPTINPUT	MATRECTRANSID	16	INTEGER	12	0	0	1	MATRECTRANS.MATRECTRANSID
RECEIPTINPUT	GLDEBITACCT	17	GL	23	0	0	1	
RECEIPTINPUT	TRANSDATE	18	DATETIME	10	0	0	1	MATRECTRANS.TRANSDATE

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
RECEIPTINPUT	LINETYPE	19	UPPER	15	0	1	1	PRLINE.LINETYPE
RECEIPTINPUT	ITEMSETID	20	UPPER	8	0	0	0	SETS.SETID
RECEIPTINPUT	REMARK	21	ALN	50	0	0	0	PRLINE.REMARK
RECEIPTINPUT	INVOICENUM	22	UPPER	8	0	0	0	INVOICE.INVOICENUM
RECEIPTINPUT	CONDITIONCODE	23	UPPER	30	0	0	0	ITEMCONDITION.CONDITIONCODE
RECEIPTINPUT	INSPECTIONREQUIRED	24	YORN	1	0	1	1	ITEM.INSPECTIONREQUIRED
RECEIPTINPUT	TOBIN	25	ALN	8	0	0	0	INVENTORY.BINNUM
RECEIPTINPUT	TOLOT	26	UPPER	8	0	0	0	INVLOT.LOTNUM
RECEIPTINPUT	EXCHANGERATE	27	DECIMAL	14	7	0	1	EXCHANGE.EXCHANGERATE
RECEIPTINPUT	ENTERBY	28	UPPER	30	0	0	0	PERSON.PERSONID
RECEIPTINPUT	ASSETNUM	29	UPPER	12	0	0	0	ASSET.ASSETNUM
RECEIPTINPUTFIND	STORELOC	1	UPPER	12	0	0	0	LOCATIONS.LOCATION
RECEIPTINPUTFIND	ORGID	2	UPPER	8	0	1	0	ORGANIZATION.ORGID
RECEIPTINPUTFIND	SITEID	3	UPPER	8	0	1	0	SITE.SITEID
REORDERCRONPARAM	STOREROOM	1	ALN	256	0	0	0	
REORDERCRONPARAM	DIRECTISSUE	2	ALN	256	0	0	0	
REORDERCRONPARAM	USEAGREEMENT	3	YORN	1	0	1	0	
REORDERCRONPARAM	IGNOREREORDERPOINT	4	YORN	1	0	1	0	
REORDERCRONPARAM	EMAILTO	5	ALN	256	0	0	0	
REORDERCRONPARAM	LOGFILE	6	ALN	256	0	0	0	
REORDERCRONPARAM	LEADTIME	7	INTEGER	12	0	0	1	
REORDERITEMS	DIRECTISSUE	1	YORN	1	0	1	0	
REORDERITEMS	LEADTIME	2	INTEGER	12	0	0	0	
REORDERITEMS	AGREEMENTPO	3	YORN	1	0	1	0	
REORDERITEMS	RUNREORDER	4	YORN	1	0	1	0	
REORDERITEMS	STORELOC	5	UPPER	12	0	0	0	LOCATIONS.LOCATION
REORDERITEMS	IGNOREPOINT	6	YORN	1	0	1	0	
REORDERITEMS	SELECTEDITEMS	7	YORN	1	0	1	0	
REORDERITEMS	ALLITEMS	8	YORN	1	0	1	0	
REORDERITEMS	DIRECTORDERONLY	9	YORN	1	0	1	0	
REORDERITEMS	TOTALNUM	10	INTEGER	12	0	0	0	
REORDERITEMS	STARTPRNUM	11	UPPER	8	0	0	0	PR.PRNUM
REORDERITEMS	ENDPRNUM	12	UPPER	8	0	0	0	PR.PRNUM
REORDERITEMS	STARTPONUM	13	UPPER	8	0	0	0	PO.PONUM
REORDERITEMS	ENDPONUM	14	UPPER	8	0	0	0	PO.PONUM
REORDERITEMS	PREVIEWREORDER	15	YORN	1	0	1	0	
REORDERITEMS	ASYNC	16	YORN	1	0	1	0	
REORDERITEMS	TOEMAILADDR	17	ALN	50	0	0	1	EMAIL.EMAILADDRESS
REORDERITEMS	SITEID	18	UPPER	8	0	1	0	SITE.SITEID
REPORTESS	DESCRIPTION	1	ALN	254	0	0	0	
REPORTESS	RUNDATE	2	DATE	4	0	0	0	
REPORTFOLDER	MODULEAPP	1	UPPER	10	0	0	0	
REPORTFOLDER	APP	2	UPPER	10	0	0	0	
REPORTFOLDER	DESCRIPTION	3	ALN	100	0	0	0	
REPORTLOOKUPLIST	LOOKUPNAME	1	ALN	200	0	0	0	
REPORTPARAMETER	TEXTPARAM1	1	ALN	255	0	0	0	

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
REPORTPARAMETER	TEXTPARAM2	2	ALN	255	0	0	0	
REPORTPARAMETER	TEXTPARAM3	3	ALN	255	0	0	0	
REPORTPARAMETER	TEXTPARAM4	4	ALN	255	0	0	0	
REPORTPARAMETER	TEXTPARAM5	5	ALN	255	0	0	0	
REPORTPARAMETER	TEXTPARAM6	6	ALN	255	0	0	0	
REPORTPARAMETER	TEXTPARAM7	7	ALN	255	0	0	0	
REPORTPARAMETER	TEXTPARAM8	8	ALN	255	0	0	0	
REPORTPARAMETER	TEXTPARAM9	9	ALN	255	0	0	0	
REPORTPARAMETER	TEXTPARAM10	10	ALN	255	0	0	0	
REPORTPARAMETER	EMAILTO	11	ALN	2000	0	0	0	
REPORTPARAMETER	EMAILCC	12	ALN	2000	0	0	0	
REPORTPARAMETER	EMAILBCC	13	ALN	2000	0	0	0	
REPORTPARAMETER	EMAILCOMMENTS	14	ALN	2000	0	0	0	
REPORTPARAMETER	ONCEDATE	15	DATE	4	0	0	0	
REPORTPARAMETER	ONCETIME	16	ALN	8	0	0	0	
REPORTPARAMETER	SCHEDULEPERIOD	17	ALN	25	0	0	0	
REPORTPARAMETER	RECURRINGTIME	18	ALN	8	0	0	0	
REPORTPARAMETER	EMAILFILETYPE	19	ALN	20	0	0	0	
REPORTPARAMETER	SCHEDULETYPE	20	ALN	15	0	0	0	
REPORTPARAMETER	DATEPARAM1	21	DATE	4	0	0	0	
REPORTPARAMETER	DATEPARAM2	22	DATE	4	0	0	0	
REPORTPARAMETER	DATEPARAM3	23	DATE	4	0	0	0	
REPORTPARAMETER	DATEPARAM4	24	DATE	4	0	0	0	
REPORTPARAMETER	DATEPARAM5	25	DATE	4	0	0	0	
REPORTPARAMETER	DATEPARAM6	26	DATE	4	0	0	0	
REPORTPARAMETER	DATEPARAM7	27	DATE	4	0	0	0	
REPORTPARAMETER	DATEPARAM8	28	DATE	4	0	0	0	
REPORTPREVRUN	DESCRIPTION	1	ALN	254	0	0	0	
REPORTPREVRUN	RUNDATE	2	DATETIME	10	0	0	0	
REPORTPREVRUN	FILENAME	3	ALN	255	0	0	0	
REPORTPREVRUN	REPORTNUM	4	INTEGER	12	0	0	0	
REPORTQUERYDOI	DESCRIPTION	1	ALN	254	0	0	0	
REPORTQUERYDOI	RUNDATE	2	DATE	4	0	0	0	
REPORTQUERYDOV	DESCRIPTION	1	ALN	254	0	0	0	
REPORTQUERYDOV	RUNDATE	2	DATETIME	10	0	0	0	
REPORTQUERYDOV	FILENAME	3	ALN	255	0	0	0	
REPORTQUERYDOV	REPORTNUM	4	INTEGER	12	0	0	0	
REPORTSCHEDULE	DESCRIPTION	1	ALN	254	0	0	0	
REPORTSCHEDULE	JOBSTATE	2	ALN	50	0	0	0	
REPORTSCHEDULE	SUBMISSIONTIME	3	ALN	50	0	0	0	
REPORTSCHEDULE	NEXTSTARTTIME	4	ALN	50	0	0	0	
REPORTSCHEDULE	OWNER	5	ALN	50	0	0	0	
RESTDATA	TABLERNAME	1	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
REVISIONINPUT	CONTRACTNUM	1	UPPER	8	0	1	0	CONTRACT.CONTRACTNUM
REVISIONINPUT	REVISIONNUM	2	INTEGER	12	0	1	1	CONTRACT.REVISIONNUM
REVISIONINPUT	REVDESCRIPTION	3	ALN	100	0	1	0	PR.DESCRPTION

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
REVISIONINPUT	REVDESCRIPTION_LONGDESCRIPTION	4	LONGALN	32000	0	0	0	
RFQCHANGESTATUS	STATUS	1	UPPER	12	0	1	1	RFQ.STATUS
RFQCHANGESTATUS	STATUSDATE	2	DATETIME	10	0	1	1	RFQ.STATUSDATE
RFQCHANGESTATUS	MEMO	3	ALN	50	0	0	0	WFTRANSACTION.MEMO
SEARCHDR	MRNUM	2	UPPER	8	0	0	0	
SEARCHDR	DESCRIPTION	3	ALN	100	0	0	0	
SEARCHDR	REQUESTEDBY	4	UPPER	8	0	0	1	
SEARCHDR	DATEFROM	5	DATETIME	10	0	0	0	
SEARCHDR	DATETO	6	DATETIME	10	0	0	0	
SEARCHDR	VENDOR	7	UPPER	12	0	0	0	
SEARCHDR	TMPLTONLY	8	YORN	1	0	1	0	
SEARCHDR	STATUS	9	UPPER	8	0	0	0	
SEARCHDR	REQUESTEDFOR	10	UPPER	8	0	0	0	
SEARCHDR	ITEMNUM	11	UPPER	30	0	0	0	
SEARCHSOLUTION	DESCRIPTION	1	ALN	100	0	0	0	SOLUTION.DESCRPTION
SEARCHSOLUTION	CLASSIFICATION	2	UPPER	80	0	0	1	
SEARCHSOLUTION	CLASSTRUCTUREID	3	UPPER	20	0	0	1	CLASSTRUCTURE.CLASSTRUCTUREID
SHIFTRANGE	RANGESTARTDATE	1	DATE	4	0	0	0	
SHIFTRANGE	RANGEENDDATE	2	DATE	4	0	0	0	
SHIFTRANGE	USECALENDATES	3	ALN	20	0	1	1	
SHIFTRANGE	SHIFTNUM	4	ALN	8	0	0	1	
SHIFTRANGE	ORGID	5	ALN	8	0	0	0	
SHOWWFACTION	ACTIONID	1	INTEGER	12	0	1	1	WFACTION.ACTIONID
SHOWWFACTION	OWNERNODEID	2	INTEGER	12	0	1	1	WFNODE.NODEID
SHOWWFACTION	MEMBERNODEID	3	INTEGER	12	0	1	1	WFNODE.NODEID
SHOWWFACTION	ACTION	4	UPPER	30	0	0	0	ACTION.ACTION
SHOWWFACTION	INSTRUCTION	5	ALN	254	0	0	0	WFACTION.INSTRUCTION
SHOWWFACTION	ISPOSITIVE	6	YORN	1	0	1	1	WFACTION.ISPOSITIVE
SHOWWFACTION	OBJECTNAME	7	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
SHOWWFACTION	SEQUENCE	8	INTEGER	12	0	0	0	WFACTION.SEQUENCE
SHOWWFACTION	CONDITION	9	ALN	2000	0	0	0	WFACTION.CONDITION
SHOWWFACTION	CONDITIONCLASS	10	ALN	80	0	0	0	MAXOBJECT.CLASSNAME
SHOWWFACTION	AVAILABLE	11	YORN	1	0	1	1	WFACTION.AVAILABLE
SHOWWFACTION	PROCESSNAME	12	UPPER	10	0	1	0	WFPROCESS.PROCESSNAME
SHOWWFACTION	PROCESSREV	13	INTEGER	12	0	1	1	WFPROCESS.PROCESSREV
SHOWWFACTION	WFACTIONID	14	INTEGER	12	0	1	1	WFACTION.WFACTIONID
SHOWWFACTION	USERSQL	15	ALN	4000	0	0	0	EXPBUILDER.USERSQL
SHOWWFACTION	ISCUSTOMCLASS	16	YORN	1	0	1	1	
SHOWWFACTION	MEMBERNODETITLE	17	UPPER	10	0	0	0	WFNODE.TITLE
SHOWWFCONDITION	TITLE	1	UPPER	10	0	0	0	WFNODE.TITLE
SHOWWFCONDITION	DESCRIPTION	2	ALN	100	0	0	0	WFNODE.DESCRPTION
SHOWWFCONDITION	DESCRIPTION_LONGDESCRIPTION	3	ALN	32000	0	0	1	
SHOWWFCONDITION	NODEID	4	INTEGER	12	0	0	1	WFNODE.NODEID
SHOWWFCONDITION	PROCESSNAME	5	UPPER	10	0	0	0	WFPROCESS.PROCESSNAME
SHOWWFCONDITION	PROCESSREV	6	INTEGER	12	0	0	1	WFPROCESS.PROCESSREV
SHOWWFCONDITION	CUSTOMCLASS	7	ALN	80	0	0	0	MAXOBJECT.CLASSNAME

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
SHOWWFCONDITION	CONDITION	8	ALN	2000	0	0	1	
SHOWWFCONDITION	LANGCODE	9	UPPER	4	0	0	1	LANGUAGE.MAXLANGCODE
SHOWWFCONDITION	USERSQL	10	ALN	4000	0	0	0	EXPBUILDER.USERSQL
SHOWWFCONDITION	ISCUSTOMCLASS	11	YORN	1	0	1	1	
SHOWWFINPUT	TITLE	1	UPPER	10	0	0	0	WFNODE.TITLE
SHOWWFINPUT	DESCRIPTION	2	ALN	100	0	0	0	WFNODE.DESCRPTION
SHOWWFINPUT	DESCRIPTION_LONGDESCRIPTION	3	ALN	32000	0	0	0	
SHOWWFINPUT	NODEID	4	INTEGER	12	0	1	1	WFNODE.NODEID
SHOWWFINPUT	PROCESSREV	5	INTEGER	12	0	1	1	WFPROCESS.PROCESSREV
SHOWWFINPUT	PROCESSNAME	6	UPPER	10	0	1	0	WFPROCESS.PROCESSNAME
SHOWWFINPUT	DISPLAYONE	7	YORN	1	0	1	1	WFINPUT.DISPLAYONE
SHOWWFINTERACT	TITLE	1	UPPER	10	0	0	0	WFNODE.TITLE
SHOWWFINTERACT	DESCRIPTION	2	ALN	100	0	0	0	WFNODE.DESCRPTION
SHOWWFINTERACT	DESCRIPTION_LONGDESCRIPTION	3	ALN	32000	0	0	1	
SHOWWFINTERACT	APP	4	ALN	254	0	0	0	WFINTERACTION.APP
SHOWWFINTERACT	PAGE	5	ALN	254	0	0	0	WFINTERACTION.PAGE
SHOWWFINTERACT	RELATION	6	ALN	254	0	0	0	WFINTERACTION.RELATION
SHOWWFINTERACT	ACTIONDEFAULTS	7	ALN	4000	0	0	0	
SHOWWFINTERACT	DIRECTIONS	8	ALN	254	0	0	0	WFINTERACTION.DIRECTIONS
SHOWWFINTERACT	LANGCODE	9	UPPER	4	0	0	1	LANGUAGE.MAXLANGCODE
SHOWWFINTERACT	NODEID	10	INTEGER	12	0	1	1	WFNODE.NODEID
SHOWWFINTERACT	PROCESSNAME	11	UPPER	10	0	1	0	WFPROCESS.PROCESSNAME
SHOWWFINTERACT	PROCESSREV	12	INTEGER	12	0	1	1	WFPROCESS.PROCESSREV
SHOWWFINTERACT	DIRECTIONS_LONGDESCRIPTION	13	ALN	32000	0	0	0	
SHOWWFINTERACT	ACTION	14	ALN	40	0	0	0	WFINTERACTION.ACTION
SHOWWFINTERACT	TABNAME	15	ALN	40	0	0	0	WFINTERACTION.TABNAME
SHOWWFINTERACT	LAUNCHPROCESS	16	UPPER	10	0	0	0	WFPROCESS.PROCESSNAME
SHOWWFINTERACT	OBJECTNAME	17	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
SHOWWFNODE	TITLE	1	UPPER	10	0	0	0	WFNODE.TITLE
SHOWWFNODE	DESCRIPTION	2	ALN	100	0	0	0	WFNODE.DESCRPTION
SHOWWFNODE	DESCRIPTION_LONGDESCRIPTION	3	ALN	32000	0	0	0	
SHOWWFNODE	NODEID	4	INTEGER	12	0	1	1	WFNODE.NODEID
SHOWWFNODE	PROCESSNAME	5	UPPER	10	0	1	0	WFPROCESS.PROCESSNAME
SHOWWFNODE	PROCESSREV	6	UPPER	10	0	1	0	WFPROCESS.PROCESSNAME
SHOWWFSUBPROCESS	TITLE	1	UPPER	10	0	0	0	WFNODE.TITLE
SHOWWFSUBPROCESS	DESCRIPTION	2	ALN	100	0	0	0	WFNODE.DESCRPTION
SHOWWFSUBPROCESS	DESCRIPTION_LONGDESCRIPTION	3	ALN	32000	0	0	1	
SHOWWFSUBPROCESS	NODEID	4	INTEGER	12	0	1	1	WFNODE.NODEID
SHOWWFSUBPROCESS	PROCESSREV	5	INTEGER	12	0	1	1	WFPROCESS.PROCESSREV
SHOWWFSUBPROCESS	PROCESSNAME	6	UPPER	10	0	1	0	WFPROCESS.PROCESSNAME
SHOWWFSUBPROCESS	SUBPROCESSNAME	7	UPPER	10	0	1	0	WFPROCESS.PROCESSNAME
SHOWWFSUBPROCESS	OBJECTNAME	8	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
SHOWWFTASK	TITLE	1	UPPER	10	0	0	0	WFNODE.TITLE
SHOWWFTASK	DESCRIPTION	2	ALN	100	0	0	0	WFNODE.DESCRPTION
SHOWWFTASK	DESCRIPTION_LONGDESCRIPTION	3	ALN	32000	0	0	1	
SHOWWFTASK	APP	4	UPPER	10	0	0	1	MAXAPPS.APP

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
SHOWWFTASK	CALENDARBASED	5	YORN	1	0	1	1	WFTASK.CALENDARBASED
SHOWWFTASK	FIRSTCOMPLETE	6	ALN	1	0	1	1	
SHOWWFTASK	LANGCODE	7	UPPER	4	0	0	1	LANGUAGE.MAXLANGCODE
SHOWWFTASK	READONLY	8	YORN	1	0	1	1	WFTASK.READONLY
SHOWWFTASK	TIMELIMIT	9	DURATION	8	0	0	1	WFTASK.TIMELIMIT
SHOWWFTASK	NODEID	10	INTEGER	12	0	1	1	WFNODE.NODEID
SHOWWFTASK	PROCESSNAME	11	UPPER	10	0	1	0	WFPROCESS.PROCESSNAME
SHOWWFTASK	PROCESSREV	12	INTEGER	12	0	1	1	WFPROCESS.PROCESSREV
SHOWWFTASK	DISPLAYONE	13	YORN	1	0	1	1	WFTASK.DISPLAYONE
SHOWWFTASK	OBJECTNAME	14	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
SHOWFWAIT	TITLE	1	UPPER	10	0	0	0	WFNODE.TITLE
SHOWFWAIT	DESCRIPTION	2	ALN	100	0	0	0	WFNODE.DESCRPTION
SHOWFWAIT	LANGCODE	3	UPPER	4	0	0	1	LANGUAGE.MAXLANGCODE
SHOWFWAIT	NODEID	4	INTEGER	12	0	1	1	
SHOWFWAIT	PROCESSNAME	5	UPPER	10	0	1	0	WFPROCESS.PROCESSNAME
SHOWFWAIT	PROCESSREV	6	INTEGER	12	0	1	1	WFPROCESS.PROCESSREV
SLACHANGESTATUS	STATUS	1	ALN	10	0	1	0	SLA.STATUS
SLADUMMYSTATUS	SLANUM	1	ALN	10	0	0	0	
SLADUMMYSTATUS	CHANGEDATE	2	DATETIME	10	0	0	0	
SLADUMMYSTATUS	CHANGEBY	3	ALN	18	0	0	0	
SLADUMMYSTATUS	MEMO	4	ALN	50	0	0	0	
SLADUMMYSTATUS	ORGID	5	UPPER	8	0	0	0	
SLADUMMYSTATUS	SITEID	6	UPPER	8	0	0	0	
SOLCHANGESTATUS	STATUS	1	ALN	8	0	1	0	
SOLCHANGESTATUS	ASOFDATE	2	DATETIME	10	0	0	0	
SOLCHANGESTATUS	MEMO	3	ALN	50	0	0	0	
SPELLCHECK	STRINGVALUE	1	ALN	32000	0	0	0	
SPELLCHECK	WORD	2	ALN	255	0	0	0	
SPELLCHECKSUGG	SUGGESTION	1	ALN	255	0	0	0	
SRVCOMMODRELREC	VIEWGRP	1	ALN	10	0	1	0	
STOPWF	EMAILOPEN	1	YORN	1	0	1	1	
STOPWF	EMAILCOMPLETE	2	YORN	1	0	1	1	
STOPWF	MESSAGE	3	CLOB	32000	0	0	0	
STOPWF	MEMO	4	ALN	50	0	0	0	WFTRANSACTION.MEMO
STOPWF	WFID	5	INTEGER	12	0	1	1	WFINSTANCE.WFID
STOPWF	SUBJECT	6	ALN	254	0	0	0	
STOPWF	TEMPLATEID	7	UPPER	10	0	0	1	COMMTEMPLATE.TEMPLATEID
STOPWF	SENDTO	8	CLOB	32000	0	0	0	
STRUCTRELATION	SOURCE	1	ALN	18	0	0	0	
STRUCTRELATION	DEST	2	ALN	18	0	0	0	
STRUCTRELATION	RELATION	3	UPPER	50	0	0	0	MAXATTRIBUTE.ATTRIBUTENAME
STRUCTRELATION	RELSQLWHERE	4	ALN	254	0	0	0	
SWUSGQUERY	USAGE	1	ALN	64	0	0	0	DPAMSWUSAGERANGE.USAGE
SWUSGQUERY	RANGEFROM	2	INTEGER	12	0	1	0	DPAMSWUSAGERANGE.RANGEFROM
SWUSGQUERY	RANGETO	3	INTEGER	12	0	1	0	DPAMSWUSAGERANGE.RANGETO
TABLECOLUMN	TBNAME	1	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
TABLECOLUMN	COLUMNNAME	2	UPPER	50	0	0	0	MAXATTRIBUTE.ATTRIBUTENAME
TABLECOLUMN	ISKEYCOL	3	YORN	1	0	1	1	
TABLECOLUMN	ISCHOSEN	4	YORN	1	0	1	1	
TEMPCHANGESTATUS	STATUS	1	UPPER	8	0	1	1	TKTEMPLATE.STATUS
TEMPCHANGESTATUS	ASOFDATE	2	DATETIME	10	0	0	0	
TEMPCHANGESTATUS	MEMO	3	ALN	50	0	0	0	
TICKETGRANDTOTAL	TOTAL	1	ALN	30	0	0	0	
TICKETGRANDTOTAL	EST	2	AMOUNT	10	2	0	0	
TICKETGRANDTOTAL	ESTATAPPR	3	AMOUNT	10	2	0	0	
TICKETGRANDTOTAL	ACT	4	AMOUNT	10	2	0	0	
TICKETTOTAL	TOTAL	1	ALN	30	0	0	0	
TICKETTOTAL	EST	2	AMOUNT	10	2	0	0	
TICKETTOTAL	ESTATAPPR	3	AMOUNT	10	2	0	0	
TICKETTOTAL	ACT	4	AMOUNT	10	2	0	0	
TKCHANGESTATUS	STATUS	1	UPPER	8	0	1	1	TICKET.STATUS
TKCHANGESTATUS	ASOFDATE	2	DATETIME	10	0	0	0	
TKCHANGESTATUS	MEMO	3	ALN	50	0	0	0	
TKGRANDTOTAL	ESTLABHRS	1	DURATION	8	0	0	1	WORKORDER.ESTLABHRS
TKGRANDTOTAL	ESTATAPPRLABHRS	2	DURATION	8	0	0	1	WORKORDER.ESTATAPPRLABHRS
TKGRANDTOTAL	ACTLABHRS	3	DURATION	8	0	0	1	WORKORDER.ACTLABHRS
TKGRANDTOTAL	ESTLABCOST	4	AMOUNT	10	2	0	1	WORKORDER.ESTLABCOST
TKGRANDTOTAL	ESTATAPPRLABCOST	5	AMOUNT	10	2	0	1	WORKORDER.ESTATAPPRLABCOST
TKGRANDTOTAL	ACTLABCOST	6	AMOUNT	10	2	0	1	WORKORDER.ACTLABCOST
TKGRANDTOTAL	ESTMATCOST	7	AMOUNT	10	2	0	1	WORKORDER.ESTMATCOST
TKGRANDTOTAL	ESTATAPPRMATCOST	8	AMOUNT	10	2	0	1	WORKORDER.ESTATAPPRMATCOST
TKGRANDTOTAL	ACTMATCOST	9	AMOUNT	10	2	0	1	WORKORDER.ACTMATCOST
TKGRANDTOTAL	ESTTOOLCOST	10	AMOUNT	10	2	0	1	WORKORDER.ESTTOOLCOST
TKGRANDTOTAL	ESTATAPPRTOOLCOST	11	AMOUNT	10	2	0	1	WORKORDER.ESTATAPPRTOOLCOST
TKGRANDTOTAL	ACTTOOLCOST	12	AMOUNT	10	2	0	1	WORKORDER.ACTTOOLCOST
TKGRANDTOTAL	ESTSERVCOST	13	AMOUNT	10	2	0	1	WORKORDER.ESTSERVCOST
TKGRANDTOTAL	ESTATAPPRSERVCOST	14	AMOUNT	10	2	0	1	WORKORDER.ESTATAPPRSERVCOST
TKGRANDTOTAL	ACTSERVCOST	15	AMOUNT	10	2	0	1	WORKORDER.ACTSERVCOST
TKGRANDTOTAL	ESTTOTALCOST	16	AMOUNT	10	2	0	0	
TKGRANDTOTAL	ESTATAPPRTOTALCOST	17	AMOUNT	10	2	0	0	
TKGRANDTOTAL	ACTTOTALCOST	18	AMOUNT	10	2	0	0	
TKTOTAL	ESTLABCOST	1	AMOUNT	10	2	0	1	WORKORDER.ESTLABCOST
TKTOTAL	ESTMATCOST	2	AMOUNT	10	2	0	1	WORKORDER.ESTMATCOST
TKTOTAL	ESTSERVCOST	3	AMOUNT	10	2	0	1	WORKORDER.ESTSERVCOST
TKTOTAL	ESTTOOLCOST	4	AMOUNT	10	2	0	1	WORKORDER.ESTTOOLCOST
TKTOTAL	ESTLABHRS	5	DURATION	8	0	0	1	WORKORDER.ESTLABHRS
TKTOTAL	ESTATAPPRLABCOST	6	AMOUNT	10	2	0	1	WORKORDER.ESTATAPPRLABCOST
TKTOTAL	ESTATAPPRMATCOST	7	AMOUNT	10	2	0	1	WORKORDER.ESTATAPPRMATCOST
TKTOTAL	ESTATAPPRSERVCOST	8	AMOUNT	10	2	0	1	WORKORDER.ESTATAPPRSERVCOST
TKTOTAL	ESTATAPPRTOOLCOST	9	AMOUNT	10	2	0	1	WORKORDER.ESTATAPPRTOOLCOST
TKTOTAL	ESTATAPPRLABHRS	10	DURATION	8	0	0	1	WORKORDER.ESTATAPPRLABHRS
TKTOTAL	ACTLABCOST	11	AMOUNT	10	2	0	1	WORKORDER.ACTLABCOST

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
TKTOTAL	ACTMATCOST	12	AMOUNT	10	2	0	1	WORKORDER.ACTMATCOST
TKTOTAL	ACTSERVCOST	13	AMOUNT	10	2	0	1	WORKORDER.ACTSERVCOST
TKTOTAL	ACTTOOLCOST	14	AMOUNT	10	2	0	1	WORKORDER.ACTTOOLCOST
TKTOTAL	ACTLABHRS	15	DURATION	8	0	0	1	WORKORDER.ACTLABHRS
TKTOTAL	ESTTOTALCOST	16	AMOUNT	10	2	0	1	WORKORDER.ESTMATCOST
TKTOTAL	ESTATAPPRTOTALCOST	17	AMOUNT	10	2	0	1	WORKORDER.ESTMATCOST
TKTOTAL	ACTTOTALCOST	18	AMOUNT	10	2	0	1	WORKORDER.ESTMATCOST
TKTOTAL	TKACTLABHRS	19	DURATION	8	0	0	1	WORKORDER.ACTLABHRS
TKTOTAL	TKACTLABCOST	20	AMOUNT	10	2	0	1	WORKORDER.ACTLABCOST
TRANSFERCURITEM	QUANTITY	1	DECIMAL	15	2	1	1	
TRANSFERCURITEM	FROMSTORELOC	2	UPPER	12	0	1	0	LOCATIONS.LOCATION
TRANSFERCURITEM	TOSTORELOC	3	UPPER	12	0	1	0	LOCATIONS.LOCATION
TRANSFERCURITEM	UNITCOST	4	AMOUNT	10	2	0	0	
TRANSFERCURITEM	LINECOST	5	AMOUNT	10	2	0	0	
TRANSFERCURITEM	GLDEBITACCT	6	GL	23	0	0	1	
TRANSFERCURITEM	GLCREDITACCT	7	GL	23	0	0	1	
TRANSFERCURITEM	MEMO	8	ALN	254	0	0	0	
TRANSFERCURITEM	ISLOT	9	YORN	1	0	1	1	
TRANSFERCURITEM	FROMCURBAL	10	DECIMAL	15	2	0	1	INVBALANCES.CURBAL
TRANSFERCURITEM	FROMAVBLBALANCE	11	DECIMAL	15	2	0	1	INVBALANCES.CURBAL
TRANSFERCURITEM	ITEMNUM	12	UPPER	30	0	0	0	ITEM.ITEMNUM
TRANSFERCURITEM	FROMBIN	13	ALN	8	0	0	0	INVENTORY.BINNUM
TRANSFERCURITEM	FROMLOT	14	UPPER	8	0	0	0	INVLOT.LOTNUM
TRANSFERCURITEM	TOBIN	15	ALN	8	0	0	0	INVENTORY.BINNUM
TRANSFERCURITEM	TOLOT	16	UPPER	8	0	0	0	INVLOT.LOTNUM
TRANSFERCURITEM	SITEID	17	UPPER	8	0	1	0	SITE.SITEID
TRANSFERCURITEM	ORGID	18	UPPER	8	0	1	0	ORGANIZATION.ORGID
TRANSFERCURITEM	TOSITEID	19	UPPER	8	0	1	0	SITE.SITEID
TRANSFERCURITEM	ITEMSETID	20	UPPER	8	0	0	0	SETS.SETID
TRANSFERCURITEM	CONDITIONCODE	21	UPPER	30	0	0	0	ITEMCONDITION.CONDITIONCODE
TRANSFERCURITEM	FROMCONDITIONCODE	22	UPPER	30	0	0	0	ITEMCONDITION.CONDITIONCODE
TRANSFERCURITEM	CONVERSION	23	DECIMAL	15	2	1	1	CONVERSION.CONVERSION
USERPROFILECATS	CATEGORY	1	ALN	80	0	0	0	
USERPROFILECATS	CATUNIQUEID	2	INTEGER	12	0	0	0	
USERPROFILEHIER	USERID	1	UPPER	30	0	0	0	PERSON.PERSONID
USERPROFILEHIER	OBJECTNAME	2	UPPER	18	0	1	1	MAXOBJECT.OBJECTNAME
USERPROFILEHIER	HASCHILDREN	3	YORN	1	0	1	0	
USERPROFILEHIER	HASPARENT	4	YORN	1	0	1	0	
USERPROFILEHIER	NODE	5	ALN	100	0	0	0	
USERPROFILEHIER	EXTRA_1	6	ALN	80	0	0	0	
USERPROFILEHIER	EXTRA_2	7	ALN	100	0	0	0	
USERPROFILEHIER	EXTRA_3	8	ALN	100	0	0	0	
USERPROFILEHIER	UPUNIQUEID	9	INTEGER	12	0	0	1	MAXUSER.MAXUSERID
USERSECCONTROL	NEWUSERGROUP	1	UPPER	30	0	1	1	MAXGROUP.GROUPNAME
USERSECCONTROL	LOGINTRACKING	2	YORN	1	0	1	1	
USERSECCONTROL	LOGINATTEMPTS	3	INTEGER	12	0	0	0	

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
USERSECCONTROL	PASSWORDDURATION	4	INTEGER	12	0	0	0	
USERSECCONTROL	PASSWORDWARNING	5	INTEGER	12	0	0	0	
USERSECCONTROL	PASSWORDTHRESHOLD	6	INTEGER	12	0	0	0	
USERSECCONTROL	PASSWORDMINLENGTH	7	INTEGER	12	0	1	0	
USERSECCONTROL	PASSWORDNUM	8	YORN	1	0	1	1	
USERSECCONTROL	PASSWORDCHAR	9	YORN	1	0	1	1	
USERSECCONTROL	REGSTATUS	10	UPPER	10	0	1	0	
USERSECUR	DEFSITE	1	UPPER	8	0	0	0	SITE.SITEID
USERSECUR	DEFSTOREROOM	2	UPPER	12	0	0	0	LOCATIONS.LOCATION
USERSECUR	STOREROOMSITE	3	UPPER	8	0	0	0	SITE.SITEID
USERSECUR	QUERYWITHSITE	4	YORN	1	0	1	1	MAXUSER.QUERYWITHSITE
USERSECUR	EDITDEFSITE	5	YORN	1	0	1	1	
USERSECUR	EDITDEFSTOREROOM	6	YORN	1	0	1	1	
USERSECUR	EDITQUERYWITHSITE	7	YORN	1	0	1	1	
USERSECUR	GROUPACTION	8	ALN	15	0	1	0	
USERSECUR	USERCOUNT	9	INTEGER	12	0	1	0	
USERSECUR	USERID	10	UPPER	30	0	0	0	PERSON.PERSONID
USERSECUR	DISPLAYNAME	11	ALN	62	0	0	0	PERSON.DISPLAYNAME
USERSECURGROUP	GROUPNAME	1	UPPER	30	0	1	1	MAXGROUP.GROUPNAME
USERSTATUSCHANGE	USERCOUNT	1	INTEGER	12	0	1	0	
USERSTATUSCHANGE	STATUS	2	UPPER	10	0	1	1	MAXUSER.STATUS
USERSTATUSCHANGE	MEMO	3	ALN	50	0	0	0	WFTRANSACTION.MEMO
USERSTATUSCHANGE	CHANGEDATE	4	DATETIME	10	0	1	1	MAXUSERSTATUS.CHANGEDATE
USERSTATUSCHANGE	USERID	5	UPPER	30	0	0	0	PERSON.PERSONID
USERSTATUSCHANGE	DISPLAYNAME	6	ALN	62	0	0	0	PERSON.DISPLAYNAME
USERSTATUSCHANGE	CURRENTSTATUS	7	UPPER	10	0	0	1	MAXUSER.STATUS
USERSTATUSCHANGE	CURRENTSTATUSDESC	8	ALN	256	0	0	1	SYNONYMDOMAIN.DESCRPTION
VIEWCONTINPUT	CONTRACTNUM	1	UPPER	8	0	0	0	CONTRACT.CONTRACTNUM
VIEWCONTINPUT	REVISIONNUM	2	INTEGER	12	0	0	1	CONTRACT.REVISIONNUM
VIEWCONTINPUT	DESCRIPTION	3	ALN	100	0	0	0	PR.DESCRPTION
VIEWCONTINPUT	CONTRACTTYPE	4	UPPER	25	0	0	0	CONTRACT.CONTRACTTYPE
VIEWCONTINPUT	STARTDATE	5	DATE	4	0	0	0	CONTRACT.STARTDATE
VIEWCONTINPUT	ENDDATE	6	DATE	4	0	0	0	CONTRACT.ENDDATE
VIEWCONTINPUT	STATUS	7	UPPER	6	0	0	0	CONTRACT.STATUS
VIEWCONTINPUT	ORGID	8	UPPER	8	0	0	0	ORGANIZATION.ORGID
VIEWCONTINPUT	VENDOR	9	UPPER	12	0	0	0	COMPANIES.COMPANY
VIEWCONTINPUT	VENDORDESC	10	ALN	50	0	0	0	COMPANIES.NAME
VIEWWOPMS	ASSETNUM	1	UPPER	12	0	0	0	ASSET.ASSETNUM
VIEWWOPMS	LOCATION	2	UPPER	12	0	0	0	LOCATIONS.LOCATION
VIEWWOPMS	SITEID	3	UPPER	8	0	0	0	SITE.SITEID
VIEWWOPMS	DESCRIPTION	4	ALN	100	0	0	0	
VIEWWOPMS	SHOWCHILDREN	5	YORN	1	0	1	0	
WARRVIEWCHGSTAT	STATUS	1	UPPER	6	0	1	0	CONTRACT.STATUS
WARRVIEWCHGSTAT	STATDATE	2	DATETIME	10	0	1	0	CONTRACT.STATUSDATE
WARRVIEWCHGSTAT	MEMO	3	ALN	50	0	0	0	WFTRANSACTION.MEMO
WFEXPBUILDER	CLASSTRUCTUREID	1	UPPER	20	0	0	1	CLASSTRUCTURE.CLASSTRUCTUREID

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
WFEXPBUILDER	CUSTCLASS	2	ALN	100	0	0	0	EXPBUILDER.CUSTCLASS
WFEXPBUILDER	EXPRESSION	3	YORN	1	0	1	0	EXPBUILDER.EXPRESSION
WFEXPBUILDER	USERSQL	4	ALN	4000	0	0	0	EXPBUILDER.USERSQL
WFEXPBUILDER	ISCUSTOMCLASS	5	YORN	1	0	1	1	EXPBUILDER.ISCUSTOMCLASS
WFHELP	SHOWFROMINBOX	1	YORN	1	0	1	1	
WFTOOLBAR	PROCESSNAME	1	UPPER	10	0	0	0	WFPROCESS.PROCESSNAME
WFTOOLBAR	TOOLBARLOCATION	2	UPPER	10	0	0	0	MAXMENU.TABDISPLAY
WFTOOLBAR	TOOLBARICON	3	ALN	50	0	0	0	MAXMENU.IMAGE
WFTOOLBAR	TOOLBARSEQUENCE	4	INTEGER	12	0	0	0	
WFTOOLBAR	DESCRIPTION	5	ALN	100	0	0	1	SIGOPTION.DESCRPTION
WFTOOLBAR	ACTIVE	6	YORN	1	0	1	1	
WFTOOLBAR	ICON	7	ALN	50	0	0	0	MAXMENU.IMAGE
WFTOOLBAR	ACTIVEICON	8	ALN	50	0	0	0	MAXMENU.IMAGE
WHEREUSED	ASSETNUM	1	UPPER	12	0	0	0	ASSET.ASSETNUM
WHEREUSED	DESCRIPTION	2	ALN	100	0	0	0	ITEM.DESCRPTION
WHEREUSED	QUANTITY	3	DECIMAL	15	2	0	1	SPAREPART.QUANTITY
WHEREUSED	REMARKS	4	ALN	100	0	0	0	ITEM.DESCRPTION
WHEREUSED	NEWROW	5	ALN	1	0	1	0	
WHEREUSED	ORGID	6	UPPER	8	0	0	0	ORGANIZATION.ORGID
WHEREUSED	SITEID	7	UPPER	8	0	0	0	SITE.SITEID
WHEREUSED	ITEMSETID	8	UPPER	8	0	0	0	SETS.SETID
WOASSETSTOMOVE	ASSETNUM	1	UPPER	12	0	0	0	ASSET.ASSETNUM
WOASSETSTOMOVE	MOVETOLOC	2	UPPER	12	0	0	0	LOCATIONS.LOCATION
WOASSETSTOMOVE	MOVETOSITE	3	UPPER	8	0	0	0	SITE.SITEID
WOASSETSTOMOVE	MOVETOPARENT	4	UPPER	12	0	0	0	ASSET.ASSETNUM
WOASSETSTOMOVE	SITEID	5	UPPER	8	0	1	0	SITE.SITEID
WOASSETSTOMOVE	ORGID	6	UPPER	8	0	1	0	ORGANIZATION.ORGID
WOCHANGESTATUS	STATUS	1	UPPER	16	0	1	1	WORKORDER.STATUS
WOCHANGESTATUS	ASOFDATE	2	DATETIME	10	0	1	1	WOSTATUS.CHANGEDATE
WOCHANGESTATUS	MEMO	3	ALN	50	0	0	0	WFTRANSACTION.MEMO
WOCHANGESTATUS	CHILDSTATUS	4	YORN	1	0	1	0	
WOCHANGESTATUS	SINGLEWO	5	INTEGER	12	0	1	1	
WOCHANGESTATUS	WONUM	6	UPPER	10	0	0	0	WORKORDER.WONUM
WOCHANGESTATUS	WOSTATUS	7	UPPER	16	0	0	1	WORKORDER.STATUS
WOCHANGESTATUS	TASKID	8	INTEGER	12	0	0	1	WORKORDER.TASKID
WOCHANGESTATUS	DESCRIPTION	9	ALN	100	0	0	0	WORKORDER.DESCRPTION
WOCHANGESTATUS	LANGCODE	10	UPPER	4	0	0	1	LANGUAGE.MAXLANGCODE
WOCHANGESTATUS	DESCRIPTION_LONGDESCRIPTION	11	LONGALN	32000	0	0	0	
WOKENFORECAST	PARENT	1	UPPER	10	0	0	0	WORKORDER.WONUM
WOKENFORECAST	STATUS	2	UPPER	16	0	0	1	WORKORDER.STATUS
WOKENFORECAST	WORKTYPE	3	UPPER	5	0	0	0	WORKTYPE.WORKTYPE
WOKENFORECAST	DESCRIPTION	4	ALN	100	0	0	0	WORKORDER.DESCRPTION
WOKENFORECAST	ASSETNUM	5	UPPER	12	0	0	0	ASSET.ASSETNUM
WOKENFORECAST	LOCATION	6	UPPER	12	0	0	0	LOCATIONS.LOCATION
WOKENFORECAST	JPNUM	7	UPPER	10	0	0	0	JOBPLAN.JPNUM
WOKENFORECAST	ESTDUR	8	DURATION	8	0	0	1	WORKORDER.ESTDUR

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
WOGENFORECAST	ESTLABHRS	9	DURATION	8	0	0	1	WORKORDER.ESTLABHRS
WOGENFORECAST	PMNUM	10	UPPER	8	0	0	0	PM.PMNUM
WOGENFORECAST	HASCHILDREN	11	YORN	1	0	1	0	
WOGENFORECAST	WOPRIORITY	12	INTEGER	12	0	0	0	
WOGENFORECAST	TARGCOMPDATE	13	DATETIME	10	0	0	1	WORKORDER.TARGCOMPDATE
WOGENFORECAST	TARGSTARTDATE	14	DATETIME	10	0	0	1	WORKORDER.TARGSTARTDATE
WOGENFORECAST	CALENDAR	15	UPPER	8	0	0	0	CALENDAR.CALNUM
WOGENFORECAST	DOWNTIME	16	YORN	1	0	1	0	
WOGENFORECAST	CREWID	17	ALN	12	0	0	1	LABOR.CREWID
WOGENFORECAST	SUPERVISOR	18	UPPER	30	0	0	0	PERSON.PERSONID
WOGENFORECAST	CALCPRIORITY	19	INTEGER	12	0	0	1	WORKORDER.CALCPRIORITY
WOGENFORECAST	WOSEQUENCE	20	INTEGER	12	0	0	1	WORKORDER.WOSEQUENCE
WOGENFORECAST	PMDUEDATE	21	DATE	4	0	0	0	WORKORDER.PMDUEDATE
WOGENFORECAST	PMEXTDATE	22	DATE	4	0	0	0	WORKORDER.PMEXTDATE
WOGENFORECAST	PMNEXTDUE DATE	23	DATE	4	0	0	0	WORKORDER.PMNEXTDUE DATE
WOGENFORECAST	ORGID	24	UPPER	8	0	0	0	ORGANIZATION.ORGID
WOGENFORECAST	SITEID	25	UPPER	8	0	0	0	SITE.SITEID
WOGENFORECAST	TASKID	26	INTEGER	12	0	0	1	WORKORDER.TASKID
WOGENFORECAST	GLACCOUNT	27	GL	23	0	0	1	
WOGENFORECAST	WOPM1	28	ALN	10	0	0	0	
WOGENFORECAST	WOPM2	29	ALN	10	0	0	0	
WOGENFORECAST	WOPM3	30	ALN	10	0	0	0	
WOGENFORECAST	WOPM4	31	AMOUNT	10	2	0	0	
WOGENFORECAST	WOPM5	32	ALN	10	0	0	0	
WOGENFORECAST	WOPM6	33	ALN	10	0	0	0	
WOGENFORECAST	WOPM7	34	DECIMAL	15	2	0	0	
WOGENFORECAST	STORELOC	35	UPPER	12	0	0	0	LOCATIONS.LOCATION
WOGENFORECAST	ISTASK	36	YORN	1	0	1	0	WORKORDER.ISTASK
WOGENFORECAST	WONUM	37	UPPER	10	0	0	0	WORKORDER.WONUM
WOGENFORECAST	ASSETLOC PRIORITY	38	INTEGER	12	0	0	1	WORKORDER.ASSETLOC PRIORITY
WOGENFORECAST	PARENTJP	39	UPPER	10	0	0	0	JOBPLAN.JPNUM
WOGENFORECAST	PARENTCHGSSTATUS	40	YORN	1	0	1	0	
WOGENFORECAST	INTERRUPTIBLE	41	YORN	1	0	1	1	
WOGENFORECAST	LONGDESCRIPTION	42	CLOB	32000	0	0	0	
WOGENFORECAST	STORELOCSITE	43	UPPER	8	0	0	0	SITE.SITEID
WOGRANDTOTAL	ACT	1	AMOUNT	10	2	0	1	
WOGRANDTOTAL	EST	2	AMOUNT	10	2	0	1	
WOGRANDTOTAL	ESTATAPPR	3	AMOUNT	10	2	0	1	
WOGRANDTOTAL	TOTAL	4	ALN	30	0	0	1	
WOPOINFO	POTOTAL	1	AMOUNT	10	2	0	1	
WOPOINFO	PRTOTAL	2	AMOUNT	10	2	0	0	
WORKFLOWMAP	OWNERTABLE	1	UPPER	18	0	0	1	MAXOBJECT.OBJECTNAME
WORKFLOWMAP	OWNERID	2	INTEGER	12	0	0	1	
WORKFLOWMAP	WFID	3	INTEGER	12	0	0	1	WFINSTANCE.WFID
WORKFLOWMAP	PROCESSNAME	4	UPPER	10	0	0	0	WFPROCESS.PROCESSNAME
WORKFLOWMAP	STARTTIME	5	DATETIME	10	0	0	1	WFINSTANCE.STARTTIME

MAXIMO Database Columns

Table Name	Column Name	Col	Type	Length	Scale	Null?	Must be	Same as
WOTOTAL	ACT	1	AMOUNT	10	2	0	1	
WOTOTAL	EST	2	AMOUNT	10	2	0	1	
WOTOTAL	ESTATAPPR	3	AMOUNT	10	2	0	1	
WOTOTAL	TOTAL	4	ALN	30	0	0	1	
ZEROYTD	BREPORTED	1	YORN	1	0	1	1	
ZEROYTD	BOVERTIME	2	YORN	1	0	1	1	
ZEROYTD	BOTREFUSED	3	YORN	1	0	1	1	

MAXIMO Database Columns

MAXIMO Database Triggers

(Applies to Oracle only.) There is a before-insert/update trigger on each table, which populates the rowstamp column whenever a row is inserted or updated. For each table in the database, the triggers are named:

tablename_T

MAXIMO Database Sequences

(Applies to Oracle only.) MAXIMO uses the MAXSEQ sequence to populate the ROWSTAMP column in each table.

MAXIMO uses the following sequences to populate key fields in each associated table.

SEQUENCENAME	TBNAME	NAME
ACCOUNTDEFAULTSSEQ	ACCOUNTDEFAULTS	ACCOUNTDEFAULTSID
ACTIONGROUPSEQ	ACTIONGROUP	ACTIONGROUPID
ACTIONSCFGSEQ	ACTIONSCFG	ACTIONSCFGID
ACTIONSEQ	ACTION	ACTIONID
ADDRESSEQ	ADDRESS	ADDRESSID
ALNDOMAINSEQ	ALNDOMAIN	ALNDOMAINID
ALNDOMAINVALUESEQ	ALNDOMAINVALUE	ALNDOMAINVALUEID
ALTITEMSEQ	ALTITEM	ALTITEMID
APPDOCTYPESEQ	APPDOCTYPE	APPDOCTYPEID
APPFIELDDEFAULTSSEQ	APPFIELDDEFAULTS	APPFIELDDEFAULTSID
APPLICATIONAUTHSEQ	APPLICATIONAUTH	APPLICATIONAUTHID
ARCHIVESEQ	ARCHIVE	ARCHIVEID
AREASAFFECTEDSEQ	AREASAFFECTED	AREASAFFECTEDID
ASSETANCESTORSEQ	ASSETANCESTOR	ASSETANCESTORID
ASSETATTRIBUTESEQ	ASSETATTRIBUTE	ASSETATTRIBUTEID
ASSETCBDISTSEQ	ASSETCBDIST	ASSETCBDISTID
ASSETHIERARCHYSEQ	ASSETHIERARCHY	ASSETHIERARCHYID
ASSETHISTORYSEQ	ASSETHISTORY	ASSETHISTORYID
ASSETIDSEQ	ASSET	ASSETID
ASSETLOCCOMMSEQ	ASSETLOCCOMM	ASSETLOCCOMMID
ASSETMETERSEQ	ASSETMETER	ASSETMETERID
ASSETSEQ	ASSET	ASSETUID
ASSETSPECSSEQ	ASSETSPECS	ASSETSPECSID
ASSETSTATUSSEQ	ASSETSTATUS	ASSETSTATUSID
ASSETTRANSSEQ	ASSETTRANS	ASSETTRANSID
ASSETUSERCUSTSEQ	ASSETUSERCUST	ASSETUSERCUSTID
ASSIGNMENTSEQ	ASSIGNMENT	ASSIGNMENTID
ATTENDANCESEQ	ATTENDANCE	ATTENDANCEID
AUTOATTRUPDATESEQ	AUTOATTRUPDATE	AUTOATTRUPDATEID
AUTOKEYSEQ	AUTOKEY	AUTOKEYID

MAXIMO Database Columns

SEQUENCENAME	TBNAME	NAME
A_LONGDESCRIPTIONSEQ	A_LONGDESCRIPTION	A_LONGDESCRIPTIOID
BBOARDAUDIENCENSEQ	BBOARDAUDIENCE	BBOARDAUDIENCEID
BOOKMARKSEQ	BOOKMARK	BOOKMARKID
BULLETINBOARDSEQ	BULLETINBOARD	BULLETINBOARDUID
CALENDARSEQ	CALENDAR	CALENDARID
CHARPOINTACTIONSEQ	CHARPOINTACTION	CHARPOINTACTIONID
CHARTOFACCOUNTSSEQ	CHARTOFACCOUNTS	CHARTOFACCOUNTSID
CLASSANCESTORSEQ	CLASSANCESTOR	CLASSANCESTORID
CLASSIFICATIONSEQ	CLASSIFICATION	CLASSIFICATIONUID
CLASSSPECSEQ	CLASSSPEC	CLASSSPECID
CLASSSTRUCTURESEQ	CLASSSTRUCTURE	CLASSSTRUCTUREUID
COMMLOGDOCSSEQ	COMMLOGDOCS	COMMLOGDOCSID
COMMLOGSEQ	COMMLOG	COMMLOGUID
COMMODITIESSEQ	COMMODITIES	COMMODITIESID
COMMTEMPLATEDOCSSEQ	COMMTEMPLATEDOCS	COMMTEMPLATEDOCSID
COMMTEMPLATESEQ	COMMTEMPLATE	COMMTEMPLATEID
COMMTMPLTSENDTOSEQ	COMMTMPLTSENDTO	COMMTMPLTSENDTOID
COMPANIESSEQ	COMPANIES	COMPANIESID
COMPANYACCDEFSEQ	COMPANYACCDEF	COMPANYACCDEFID
COMPCOMMODITYSEQ	COMPCOMMODITY	COMPCOMMODITYID
COMPCONTACTMSTRSEQ	COMPCONTACTMSTR	COMPCONTACTMSTRID
COMPCONTACTSEQ	COMPCONTACT	COMPCONTACTID
COMPMASTERSEQ	COMPMASTER	COMPMASTERID
CONTASSETMETERSEQ	CONTASSETMETER	CONTASSETMETERID
CONTCOMMODITYSEQ	CONTCOMMODITY	CONTCOMMODITYID
CONTLEASELINESEQ	CONTLEASELINE	CONTLEASELINEID
CONTLINEASSETSEQ	CONTLINEASSET	CONTLINEASSETID
CONTLINEMETERSEQ	CONTLINEMETER	CONTLINEMETERID
CONTRACTASSETSEQ	CONTRACTASSET	CONTRACTASSETID
CONTRACTAUTHSEQ	CONTRACTAUTH	CONTRACTAUTHID
CONTRACTCOSTSEQ	CONTRACTCOST	CONTRACTCOSTID
CONTRACTDEFAULTSEQ	CONTRACTDEFAULT	CONTRACTDEFAULTID
CONTRACTLEASESEQ	CONTRACTLEASE	CONTRACTLEASEID
CONTRACTLINESEQ	CONTRACTLINE	CONTRACTLINEID
CONTRACTMASTERSEQ	CONTRACTMASTER	CONTRACTMASTERID
CONTRACTPROPERTYSEQ	CONTRACTPROPERTY	CONTRACTPROPERTYID
CONTRACTPURCHSEQ	CONTRACTPURCH	CONTRACTPURCHID
CONTRACTSEQ	CONTRACT	CONTRACTID
CONTRACTSTATUSSEQ	CONTRACTSTATUS	CONTRACTSTATUSID
CONTRACTSWLICSEQ	CONTRACTSWLIC	CONTRACTSWLICID
CONTRACTTERMSEQ	CONTRACTTERM	CONTRACTTERMID
CONTRACTTYPESEQ	CONTRACTTYPE	CONTRACTTYPEUID
CONTRACTTYPETERMSEQ	CONTRACTTYPETERM	CONTRACTTYPETERMID
CONVERSIONSEQ	CONVERSION	CONVERSIONID
CRAFTRATESEQ	CRAFTRATE	CRAFTRATEID
CRAFTSEQ	CRAFT	CRAFTID

MAXIMO Database Columns

SEQUENCENAME	TBNAME	NAME
CRAFTSKILLSEQ	CRAFTSKILL	CRAFTSKILLID
CREWLABORSEQ	CREWLABOR	CREWLABORID
CREWLABPOSITIONSEQ	CREWLABPOSITION	CREWLABPOSITIONID
CREWQUALSEQ	CREWQUAL	CREWQUALID
CREWSEQ	CREW	CREWID
CREWSTATUSHISTSEQ	CREWSTATUSHIST	CREWSTATUSHISTID
CREWTEMPLATESEQ	CREWTEMPLATE	CREWTEMPLATEID
CREWTOOLRESOURCESEQ	CREWTOOLRESOURCE	CREWTOOLRESOURCEID
CREWTOOLSEQ	CREWTOOL	CREWTOOLID
CREWTYPESEQ	CREWTYPE	CREWTYPEUID
CRONTASKDEFSEQ	CRONTASKDEF	CRONTASKDEFID
CRONTASKINSTANCESEQ	CRONTASKINSTANCE	CRONTASKINSTANCEID
CRONTASKPARAMSEQ	CRONTASKPARAM	CRONTASKPARAMID
CROSSOVERDOMAINSEQ	CROSSOVERDOMAIN	CROSSOVERDOMAINID
CTCRAFTSEQ	CTCRAFT	CTCRAFTID
CTQUALIFICATIONSEQ	CTQUALIFICATION	CTQUALIFICATIONID
CTSTATUSHISTSEQ	CTSTATUSHIST	CTSTATUSHISTID
CTTOOLSEQ	CTTOOL	CTTOOLID
CURRENCYSEQ	CURRENCY	CURRENCYID
DEFAULTQUERYSEQ	DEFAULTQUERY	DEFAULTQUERYID
DEPLOYEDASSETSEQ	DEPLOYEDASSET	NODEID
DMSAPISETTINGSEQ	DMSAPISETTING	DMSAPISETTINGID
DOCINFOSEQ	DOCINFO	DOCINFOID
DOCLINKSSEQ	DOCLINKS	DOCLINKSID
DOCTYPESSEQ	DOCTYPES	DOCTYPESID
DPACOMMDEVICESEQ	DPACOMMDEVICE	DEVICEID
DPACOMPUTERSEQ	DPACOMPUTER	NODEID
DPACPUSEQ	DPACPU	CPUID
DPADISKSEQ	DPADISK	DISKID
DPADISPLAYSEQ	DPADISPLAY	DISPLAYID
DPAFILESEQ	DPAFILE	FILEID
DPAIMAGEDEVICESEQ	DPAIMAGEDEVICE	DEVICEID
DPAIPXSEQ	DPAIPX	IPXID
DPALOGICALDRIVESEQ	DPALOGICALDRIVE	LOGICALDRIVEID
DPAMADAPTERSEQ	DPAMADAPTER	ADAPTERID
DPAMADPTVARIANTSEQ	DPAMADPTVARIANT	DPAMADPTVARIANTID
DPAMEDIAADAPTERSEQ	DPAMEDIAADAPTER	ADAPTERID
DPAMMANUFACTURERSEQ	DPAMMANUFACTURER	MANUFACTURERID
DPAMMANUVARIANTSEQ	DPAMMANUVARIANT	DPAMMANUVARIANTID
DPAMOSSEQ	DPAMOS	OSID
DPAMOSVARIANTSEQ	DPAMOSVARIANT	DPAMOSVARIANTID
DPAMPROCESSORSEQ	DPAMPROCESSOR	PROCESSORID
DPAMPROC VARIANTSEQ	DPAMPROC VARIANT	DPAMPROC VARIANTID
DPAMSOFTWARESEQ	DPAMSOFTWARE	SOFTWAREID
DPAMSWSUITECOMPSEQ	DPAMSWSUITECOMP	DPAMSWSUITECOMPID
DPAMSWSUITESEQ	DPAMSWSUITE	SUITEID

MAXIMO Database Columns

SEQUENCENAME	TBNAME	NAME
DPAMSWUSAGERANGESEQ	DPAMSWUSAGERANGE	DPAMSWUSAGERANGEID
DPAMSWUSAGESEQ	DPAMSWUSAGE	INPUTSOURCEID
DPAMSWVARIANTSEQ	DPAMSWVARIANT	DPAMSWVARIANTID
DPANETADAPTERSEQ	DPANETADAPTER	ADAPTERID
DPANETDEVCARDSEQ	DPANETDEVCARD	CARDID
DPANETDEVICESEQ	DPANETDEVICE	NODEID
DPANETPRINTERSEQ	DPANETPRINTER	NODEID
DPAOSSEQ	DPAOS	OSID
DPASOFTWARESEQ	DPASOFTWARE	SOFTWAREID
DPASWSUITESEQ	DPASWSUITE	DPASWSUITEID
DPATCPIPESEQ	DPATCPIP	TCPIPID
DPAUSERINFOSEQ	DPAUSERINFO	PERSONID
DUMMY_TABLESEQ	DUMMY_TABLE	DUMMY_TABLEID
EAUDITSEQ	EAUDIT	TRANSID
EMAILSEQ	EMAIL	EMAILID
ESCALATIONUSEQ	ESCALATION	ESCALATIONID
ESCNOTIFICATIONSEQ	ESCNOTIFICATION	ESCNOTIFICATIONID
ESCSTATUSSEQ	ESCSTATUS	ESCSTATUSID
EVENTRESPONSESEQ	EVENTRESPONSE	ERID
EXCHANGESEQ	EXCHANGE	EXCHANGEID
EXCLUDEDACTIONSSEQ	EXCLUDEDACTIONS	EXCLUDEDACTIONSID
FACONFIGSEQ	FACONFIG	FACONFIGID
FAILURECODESEQ	FAILURECODE	FAILURECODEID
FAILURELISTSEQ	FAILURELIST	FAILURELIST
FAILUREREMARKSEQ	FAILUREREMARK	FAILUREREMARKID
FAILUREREPORTSEQ	FAILUREREPORT	FAILUREREPORTID
FAVITEMSEQ	FAVITEM	FAVITEMID
FINANCIALPERIODSSEQ	FINANCIALPERIODS	FINANCIALPERIODSID
FINCNTRLSEQ	FINCNTRL	FINCNTRLID
GLAUTHSEQ	GLAUTH	GLAUTHID
GLCOMPONENTSSEQ	GLCOMPONENTS	GLCOMPONENTSID
GLCONFIGURESEQ	GLCONFIGURE	GLCONFIGUREID
GROUPRESTRICTIONSEQ	GROUPRESTRICTION	GROUPRESTRICTIONID
GROUPSTARTCENTERSEQ	GROUPSTARTCENTER	GROUPSTARTCENTERID
GROUPUSERSEQ	GROUPUSER	GROUPUSERID
GRPREASSIGNAUTHSEQ	GRPREASSIGNAUTH	GRPREASSIGNAUTHID
HAZARDPRECSEQ	HAZARDPREC	HAZARDPRECID
HAZARDSEQ	HAZARD	HAZARDUID
HOLIDAYSEQ	HOLIDAY	HOLIDAYID
INBOUNDCOMMCFGSEQ	INBOUNDCOMMCFG	INBOUNDCOMMCFGID
INBOUNDCOMMSEQ	INBOUNDCOMM	INBOUNDCOMMID
INBXCONFIGSEQ	INBXCONFIG	INBXCONFIGID
INVBALANCESSEQ	INVBALANCES	INVBALANCESID
INVCOSTSEQ	INVCOST	INVCOSTID
INVENTORYSEQ	INVENTORY	INVENTORYID
INVLOTSEQ	INVLOT	INVLOTID

MAXIMO Database Columns

SEQUENCENAME	TBNAME	NAME
INVOICECOSTSEQ	INVOICECOST	INVOICECOSTID
INVOICELINESEQ	INVOICELINE	INVOICELINEID
INVOICEMATCHSEQ	INVOICEMATCH	INVOICEMATCHID
INVOICESEQ	INVOICE	APPROVALNUM
INVOICESTATUSSEQ	INVOICESTATUS	INVOICESTATUSID
INVOICETERMSEQ	INVOICETERM	INVOICETERMID
INVOICETRANSSEQ	INVOICETRANS	INVOICETRANSID
INVOICEUSEQ	INVOICE	INVOICEID
INVRESERVESEQ	INVRESERVE	REQUESTNUM
INVRESERVEUSEQ	INVRESERVE	INVRESERVEID
INVTRANSSEQ	INVTRANS	INVTRANSID
INVVENDORSEQ	INVVENDOR	INVVENDORID
ITEMCONDITIONSEQ	ITEMCONDITION	ITEMCONDITIONID
ITEMORGINFOSEQ	ITEMORGINFO	ITEMORGINFOID
ITEMSEQ	ITEM	ITEMID
ITEMSPECSEQ	ITEMSPEC	ITEMSPECID
ITEMSTRUCTSEQ	ITEMSTRUCT	ITEMSTRUCTID
JOBITEMSEQ	JOBITEM	JOBITEMID
JOBLABORSEQ	JOBLABOR	JOBLABORID
JOBPLANSEQ	JOBPLAN	JOBPLANID
JOBTASKSEQ	JOBTASK	JOBTASKID
JOBTOOLSEQ	JOBTOOL	JOBTOOLID
JPASSETSPLINKSEQ	JPASSETSPLINK	JPASSETSPLINKID
KBLINKEDARTICLESSEQ	KBLINKEDARTICLES	KBLINKEDARTICLESID
KPIGCONFIGSEQ	KPIGCONFIG	KPIGCONFIGID
KPIHISTORYUSEQ	KPIHISTORY	KPIHISTORYID
KPILCONFIGSEQ	KPILCONFIG	KPILCONFIGID
KPIMAINSEQ	KPIMAIN	KPIMAINID
KPIOESEQ	KPIOEE	KPIOEID
KPITRENDCFGSEQ	KPITRENDCFG	KPITRENDCFGID
LABAVAILSEQ	LABAVAIL	LABAVAILID
LABORAUTHSEQ	LABORAUTH	LABORAUTHID
LABORCERTHISTSEQ	LABORCERTHIST	LABORCERTHISTID
LABORCRAFTRATESEQ	LABORCRAFTRATE	LABORCRAFTRATEID
LABORQUALSEQ	LABORQUAL	LABORQUALID
LABORQUALSTATUSSEQ	LABORQUALSTATUS	LABORQUALSTATUSID
LABORSEQ	LABOR	LABORID
LABORSTATUSSEQ	LABORSTATUS	LABORSTATUSID
LABTRANSSEQ	LABTRANS	LABTRANSID
LANGUAGESEQ	LANGUAGE	LANGUAGEID
LAYOUTSEQ	LAYOUT	LAYOUTID
LDAPSYNCPARAMSSEQ	LDAPSYNCPARAMS	LDAPSYNCPARAMSID
LISTTRANSLATIONSEQ	LISTTRANSLATION	LISTTRANSLATIONID
LOCANCESTORSEQ	LOCANCESTOR	LOCANCESTORID
LOCATIONMETERSEQ	LOCATIONMETER	LOCATIONMETERID
LOCATIONSPECSEQ	LOCATIONSPEC	LOCATIONSPECID

MAXIMO Database Columns

SEQUENCENAME	TBNAME	NAME
LOCATIONSSEQ	LOCATIONS	LOCATIONSID
LOCATIONUSERCUSTSEQ	LOCATIONUSERCUST	LOCATIONUSERCUSTID
LOCAUTHSEQ	LOCAUTH	LOCAUTHID
LOCDISTRIBUTIONSEQ	LOCDISTRIBUTION	LOCDISTRIBUTIONID
LOCHIERARCHYSEQ	LOCHIERARCHY	LOCHIERARCHYID
LOCKOUTSEQ	LOCKOUT	LOCKOUTID
LOCLEADTIMESEQ	LOCLEADTIME	LOCLEADTIMEID
LOCMETERREADINGSEQ	LOCMETERREADING	METERREADINGID
LOCOPERSEQ	LOCOPER	LOCOPERID
LOCSTATUSSEQ	LOCSTATUS	LOCSTATUSID
LOCSYSTEMSEQ	LOCSYSTEM	LOCSYSTEMID
LOGINTRACKINGSEQ	LOGINTRACKING	TRANSID
LOGINTRACKINGUSEQ	LOGINTRACKING	LOGINTRACKINGID
LONGDESCRIPTIONSEQ	LONGDESCRIPTION	LONGDESCRIPTIONID
L_ALNDOMAINUSEQ	L_ALNDOMAIN	L_ALNDOMAINID
L_COMPANIESUSEQ	L_COMPANIES	L_COMPANIESID
L_ITEMUSEQ	L_ITEM	L_ITEMID
L_LANGUAGESEQ	L_LANGUAGE	L_LANGUAGEID
L_MAXAPPSUSEQ	L_MAXAPPS	L_MAXAPPSID
L_MAXATTRCFGSEQ	L_MAXATTRCFG	L_MAXATTRCFGID
L_MAXATTRIBUTEUSEQ	L_MAXATTRIBUTE	L_MAXATTRIBUTEID
L_MAXDOMAINUSEQ	L_MAXDOMAIN	L_MAXDOMAINID
L_MAXLABELSSEQ	L_MAXLABELS	L_MAXLABELSID
L_MAXMENUUSEQ	L_MAXMENU	L_MAXMENUID
L_MAXMESSAGESSEQ	L_MAXMESSAGES	L_MAXMESSAGESID
L_MAXMODULESUSEQ	L_MAXMODULES	L_MAXMODULESID
L_MAXOBJECTCFGSEQ	L_MAXOBJECTCFG	L_MAXOBJECTCFGID
L_MAXOBJECTUSEQ	L_MAXOBJECT	L_MAXOBJECTID
L_MAXSERVICEUSEQ	L_MAXSERVICE	L_MAXSERVICEID
L_MAXVARTYPEUSEQ	L_MAXVARTYPE	L_MAXVARTYPEID
L_REPORTLABELSEQ	L_REPORTLABEL	L_REPORTLABELID
L_REPORTSEQ	L_REPORT	L_REPORTID
L_SIGOPTIONUSEQ	L_SIGOPTION	L_SIGOPTIONID
L_SYNONYMDOMAINUSEQ	L_SYNONYMDOMAIN	L_SYNONYMDOMAINID
MASTERPMMETERSEQ	MASTERPMMETER	MASTERPMMETERID
MASTERPMSEASONSUSEQ	MASTERPMSEASONS	MASTERPMSEASONSID
MASTERPMSEQSEQ	MASTERPMSEQ	MASTERPMSEQID
MASTERPMUSEQ	MASTERPM	MASTERPMID
MATRECTRANSSEQ	MATRECTRANS	MATRECTRANSID
MATUSETRANSSEQ	MATUSETRANS	MATUSETRANSID
MAXAPPSSEQ	MAXAPPS	MAXAPPSID
MAXATTRIBUTECFGSEQ	MAXATTRIBUTECFG	MAXATTRIBUTEID
MAXATTRIBUTESEQ	MAXATTRIBUTE	MAXATTRIBUTEID
MAXCONDDETAILSEQ	MAXCONDDETAIL	MAXCONDDETAILID
MAXCONTROLVALUESEQ	MAXCONTROLVALUE	MAXCONTROLVALUEID
MAXDOMAINSEQ	MAXDOMAIN	MAXDOMAINID

MAXIMO Database Columns

SEQUENCENAME	TBNAME	NAME
MAXENDPOINTDTLSEQ	MAXENDPOINTDTL	MAXENDPOINTDTLID
MAXENDPOINTSEQ	MAXENDPOINT	MAXENDPOINTID
MAXEXTBOOLValseq	MAXEXTBOOLVAL	MAXEXTBOOLVALID
MAXEXTCTLValseq	MAXEXTCTLVAL	MAXEXTCTLVALID
MAXEXTIFACEINSEQ	MAXEXTIFACEIN	MAXEXTIFACEINID
MAXEXTIFACEOUTSEQ	MAXEXTIFACEOUT	MAXEXTIFACEOUTID
MAXEXTLISTValseq	MAXEXTLISTVAL	MAXEXTLISTVALID
MAXEXTMULTValseq	MAXEXTMULTVAL	MAXEXTMULTVALID
MAXEXTOVERSEQ	MAXEXTOVER	MAXEXTOVERID
MAXEXTSYSCONTROLSEQ	MAXEXTSYSCONTROL	MAXEXTSYSCONTROLID
MAXEXTSYSHANDLERSEQ	MAXEXTSYSHANDLER	MAXEXTSYSHANDLERID
MAXEXTSYSTEMSEQ	MAXEXTSYSTEM	MAXEXTSYSTEMID
MAXEXTXREFValseq	MAXEXTXREFVAL	MAXEXTXREFVALID
MAXGROUPSEQ	MAXGROUP	MAXGROUPID
MAXHANDLERPROPSEQ	MAXHANDLERPROP	MAXHANDLERPROPID
MAXHANDLERSEQ	MAXHANDLER	MAXHANDLERID
MAXIFACECONDSEQ	MAXIFACECOND	MAXIFACECONDID
MAXIFACECONTROLSEQ	MAXIFACECONTROL	MAXIFACECONTROLID
MAXIFACEINSEQ	MAXIFACEIN	MAXIFACEINID
MAXIFACEOUTSEQ	MAXIFACEOUT	MAXIFACEOUTID
MAXIFACEPROCSEQ	MAXIFACEPROC	MAXIFACEPROCID
MAXIFACETYPEPROPSEQ	MAXIFACETYPEPROP	MAXIFACETYPEPROPID
MAXIFACETYPESEQ	MAXIFACETYPE	MAXIFACETYPEID
MAXIFACEUSEQ	MAXIFACE	MAXIFACEID
MAXINTMSGTYPESEQ	MAXINTMSGTYPE	MAXINTMSGTYPEID
MAXINTOBJCOLSSEQ	MAXINTOBJCOLS	MAXINTOBJCOLSID
MAXINTOBJDETAILSEQ	MAXINTOBJDETAIL	MAXINTOBJDETAILID
MAXINTOBJECTSEQ	MAXINTOBJECT	MAXINTOBJECTID
MAXINTPOINTSEQ	MAXINTPOINT	MAXINTPOINTID
MAXINTWSPROPSSEQ	MAXINTWSPROPS	MAXINTWSPROPSID
MAXLABELSSEQ	MAXLABELS	MAXLABELSID
MAXLISTOVERValseq	MAXLISTOVERVAL	MAXLISTOVERVALID
MAXLOOKUPMAPSEQ	MAXLOOKUPMAP	MAXLOOKUPMAPID
MAXMENSEQ	MAXMENU	MAXMENUID
MAXMESSAGESSEQ	MAXMESSAGES	MAXMESSAGESID
MAXMODULESEQ	MAXMODULES	MAXMODULESID
MAXOBJECTCFGSEQ	MAXOBJECTCFG	MAXOBJECTID
MAXOBJECTSEQ	MAXOBJECT	MAXOBJECTID
MAXPRESENTATIONSEQ	MAXPRESENTATION	MAXPRESENTATIONID
MAXPROCCOLSSEQ	MAXPROCCOLS	MAXPROCCOLSID
MAXQUEUECONFIGSEQ	MAXQUEUECONFIG	MAXQUEUECONFIGID
MAXQUEUESELSEQ	MAXQUEUESEL	MAXQUEUESELID
MAXQUEUESEQ	MAXQUEUE	MAXQUEUEID
MAXRELATIONSHIPSEQ	MAXRELATIONSHIP	MAXRELATIONSHIPID
MAXREPLACEPROCSEQ	MAXREPLACEPROC	MAXREPLACEPROCID
MAXROLESEQ	MAXROLE	MAXROLEID

MAXIMO Database Columns

SEQUENCENAME	TBNAME	NAME
MAXSERVICESEQ	MAXSERVICE	MAXSERVICEID
MAXSESSIONSEQ	MAXSESSION	MAXSESSIONUID
MAXTABLECFGSEQ	MAXTABLECFG	MAXTABLEID
MAXTABLEDOMAINSEQ	MAXTABLEDOMAIN	MAXTABLEDOMAINID
MAXTABLESEQ	MAXTABLE	MAXTABLEID
MAXTRANSFORMPROCSEQ	MAXTRANSFORMPROC	MAXTRANSFORMPROCID
MAXTRIGGERSSEQ	MAXTRIGGERS	MAXTRIGGERSID
MAXUSERSEQ	MAXUSER	MAXUSERID
MAXUSERSTATUSSEQ	MAXUSERSTATUS	MAXUSERSTATUSID
MAXVARSSEQ	MAXVARS	MAXVARSID
MAXVARTYPESEQ	MAXVARTYPE	MAXVARTYPEID
MAXVIEWCFGSEQ	MAXVIEWCFG	MAXVIEWID
MAXVIEWCOLUMNCFGSEQ	MAXVIEWCOLUMNCFG	MAXVIEWCOLUMNID
MAXVIEWCOLUMNSEQ	MAXVIEWCOLUMN	MAXVIEWCOLUMNID
MAXVIEWSEQ	MAXVIEW	MAXVIEWID
MAXXREFOVERVALSEQ	MAXXREFOVERVAL	MAXXREFOVERVALID
MEASUREMENTSEQ	MEASUREMENT	MEASUREMENTID
MEASUREPOINTSEQ	MEASUREPOINT	MEASUREPOINTID
MEASUREUNITSEQ	MEASUREUNIT	MEASUREUNITID
MEA_DUMMY_TABLESEQ	MEA_DUMMY_TABLE	MEA_DUMMY_TABLEID
METERGROUPSEQ	METERGROUP	METERGROUPID
METERINGROUPSEQ	METERINGROUP	METERINGROUPID
METERREADINGSEQ	METERREADING	METERREADINGID
METERSEQ	METER	METERID
MODAVAILSEQ	MODAVAIL	MODAVAILID
MRCOSTSEQ	MRCOST	MRCOSTID
MRLINESEQ	MRLINE	MRLINEID
MRSEQ	MR	MRID
MRSTATUSSEQ	MRSTATUS	MRSTATUSSEQ
MXCOLLABREFSEQ	MXCOLLABREF	MXCOLLABREFID
MXCOLLABSEQ	MXCOLLAB	MXCOLLABID
NAMEDUSERSSEQ	NAMEDUSERS	NAMEDUSERSID
NONWORKTIMESEQ	NONWORKTIME	NONWORKTIMEID
NUMDOMAINVALUESEQ	NUMDOMAINVALUE	NUMDOMAINVALUEID
NUMERICDOMAINSEQ	NUMERICDOMAIN	NUMERICDOMAINID
NUMRANGEDOMAINSEQ	NUMRANGEDOMAIN	NUMRANGEDOMAINID
ORDERUNITSEQ	ORDERUNIT	ORDERUNITID
ORGANIZATIONSEQ	ORGANIZATION	ORGANIZATIONID
PALETTEITEMSEQ	PALETTEITEM	PALETTEITEMID
PASSWORDHISTORYSEQ	PASSWORDHISTORY	PASSWORDHISTORYID
PERSONCALSEQ	PERSONCAL	PERSONCALID
PERSONGROUPSEQ	PERSONGROUP	PERSONGROUPID
PERSONGROUPTEAMSEQ	PERSONGROUPTEAM	PERSONGROUPTEAMID
PERSONSEQ	PERSON	PERSONUID
PERSONSTATUSSEQ	PERSONSTATUS	PERSONSTATUSID
PHONESEQ	PHONE	PHONEID

MAXIMO Database Columns

SEQUENCENAME	TBNAME	NAME
PMANCESTORSEQ	PMANCESTOR	PMANCESTORID
PMMETERSEQ	PMMETER	PMMETERID
PMSEASONSUSEQ	PMSEASONS	PMSEASONSID
PMSEQ	PM	PMUID
PMSEQUENCESEQ	PMSEQUENCE	PMSEQUENCEID
POCOSTSEQ	POCOST	POCOSTID
POECOMSTATUSSEQ	POECOMSTATUS	POECOMSTATUSID
POINTWOSEQ	POINTWO	POINTWOID
POLINESEQ	POLINE	POLINEID
PORTLETDISPLAYSEQ	PORTLETDISPLAY	PORTLETDISPLAYID
PORTLETSEQ	PORTLET	PORTLETUID
POSEQ	PO	POID
POSTATUSSEQ	POSTATUS	POSTATUSID
POTERMSEQ	POTERM	POTERMID
PPCRAFTRATESEQ	PPCRAFTRATE	PPCRAFTRATEID
PPLABORRATESEQ	PPLABORRATE	PPLABORRATEID
PRCOSTSEQ	PRCOST	PRCOSTID
PRECAUTIONSEQ	PRECAUTION	PRECAUTIONUID
PREMIUMPAYSEQ	PREMIUMPAY	PREMIUMPAYID
PRICALCSEQ	PRICALC	PRICALCID
PRINTERSEQ	PRINTER	PRINTERID
PRLINESEQ	PRLINE	PRLINEID
PROPERTYASSOCSEQ	PROPERTYASSOC	PROPERTYASSOCID
PROPERTYDEFAULTSEQ	PROPERTYDEFAULT	PROPERTYDEFAULTID
PRSEQ	PR	PRID
PRSTATUSSEQ	PRSTATUS	PRSTATUSID
PRTERMSEQ	PRTERM	PRTERMID
QUALCRAFTSKILLSEQ	QUALCRAFTSKILL	QUALCRAFTSKILLID
QUALIFICATIONSEQ	QUALIFICATION	QUALIFICATIONUID
QUALSTATUSSEQ	QUALSTATUS	QUALSTATUSID
QUERYSEQ	QUERY	QUERYID
QUOTATIONLINESEQ	QUOTATIONLINE	QUOTATIONLINEID
RANGEDOMSEGMENTSEQ	RANGEDOMSEGMENT	RANGEDOMSEGMENTID
RECONCOMPFILTERUSEQ	RECONCOMPFILTER	RECONCOMPFILTERID
RECONLINKUSEQ	RECONLINK	RECONLINKID
RECONRESULTUSEQ	RECONRESULT	RECONRESULTID
RECONRULECLAUUSEQ	RECONRULECLAU	RECONRULECLAU
RECONRULESEQ	RECONRULE	RECONRULEID
RECONTASKCOMPSEQ	RECONTASKCOMP	RECONTASKCOMPID
RECONTASKFILTERUSEQ	RECONTASKFILTER	RECONTASKFILTERID
RECONTASKFLTRVALUSEQ	RECONTASKFLTRVAL	RECONTASKFLTRVALID
RECONTASKLINKUSEQ	RECONTASKLINK	RECONTASKLINKID
RECONTASKSEQ	RECONTASK	RECONTASKID
RECORDSLASEQ	RECORDSLA	RECORDSLAID
REFPOINTUSEQ	ESCREFFPOINT	REFPOINTID
RELATEDRECORDSEQ	RELATEDRECORD	RELATEDRECORDID

MAXIMO Database Columns

SEQUENCENAME	TBNAME	NAME
RELATEDSLASEQ	RELATEDSLA	RELATEDSLAID
REPORTLABELSEQ	REPORTLABEL	REPORTLABELID
REPORTLOOKUPSEQ	REPORTLOOKUP	REPORTLOOKUPID
REPORTSEQ	REPORT	REPORTID
RESULTSETCOLSSEQ	RESULTSETCOLS	RESULTSETCOLSID
RFQLINESEQ	RFQLINE	RFQLINEID
RFQSEQ	RFQ	RFQID
RFQSTATUSSEQ	RFQSTATUS	RFQSTATUSSEQ
RFQTERMSEQ	RFQTERM	RFQTERMID
RFQVENDORSEQ	RFQVENDOR	RFQVENDORID
RFQVENDORTERMSEQ	RFQVENDORTERM	RFQVENDORTERMID
ROLEREASSIGNAUTHSEQ	ROLEREASSIGNAUTH	ROLEREASSIGNAUTHID
ROLERESTRICTIONSEQ	ROLERESTRICTION	ROLERESTRICTIONID
ROLEUSERSEQ	ROLEUSER	ROLEUSERID
ROUTESSEQ	ROUTES	ROUTESID
ROUTE_STOPSEQ	ROUTE_STOP	ROUTE_STOPID
RSCONFIGSEQ	RSCONFIG	RSCONFIGID
SAFETYLEXICONSEQ	SAFETYLEXICON	SAFETYLEXICONID
SAFETYPLANSEQ	SAFETYPLAN	SAFETYPLANUID
SCCONFIGSEQ	SCCONFIG	SCCONFIGID
SCGROUPSEQ	SCGROUP	SCGROUPID
SCHEDULECOSTUSEQ	SCHEDULECOST	SCHEDULECOSTID
SCHEDULELINEUSEQ	SCHEDULELINE	SCHEDULELINEID
SCHEDULEUSEQ	SCHEDULE	SCHEDULEID
SCROLESEQ	SCROLE	SCROLEID
SCTEMPLATESEQ	SCTEMPLATE	SCTEMPLATEID
SERVICECONTRACTSEQ	SERVICECONTRACT	SERVICECONTRACTID
SERVRECTRANSSEQ	SERVRECTRANS	SERVRECTRANSID
SETSSEQ	SETS	SETSID
SHIFTPATTERNDAYSEQ	SHIFTPATTERNDAY	SHIFTPATTERNDAYID
SHIFTSEQ	SHIFT	SHIFTID
SHIPMENTLINESEQ	SHIPMENTLINE	SHIPMENTLINEID
SHIPMENTSEQ	SHIPMENT	SHIPMENTID
SIGOPTIONSEQ	SIGOPTION	SIGOPTIONID
SITEAUTHSEQ	SITEAUTH	SITEAUTHID
SITEECOMSEQ	SITEECOM	SITEECOMID
SITSEQ	SITE	SITEUID
SLAASSETLOCSEQ	SLAASSETLOC	SLAASSETLOCID
SLACOMMITMENTSSEQ	SLACOMMITMENTS	SLACOMMITMENTSID
SLACONTRACTUSEQ	SLACONTRACT	SLACONTRACTID
SLAKPIUSEQ	SLAKPI	SLAKPIID
SLARECORDSSEQ	SLARECORDS	SLARECORDSID
SLASEQ	SLA	SLAID
SOLUTIONSEQ	SOLUTION	SOLUTIONID
SPAREPARTSEQ	SPAREPART	SPAREPARTID
SPLXICONLINKSEQ	SPLXICONLINK	SPLXICONLINKID

MAXIMO Database Columns

SEQUENCENAME	TBNAME	NAME
SPRELATEDASSETSEQ	SPRELATEDASSET	SPRELATEDASSETID
SPWORKASSETSEQ	SPWORKASSET	SPWORKASSETID
STARTCENTERSEQ	STARTCENTER	STARTCENTERUID
SYNONYMDOMAINSEQ	SYNONYMDOMAIN	SYNONYMDOMAINID
TAGLOCKSEQ	TAGLOCK	TAGLOCKID
TAGOUTSEQ	TAGOUT	TAGOUTUID
TAXSEQ	TAX	TAXID
TAXTYPESEQ	TAXTYPE	TAXTYPEID
TEMPLATESTATUSSEQ	TEMPLATESTATUS	TEMPLATESTATUSID
TERMSEQ	TERM	TERMUID
TICKETASSETSEQ	TICKETASSET	TICKETASSETID
TICKETSEQ	TICKET	TICKETUID
TKOWNERHISTORYSEQ	TKOWNERHISTORY	TKOWNERHISTORYID
TKSTATUSSEQ	TKSTATUS	TKSTATUSID
TKTEMPLATESEQ	TKTEMPLATE	TKTEMPLATEID
TKTEMPLACTIVITYSEQ	TKEMPLTACTIVITY	TKEMPLTACTIVITYID
TOOLQUALSEQ	TOOLQUAL	TOOLQUALID
TOOLSEQ	TOOL	TOOLID
TOOLTRANSSEQ	TOOLTRANS	TOOLTRANSID
TRANSLATIONSEQ	TRANSLATION	TRANSLATIONID
TTTTTTUSEQ	TTTTTT	TTTTTTID
USERPREFSEQ	USERPREF	USERPREFID
USERPURGLSEQ	USERPURGL	USERPURGLID
VALUelistDOMAINSEQ	VALUelistDOMAIN	VALUelistDOMAINID
VALUelistSEQ	VALUelist	VALUelistID
VENDORSTATUSSEQ	VENDORSTATUS	VENDORSTATUSID
WARRANTYASSETSEQ	WARRANTYASSET	WARRANTYASSETID
WARRANTYLINESEQ	WARRANTYLINE	WARRANTYLINEID
WFACTIONLISTSEQ	WFACTIONLIST	WFACTIONLISTID
WFACTIONSEQ	WFACTION	WFACTIONID
WFAPPTOOLBARSEQ	WFAPPTOOLBAR	WFAPPTOOLBARID
WFASSIGNMENTSEQ	WFASSIGNMENT	ASSIGNID
WFASSIGNMENTUSEQ	WFASSIGNMENT	WFASSIGNMENTID
WFCALLSTACKSEQ	WFCALLSTACK	WFCALLSTACKID
WFCONDITIONSEQ	WFCONDITION	WFCONDITIONID
WFINPUTSEQ	WFINPUT	WFINPUTID
WFINSTANCESEQ	WFINSTANCE	WFID
WFINTERACTIONSEQ	WFINTERACTION	WFINTERACTIONID
WFNODESEQ	WFNODE	WFNODEID
WFNOTIFICATIONSEQ	WFNOTIFICATION	NOTIFICATIONID
WFPROCESSSEQ	WFPROCESS	WFPROCESSID
WFREVISIONSEQ	WFREVISION	WFREVISIONID
WFSTARTSEQ	WFSTART	WFSTARTID
WFSTOPSEQ	WFSTOP	WFSTOPID
WFSUBPROCESSSEQ	WFSUBPROCESS	WFSUBPROCESSID
WFTASKSEQ	WFTASK	WFTASKID

MAXIMO Database Columns

SEQUENCENAME	TBNAME	NAME
WFTRANSACTIONSEQ	WFTRANSACTION	TRANSID
WFWAITLISTSEQ	WFWAITLIST	WFWAITLISTID
WMMATCHSEQ	WMMATCH	WMMATCHID
WOANCESTORSEQ	WOANCESTOR	WOANCESTORID
WOCONTRACTSEQ	WOCONTRACT	WOCONTRACTID
WOGENSEQ	WOGEN	WOGENID
WOHAZARDPRECSEQ	WOHAZARDPREC	WOHAZARDPRECID
WOHAZARDSEQ	WOHAZARD	WOHAZARDID
WOLOCKOUTSEQ	WOLOCKOUT	WOLOCKOUTID
WOMETERSEQ	WOMETER	WOMETERID
WOOWNERHISTORYSEQ	WOOWNERHISTORY	WOOWNERHISTORYID
WOPRECAUTIONSEQ	WOPRECAUTION	WOPRECAUTIONID
WORELEXTSEQ	WORELEXT	WORELEXTID
WORKLOGSEQ	WORKLOG	WORKLOGID
WORKORDERSEQ	WORKORDER	WORKORDERID
WORKPERIODSEQ	WORKPERIOD	WORKPERIODID
WORKPRIORITYSEQ	WORKPRIORITY	WORKPRIORITYID
WORKTYPESEQ	WORKTYPE	WORKTYPEID
WORKVIEWSEQ	WORKVIEW	WORKVIEWID
WOSAFETYLINKSEQ	WOSAFETYLINK	WOSAFETYLINKID
WOSAFETYPLANSEQ	WOSAFETYPLAN	WOSAFETYPLANID
WOSTATUSSEQ	WOSTATUS	WOSTATUSID
WOTAGLOCKSEQ	WOTAGLOCK	TAGLOCKID
WOTAGOUTSEQ	WOTAGOUT	WOTAGOUTID
WPEDITSETTINGSEQ	WPEDITSETTING	WPEDITSETTINGID
WPITEMSEQ	WPITEM	WPITEMID
WPLABORSEQ	WPLABOR	WPLABORUID
WPTOOLSEQ	WPTOOL	WPTOOLID
solutionstatusseq	SOLUTIONSTATUS	SOLUTIONSTATUSID

CHAPTER 3

INDEX LIST

The following table lists the indexes in the MAXIMO Release 6.0 database (plus any product updates you may have applied).

MAXIMO RELEASE 6.0 INDEXES

The column sequence for an index is shown in the ColSeq column.

In the Order column, “A” indicates the order is ascending; “D” indicates the order is descending.

In the Unique column, “1” indicates the index is unique; “0” indicates the index is *not* unique.

For SQL Server only: In the Cluster column, “1” indicates the index is clustered; “0” indicates the index is not clustered.

Table	Column	ColSeq	Order	Unique	Cluster	Index Name
ACCOUNTDEFAULTS	ACCOUNTDEFAULTSID	1	A	U	0	ACCOUNTDEFAULT_NDX
ACCOUNTDEFAULTS	ORGID	1	A	U	1	ACCTDFLT_NDX1
ACCOUNTDEFAULTS	DFLTGROUP	2	A	U	1	ACCTDFLT_NDX1
ACCOUNTDEFAULTS	GROUPVALUE	3	A	U	1	ACCTDFLT_NDX1
ACTION	DESCRIPTION	1	A	D	0	ACTIONDES_TIDX
ACTION	ACTIONID	1	A	U	0	ACTION_NDX
ACTION	ACTION	1	A	U	0	ACTION_NDX1
ACTION	OBJECTNAME	1	A	D	0	ACTION_NDX2
ACTIONGROUP	ACTIONGROUPID	1	A	U	0	ACTIONGROUP_NDX
ACTIONGROUP	ACTION	1	A	U	0	ACTIONGROUP_NDX1
ACTIONGROUP	MEMBER	2	A	U	0	ACTIONGROUP_NDX1
ACTIONGROUP	SEQUENCE	3	A	U	0	ACTIONGROUP_NDX1
ACTIONSCFG	ACTIONSCFGID	1	A	U	0	ACTIONSCFG_NDX
ADDRESS	DESCRIPTION	1	A	D	0	ADDRESSDES_TIDX
ADDRESS	ADDRESSID	1	A	U	0	ADDRESS_NDX
ADDRESS	ORGID	1	A	U	1	ADDRESS_NDX1
ADDRESS	ADDRESSCODE	2	A	U	1	ADDRESS_NDX1
ALNDOMAIN	ALNDOMAINID	1	A	U	0	ALNDOMAIN_NDX
ALNDOMAIN	DOMAINID	1	A	U	1	ALNDOMAIN_NDX1
ALNDOMAIN	VALUE	2	A	U	1	ALNDOMAIN_NDX1
ALNDOMAIN	SITEID	3	A	U	1	ALNDOMAIN_NDX1
ALNDOMAIN	ORGID	4	A	U	1	ALNDOMAIN_NDX1
ALTITEM	ALTITEMID	1	A	U	0	ALTITEM_NDX
ALTITEM	ITEMNUM	1	A	U	0	ALTITEM_NDX1
ALTITEM	ALTITEMNUM	2	A	U	0	ALTITEM_NDX1

Table	Column	ColSeq	Order	Unique	Cluster	Index Name
ALTITEM	ITEMSETID	3	A	U	0	ALTITEM_NDX1
APPDOCTYPE	APPDOCTYPEID	1	A	U	0	APPDOCTYPE_NDX
APPDOCTYPE	APP	1	A	U	0	APPDOCTYPE_NDX1
APPDOCTYPE	DOCTYPE	2	A	U	0	APPDOCTYPE_NDX1
APPFIELDDEFAULTS	APPFIELDDEFAULTSID	1	A	U	0	APPFIELDDEFAULT_NDX
APPFIELDDEFAULTS	APP	1	A	U	0	APPFIELDDEF_NDX1
APPFIELDDEFAULTS	OBJECTNAME	2	A	U	0	APPFIELDDEF_NDX1
APPFIELDDEFAULTS	ATTRIBUTENAME	3	A	U	0	APPFIELDDEF_NDX1
APPFIELDDEFAULTS	SITEID	4	A	U	0	APPFIELDDEF_NDX1
APPFIELDDEFAULTS	GRPNAME	5	A	U	0	APPFIELDDEF_NDX1
APPFIELDDEFAULTS	USERNAME	6	A	U	0	APPFIELDDEF_NDX1
APPFIELDDEFAULTS	APP	1	A	U	0	APPFIELDDEF_NDX2
APPFIELDDEFAULTS	OBJECTNAME	2	A	U	0	APPFIELDDEF_NDX2
APPFIELDDEFAULTS	ATTRIBUTENAME	3	A	U	0	APPFIELDDEF_NDX2
APPFIELDDEFAULTS	SITEID	4	A	U	0	APPFIELDDEF_NDX2
APPFIELDDEFAULTS	USERNAME	5	A	U	0	APPFIELDDEF_NDX2
APPFIELDDEFAULTS	GRPNAME	6	A	U	0	APPFIELDDEF_NDX2
APPLICATIONAUTH	GROUPNAME	1	A	U	1	APPAUTH_NDX1
APPLICATIONAUTH	APP	2	A	U	1	APPAUTH_NDX1
APPLICATIONAUTH	OPTIONNAME	3	A	U	1	APPAUTH_NDX1
APPLICATIONAUTH	APPLICATIONAUTHID	1	A	U	0	APPLICATIONAUT_NDX
ARCHIVE	ARCHIVEID	1	A	U	0	ARCHIVE_NDX
ARCHIVE	ARCHIVEDATE	1	A	U	1	ARCHIVE_NDX1
ARCHIVE	MODULE	2	A	U	1	ARCHIVE_NDX1
AREASAFFECTED	AREASAFFECTEDID	1	A	U	0	AREASAFFECTED_NDX
AREASAFFECTED	SITEID	1	A	U	0	AREASAFFECTED_NDX1
AREASAFFECTED	WONUM	2	A	U	0	AREASAFFECTED_NDX1
AREASAFFECTED	AREASAFFECTEDID	3	A	U	0	AREASAFFECTED_NDX1
AREASAFFECTED	DESCRIPTION	1	A	D	0	AREASAFDEDES_TIDX
ASSET	DESCRIPTION	1	A	D	0	ASSETDES_TIDX
ASSET	ASSETID	1	A	D	0	ASSET_IND7
ASSET	ASSETUID	1	A	U	0	ASSET_NDX
ASSET	SITEID	1	A	U	1	ASSET_NDX1
ASSET	ASSETNUM	2	A	U	1	ASSET_NDX1
ASSET	SITEID	1	A	D	0	ASSET_NDX2
ASSET	PARENT	2	A	D	0	ASSET_NDX2
ASSET	SITEID	1	A	D	0	ASSET_NDX3
ASSET	VENDOR	2	A	D	0	ASSET_NDX3
ASSET	SITEID	1	A	D	0	ASSET_NDX4
ASSET	CALNUM	2	A	D	0	ASSET_NDX4
ASSET	ITEMNUM	1	A	D	0	ASSET_NDX5
ASSET	SITEID	2	A	D	0	ASSET_NDX5
ASSET	ITEMSETID	3	A	D	0	ASSET_NDX5
ASSET	SITEID	1	A	D	0	ASSET_NDX6
ASSET	LOCATION	2	A	D	0	ASSET_NDX6
ASSET	SITEID	1	A	D	0	ASSET_NDX7
ASSET	ANCESTOR	2	A	D	0	ASSET_NDX7
ASSETANCESTOR	ASSETANCESTORID	1	A	U	0	ASSETANCESTOR_NDX
ASSETANCESTOR	SITEID	1	A	U	0	ASSETANCESTOR_NDX1
ASSETANCESTOR	ASSETNUM	2	A	U	0	ASSETANCESTOR_NDX1
ASSETANCESTOR	ANCESTOR	3	A	U	0	ASSETANCESTOR_NDX1
ASSETANCESTOR	SITEID	1	A	D	0	ASSETANCESTOR_NDX2

Table	Column	ColSeq	Order	Unique	Cluster	Index Name
ASSETANCESTOR	ANCESTOR	2	A	D	0	ASSETANCESTOR_NDX2
ASSETATTRIBUTE	ASSETATTRIBUTEID	1	A	U	0	ASSETATTRIBUTE_NDX
ASSETATTRIBUTE	ASSETATTRID	1	A	U	0	ASSETATTR_NDX1
ASSETATTRIBUTE	ORGID	2	A	U	0	ASSETATTR_NDX1
ASSETATTRIBUTE	SITEID	3	A	U	0	ASSETATTR_NDX1
ASSETHIERARCHY	ASSETHIERARCHYID	1	A	U	0	ASSETHIERARCHY_NDX
ASSETHIERARCHY	SITEID	1	A	U	1	EQHIER_NDX
ASSETHIERARCHY	WONUM	2	A	U	1	EQHIER_NDX
ASSETHIERARCHY	ASSETNUM	3	A	U	1	EQHIER_NDX
ASSETHISTORY	ASSETHISTORYID	1	A	U	0	ASSETHISTORY_NDX
ASSETHISTORY	SITEID	1	A	D	0	ASSETHIST_NDX1
ASSETHISTORY	WONUM	2	A	D	0	ASSETHIST_NDX1
ASSETHISTORY	ASSETNUM	3	A	D	0	ASSETHIST_NDX1
ASSETHISTORY	ASSETNUM	1	A	D	0	ASSETHIST_NDX2
ASSETLOCCOMM	ASSETLOCCOMMID	1	A	U	0	ASSETLOCCOMM_NDX
ASSETLOCCOMM	COMMODITY	1	A	D	0	COMMODITYASSETNUM
ASSETLOCCOMM	ASSETNUM	2	A	D	0	COMMODITYASSETNUM
ASSETLOCCOMM	ITEMSETID	3	A	D	0	COMMODITYASSETNUM
ASSETLOCCOMM	COMMODITY	1	A	D	0	COMMODITYASSETTYPE
ASSETLOCCOMM	ASSETTYPE	2	A	D	0	COMMODITYASSETTYPE
ASSETLOCCOMM	ITEMSETID	3	A	D	0	COMMODITYASSETTYPE
ASSETLOCCOMM	COMMODITY	1	A	D	0	COMMODITYLOCATION
ASSETLOCCOMM	LOCATION	2	A	D	0	COMMODITYLOCATION
ASSETLOCCOMM	ITEMSETID	3	A	D	0	COMMODITYLOCATION
ASSETMETER	REMARKS	1	A	D	0	ASSETMETEREM_TIDX
ASSETMETER	ASSETMETERID	1	A	U	0	ASSETMETER_NDX
ASSETMETER	ASSETNUM	1	A	U	1	ASSETMETER_NDX1
ASSETMETER	METERNAME	2	A	U	1	ASSETMETER_NDX1
ASSETMETER	SITEID	3	A	U	1	ASSETMETER_NDX1
ASSETSPEC	ASSETSPECID	1	A	U	0	ASSETSPEC_NDX
ASSETSPEC	ASSETATTRID	1	A	U	0	ASSETSPEC_NDX1
ASSETSPEC	ASSETNUM	2	A	U	0	ASSETSPEC_NDX1
ASSETSPEC	SITEID	3	A	U	0	ASSETSPEC_NDX1
ASSETSPEC	SECTION	4	A	U	0	ASSETSPEC_NDX1
ASSETSPEC	CLASSSTRUCTUREID	1	A	D	0	ASSETSPEC_NDX2
ASSETSPEC	ASSETATTRID	2	A	D	0	ASSETSPEC_NDX2
ASSETSPEC	SECTION	3	A	D	0	ASSETSPEC_NDX2
ASSETSPEC	ASSETATTRID	1	A	D	0	ASSETSPEC_NDX3
ASSETSPEC	SECTION	2	A	D	0	ASSETSPEC_NDX3
ASSETSTATUS	ASSETSTATUSID	1	A	U	0	ASSETSTATUS_NDX
ASSETSTATUS	SITEID	1	A	D	0	ASSETSTATUS_NDX1
ASSETSTATUS	CHANGEDATE	2	A	D	0	ASSETSTATUS_NDX1
ASSETSTATUS	SITEID	1	A	D	0	ASSETSTATUS_NDX2
ASSETSTATUS	ASSETNUM	2	A	D	0	ASSETSTATUS_NDX2
ASSETSTATUS	SITEID	1	A	D	0	ASSETSTATUS_NDX3
ASSETSTATUS	ISRUNNING	2	A	D	0	ASSETSTATUS_NDX3
ASSETSTATUS	SITEID	1	A	D	0	ASSETSTATUS_NDX4
ASSETSTATUS	WONUM	2	A	D	0	ASSETSTATUS_NDX4
ASSETTRANS	ASSETTRANSID	1	A	U	0	ASSETTRANSU_NDX
ASSETTRANS	SITEID	1	A	D	0	ASSETTRANS_NDX1
ASSETTRANS	TRANSDATE	2	A	D	0	ASSETTRANS_NDX1
ASSETTRANS	SITEID	1	A	D	0	ASSETTRANS_NDX2

Table	Column	ColSeq	Order	Unique	Cluster	Index Name
ASSETTRANS	ASSETNUM	2	A	D	0	ASSETTRANS_NDX2
ASSETTRANS	ASSETID	1	A	D	0	ASSETTRANS_NDX3
ASSETUSERCUST	ASSETUSERCUSTID	1	A	U	0	ASSETUSERCUST_NDX
ASSETUSERCUST	PERSONID	1	A	U	0	ASSETUSERCUST_NDX1
ASSETUSERCUST	SITEID	2	A	U	0	ASSETUSERCUST_NDX1
ASSETUSERCUST	ASSETNUM	3	A	U	0	ASSETUSERCUST_NDX1
ASSIGNMENT	ASSIGNMENTID	1	A	U	0	ASSIGNMENT_NDX
ASSIGNMENT	ORGID	1	A	D	0	ASSIGNMNT_NDX
ASSIGNMENT	WONUM	2	A	D	0	ASSIGNMNT_NDX
ASSIGNMENT	WPLABORID	3	A	D	0	ASSIGNMNT_NDX
ATTENDANCE	ATTENDANCEID	1	A	U	0	ATTENDANCE_NDX
ATTENDANCE	ORGID	1	A	U	0	ATTEND_NDX1
ATTENDANCE	LABORCODE	2	A	U	0	ATTEND_NDX1
ATTENDANCE	TRANSDATE	3	A	U	0	ATTEND_NDX1
AUTOATTRUPDATE	AUTOATTRUPDATEID	1	A	U	0	AUTOATTRUPDATE_NDX
AUTOKEY	AUTOKEYID	1	A	U	0	AUTOKEY_NDX
AUTOKEY	AUTOKEYNAME	1	A	U	0	AUTOKEY_NDX1
AUTOKEY	SITEID	2	A	U	0	AUTOKEY_NDX1
AUTOKEY	ORGID	3	A	U	0	AUTOKEY_NDX1
AUTOKEY	SETID	4	A	U	0	AUTOKEY_NDX1
BBOARDAUDIENCE	BULLETINBOARDID	1	A	D	0	BBOARDAUDIENCE_NDX
BBOARDAUDIENCE	BBOARDAUDIENCEID	1	A	U	0	BBOARDAUDIENC_NDX
BOOKMARK	BOOKMARKID	1	A	U	0	BOOKMARK_NDX
BOOKMARK	USERID	1	A	U	0	BOOKMARK_NDX1
BOOKMARK	APP	2	A	U	0	BOOKMARK_NDX1
BOOKMARK	KEYVALUE	3	A	U	0	BOOKMARK_NDX1
BULLETINBOARD	BULLETINBOARDID	1	A	U	1	BULLETINBOARD_NDX
BULLETINBOARD	BULLETINBOARDUID	1	A	U	0	BULLETINBOAR_NDX
CALENDAR	DESCRIPTION	1	A	D	0	CALENDARDES_TIDX
CALENDAR	ORGID	1	A	U	1	CALENDAR_NDX
CALENDAR	CALNUM	2	A	U	1	CALENDAR_NDX
CALENDAR	CALENDARID	1	A	U	0	CALENDA_NDX
CHARPOINTACTION	POINTNUM	1	A	U	1	CHARPOINTACTIONNDX
CHARPOINTACTION	VALUE	2	A	U	1	CHARPOINTACTIONNDX
CHARPOINTACTION	SITEID	3	A	U	1	CHARPOINTACTIONNDX
CHARPOINTACTION	CHARPOINTACTIONID	1	A	U	0	CHARPOINTACTIO_NDX
CHARTOFACCOUNTS	ACCOUNTNAME	1	A	D	0	CHARTOFACACC_TIDX
CHARTOFACCOUNTS	CHARTOFACCOUNTSID	1	A	U	0	CHARTOFACCOUNT_NDX
CHARTOFACCOUNTS	ORGID	1	A	U	1	COA_NDX1
CHARTOFACCOUNTS	GLACCOUNT	2	A	U	1	COA_NDX1
CHARTOFACCOUNTS	ORGID	1	A	D	0	COA_NDX2
CHARTOFACCOUNTS	GLACCTYPE	2	A	D	0	COA_NDX2
CHARTOFACCOUNTS	ORGID	1	A	D	0	COA_NDX3
CHARTOFACCOUNTS	GLCOMP01	2	A	D	0	COA_NDX3
CLASSANCESTOR	CLASSANCESTORID	1	A	U	0	CLASSANCESTOR_NDX
CLASSANCESTOR	CLASSSTRUCTUREID	1	A	U	0	CLASSANCESTOR_NDX1
CLASSANCESTOR	ANCESTOR	2	A	U	0	CLASSANCESTOR_NDX1
CLASSIFICATION	CLASSIFICATIONUID	1	A	U	0	CLASSIFICATION_NDX
CLASSIFICATION	CLASSIFICATIONID	1	A	U	0	CLASSIFIC_NDX1
CLASSIFICATION	ORGID	2	A	U	0	CLASSIFIC_NDX1
CLASSIFICATION	SITEID	3	A	U	0	CLASSIFIC_NDX1
CLASSSPEC	CLASSSPECID	1	A	U	0	CLASSSPEC_NDX

Table	Column	ColSeq	Order	Unique	Cluster	Index Name
CLASSSPEC	CLASSSTRUCTUREID	1	A	U	0	CLASSSPEC_NDX1
CLASSSPEC	ASSETATTRID	2	A	U	0	CLASSSPEC_NDX1
CLASSSPEC	SECTION	3	A	U	0	CLASSSPEC_NDX1
CLASSSPEC	ORGID	4	A	U	0	CLASSSPEC_NDX1
CLASSSPEC	SITEID	5	A	U	0	CLASSSPEC_NDX1
CLASSSTRUCTURE	CLASSSTRUCTUREUID	1	A	U	0	CLASSSTRUCTURE_NDX
CLASSSTRUCTURE	CLASSSTRUCTUREID	1	A	U	0	CLASSSTRUCT_NDX1
CLASSSTRUCTURE	DESCRIPTION	1	A	D	0	CLASSSTRUDES_TIDX
COMMLOG	COMMLOGUID	1	A	U	0	COMMLOG_NDX
COMMLOG	COMMLOGID	1	A	U	0	COMMLOG_NDX1
COMMLOGDOCS	COMMLOGDOCSID	1	A	U	0	COMMLOGDOCS_NDX
COMMODITIES	DESCRIPTION	1	A	D	0	COMMODITIDES_TIDX
COMMODITIES	COMMODITY	1	A	U	0	COMMODITIES_NDX
COMMODITIES	ITEMSETID	2	A	U	0	COMMODITIES_NDX
COMMODITIES	COMMODITIESID	1	A	U	0	COMMODITIE_NDX
COMMTEMPLATE	COMMTEMPLATEID	1	A	U	0	COMMTEMPLATE_NDX
COMMTEMPLATE	TEMPLATEID	1	A	U	1	COMMTEMPLATE_NDX1
COMMTEMPLATE	DESCRIPTION	1	A	D	0	COMMTEMPLDES_TIDX
COMMTEMPLATEDOCS	COMMTEMPLATEDOCSID	1	A	U	0	COMMTEMPLATEDO_NDX
COMMTEMPLATEDOCS	TEMPLATEID	1	A	U	0	COMMTEMPLATED_NDX1
COMMTEMPLATEDOCS	COMMTEMPLATEDOCSID	2	A	U	0	COMMTEMPLATED_NDX1
COMMTMPLTSENDTO	TEMPLATEID	1	A	U	0	COMMTMPLTSENDTO_1
COMMTMPLTSENDTO	TYPE	2	A	U	0	COMMTMPLTSENDTO_1
COMMTMPLTSENDTO	SENDTOVALUE	3	A	U	0	COMMTMPLTSENDTO_1
COMMTMPLTSENDTO	TEMPLATEID	1	A	D	0	COMMTMPLTSENDTO_2
COMMTMPLTSENDTO	COMMTMPLTSENDTOID	1	A	U	0	COMMTMPLTSENDT_NDX
COMPANIES	FREIGHTTERMS	1	A	D	0	COMPANIESFRE_TIDX
COMPANIES	NAME	1	A	D	0	COMPANIESNAM_TIDX
COMPANIES	COMPANIESID	1	A	U	0	COMPANIES_NDX
COMPANIES	ORGID	1	A	D	0	COMPANIES_NDX2
COMPANIES	TYPE	2	A	D	0	COMPANIES_NDX2
COMPANIES	ORGID	1	A	U	1	COMPANY_NDX
COMPANIES	COMPANY	2	A	U	1	COMPANY_NDX
COMPANYACCDEF	COMPANYACCDEFID	1	A	U	0	COMPANYACCDEF_NDX
COMPANYACCDEF	ORGID	1	A	U	1	CPNYACCTDFLT_NDX1
COMPANYACCDEF	TYPE	2	A	U	1	CPNYACCTDFLT_NDX1
COMPCOMMODITY	COMPCOMMODITYID	1	A	U	0	COMPCOMMODITY_NDX
COMPCONTACT	COMPCONTACTID	1	A	U	0	COMPCONTACT_NDX
COMPCONTACT	ORGID	1	A	U	1	COMPCONTACT_NDX1
COMPCONTACT	COMPANY	2	A	U	1	COMPCONTACT_NDX1
COMPCONTACT	CONTACT	3	A	U	1	COMPCONTACT_NDX1
COMPCONTACTMSTR	COMPCONTACTMSTRID	1	A	U	0	COMPCONTACTMST_NDX
COMPCONTACTMSTR	CONTACT	1	A	U	1	COMPCONTACTMSTR_NDX
COMPCONTACTMSTR	COMPANY	2	A	U	1	COMPCONTMSTR_NDX
COMPCONTACTMSTR	COMPANYSETID	3	A	U	1	COMPCONTMSTR_NDX
COMPMASTER	FREIGHTTERMS	1	A	D	0	COMPMASTEFRE_TIDX
COMPMASTER	NAME	1	A	D	0	COMPMASTENAM_TIDX
COMPMASTER	COMPANY	1	A	U	1	COMPMASTER_NDX
COMPMASTER	COMPANYSETID	2	A	U	1	COMPMASTER_NDX

Table	Column	ColSeq	Order	Unique	Cluster	Index Name
COMPMAS	TYPE	1	A	D	0	COMPMAS_NDX2
COMPMAS	COMPANYSETID	2	A	D	0	COMPMAS_NDX2
COMPMAS	COMPMAS	1	A	U	0	COMPMAS_NDX
CONASSETMETER	CONASSETMETERID	1	A	U	0	CONASSETMETER_NDX
CONCOMMODITY	CONCOMMODITYID	1	A	U	0	CONCOMMODITY_NDX
CONLINEASSET	CONLINEASSETID	1	A	U	0	CONLINEASSET_NDX
CONLINEMETER	CONLINEMETERID	1	A	U	0	CONLINEMETER_NDX
CONTRACT	DESCRIPTION	1	A	D	0	CONTRACTDES_TIDX
CONTRACT	FREIGHTTERMS	1	A	D	0	CONTRACTFRE_TIDX
CONTRACT	CONTRACTID	1	A	U	0	CONTRACT_NDX
CONTRACT	CONTRACTNUM	1	A	U	0	CONTRACT_NDX1
CONTRACT	REVISIONNUM	2	A	U	0	CONTRACT_NDX1
CONTRACT	ORGID	3	A	U	0	CONTRACT_NDX1
CONTRACTASSET	CONTRACTNUM	1	A	U	0	CONASSET_NDX1
CONTRACTASSET	REVISIONNUM	2	A	U	0	CONASSET_NDX1
CONTRACTASSET	ORGID	3	A	U	0	CONASSET_NDX1
CONTRACTASSET	ASSETID	4	A	U	0	CONASSET_NDX1
CONTRACTASSET	CONTRACTASSETID	1	A	U	0	CONTRACTASSET_NDX
CONTRACTAUTH	CONTRACTNUM	1	A	U	0	CONTAUTH_NDX1
CONTRACTAUTH	REVISIONNUM	2	A	U	0	CONTAUTH_NDX1
CONTRACTAUTH	ORGID	3	A	U	0	CONTAUTH_NDX1
CONTRACTAUTH	AUTHORGID	4	A	U	0	CONTAUTH_NDX1
CONTRACTAUTH	AUTHSITEID	5	A	U	0	CONTAUTH_NDX1
CONTRACTAUTH	VENDOR	6	A	U	0	CONTAUTH_NDX1
CONTRACTAUTH	CONTRACTAUTHID	1	A	U	0	CONTRACTAUTHU_NDX
CONTRACTDEFAULT	CONTRACTDEFAULTID	1	A	U	0	CONTRACTDEFLT_NDX
CONTRACTDEFAULT	MAXCONTRACTTYPE	1	A	U	0	CONTRACTDFLT_NDX1
CONTRACTDEFAULT	PROPERTYID	2	A	U	0	CONTRACTDFLT_NDX1
CONTRACTLEASE	CONTRACTNUM	1	A	U	0	CONLEASE_NDX1
CONTRACTLEASE	REVISIONNUM	2	A	U	0	CONLEASE_NDX1
CONTRACTLEASE	ORGID	3	A	U	0	CONLEASE_NDX1
CONTRACTLEASE	CONTRACTLEASEID	1	A	U	0	CONTRACTLEASE_NDX
CONTRACTLINE	CONTRACTNUM	1	A	U	0	CONLINE_NDX1
CONTRACTLINE	REVISIONNUM	2	A	U	0	CONLINE_NDX1
CONTRACTLINE	ORGID	3	A	U	0	CONLINE_NDX1
CONTRACTLINE	CONTRACTLINENUM	4	A	U	0	CONLINE_NDX1
CONTRACTLINE	DESCRIPTION	1	A	D	0	CONTRACTLDES_TIDX
CONTRACTLINE	CONTRACTLINEID	1	A	U	0	CONTRACTLINEU_NDX
CONTRACTLINE	REMARK	1	A	D	0	CONTRACTLREM_TIDX
CONTRACTMASTER	CONTRACTNUM	1	A	U	0	CONTMAS_NDX1
CONTRACTMASTER	REVISIONNUM	2	A	U	0	CONTMAS_NDX1
CONTRACTMASTER	ORGID	3	A	U	0	CONTMAS_NDX1
CONTRACTMASTER	CONTRACTMASTERID	1	A	U	0	CONTRACTMASTER_NDX
CONTRACTPROPERTY	CONTRACTPROPERTYID	1	A	U	0	CONTRACTPROPER_NDX
CONTRACTPROPERTY	PROPERTYID	1	A	U	1	PROPERTY_NDX1
CONTRACTPURCH	CONTRACTNUM	1	A	U	0	CONTPURCH_NDX1
CONTRACTPURCH	REVISIONNUM	2	A	U	0	CONTPURCH_NDX1
CONTRACTPURCH	ORGID	3	A	U	0	CONTPURCH_NDX1
CONTRACTPURCH	CONTRACTPURCHID	1	A	U	0	CONTRACTPURCH_NDX
CONTRACTSTATUS	CONTRACTSTATUSID	1	A	U	0	CONTRACTSTATUS_NDX

Table	Column	ColSeq	Order	Unique	Cluster	Index Name
CONTRACTSWLIC	CONTRACTSWLICID	1	A	U	0	CONTRACTSWLIC_NDX
CONTRACTSWLIC	CONTRACTNUM	1	A	U	0	CONTSW_NDX1
CONTRACTSWLIC	REVISIONNUM	2	A	U	0	CONTSW_NDX1
CONTRACTSWLIC	ORGID	3	A	U	0	CONTSW_NDX1
CONTRACTTERM	DESCRIPTION	1	A	D	0	CONTRACTTDES_TIDX
CONTRACTTERM	CONTRACTTERMID	1	A	U	0	CONTRACTTERM_NDX
CONTRACTTERM	CONTRACTNUM	1	A	D	0	CONTRACTTERM_NDX2
CONTRACTTERM	TERMID	2	A	D	0	CONTRACTTERM_NDX2
CONTRACTTERM	DESCRIPTION	3	A	D	0	CONTRACTTERM_NDX2
CONTRACTTYPE	CONTRACTTYPEUID	1	A	U	0	CONTRACTTYPE_NDX
CONTRACTTYPE	ORGID	1	A	U	1	CONTRACTTYPE_NDX1
CONTRACTTYPE	CONTRACTTYPEID	2	A	U	1	CONTRACTTYPE_NDX1
CONTRACTTYPETERM	ORGID	1	A	D	0	CONTRACTTERM_NDX1
CONTRACTTYPETERM	CONTRACTTYPEID	2	A	D	0	CONTRACTTERM_NDX1
CONTRACTTYPETERM	TERMID	3	A	D	0	CONTRACTTERM_NDX1
CONTRACTTYPETERM	CONTRACTTYPETERMID	1	A	U	0	CONTRACTTYPETE_NDX
CONTRACTTYPETERM	DESCRIPTION	1	A	D	0	CONTRACTYDES_TIDX
CONVERSION	CONVERSIONID	1	A	U	0	CONVERSION_NDX
CONVERSION	FROMMEASUREUNIT	1	A	U	0	CONVERSION_NDX1
CONVERSION	TOMEASUREUNIT	2	A	U	0	CONVERSION_NDX1
CONVERSION	ITEMNUM	3	A	U	0	CONVERSION_NDX1
CONVERSION	ITEMSETID	4	A	U	0	CONVERSION_NDX1
CRAFT	DESCRIPTION	1	A	D	0	CRAFTDES_TIDX
CRAFT	CRAFTID	1	A	U	0	CRAFT_NDX
CRAFT	CRAFT	1	A	U	0	CRAFT_NDX1
CRAFT	ORGID	2	A	U	0	CRAFT_NDX1
CRAFTRATE	CRAFTRATEID	1	A	U	0	CRAFTRATE_NDX
CRAFTRATE	CRAFT	1	A	U	0	CRAFTRATE_NDX1
CRAFTRATE	SKILLLEVEL	2	A	U	0	CRAFTRATE_NDX1
CRAFTRATE	ORGID	3	A	U	0	CRAFTRATE_NDX1
CRAFTRATE	VENDOR	4	A	U	0	CRAFTRATE_NDX1
CRAFTRATE	CONTRACTNUM	5	A	U	0	CRAFTRATE_NDX1
CRAFTRATE	REVISIONNUM	6	A	U	0	CRAFTRATE_NDX1
CRAFTSKILL	DESCRIPTION	1	A	D	0	CRAFTSKILDES_TIDX
CRAFTSKILL	CRAFTSKILLID	1	A	U	0	CRAFTSKILL_NDX
CRAFTSKILL	CRAFT	1	A	U	0	CRAFTSKILL_NDX1
CRAFTSKILL	SKILLLEVEL	2	A	U	0	CRAFTSKILL_NDX1
CRAFTSKILL	ORGID	3	A	U	0	CRAFTSKILL_NDX1
CRONTASKDEF	CRONTASKDEFID	1	A	U	0	CRONTASKDEF_NDX
CRONTASKDEF	CRONTASKNAME	1	A	U	1	CRONTASKDEF_NDX1
CRONTASKDEF	DESCRIPTION	1	A	D	0	CRONTASKDEF_T1DX
CRONTASKINSTANCE	CRONTASKINSTANCEID	1	A	U	0	CRONTASKINSTAN_NDX
CRONTASKINSTANCE	DESCRIPTION	1	A	D	0	CRONTASKINSTA_T1DX
CRONTASKINSTANCE	INSTANCENAME	1	A	U	1	CRONTASKINST_NDX1
CRONTASKINSTANCE	CRONTASKNAME	2	A	U	1	CRONTASKINST_NDX1
CRONTASKPARAM	CRONTASKPARAMID	1	A	U	0	CRONTASKPARAM_NDX
CRONTASKPARAM	CRONTASKNAME	1	A	U	1	CRONTASKPARAM_NDX1
CRONTASKPARAM	INSTANCENAME	2	A	U	1	CRONTASKPARAM_NDX1

Table	Column	ColSeq	Order	Unique	Cluster	Index Name
CRONTASKPARAM	PARAMETER	3	A	U	1	CRONTASKPARAM_NDX1
CROSSOVERDOMAIN	CROSSOVERDOMAINID	1	A	U	0	CROSSOVERDOMAI_NDX
CROSSOVERDOMAIN	DOMAINID	1	A	U	1	CROSSOVER_NDX1
CROSSOVERDOMAIN	SOURCEFIELD	2	A	U	1	CROSSOVER_NDX1
CROSSOVERDOMAIN	DESTFIELD	3	A	U	1	CROSSOVER_NDX1
CROSSOVERDOMAIN	SITEID	4	A	U	1	CROSSOVER_NDX1
CROSSOVERDOMAIN	ORGID	5	A	U	1	CROSSOVER_NDX1
CURRENCY	DESCRIPTION	1	A	D	0	CURRENCYDES_TIDX
CURRENCY	CURRENCYCODE	1	A	U	1	CURRENCY_NDX
CURRENCY	CURRENCYID	1	A	U	0	CURENC_NDX
DEFAULTQUERY	DEFAULTQUERYID	1	A	U	0	DEFAULTQUERY_NDX
DEFAULTQUERY	USERID	1	A	U	0	DEFAULTQUERY_NDX1
DEFAULTQUERY	APP	2	A	U	0	DEFAULTQUERY_NDX1
DEFAULTQUERY	CLAUSENAME	3	A	U	0	DEFAULTQUERY_NDX1
DEPLOYEDASSET	NODEID	1	A	U	1	DEPLOYEDASSET_NDX1
DEPLOYEDASSET	NODENAME	1	A	U	0	DEPLOYEDASSET_NDX2
DEPLOYEDASSET	DOMAINNAME	2	A	U	0	DEPLOYEDASSET_NDX2
DEPLOYEDASSET	ASSETCLASS	3	A	U	0	DEPLOYEDASSET_NDX2
DMSAPISETTING	DMSAPISETTINGID	1	A	U	0	DMSAPISETTING_NDX
DMSAPISETTING	DMSNAME	1	A	U	1	DMSAPISETTING_NDX1
DOCINFO	DESCRIPTION	1	A	D	0	DOCINFODES_TIDX
DOCINFO	DOCINFOID	1	A	U	0	DOCINFO_NDX
DOCLINKS	DOCLINKSID	1	A	U	0	DOCLINKS_NDX
DOCLINKS	OWNERTABLE	1	A	U	0	DOCLINKS_NDX1
DOCLINKS	OWNERID	2	A	U	0	DOCLINKS_NDX1
DOCLINKS	DOCINFOID	3	A	U	0	DOCLINKS_NDX1
DOCLINKS	DOCTYPE	4	A	U	0	DOCLINKS_NDX1
DOCLINKS	DOCUMENT	1	A	D	0	DOCLINKS_NDX2
DOCLINKS	REFERENCE	2	A	D	0	DOCLINKS_NDX2
DOCLINKS	OWNERID	3	A	D	0	DOCLINKS_NDX2
DOCLINKS	OWNERTABLE	1	A	D	0	DOCLINKS_NDX3
DOCLINKS	OWNERID	2	A	D	0	DOCLINKS_NDX3
DOCTYPES	DOCTYPESID	1	A	U	0	DOCTYPES_NDX
DOCTYPES	DOCTYPE	1	A	U	0	DOCTYPES_NDX1
DPACOMMDEVICE	DEVICEID	1	A	U	1	COMMDEVICE_NDX1
DPACOMMDEVICE	NODEID	2	A	U	1	COMMDEVICE_NDX1
DPACOMMDEVICE	MANUFACTURER	1	A	D	0	COMMDEVICE_NDX2
DPACOMMDEVICE	DEVICEID	1	A	U	0	COMMDEVICE_NDX3
DPACOMMDEVICE	NODEID	1	A	D	0	COMMDEVICE_NDX4
DPACOMMDEVICE	MANUFACTURER	1	A	D	0	COMMDEVICE_NDX5
DPACOMMDEVICE	MAKEMODEL	2	A	D	0	COMMDEVICE_NDX5
DPACOMPUTER	NODEID	1	A	U	1	DPACOMPUTER_NDX1
DPACPU	CPUID	1	A	U	1	DPACPU_NDX1
DPACPU	NODEID	2	A	U	1	DPACPU_NDX1
DPACPU	MANUFACTURER	1	A	D	0	DPACPU_NDX2
DPACPU	CPUID	1	A	U	0	DPACPU_NDX3
DPACPU	NODEID	1	A	D	0	DPACPU_NDX4
DPACPU	MANUFACTURER	1	A	D	0	DPACPU_NDX5
DPACPU	MAKEMODEL	2	A	D	0	DPACPU_NDX5
DPADISK	DISKID	1	A	U	1	DPADISK_NDX1
DPADISK	NODEID	2	A	U	1	DPADISK_NDX1
DPADISK	MANUFACTURER	1	A	D	0	DPADISK_NDX2

Table	Column	ColSeq	Order	Unique	Cluster	Index Name
DPADISK	DISKID	1	A	U	0	DPADISK_NDX3
DPADISK	NODEID	1	A	D	0	DPADISK_NDX4
DPADISK	MANUFACTURER	1	A	D	0	DPADISK_NDX5
DPADISK	MAKEMODEL	2	A	D	0	DPADISK_NDX5
DPADISPLAY	DISPLAYID	1	A	U	1	DPADISPLAY_NDX1
DPADISPLAY	NODEID	2	A	U	1	DPADISPLAY_NDX1
DPADISPLAY	MANUFACTURER	1	A	D	0	DPADISPLAY_NDX2
DPADISPLAY	DISPLAYID	1	A	U	0	DPADISPLAY_NDX3
DPADISPLAY	NODEID	1	A	D	0	DPADISPLAY_NDX4
DPADISPLAY	MANUFACTURER	1	A	D	0	DPADISPLAY_NDX5
DPADISPLAY	MAKEMODEL	2	A	D	0	DPADISPLAY_NDX5
DPAFILE	FILEID	1	A	U	0	DPAFILE_NDX2
DPAFILE	FILEID	1	A	U	1	DPAFILE_NDX1
DPAFILE	NODEID	2	A	U	1	DPAFILE_NDX1
DPAFILE	NODEID	1	A	D	0	DPAFILE_NDX4
DPAIMAGEDEVICE	DEVICEID	1	A	U	1	IMAGEDEVICE_NDX1
DPAIMAGEDEVICE	NODEID	2	A	U	1	IMAGEDEVICE_NDX1
DPAIMAGEDEVICE	MANUFACTURER	1	A	D	0	IMAGEDEVICE_NDX2
DPAIMAGEDEVICE	DEVICEID	1	A	U	0	IMAGEDEVICE_NDX3
DPAIMAGEDEVICE	NODEID	1	A	D	0	IMAGEDEVICE_NDX4
DPAIPX	IPXID	1	A	U	1	DPAIPX_NDX1
DPAIPX	NODEID	2	A	U	1	DPAIPX_NDX1
DPAIPX	IPXID	1	A	U	0	DPAIPX_NDX2
DPAIPX	NODEID	1	A	D	0	DPAIPX_NDX3
DPALOGICALDRIVE	LOGICALDRIVEID	1	A	U	1	LOGICALDRIVE_NDX1
DPALOGICALDRIVE	NODEID	2	A	U	1	LOGICALDRIVE_NDX1
DPALOGICALDRIVE	LOGICALDRIVEID	1	A	U	0	LOGICALDRIVE_NDX2
DPALOGICALDRIVE	NODEID	1	A	D	0	LOGICALDRIVE_NDX4
DPAMADAPTER	ADAPTERNAME	1	A	U	0	DPAMADAPTER_NDX1
DPAMADAPTER	ADAPTERID	1	A	U	0	DPAMADAPTER_NDX2
DPAMADPTVARIANT	ADAPTERVARIANT	1	A	U	0	ADPTVARIANT_NDX1
DPAMADPTVARIANT	DPAMADPTVARIANTID	1	A	U	0	DPAMADPTVARIAN_NDX
DPAMEDIAADAPTER	ADAPTERID	1	A	U	1	MEDIAADAPTER_NDX1
DPAMEDIAADAPTER	NODEID	2	A	U	1	MEDIAADAPTER_NDX1
DPAMEDIAADAPTER	MANUFACTURER	1	A	D	0	MEDIAADAPTER_NDX2
DPAMEDIAADAPTER	ADAPTERID	1	A	U	0	MEDIAADAPTER_NDX3
DPAMEDIAADAPTER	NODEID	1	A	D	0	MEDIAADAPTER_NDX4
DPAMEDIAADAPTER	MANUFACTURER	1	A	D	0	MEDIAADAPTER_NDX5
DPAMEDIAADAPTER	MAKEMODEL	2	A	D	0	MEDIAADAPTER_NDX5
DPAMMANUFACTURE R	MANUFACTURERNAME	1	A	U	0	MANUFACTURER_NDX1
DPAMMANUFACTURE R	MANUFACTURERID	1	A	U	0	MANUFACTURER_NDX2
DPAMMANUVARIANT	DPAMMANUVARIANTID	1	A	U	0	DPAMMANUVARIAN_NDX
DPAMMANUVARIANT	MANUFACTURERVAR	1	A	U	0	MANUVARIANT_NDX1
DPAMOS	OSNAME	1	A	U	0	DPAMOS_NDX1
DPAMOS	OSID	1	A	U	0	DPAMOS_NDX2
DPAMOSVARIANT	DPAMOSVARIANTID	1	A	U	0	DPAMOSVARIANT_NDX
DPAMOSVARIANT	OSVARIANT	1	A	U	0	DPAMOSVARIANT_NDX1
DPAMPROCESSOR	PROCESSORNAME	1	A	U	0	PROCESSOR_NDX1
DPAMPROCESSOR	PROCESSORID	1	A	U	0	PROCESSOR_NDX2
DPAMPROC VARIANT	DPAMPROC VARIANTID	1	A	U	0	DPAMPROC VARIAN_NDX

Table	Column	ColSeq	Order	Unique	Cluster	Index Name
DPAMPROC VARIANT	PROCESSORVAR	1	A	U	0	PROC VARIANT_NDX1
DPAMSOFTWARE	SOFTWARENAME	1	A	U	0	SOFTWARE_NDX1
DPAMSOFTWARE	SOFTWAREID	1	A	U	0	SOFTWARE_NDX2
DPAMSWSUITE	SUITE NAME	1	A	U	0	DPAMSWSUITE_NDX1
DPAMSWSUITE	SUITEID	1	A	U	0	DPAMSWSUITE_NDX2
DPAMSWSUITE	DESCRIPTION	1	A	D	0	DPAMSWSUITE_T1DX
DPAMSWSUITECOMP	DPAMSWSUITECOMPID	1	A	U	0	DPAMSWSUITECOM_NDX
DPAMSWUSAGE	INPUTSOURCEID	1	A	U	0	DPAMSWUSAGE_NDX2
DPAMSWUSAGE	SWDETECTIONTOOL	1	A	U	0	DPAMSWUSAGE_NDX3
DPAMSWUSAGE	DESCRIPTION	1	A	D	0	DPAMSWUSAGE_T1DX
DPAMSWUSAGERANGE	DPAMSWUSAGERANGEID	1	A	U	0	DPAMSWUSAGERAN_NDX
DPAMSWVARIANT	DPAMSWVARIANTID	1	A	U	0	DPAMSWVARIANT_NDX
DPAMSWVARIANT	SOFTWAREVARIANT	1	A	U	0	DPAMSWVARIANT_NDX1
DPANETADAPTER	ADAPTERID	1	A	U	1	NETADAPTER_NDX1
DPANETADAPTER	NODEID	2	A	U	1	NETADAPTER_NDX1
DPANETADAPTER	MANUFACTURER	1	A	D	0	NETADAPTER_NDX2
DPANETADAPTER	ADAPTERID	1	A	U	0	NETADAPTER_NDX3
DPANETADAPTER	NODEID	1	A	D	0	NETADAPTER_NDX4
DPANETADAPTER	MANUFACTURER	1	A	D	0	NETADAPTER_NDX5
DPANETADAPTER	MAKEMODEL	2	A	D	0	NETADAPTER_NDX5
DPANETDEVCARD	CARDID	1	A	U	1	NETDEVCARD_NDX1
DPANETDEVCARD	NODEID	2	A	U	1	NETDEVCARD_NDX1
DPANETDEVCARD	CARDID	1	A	U	0	NETDEVCARD_NDX2
DPANETDEVCARD	NODEID	1	A	D	0	NETDEVCARD_NDX3
DPANETDEVICE	NODEID	1	A	U	1	DPANETDEVICE_NDX1
DPANETPRINTER	NODEID	1	A	U	1	DPANETPRINTER_NDX1
DPAOS	OSID	1	A	U	1	DPAOS_NDX1
DPAOS	NODEID	2	A	U	1	DPAOS_NDX1
DPAOS	MANUFACTURER	1	A	D	0	DPAOS_NDX2
DPAOS	OSID	1	A	U	0	DPAOS_NDX3
DPAOS	NODEID	1	A	D	0	DPAOS_NDX4
DPAOS	MANUFACTURER	1	A	D	0	DPAOS_NDX5
DPAOS	NAME	2	A	D	0	DPAOS_NDX5
DPASOFTWARE	SOFTWAREID	1	A	U	1	DPASOFTWARE_NDX1
DPASOFTWARE	NODEID	2	A	U	1	DPASOFTWARE_NDX1
DPASOFTWARE	SOFTWAREID	1	A	U	0	DPASOFTWARE_NDX2
DPASOFTWARE	NODEID	2	A	U	0	DPASOFTWARE_NDX2
DPASOFTWARE	SUITEID	3	A	U	0	DPASOFTWARE_NDX2
DPASOFTWARE	MANUFACTURER	1	A	D	0	DPASOFTWARE_NDX3
DPASOFTWARE	SOFTWAREID	1	A	U	0	DPASOFTWARE_NDX4
DPASOFTWARE	SOFTWARENAME	1	A	D	0	DPASOFTWARE_NDX5
DPASOFTWARE	NODEID	1	A	D	0	DPASOFTWARE_NDX6
DPASOFTWARE	SOFTWARENAME	1	A	D	0	DPASOFTWARE_NDX7
DPASOFTWARE	MANUFACTURER	2	A	D	0	DPASOFTWARE_NDX7
DPASWSUITE	DPASWSUITEID	1	A	U	0	DPASWSUITE_NDX
DPASWSUITE	SUITEID	1	A	U	1	DPASWSUITE_NDX1
DPASWSUITE	NODEID	2	A	U	1	DPASWSUITE_NDX1
DPASWSUITE	MANUFACTURER	1	A	D	0	DPASWSUITE_NDX2
DPASWSUITE	NODEID	1	A	D	0	DPASWSUITE_NDX3
DPATCPIP	TCPIPID	1	A	U	1	DPATCPIP_NDX1
DPATCPIP	NODEID	2	A	U	1	DPATCPIP_NDX1

Table	Column	ColSeq	Order	Unique	Cluster	Index Name
DPATCPIP	TCPIPID	1	A	U	0	DPATCPIP_NDX2
DPATCPIP	NODEID	1	A	D	0	DPATCPIP_NDX3
DPAUSERINFO	NODEID	1	A	D	0	DPAUSERINFO_NDX
DPAUSERINFO	PERSONID	1	A	U	0	DPAUSERINFO_NDX1
DPAUSERINFO	PERSONID	1	A	U	0	DPAUSERINFO_NDX2
DPAUSERINFO	NODEID	2	A	U	0	DPAUSERINFO_NDX2
DUMMY_TABLE	DUMMY_TABLEID	1	A	U	0	DUMMY_TABLE_NDX
DUMMY_TABLE	DUMMY_ALN	1	A	U	1	DUMMY_TABLE_NDX1
EMAIL	EMAILID	1	A	U	1	EMAIL_NDX1
EMAIL	EMAILADDRESS	1	A	D	0	EMAIL_NDX2
EMAIL	PERSONID	1	A	D	0	EMAIL_NDX3
ESCALATION	ESCALATIONID	1	A	U	0	ESCALATIONID_NDX
ESCALATION	ESCALATION	1	A	U	0	ESCALATION_NDX
ESCALATION	DESCRIPTION	1	A	D	0	ESCALATION_T1DX
ESCNOTIFICATION	ESCNOTIFICATIONID	1	A	U	0	ESCNOTIF_NDX
ESCREFPOINT	REFPOINTID	1	A	U	0	ESCREFPOINT_NDX
ESCREFPOINT	ESCALATION	2	A	U	0	ESCREFPOINT_NDX
ESCREFPOINT	REFPOINTID	1	A	U	0	ESCREFPOINT_NDX1
ESCREPEATTRACK	ESCALATION	1	A	U	0	ESCREPEATTRACK_NDX
ESCREPEATTRACK	REFPOINTID	2	A	U	0	ESCREPEATTRACK_NDX
ESCREPEATTRACK	OBJECTNAME	3	A	U	0	ESCREPEATTRACK_NDX
ESCREPEATTRACK	OWNERID	4	A	U	0	ESCREPEATTRACK_NDX
ESCSTATUS	ESCSTATUSID	1	A	U	0	ESCSTATUS_NDX
EVENTRESPONSE	ERID	1	A	U	1	EVENTRESPONSE_NDX1
EVENTRESPONSE	SOURCETABLE	1	A	D	0	EVENTRESPONSE_NDX2
EVENTRESPONSE	SOURCEID	2	A	D	0	EVENTRESPONSE_NDX2
EXCHANGE	ORGID	1	A	U	1	EXCHANGE_NDX
EXCHANGE	CURRENCYCODE	2	A	U	1	EXCHANGE_NDX
EXCHANGE	CURRENCYCODETO	3	A	U	1	EXCHANGE_NDX
EXCHANGE	EXPIREDATE	4	A	U	1	EXCHANGE_NDX
EXCHANGE	EXCHANGEID	1	A	U	0	EXCHANG_NDX
EXCLUDEDACTIONS	EXCLUDEDACTIONSID	1	A	U	0	EXCACTIONS_NDX
EXCLUDEDACTIONS	APP	1	A	U	0	EXCLACTIONS_IDX1
EXCLUDEDACTIONS	OPTIONNAME	2	A	U	0	EXCLACTIONS_IDX1
FACONFIG	FACONFIGID	1	A	U	1	FACONFIG_NDX1
FAILURECODE	DESCRIPTION	1	A	D	0	FAILURECODES_TIDX
FAILURECODE	ORGID	1	A	U	1	FAILURECODE_NDX
FAILURECODE	FAILURECODE	2	A	U	1	FAILURECODE_NDX
FAILURECODE	FAILURECODEID	1	A	U	0	FAILURECOD_NDX
FAILURELIST	ORGID	1	A	U	1	FAILLIST_NDX
FAILURELIST	FAILURELIST	2	A	U	1	FAILLIST_NDX
FAILURELIST	ORGID	1	A	D	0	FAILLIST_NDX2
FAILURELIST	FAILURECODE	2	A	D	0	FAILLIST_NDX2
FAILURELIST	ORGID	1	A	D	0	FAILLIST_NDX3
FAILURELIST	PARENT	2	A	D	0	FAILLIST_NDX3
FAILURELIST	FAILURELIST	1	A	U	0	FAILURELISTU_NDX
FAILUREREMARK	WONUM	1	A	D	0	FAILREMARK_NDX
FAILUREREMARK	SITEID	2	A	D	0	FAILREMARK_NDX
FAILUREREMARK	TICKETID	1	A	D	0	FAILREMARK_NDX1
FAILUREREMARK	TICKETCLASS	2	A	D	0	FAILREMARK_NDX1
FAILUREREMARK	DESCRIPTION	1	A	D	0	FAILUREREDES_TIDX
FAILUREREMARK	SITEID	1	A	U	1	FAILUREREMARK_NDX

Table	Column	ColSeq	Order	Unique	Cluster	Index Name
FAILUREREMARK	WONUM	2	A	U	1	FAILUREREMARK_NDX
FAILUREREMARK	TICKETID	3	A	U	1	FAILUREREMARK_NDX
FAILUREREMARK	TICKETCLASS	4	A	U	1	FAILUREREMARK_NDX
FAILUREREMARK	FAILUREREMARKID	1	A	U	0	FAILUREREMAR_NDX
FAILUREREPORT	SITEID	1	A	D	0	FAILREPORT_NDX1
FAILUREREPORT	WONUM	2	A	D	0	FAILREPORT_NDX1
FAILUREREPORT	FAILUREREPORTID	1	A	U	0	FAILUREREPORT_NDX
FAILUREREPORT	SITEID	1	A	D	0	FAIREPORT_NDX2
FAILUREREPORT	LINENUM	2	A	D	0	FAIREPORT_NDX2
FAVITEM	FAVITEMID	1	A	U	0	FAVITEM_NDX
FAVITEM	PERSONID	1	A	U	0	FAVITEM_NDX1
FAVITEM	ITEMNUM	2	A	U	0	FAVITEM_NDX1
FAVITEM	ITEMSETID	3	A	U	0	FAVITEM_NDX1
FAVITEM	DESCRIPTION	4	A	U	0	FAVITEM_NDX1
FAVITEM	STOREROOM	5	A	U	0	FAVITEM_NDX1
FAVITEM	STOREROOMSITE	6	A	U	0	FAVITEM_NDX1
FINANCIALPERIODS	FINANCIALPERIODSID	1	A	U	0	FINANCIALPERIO_NDX
FINANCIALPERIODS	ORGID	1	A	U	1	FPERIOD_NDX1
FINANCIALPERIODS	FINANCIALPERIOD	2	A	U	1	FPERIOD_NDX1
FINANCIALPERIODS	ORGID	1	A	D	0	FPERIOD_NDX2
FINANCIALPERIODS	PERIODSTART	2	A	D	0	FPERIOD_NDX2
FINANCIALPERIODS	PERIODEND	3	A	D	0	FPERIOD_NDX2
FINANCIALPERIODS	PERIODCLOSEDATE	4	A	D	0	FPERIOD_NDX2
FINCNTRL	DESCRIPTION	1	A	D	0	FINCNTRLDES_TIDX
FINCNTRL	FINCNTRLUID	1	A	U	0	FINCNTRL_NDX
FINCNTRL	ORGID	1	A	U	1	FINCNTRL_NDX1
FINCNTRL	FINCNTRLID	2	A	U	1	FINCNTRL_NDX1
FINCNTRL	ORGID	1	A	D	0	FINCNTRL_NDX2
FINCNTRL	BUDGETID	2	A	D	0	FINCNTRL_NDX2
FINCNTRL	BUDGETLINEID	3	A	D	0	FINCNTRL_NDX2
FINCNTRL	PROJECTID	4	A	D	0	FINCNTRL_NDX2
FINCNTRL	TASKID	5	A	D	0	FINCNTRL_NDX2
FINCNTRL	ORGID	1	A	D	0	FINCNTRL_NDX3
FINCNTRL	PROJECTID	2	A	D	0	FINCNTRL_NDX3
FINCNTRL	TASKID	3	A	D	0	FINCNTRL_NDX3
FSNCLASS	CID	1	A	U	1	FSNCLASS_NDX1
FSNCLASS	SID	1	A	D	0	FSNCLASS_NDX2
FSNCLASS	CID	2	A	D	0	FSNCLASS_NDX2
FSNCLASS	CID	1	A	D	0	FSNCLASS_NDX3
FSNCLASS	NAME	2	A	D	0	FSNCLASS_NDX3
FSNCLASSQUAL	CQID	1	A	U	1	FSNCLASSQUAL_NDX1
FSNCLASSQUAL	CID	1	A	D	0	FSNCLASSQUAL_NDX2
FSNCLASSQUAL	QID	2	A	D	0	FSNCLASSQUAL_NDX2
FSNCLASSQUAL	QID	1	A	D	0	FSNCLASSQUAL_NDX3
FSNCLASSQUAL	CID	2	A	D	0	FSNCLASSQUAL_NDX3
FSNCLASSRELATION	CRID	1	A	U	1	CLASSRELATION_NDX1
FSNCLASSRELATION	PARENTCID	1	A	D	0	CLASSRELATION_NDX2
FSNCLASSRELATION	CHILDCID	2	A	D	0	CLASSRELATION_NDX2
FSNCLASSRELATION	CHILDCID	1	A	D	0	CLASSRELATION_NDX3
FSNCLASSRELATION	PARENTCID	2	A	D	0	CLASSRELATION_NDX3
FSNCLASSRELATION	PARENTCID	1	A	D	0	CLASSRELATION_NDX4
FSNCLASSRELATION	CHILDCID	2	A	D	0	CLASSRELATION_NDX4

Table	Column	ColSeq	Order	Unique	Cluster	Index Name
FSNCLASSRELATION	RELATIONTYPE	3	A	D	0	CLASSRELATION_NDX4
FSNCLASSRELATION	CHILDCID	1	A	D	0	CLASSRELATION_NDX5
FSNCLASSRELATION	PARENTCID	2	A	D	0	CLASSRELATION_NDX5
FSNCLASSRELATION	RELATIONTYPE	3	A	D	0	CLASSRELATION_NDX5
FSNCLASSRELATION	CRID	1	A	D	0	CLASSRELATION_NDX6
FSNCLASSRELATION	PARENTCID	2	A	D	0	CLASSRELATION_NDX6
FSNCLASSRELATION	CHILDCID	3	A	D	0	CLASSRELATION_NDX6
FSNLASTSCAN	SOURCEID	1	A	U	1	FSNLASTSCAN_NDX1
FSNLASTSCAN	MAPPINGNAME	2	A	U	1	FSNLASTSCAN_NDX1
FSNMETHOD	MID	1	A	U	1	FSNMETHOD_NDX1
FSNMETHOD	CID	1	A	D	0	FSNMETHOD_NDX2
FSNMETHOD	MID	2	A	D	0	FSNMETHOD_NDX2
FSNMETHOD	MID	1	A	D	0	FSNMETHOD_NDX3
FSNMETHOD	CID	2	A	D	0	FSNMETHOD_NDX3
FSNMETHODPARAM	MPID	1	A	U	1	METHODPARAM_NDX1
FSNMETHODPARAM	MID	1	A	D	0	METHODPARAM_NDX2
FSNMETHODPARAM	MID	1	A	D	0	METHODPARAM_NDX3
FSNMETHODPARAM	MPID	2	A	D	0	METHODPARAM_NDX3
FSNMETHODPARAM	MPID	1	A	D	0	METHODPARAM_NDX4
FSNMETHODPARAM	MID	2	A	D	0	METHODPARAM_NDX4
FSNMTHDPARAMQUAL	MPQID	1	A	U	1	MTHDPARAMQUAL_NDX1
FSNMTHDPARAMQUAL	QID	1	A	D	0	MTHDPARAMQUAL_NDX2
FSNMTHDPARAMQUAL	MPID	2	A	D	0	MTHDPARAMQUAL_NDX2
FSNMTHDPARAMQUAL	MPID	1	A	D	0	MTHDPARAMQUAL_NDX3
FSNMTHDPARAMQUAL	QID	2	A	D	0	MTHDPARAMQUAL_NDX3
FSNMTHDQUAL	MQID	1	A	U	1	FSNMTHDQUAL_NDX1
FSNMTHDQUAL	QID	1	A	D	0	FSNMTHDQUAL_NDX2
FSNMTHDQUAL	MID	2	A	D	0	FSNMTHDQUAL_NDX2
FSNMTHDQUAL	MID	1	A	D	0	FSNMTHDQUAL_NDX3
FSNMTHDQUAL	QID	2	A	D	0	FSNMTHDQUAL_NDX3
FSNOBJECT	OID	1	A	U	1	FSNOBJECT_NDX1
FSNOBJECT	CID	1	A	D	0	FSNOBJECT_NDX2
FSNOBJECT	OID	1	A	D	0	FSNOBJECT_NDX3
FSNOBJECT	CID	2	A	D	0	FSNOBJECT_NDX3
FSNOBJPROPERTY	OID	1	A	U	1	OBJPROPERTY_NDX1
FSNOBJPROPERTY	PID	2	A	U	1	OBJPROPERTY_NDX1
FSNOBJPROPERTY	PID	1	A	D	0	OBJPROPERTY_NDX2
FSNOBJPROPERTY	OID	2	A	D	0	OBJPROPERTY_NDX2
FSNOBJRELATION	CRID	1	A	U	1	OBJRELATION_NDX1
FSNOBJRELATION	PARENTOID	2	A	U	1	OBJRELATION_NDX1
FSNOBJRELATION	CHILDOID	3	A	U	1	OBJRELATION_NDX1
FSNOBJRELATION	PARENTOID	1	A	D	0	OBJRELATION_NDX2
FSNOBJRELATION	CHILDOID	2	A	D	0	OBJRELATION_NDX2
FSNOBJRELATION	CHILDOID	1	A	D	0	OBJRELATION_NDX3
FSNOBJRELATION	PARENTOID	2	A	D	0	OBJRELATION_NDX3
FSNPROPERTY	PID	1	A	U	1	FSNPROPERTY_NDX1
FSNPROPERTY	CID	1	A	D	0	FSNPROPERTY_NDX2
FSNPROPERTY	PID	2	A	D	0	FSNPROPERTY_NDX2

Table	Column	ColSeq	Order	Unique	Cluster	Index Name
FSNPROPERTY	PID	1	A	D	0	FSNPROPERTY_NDX3
FSNPROPERTY	NAME	2	A	D	0	FSNPROPERTY_NDX3
FSNPROPERTYQUAL	PQID	1	A	U	1	PROPERTYQUAL_NDX1
FSNPROPERTYQUAL	PID	1	A	D	0	PROPERTYQUAL_NDX2
FSNPROPERTYQUAL	QID	2	A	D	0	PROPERTYQUAL_NDX2
FSNPROPERTYQUAL	QID	1	A	D	0	PROPERTYQUAL_NDX3
FSNPROPERTYQUAL	PID	2	A	D	0	PROPERTYQUAL_NDX3
FSNPROVIDER	PROVID	1	A	U	1	FSNPROVIDER_NDX1
FSNQUALIFIER	QID	1	A	U	1	FSNQUALIFIER_NDX1
FSNQUALIFIER	QID	1	A	D	0	FSNQUALIFIER_NDX2
FSNQUALIFIER	NAME	2	A	D	0	FSNQUALIFIER_NDX2
FSNREFPROPERTY	CRID	1	A	U	1	REFPROPERTY_NDX1
FSNREFPROPERTY	PID	2	A	U	1	REFPROPERTY_NDX1
FSNREFPROPERTY	REFERTOCID	3	A	U	1	REFPROPERTY_NDX1
FSNREFPROPERTY	REFERTOPIID	4	A	U	1	REFPROPERTY_NDX1
FSNREFPROPERTY	CRID	1	A	D	0	REFPROPERTY_NDX2
FSNREFPROPERTY	CRID	1	A	D	0	REFPROPERTY_NDX3
FSNREFPROPERTY	REFERTOCID	2	A	D	0	REFPROPERTY_NDX3
FSNREFPROPERTY	PID	1	A	D	0	REFPROPERTY_NDX4
FSNREFPROPERTY	CRID	2	A	D	0	REFPROPERTY_NDX4
FSNREFPROPERTY	REFERTOCID	3	A	D	0	REFPROPERTY_NDX4
FSNSCHEMA	SID	1	A	U	1	FSNSCHEMA_NDX1
FSNSCHEMA	SID	1	A	D	0	FSNSCHEMA_NDX2
FSNSCHEMA	PROVID	2	A	D	0	FSNSCHEMA_NDX2
FSNSQLCOLUMN	CID	1	A	U	1	FSNSQLCOLUMN_NDX1
FSNSQLCOLUMN	TID	2	A	U	1	FSNSQLCOLUMN_NDX1
FSNSQLCOLUMN	PID	3	A	U	1	FSNSQLCOLUMN_NDX1
FSNSQLTABLE	CID	1	A	U	1	FSNSQLTABLE_NDX1
FSNSQLTABLE	TID	2	A	U	1	FSNSQLTABLE_NDX1
FSNTABLEQUAL	TQID	1	A	U	0	FSNTABLEQUAL_NDX1
FSNTABLEQUAL	TID	1	A	D	0	FSNTABLEQUAL_NDX2
FSNTABLEQUAL	QID	2	A	D	0	FSNTABLEQUAL_NDX2
FSNTABLEQUAL	QID	1	A	D	0	FSNTABLEQUAL_NDX3
FSNTABLEQUAL	TID	2	A	D	0	FSNTABLEQUAL_NDX3
GLAUTH	GLAUTHID	1	A	U	0	GLAUTH_NDX
GLAUTH	GROUPNAME	1	A	U	1	GLAUTH_NDX1
GLAUTH	GLACCOUNTFIELD	2	A	U	1	GLAUTH_NDX1
GLCOMPONENTS	GLCOMPONENTSID	1	A	U	0	GLCOMPONENTS_NDX
GLCOMPONENTS	ORGID	1	A	U	1	GLCOMP_NDX1
GLCOMPONENTS	GLORDER	2	A	U	1	GLCOMP_NDX1
GLCOMPONENTS	COMPVALUE	3	A	U	1	GLCOMP_NDX1
GLCONFIGURE	GLORDER	1	A	U	1	GLCFG_NDX1
GLCONFIGURE	GLCONFIGUREID	1	A	U	0	GLCONFIGURE_NDX
GROUPRESTRICTION	GROUPRESTRICTIONID	1	A	U	0	GROUPRESTRICT_NDX
GROUPRESTRICTION	GROUPNAME	1	A	U	1	GROUPRESTRICT_NDX1
GROUPRESTRICTION	ENTITYNAME	2	A	U	1	GROUPRESTRICT_NDX1
GROUPUSER	GROUPUSERID	1	A	U	0	GROUPUSER_NDX
GROUPUSER	USERID	1	A	U	1	GROUPUSER_NDX1
GROUPUSER	GROUPNAME	2	A	U	1	GROUPUSER_NDX1
GRPREASSIGNAUTH	GRPREASSIGNAUTHID	1	A	U	0	GRPREASSIGN_NDX
GRPREASSIGNAUTH	USERID	1	A	U	1	GRPREASSIGN_NDX1
GRPREASSIGNAUTH	GROUPNAME	2	A	U	1	GRPREASSIGN_NDX1

Table	Column	ColSeq	Order	Unique	Cluster	Index Name
HAZARD	DESCRIPTION	1	A	D	0	HAZARDDES_TIDX
HAZARD	HAZARUID	1	A	U	0	HAZARD_NDX
HAZARD	ORGID	1	A	U	1	HAZARD_NDX1
HAZARD	HAZARDID	2	A	U	1	HAZARD_NDX1
HAZARDPREC	HAZARDPRECID	1	A	U	0	HAZARDPREC_NDX
HAZARDPREC	SITEID	1	A	U	1	HAZARDPREC_NDX1
HAZARDPREC	HAZARDID	2	A	U	1	HAZARDPREC_NDX1
HAZARDPREC	PRECAUTIONID	3	A	U	1	HAZARDPREC_NDX1
INBOUNDCOMM	INBOUNDCOMMID	1	A	U	0	INBOUNDCOMM_NDX
INBOUNDCOMMCFG	EMAILADDRESS	1	A	U	0	INBOUNDCFG_IDX1
INBOUNDCOMMCFG	MAILSERVER	2	A	U	0	INBOUNDCFG_IDX1
INBOUNDCOMMCFG	DESCRIPTION	1	A	D	0	INBOUNDCODES_TIDX
INBOUNDCOMMCFG	INBOUNDCOMMCFGID	1	A	U	0	INBOUNDCOMMCFG_NDX
INBXCONFIG	INBXCONFIGID	1	A	U	1	INBXCONFIG_NDX1
INVBALANCES	INVBALANCESID	1	A	U	0	INVBALANCES_NDX
INVBALANCES	ITEMNUM	1	A	U	1	INVBAL_NDX1
INVBALANCES	LOCATION	2	A	U	1	INVBAL_NDX1
INVBALANCES	BINNUM	3	A	U	1	INVBAL_NDX1
INVBALANCES	LOTNUM	4	A	U	1	INVBAL_NDX1
INVBALANCES	CONDITIONCODE	5	A	U	1	INVBAL_NDX1
INVBALANCES	SITEID	6	A	U	1	INVBAL_NDX1
INVBALANCES	ITEMSETID	7	A	U	1	INVBAL_NDX1
INVCOST	INVCOSTID	1	A	U	0	INVCOST_NDX
INVCOST	ITEMNUM	1	A	U	1	INVCOST_NDX1
INVCOST	LOCATION	2	A	U	1	INVCOST_NDX1
INVCOST	CONDITIONCODE	3	A	U	1	INVCOST_NDX1
INVCOST	SITEID	4	A	U	1	INVCOST_NDX1
INVCOST	ITEMSETID	5	A	U	1	INVCOST_NDX1
INVENTORY	INVENTORYID	1	A	U	0	INVENTORY_NDX
INVENTORY	ITEMNUM	1	A	U	1	INVENTORY_NDX1
INVENTORY	LOCATION	2	A	U	1	INVENTORY_NDX1
INVENTORY	SITEID	3	A	U	1	INVENTORY_NDX1
INVENTORY	ITEMSETID	4	A	U	1	INVENTORY_NDX1
INVENTORY	SITEID	1	A	D	0	INVENTORY_NDX2
INVENTORY	LOCATION	2	A	D	0	INVENTORY_NDX2
INVENTORY	ITEMNUM	1	A	D	0	INVENTORY_NDX4
INVENTORY	SITEID	2	A	D	0	INVENTORY_NDX4
INVENTORY	ITEMSETID	3	A	D	0	INVENTORY_NDX4
INVLOT	INVLOTID	1	A	U	0	INVLOT_NDX
INVLOT	LOTNUM	1	A	U	1	INVLOT_NDX1
INVLOT	ITEMNUM	2	A	U	1	INVLOT_NDX1
INVLOT	LOCATION	3	A	U	1	INVLOT_NDX1
INVLOT	SITEID	4	A	U	1	INVLOT_NDX1
INVOICE	DESCRIPTION	1	A	D	0	INVOICEDES_TIDX
INVOICE	INVOICEID	1	A	U	0	INVOICE_NDX
INVOICE	SITEID	1	A	U	1	INVOICE_NDX1
INVOICE	INVOICENUM	2	A	U	1	INVOICE_NDX1
INVOICE	SITEID	1	A	D	0	INVOICE_NDX2
INVOICE	VENDOR	2	A	D	0	INVOICE_NDX2
INVOICE	SITEID	1	A	D	0	INVOICE_NDX3
INVOICE	PONUM	2	A	D	0	INVOICE_NDX3
INVOICE	SITEID	1	A	D	0	INVOICE_NDX4

Table	Column	ColSeq	Order	Unique	Cluster	Index Name
INVOICE	APPROVALNUM	2	A	D	0	INVOICE_NDX4
INVOICE	SITEID	1	A	D	0	INVOICE_NDX5
INVOICE	VENDORINVOICENUM	2	A	D	0	INVOICE_NDX5
INVOICE	VENDOR	3	A	D	0	INVOICE_NDX5
INVOICE	SITEID	1	A	D	0	INVOICE_NDX8
INVOICE	HISTORYFLAG	1	A	D	0	INVOICE_NDX9
INVOICE	SITEID	2	A	D	0	INVOICE_NDX9
INVOICECOST	INVOICECOSTID	1	A	U	0	INVOICECOST_NDX
INVOICECOST	SITEID	1	A	U	1	INVOICECOST_NDX1
INVOICECOST	INVOICENUM	2	A	U	1	INVOICECOST_NDX1
INVOICECOST	INVOICELINENUM	3	A	U	1	INVOICECOST_NDX1
INVOICECOST	COSTLINENUM	4	A	U	1	INVOICECOST_NDX1
INVOICELINE	DESCRIPTION	1	A	D	0	INVOICELIDES_TIDX
INVOICELINE	INVOICELINEID	1	A	U	0	INVOICELINE_NDX
INVOICELINE	SITEID	1	A	U	1	INVOICELINE_NDX1
INVOICELINE	INVOICENUM	2	A	U	1	INVOICELINE_NDX1
INVOICELINE	INVOICELINENUM	3	A	U	1	INVOICELINE_NDX1
INVOICELINE	INVOICENUM	1	A	D	0	INVOICELINE_NDX2
INVOICELINE	ITEMNUM	2	A	D	0	INVOICELINE_NDX2
INVOICELINE	SITEID	3	A	D	0	INVOICELINE_NDX2
INVOICELINE	ITEMSETID	4	A	D	0	INVOICELINE_NDX2
INVOICELINE	SITEID	1	A	D	0	INVOICELINE_NDX3
INVOICELINE	INVOICENUM	2	A	D	0	INVOICELINE_NDX3
INVOICELINE	PONUM	3	A	D	0	INVOICELINE_NDX3
INVOICELINE	PONUM	1	A	D	0	INVOICELINE_NDX4
INVOICELINE	ITEMNUM	2	A	D	0	INVOICELINE_NDX4
INVOICELINE	SITEID	3	A	D	0	INVOICELINE_NDX4
INVOICELINE	ITEMSETID	4	A	D	0	INVOICELINE_NDX4
INVOICEMATCH	INVOICEMATCHID	1	A	U	0	INVOICEMATCH_NDX
INVOICEMATCH	MATRECTRANSID	1	A	D	0	INVOICEMATCH_NDX3
INVOICEMATCH	SITEID	2	A	D	0	INVOICEMATCH_NDX3
INVOICEMATCH	SERVRECTRANSID	1	A	D	0	INVOICEMATCH_NDX4
INVOICEMATCH	SITEID	2	A	D	0	INVOICEMATCH_NDX4
INVOICEMATCH	SITEID	1	A	D	0	INVOICEMTCH_NDX1
INVOICEMATCH	INVOICENUM	2	A	D	0	INVOICEMTCH_NDX1
INVOICEMATCH	INVOICELINENUM	3	A	D	0	INVOICEMTCH_NDX1
INVOICEMATCH	SITEID	1	A	D	0	INVOICEMTCH_NDX2
INVOICEMATCH	PONUM	2	A	D	0	INVOICEMTCH_NDX2
INVOICEMATCH	POLINENUM	3	A	D	0	INVOICEMTCH_NDX2
INVOICESTATUS	INVOICESTATUSID	1	A	U	0	INVOICESTATUS_NDX
INVOICESTATUS	SITEID	1	A	D	0	INVOICESTATUS_NDX1
INVOICESTATUS	INVOICENUM	2	A	D	0	INVOICESTATUS_NDX1
INVOICESTATUS	VENDOR	3	A	D	0	INVOICESTATUS_NDX1
INVOICESTATUS	SITEID	1	A	D	0	INVOICESTATUS_NDX2
INVOICESTATUS	CHANGEDATE	2	A	D	0	INVOICESTATUS_NDX2
INVOICETERM	DESCRIPTION	1	A	D	0	INVOICETEDES_TIDX
INVOICETERM	INVOICETERMID	1	A	U	0	INVOICETERM_NDX
INVOICETERM	DESCRIPTION	1	A	D	0	INVOICETERM_NDX1
INVOICETERM	TERMID	2	A	D	0	INVOICETERM_NDX1
INVOICETRANS	INVOICETRANSID	1	A	U	0	INVOICETRANS_NDX
INVOICETRANS	SITEID	1	A	D	0	INVOICETRANS_NDX1
INVOICETRANS	TRANSDATE	2	A	D	0	INVOICETRANS_NDX1

Table	Column	ColSeq	Order	Unique	Cluster	Index Name
INVRESERVE	DESCRIPTION	1	A	D	0	INVRESERVEDES_TIDX
INVRESERVE	INVRESERVEID	1	A	U	0	INVRESERVE_NDX
INVRESERVE	SITEID	1	A	U	1	INVRESERVE_NDX1
INVRESERVE	REQUESTNUM	2	A	U	1	INVRESERVE_NDX1
INVRESERVE	ITEMNUM	1	A	D	0	INVRESERVE_NDX2
INVRESERVE	LOCATION	2	A	D	0	INVRESERVE_NDX2
INVRESERVE	SITEID	3	A	D	0	INVRESERVE_NDX2
INVRESERVE	ITEMSETID	4	A	D	0	INVRESERVE_NDX2
INVRESERVE	SITEID	1	A	D	0	INVRESERVE_NDX3
INVRESERVE	WONUM	2	A	D	0	INVRESERVE_NDX3
INVRESERVE	SITEID	1	A	D	0	INVRESERVE_NDX4
INVRESERVE	POLINEID	2	A	D	0	INVRESERVE_NDX4
INVTRANS	INVTRANSID	1	A	U	0	INVTRANSU_NDX
INVTRANS	SITEID	1	A	U	1	INVTRANS_NDX1
INVTRANS	INVTRANSID	2	A	U	1	INVTRANS_NDX1
INVTRANS	ITEMNUM	1	A	D	0	INVTRANS_NDX2
INVTRANS	STORELOC	2	A	D	0	INVTRANS_NDX2
INVTRANS	TRANSDATE	3	A	D	0	INVTRANS_NDX2
INVTRANS	SITEID	4	A	D	0	INVTRANS_NDX2
INVTRANS	ITEMSETID	5	A	D	0	INVTRANS_NDX2
INVVENDOR	INVVENDORID	1	A	U	0	INVVENDOR_NDX
INVVENDOR	ITEMNUM	1	A	U	0	INVVEND_NDX1
INVVENDOR	VENDOR	2	A	U	0	INVVEND_NDX1
INVVENDOR	MANUFACTURER	3	A	U	0	INVVEND_NDX1
INVVENDOR	MODELNUM	4	A	U	0	INVVEND_NDX1
INVVENDOR	CONDITIONCODE	5	A	U	0	INVVEND_NDX1
INVVENDOR	ITEMSETID	6	A	U	0	INVVEND_NDX1
INVVENDOR	ORGID	7	A	U	0	INVVEND_NDX1
INVVENDOR	SITEID	8	A	U	0	INVVEND_NDX1
INVVENDOR	SITEID	1	A	D	0	INVVEND_NDX3
INVVENDOR	VENDOR	2	A	D	0	INVVEND_NDX3
INVVENDOR	CATALOGCODE	3	A	D	0	INVVEND_NDX3
ITEM	DESCRIPTION	1	A	D	0	ITEMDES_TIDX
ITEM	ITEMID	1	A	U	0	ITEM_NDX
ITEM	ITEMNUM	1	A	U	1	ITEM_NDX1
ITEM	ITEMSETID	2	A	U	1	ITEM_NDX1
ITEMCONDITION	DESCRIPTION	1	A	D	0	ITEMCONDIDES_TIDX
ITEMCONDITION	ITEMCONDITIONID	1	A	U	0	ITEMCONDITION_NDX
ITEMCONDITION	ITEMNUM	1	A	U	1	ITEMCONDITION_NDX1
ITEMCONDITION	CONDITIONCODE	2	A	U	1	ITEMCONDITION_NDX1
ITEMCONDITION	ITEMSETID	3	A	U	1	ITEMCONDITION_NDX1
ITEMORGINFO	ITEMORGINFOID	1	A	U	0	ITEMORGINFO_NDX
ITEMORGINFO	ITEMNUM	1	A	U	0	ITEMORGINFO_NDX1
ITEMORGINFO	ITEMSETID	2	A	U	0	ITEMORGINFO_NDX1
ITEMORGINFO	ORGID	3	A	U	0	ITEMORGINFO_NDX1
ITEMSPEC	ITEMSPECID	1	A	U	0	ITEMSPEC_NDX
ITEMSPEC	ITEMNUM	1	A	U	0	ITEMSPEC_NDX1
ITEMSPEC	ITEMSETID	2	A	U	0	ITEMSPEC_NDX1
ITEMSPEC	ASSETATTRID	3	A	U	0	ITEMSPEC_NDX1
ITEMSPEC	SECTION	4	A	U	0	ITEMSPEC_NDX1
ITEMSPEC	CLASSSTRUCTUREID	1	A	D	0	ITEMSPEC_NDX2
ITEMSPEC	ASSETATTRID	2	A	D	0	ITEMSPEC_NDX2

Table	Column	ColSeq	Order	Unique	Cluster	Index Name
ITEMSPEC	SECTION	3	A	D	0	ITEMSPEC_NDX2
ITEMSPEC	ASSETATTRID	1	A	D	0	ITEMSPEC_NDX3
ITEMSPEC	SECTION	2	A	D	0	ITEMSPEC_NDX3
ITEMSTRUCT	REMARK	1	A	D	0	ITEMSTRUCREM_TIDX
ITEMSTRUCT	ITEMSTRUCTID	1	A	U	0	ITEMSTRUCT_NDX
ITEMSTRUCT	ITEMID	1	A	U	0	ITEMSTRUCT_NDX1
ITEMSTRUCT	ITEMNUM	2	A	U	0	ITEMSTRUCT_NDX1
ITEMSTRUCT	INSTANCE	3	A	U	0	ITEMSTRUCT_NDX1
ITEMSTRUCT	ITEMSETID	4	A	U	0	ITEMSTRUCT_NDX1
JOBITEM	JOBITEMID	1	A	U	0	JOBITEM_NDX
JOBLABOR	JOBLABORID	1	A	U	0	JOBLABOR_NDX
JOBLABOR	ORGID	1	A	D	0	JOBLABOR_NDX1
JOBLABOR	SITEID	2	A	D	0	JOBLABOR_NDX1
JOBLABOR	JPNUM	3	A	D	0	JOBLABOR_NDX1
JOBLABOR	JPTASK	4	A	D	0	JOBLABOR_NDX1
JOBLABOR	LABORCODE	5	A	D	0	JOBLABOR_NDX1
JOBPLAN	DESCRIPTION	1	A	D	0	JOBPLANDES_TIDX
JOBPLAN	JOBPLANID	1	A	U	0	JOBPLAN_NDX
JOBPLAN	ORGID	1	A	U	1	JOBPLAN_NDX1
JOBPLAN	SITEID	2	A	U	1	JOBPLAN_NDX1
JOBPLAN	JPNUM	3	A	U	1	JOBPLAN_NDX1
JOBTASK	DESCRIPTION	1	A	D	0	JOBTASKDES_TIDX
JOBTASK	JOBTASKID	1	A	U	0	JOBTASK_NDX
JOBTASK	ORGID	1	A	U	1	JOBTASK_NDX1
JOBTASK	SITEID	2	A	U	1	JOBTASK_NDX1
JOBTASK	JPNUM	3	A	U	1	JOBTASK_NDX1
JOBTASK	JPTASK	4	A	U	1	JOBTASK_NDX1
JPASSETSPLINK	JPASSETSPLINKID	1	A	U	0	JPASSETSPLINKU_NDX
JPASSETSPLINK	ORGID	1	A	D	0	JPASSETSPLINK_NDX1
JPASSETSPLINK	SITEID	2	A	D	0	JPASSETSPLINK_NDX1
JPASSETSPLINK	JPASSETSPLINKID	3	A	D	0	JPASSETSPLINK_NDX1
KPIGCONFIG	KPIGCONFIGID	1	A	U	1	KPIGCONFIG_NDX1
KPIHISTORY	KPIHISTORYID	1	A	U	0	KPIHISTORY_NDX
KPILCONFIG	KPILCONFIGID	1	A	U	1	KPILCONFIG_NDX1
KPIMAIN	DESCRIPTION	1	A	D	0	KPIMAINDES_TIDX
KPIMAIN	KPIMAINID	1	A	U	0	KPIMAIN_NDX
KPIMAIN	KPINAME	1	A	U	1	KPIMAIN_NDX1
KPIOEE	KPIOEEID	1	A	U	0	KPIOEE_NDX
KPIOEE	PARTNUM	1	A	U	1	OEEKPI_NDX
KPIOEE	ASSETNUM	2	A	U	1	OEEKPI_NDX
KPIOEE	OEEEDATE	3	A	U	1	OEEKPI_NDX
KPIOEE	SITEID	4	A	U	1	OEEKPI_NDX
KPITRENDCFG	KPITRENDCFGID	1	A	U	0	KPITRENDCFG_NDX
LABOR	LABORID	1	A	U	0	LABOR_NDX
LABOR	ORGID	1	A	U	1	LABOR_NDX1
LABOR	LABORCODE	2	A	U	1	LABOR_NDX1
LABORAUTH	LABORAUTHID	1	A	U	0	LABORAUTH_NDX
LABORAUTH	GROUPNAME	1	A	U	1	LABORAUTH_NDX1
LABORAUTH	ORGID	2	A	U	1	LABORAUTH_NDX1
LABORAUTH	LABORCODE	3	A	U	1	LABORAUTH_NDX1
LABORCERTHIST	EVALUATIONMETHOD	1	A	D	0	LABORCERTEVA_TIDX
LABORCERTHIST	LABORCERTHISTID	1	A	U	0	LABORCERTHIST_NDX

Table	Column	ColSeq	Order	Unique	Cluster	Index Name
LABORCERTHIST	ISSUINGAUTHORITY	1	A	D	0	LABORCERTISS_TIDX
LABORCERTHIST	VALIDATEDBY	1	A	D	0	LABORCERTVAL_TIDX
LABORCRAFTRATE	LABORCRAFTRATEID	1	A	U	0	LABORCRAFTRATE_NDX
LABORCRAFTRATE	ORGID	1	A	U	0	LCR_NDX
LABORCRAFTRATE	LABORCODE	2	A	U	0	LCR_NDX
LABORCRAFTRATE	CRAFT	3	A	U	0	LCR_NDX
LABORCRAFTRATE	SKILLLEVEL	4	A	U	0	LCR_NDX
LABORCRAFTRATE	VENDOR	5	A	U	0	LCR_NDX
LABORCRAFTRATE	CONTRACTNUM	6	A	U	0	LCR_NDX
LABORQUAL	EVALUATIONMETHOD	1	A	D	0	LABORQUALEVA_TIDX
LABORQUAL	ISSUINGAUTHORITY	1	A	D	0	LABORQUALISS_TIDX
LABORQUAL	VALIDATEDBY	1	A	D	0	LABORQUALVAL_TIDX
LABORQUAL	LABORQUALID	1	A	U	0	LABORQUAL_NDX
LABORQUAL	ORGID	1	A	U	0	LABORQUAL_NDX2
LABORQUAL	LABORCODE	2	A	U	0	LABORQUAL_NDX2
LABORQUAL	QUALIFICATIONID	3	A	U	0	LABORQUAL_NDX2
LABORQUALSTATUS	LABORQUALSTATUSID	1	A	U	0	LABORQUALSTATU_NDX
LABORQUALSTATUS	ORGID	1	A	U	0	LABORQUALSTAT_NDX2
LABORQUALSTATUS	LABORCODE	2	A	U	0	LABORQUALSTAT_NDX2
LABORQUALSTATUS	QUALIFICATIONID	3	A	U	0	LABORQUALSTAT_NDX2
LABORQUALSTATUS	CHANGEDATE	4	A	U	0	LABORQUALSTAT_NDX2
LABORSTATUS	LABORSTATUSID	1	A	U	0	LABORSTATUS_NDX
LABORSTATUS	ORGID	1	A	U	0	LABORSTATUS_NDX2
LABORSTATUS	LABORCODE	2	A	U	0	LABORSTATUS_NDX2
LABORSTATUS	CHANGEDATE	3	A	U	0	LABORSTATUS_NDX2
LABTRANS	LABTRANSID	1	A	U	0	LABTRANSU_NDX
LABTRANS	SITEID	1	A	U	0	LABTRANS_NDX1
LABTRANS	LABORCODE	2	A	U	0	LABTRANS_NDX1
LABTRANS	LABTRANSID	3	A	U	0	LABTRANS_NDX1
LABTRANS	SITEID	1	A	D	0	LABTRANS_NDX2
LABTRANS	LABORCODE	2	A	D	0	LABTRANS_NDX2
LABTRANS	TRANSDATE	3	A	D	0	LABTRANS_NDX2
LABTRANS	SITEID	1	A	D	0	LABTRANS_NDX3
LABTRANS	ASSETNUM	2	A	D	0	LABTRANS_NDX3
LABTRANS	SITEID	1	A	D	0	LABTRANS_NDX4
LABTRANS	REFWO	2	A	D	0	LABTRANS_NDX4
LANGUAGE	LANGUAGEID	1	A	U	0	LANGUAGE_NDX
LANGUAGE	MAXLANGCODE	1	A	U	0	LANGUAGE_NDX1
LAYOUT	LAYOUTID	1	A	U	1	LAYOUT_NDX1
LDAPSYNCPARAMS	LDAPSYNCPARAMSID	1	A	U	0	LDAPSYNCPARAMS_NDX
LDAPSYNCPARAMS	PARAMNAME	1	A	U	1	LDAPSYNC_NDX1
LOCANCESTOR	LOCANCESTORID	1	A	U	0	LOCANCESTOR_NDX
LOCANCESTOR	SITEID	1	A	U	1	LOCANCESTOR_NDX1
LOCANCESTOR	LOCATION	2	A	U	1	LOCANCESTOR_NDX1
LOCANCESTOR	SYSTEMID	3	A	U	1	LOCANCESTOR_NDX1
LOCANCESTOR	ANCESTOR	4	A	U	1	LOCANCESTOR_NDX1
LOCANCESTOR	SITEID	1	A	D	0	LOCANCESTOR_NDX2
LOCANCESTOR	ANCESTOR	2	A	D	0	LOCANCESTOR_NDX2
LOCANCESTOR	SYSTEMID	3	A	D	0	LOCANCESTOR_NDX2
LOCATIONMETER	LOCATIONMETERID	1	A	U	0	LOCATIONMETER_NDX
LOCATIONMETER	LOCATION	1	A	U	0	LOCATIONMETER_NDX1
LOCATIONMETER	METERNAME	2	A	U	0	LOCATIONMETER_NDX1

Table	Column	ColSeq	Order	Unique	Cluster	Index Name
LOCATIONMETER	SITEID	3	A	U	0	LOCATIONMETER_NDX1
LOCATIONMETER	REMARKS	1	A	D	0	LOCATIONMREM_TIDX
LOCATIONS	DESCRIPTION	1	A	D	0	LOCATIONSDES_TIDX
LOCATIONS	LOCATIONSID	1	A	U	0	LOCATIONS_NDX
LOCATIONS	SITEID	1	A	U	1	LOCATIONS_NDX1
LOCATIONS	LOCATION	2	A	U	1	LOCATIONS_NDX1
LOCATIONS	DISABLED	1	A	D	0	LOCATION_NDX2
LOCATIONS	TYPE	2	A	D	0	LOCATION_NDX2
LOCATIONS	SITEID	3	A	D	0	LOCATION_NDX2
LOCATIONSPEC	LOCATIONSPECID	1	A	U	0	LOCATIONSPEC_NDX
LOCATIONSPEC	LOCATION	1	A	U	0	LOCATIONSPEC_NDX1
LOCATIONSPEC	ASSETATTRID	2	A	U	0	LOCATIONSPEC_NDX1
LOCATIONSPEC	SECTION	3	A	U	0	LOCATIONSPEC_NDX1
LOCATIONSPEC	SITEID	4	A	U	0	LOCATIONSPEC_NDX1
LOCATIONSPEC	CLASSSTRUCTUREID	1	A	D	0	LOCATIONSPEC_NDX2
LOCATIONSPEC	ASSETATTRID	2	A	D	0	LOCATIONSPEC_NDX2
LOCATIONSPEC	SECTION	3	A	D	0	LOCATIONSPEC_NDX2
LOCATIONSPEC	SITEID	4	A	D	0	LOCATIONSPEC_NDX2
LOCATIONSPEC	ASSETATTRID	1	A	D	0	LOCATIONSPEC_NDX3
LOCATIONSPEC	SECTION	2	A	D	0	LOCATIONSPEC_NDX3
LOCATIONSPEC	SITEID	3	A	D	0	LOCATIONSPEC_NDX3
LOCATIONUSERCUST	LOCATIONUSERCUSTID	1	A	U	0	LOCUSERCUST_NDX
LOCATIONUSERCUST	PERSONID	1	A	U	0	LOCUSERCUST_NDX1
LOCATIONUSERCUST	SITEID	2	A	U	0	LOCUSERCUST_NDX1
LOCATIONUSERCUST	LOCATION	3	A	U	0	LOCUSERCUST_NDX1
LOCAUTH	LOCAUTHID	1	A	U	0	LOCAUTH_NDX
LOCAUTH	GROUPNAME	1	A	U	1	LOCAUTH_NDX1
LOCAUTH	SITEID	2	A	U	1	LOCAUTH_NDX1
LOCAUTH	LOCATION	3	A	U	1	LOCAUTH_NDX1
LOCHIERARCHY	LOCHIERARCHYID	1	A	U	0	LOCHIERARCHY_NDX
LOCHIERARCHY	SITEID	1	A	U	1	LOCHIERARCHY_NDX1
LOCHIERARCHY	LOCATION	2	A	U	1	LOCHIERARCHY_NDX1
LOCHIERARCHY	SYSTEMID	3	A	U	1	LOCHIERARCHY_NDX1
LOCHIERARCHY	PARENT	4	A	U	1	LOCHIERARCHY_NDX1
LOCHIERARCHY	SITEID	1	A	D	0	LOCHIERARCHY_NDX2
LOCHIERARCHY	PARENT	2	A	D	0	LOCHIERARCHY_NDX2
LOCHIERARCHY	SYSTEMID	3	A	D	0	LOCHIERARCHY_NDX2
LOCKOUT	DESCRIPTION	1	A	D	0	LOCKOUTDES_TIDX
LOCKOUT	DEVICEDESCRIPTION	1	A	D	0	LOCKOUTDEV_TIDX
LOCKOUT	LOCKOUTID	1	A	U	0	LOCKOUT_NDX
LOCKOUT	SITEID	1	A	U	1	LOCKOUT_NDX1
LOCKOUT	LOCKOUTID	2	A	U	1	LOCKOUT_NDX1
LOCLEADTIME	LOCLEADTIMEID	1	A	U	0	LOCLEADTIME_NDX
LOCLEADTIME	SITEID	1	A	U	1	LOCLEADTIME_NDX1
LOCLEADTIME	LOCATION	2	A	U	1	LOCLEADTIME_NDX1
LOCMETERREADING	METERREADINGID	1	A	U	0	LOCMETERREADIN_NDX
LOCMETERREADING	METERREADINGID	1	A	U	1	LOCMETERREAD_NDX1
LOCMETERREADING	SITEID	2	A	U	1	LOCMETERREAD_NDX1
LOCOPER	LOCOPERID	1	A	U	0	LOCOPER_NDX
LOCOPER	SITEID	1	A	U	1	LOCOPER_NDX1
LOCOPER	LOCATION	2	A	U	1	LOCOPER_NDX1
LOCSTATUS	LOCSTATUSID	1	A	U	0	LOCSTATUS_NDX

Table	Column	ColSeq	Order	Unique	Cluster	Index Name
LOCSTATUS	SITEID	1	A	D	0	LOCSTATUS_NDX1
LOCSTATUS	LOCATION	2	A	D	0	LOCSTATUS_NDX1
LOCSTATUS	SITEID	1	A	D	0	LOCSTATUS_NDX2
LOCSTATUS	CHANGEDATE	2	A	D	0	LOCSTATUS_NDX2
LOCSYSTEM	DESCRIPTION	1	A	D	0	LOCSYSTEMDES_TIDX
LOCSYSTEM	LOCSYSTEMID	1	A	U	0	LOCSYSTEM_NDX
LOCSYSTEM	SITEID	1	A	U	1	LOCSYSTEM_NDX1
LOCSYSTEM	SYSTEMID	2	A	U	1	LOCSYSTEM_NDX1
LOGINTRACKING	LOGINTRACKINGID	1	A	U	0	LOGINTRACKING_NDX
LOGINTRACKING	USERID	1	A	D	0	LOGINTRACKING_NDX1
LOGINTRACKING	ATTEMPTDATE	2	A	D	0	LOGINTRACKING_NDX1
LOGINTRACKING	ATTEMPTDATE	1	A	D	0	LOGINTRACKING_NDX2
LOGINTRACKING	USERID	2	A	D	0	LOGINTRACKING_NDX2
LONGDESCRIPTION	LDTEXT	1	A	D	0	LDTEXT_IDX
LONGDESCRIPTION	LONGDESCRIPTIONID	1	A	U	0	LONGDESCRIPTIO_NDX
LONGDESCRIPTION	LDKEY	1	A	U	0	LONGDSCRPTN_NDX1
LONGDESCRIPTION	LDOWNERTABLE	2	A	U	0	LONGDSCRPTN_NDX1
LONGDESCRIPTION	LANGCODE	3	A	U	0	LONGDSCRPTN_NDX1
LONGDESCRIPTION	LDOWNERCOL	4	A	U	0	LONGDSCRPTN_NDX1
LONGDESCRIPTION	LDKEY	1	A	D	0	LONGDSCRPTN_NDX2
L_ALNDOMAIN	L_ALNDOMAINID	1	A	U	0	L_ALNDOMAIN_NDX
L_ALNDOMAIN	LANGCODE	1	A	U	0	L_ALNDOMAIN_NDX1
L_ALNDOMAIN	OWNERID	2	A	U	0	L_ALNDOMAIN_NDX1
L_COMPANIES	NAME	1	A	D	0	LCOMPANIESNAM_TIDX
L_COMPANIES	LANGCODE	1	A	U	0	L_COMPANIES
L_COMPANIES	OWNERID	2	A	U	0	L_COMPANIES
L_COMPANIES	L_COMPANIESID	1	A	U	0	L_COMPANIES_NDX
L_ITEM	DESCRIPTION	1	A	D	0	LITEMDES_TIDX
L_ITEM	L_ITEMID	1	A	U	0	L_ITEM_NDX
L_ITEM	LANGCODE	1	A	U	0	L_ITEM_NDX1
L_ITEM	OWNERID	2	A	U	0	L_ITEM_NDX1
L_MAXAPPS	L_MAXAPPSID	1	A	U	0	L_MAXAPPS_NDX
L_MAXAPPS	LANGCODE	1	A	U	0	L_MAXAPPS_NDX1
L_MAXAPPS	OWNERID	2	A	U	0	L_MAXAPPS_NDX1
L_MAXATTRCFG	L_MAXATTRCFGID	1	A	U	0	L_MAXATTRCFG_NDX
L_MAXATTRCFG	OWNERID	1	A	U	0	L_MAXATTRCFG_NDX1
L_MAXATTRCFG	LANGCODE	2	A	U	0	L_MAXATTRCFG_NDX1
L_MAXATTRIBUTE	L_MAXATTRIBUTEID	1	A	U	0	L_MAXATTRIBUTE_NDX
L_MAXATTRIBUTE	LANGCODE	1	A	U	0	L_MAXATTR_NDX1
L_MAXATTRIBUTE	OWNERID	2	A	U	0	L_MAXATTR_NDX1
L_MAXDOMAIN	L_MAXDOMAINID	1	A	U	0	L_MAXDOMAIN_NDX
L_MAXDOMAIN	LANGCODE	1	A	U	0	L_MAXDOMAIN_NDX1
L_MAXDOMAIN	OWNERID	2	A	U	0	L_MAXDOMAIN_NDX1
L_MAXLABELS	L_MAXLABELSID	1	A	U	0	L_MAXLABELS_NDX
L_MAXLABELS	OWNERID	1	A	U	0	L_MAXLABELS_NDX1
L_MAXLABELS	LANGCODE	2	A	U	0	L_MAXLABELS_NDX1
L_MAXMENU	L_MAXMENUID	1	A	U	0	L_MAXMENU_NDX
L_MAXMENU	LANGCODE	1	A	U	0	L_MAXMENU_NDX1
L_MAXMENU	OWNERID	2	A	U	0	L_MAXMENU_NDX1
L_MAXMESSAGES	L_MAXMESSAGESID	1	A	U	0	L_MAXMESSAGES_NDX
L_MAXMESSAGES	OWNERID	1	A	U	0	L_MAXMESSAGES_NDX1
L_MAXMESSAGES	LANGCODE	2	A	U	0	L_MAXMESSAGES_NDX1

Table	Column	ColSeq	Order	Unique	Cluster	Index Name
L_MAXMODULES	L_MAXMODULESID	1	A	U	0	L_MAXMODULES_NDX
L_MAXMODULES	LANGCODE	1	A	U	0	L_MAXMODULES_NDX1
L_MAXMODULES	OWNERID	2	A	U	0	L_MAXMODULES_NDX1
L_MAXOBJECT	L_MAXOBJECTID	1	A	U	0	L_MAXOBJECT_NDX
L_MAXOBJECT	LANGCODE	1	A	U	0	L_MAXOBJECT_NDX1
L_MAXOBJECT	OWNERID	2	A	U	0	L_MAXOBJECT_NDX1
L_MAXOBJECTCFG	OWNERID	1	A	U	0	L_MAXOBJCFG_NDX1
L_MAXOBJECTCFG	LANGCODE	2	A	U	0	L_MAXOBJCFG_NDX1
L_MAXOBJECTCFG	L_MAXOBJECTCFGID	1	A	U	0	L_MAXOBJECTCFG_NDX
L_MAXSERVICE	L_MAXSERVICEID	1	A	U	0	L_MAXSERVICE_NDX
L_MAXSERVICE	LANGCODE	1	A	U	0	L_MAXSERVICE_NDX1
L_MAXSERVICE	OWNERID	2	A	U	0	L_MAXSERVICE_NDX1
L_REPORT	L_REPORTID	1	A	U	0	L_REPORT_NDX
L_REPORTLABEL	L_REPORTLABELID	1	A	U	0	L_REPORTLABEL_NDX
L_REPORTLABEL	LANGCODE	1	A	U	0	L_REPORTLABEL_NDX1
L_REPORTLABEL	OWNERID	2	A	U	0	L_REPORTLABEL_NDX1
L_SIGOPTION	DESCRIPTION	1	A	D	0	LSIGOPTIONDES_TIDX
L_SIGOPTION	L_SIGOPTIONID	1	A	U	0	L_SIGOPTION_NDX
L_SIGOPTION	LANGCODE	1	A	U	0	L_SIGOPTION_NDX1
L_SIGOPTION	OWNERID	2	A	U	0	L_SIGOPTION_NDX1
L_SYNONYMDOMAIN	LANGCODE	1	A	U	0	L_SYNONYMDOM_NDX1
L_SYNONYMDOMAIN	OWNERID	2	A	U	0	L_SYNONYMDOM_NDX1
L_SYNONYMDOMAIN	L_SYNONYMDOMAINID	1	A	U	0	L_SYNONYMDOM_NDX2
MASTERPM	DESCRIPTION	1	A	D	0	MASTERPMDES_TIDX
MASTERPM	MASTERPMID	1	A	U	0	MASTERPM_NDX
MASTERPM	MASTERPMNUM	1	A	U	1	MASTERPM_NDX1
MASTERPMMETER	MASTERPMMETERID	1	A	U	0	MASTERPMMETER_NDX
MASTERPMMETER	MASTERPMNUM	1	A	U	1	MASTERPMMETER_NDX1
MASTERPMMETER	METERNAME	2	A	U	1	MASTERPMMETER_NDX1
MASTERPMSEASONS	MASTERPMSEASONSID	1	A	U	0	MPMSEASONS_NDX
MASTERPMSEASONS	MASTERPMNUM	1	A	U	0	MPMSEASON_NDX1
MASTERPMSEASONS	STARTDAY	2	A	U	0	MPMSEASON_NDX1
MASTERPMSEASONS	STARTMONTH	3	A	U	0	MPMSEASON_NDX1
MASTERPMSEASONS	ENDDAY	4	A	U	0	MPMSEASON_NDX1
MASTERPMSEASONS	ENDMONTH	5	A	U	0	MPMSEASON_NDX1
MASTERPMSEQ	MASTERPMSEQID	1	A	U	0	MASTERPMSEQ_NDX
MASTERPMSEQ	MASTERPMNUM	1	A	U	1	MASTERPMSEQ_NDX1
MASTERPMSEQ	INTERVAL	2	A	U	1	MASTERPMSEQ_NDX1
MATRECTRANS	DESCRIPTION	1	A	D	0	MATRECTRADES_TIDX
MATRECTRANS	MATRECTRANSID	1	A	U	0	MATRECTRANSU_NDX
MATRECTRANS	SITEID	1	A	U	1	MATRECTRANS_NDX1
MATRECTRANS	MATRECTRANSID	2	A	U	1	MATRECTRANS_NDX1
MATRECTRANS	ITEMNUM	1	A	D	0	MATRECTRANS_NDX2
MATRECTRANS	TOSTORELOC	2	A	D	0	MATRECTRANS_NDX2
MATRECTRANS	SITEID	3	A	D	0	MATRECTRANS_NDX2
MATRECTRANS	ITEMSETID	4	A	D	0	MATRECTRANS_NDX2
MATRECTRANS	SITEID	1	A	D	0	MATRECTRANS_NDX3
MATRECTRANS	PONUM	2	A	D	0	MATRECTRANS_NDX3
MATRECTRANS	POLINENUM	3	A	D	0	MATRECTRANS_NDX3
MATRECTRANS	TRANSDATE	4	A	D	0	MATRECTRANS_NDX3
MATRECTRANS	BELONGSTO	1	A	D	0	MATRECTRANS_NDX5
MATRECTRANS	SITEID	2	A	D	0	MATRECTRANS_NDX5

Table	Column	ColSeq	Order	Unique	Cluster	Index Name
MATRECTRANS	PONUM	1	A	D	0	MATRECTRANS_NDX6
MATRECTRANS	BELONGSTO	2	A	D	0	MATRECTRANS_NDX6
MATRECTRANS	SITEID	3	A	D	0	MATRECTRANS_NDX6
MATRECTRANS	REMARK	1	A	D	0	MATRECTRAREM_TIDX
MATUSETRANS	DESCRIPTION	1	A	D	0	MATUSETRADES_TIDX
MATUSETRANS	MATUSETRANSID	1	A	U	0	MATUSETRANSU_NDX
MATUSETRANS	SITEID	1	A	U	1	MATUSETRANS_NDX1
MATUSETRANS	MATUSETRANSID	2	A	U	1	MATUSETRANS_NDX1
MATUSETRANS	SITEID	1	A	D	0	MATUSETRANS_NDX2
MATUSETRANS	REFWO	2	A	D	0	MATUSETRANS_NDX2
MATUSETRANS	TRANSDATE	3	A	D	0	MATUSETRANS_NDX2
MATUSETRANS	ITEMNUM	1	A	D	0	MATUSETRANS_NDX3
MATUSETRANS	STORELOC	2	A	D	0	MATUSETRANS_NDX3
MATUSETRANS	TRANSDATE	3	A	D	0	MATUSETRANS_NDX3
MATUSETRANS	SITEID	4	A	D	0	MATUSETRANS_NDX3
MATUSETRANS	ITEMSETID	5	A	D	0	MATUSETRANS_NDX3
MATUSETRANS	SITEID	1	A	D	0	MATUSETRANS_NDX4
MATUSETRANS	ASSETNUM	2	A	D	0	MATUSETRANS_NDX4
MAXAPPS	MAXAPPSID	1	A	U	0	MAXAPPS_NDX
MAXAPPS	APP	1	A	U	1	MAXAPPS_NDX1
MAXATTRIBUTE	MAXATTRIBUTEID	1	A	U	0	MAXATTRIBUTE_NDX
MAXATTRIBUTE	OBJECTNAME	1	A	U	1	MAXATTRIBUTE_NDX1
MAXATTRIBUTE	ATTRIBUTENAME	2	A	U	1	MAXATTRIBUTE_NDX1
MAXATTRIBUTE	OBJECTNAME	1	A	U	0	MAXATTRIBUTE_NDX2
MAXATTRIBUTE	ATTRIBUTENO	2	A	U	0	MAXATTRIBUTE_NDX2
MAXATTRIBUTE	SAMEASOBJECT	1	A	D	0	MAXATTRIBUTE_NDX3
MAXATTRIBUTE	SAMEASATTRIBUTE	2	A	D	0	MAXATTRIBUTE_NDX3
MAXATTRIBUTE	ENTITYNAME	1	A	D	0	MAXATTRIBUTE_NDX4
MAXATTRIBUTE	COLUMNNAME	2	A	D	0	MAXATTRIBUTE_NDX4
MAXATTRIBUTECFG	OBJECTNAME	1	A	U	1	MAXATTRIBCFG_NDX1
MAXATTRIBUTECFG	ATTRIBUTENAME	2	A	U	1	MAXATTRIBCFG_NDX1
MAXATTRIBUTECFG	OBJECTNAME	1	A	U	0	MAXATTRIBCFG_NDX2
MAXATTRIBUTECFG	ATTRIBUTENO	2	A	U	0	MAXATTRIBCFG_NDX2
MAXATTRIBUTECFG	SAMEASOBJECT	1	A	D	0	MAXATTRIBCFG_NDX3
MAXATTRIBUTECFG	SAMEASATTRIBUTE	2	A	D	0	MAXATTRIBCFG_NDX3
MAXATTRIBUTECFG	ENTITYNAME	1	A	D	0	MAXATTRIBCFG_NDX4
MAXATTRIBUTECFG	COLUMNNAME	2	A	D	0	MAXATTRIBCFG_NDX4
MAXATTRIBUTECFG	MAXATTRIBUTEID	1	A	U	0	MAXATTRIBTECF_NDX
MAXCONDDetail	MAXCONDDetailID	1	A	U	0	MAXCONDDetail_NDX
MAXCONDDetail	IFACENAME	1	A	U	1	MAXCONDDetail_NDX1
MAXCONDDetail	IFACETYPE	2	A	U	1	MAXCONDDetail_NDX1
MAXCONDDetail	PROCNAME	3	A	U	1	MAXCONDDetail_NDX1
MAXCONDDetail	CONDITION	4	A	U	1	MAXCONDDetail_NDX1
MAXCONDDetail	CONDSEQUENCE	5	A	U	1	MAXCONDDetail_NDX1
MAXCONDDetail	CONDTYPE	6	A	U	1	MAXCONDDetail_NDX1
MAXCONTROLVALUE	IFACECONTROL	1	A	U	0	MAXCONTROLVALUE_N1
MAXCONTROLVALUE	IFACETYPE	2	A	U	0	MAXCONTROLVALUE_N1
MAXCONTROLVALUE	VALUE	3	A	U	0	MAXCONTROLVALUE_N1
MAXCONTROLVALUE	NEWVALUE	4	A	U	0	MAXCONTROLVALUE_N1
MAXCONTROLVALUE	MAXCONTROLVALUEID	1	A	U	0	MAXCONTROLVALU_NDX
MAXDOMAIN	MAXDOMAINID	1	A	U	0	MAXDOMAIN_NDX
MAXDOMAIN	DOMAINID	1	A	U	1	MAXDOMAIN_NDX1

Table	Column	ColSeq	Order	Unique	Cluster	Index Name
MAXDOMAIN	DOMAINTYPE	1	A	D	0	MAXDOMAIN_NDX2
MAXDOMAIN	DOMAINID	2	A	D	0	MAXDOMAIN_NDX2
MAXENDPOINT	DESCRIPTION	1	A	D	0	MAXENDPOIDES_TIDX
MAXENDPOINT	MAXENDPOINTID	1	A	U	0	MAXENDPOINT_NDX
MAXENDPOINT	ENDPOINTNAME	1	A	U	1	MAXENDPOINT_NDX1
MAXENDPOINTDTL	ENDPOINTNAME	1	A	U	1	MAXENDPOINTDTL_N1
MAXENDPOINTDTL	PROPERTY	2	A	U	1	MAXENDPOINTDTL_N1
MAXENDPOINTDTL	MAXENDPOINTDTLID	1	A	U	0	MAXENDPOINTDTL_NDX
MAXEXTBOOLVAL	MAXEXTBOOLVALID	1	A	U	0	MAXEXTBOOLVAL_NDX
MAXEXTBOOLVAL	EXTSYSNAME	1	A	U	1	MAXEXTBOOLVAL_NDX1
MAXEXTBOOLVAL	IFACECONTROL	2	A	U	1	MAXEXTBOOLVAL_NDX1
MAXEXTBOOLVAL	ORGID	3	A	U	1	MAXEXTBOOLVAL_NDX1
MAXEXTBOOLVAL	SITEID	4	A	U	1	MAXEXTBOOLVAL_NDX1
MAXEXTCTLVAL	MAXEXTCTLVALID	1	A	U	0	MAXEXTCTLVAL_NDX
MAXEXTCTLVAL	EXTSYSNAME	1	A	U	1	MAXEXTCTLVAL_NDX1
MAXEXTCTLVAL	IFACECONTROL	2	A	U	1	MAXEXTCTLVAL_NDX1
MAXEXTCTLVAL	ORGID	3	A	U	1	MAXEXTCTLVAL_NDX1
MAXEXTCTLVAL	SITEID	4	A	U	1	MAXEXTCTLVAL_NDX1
MAXEXTIFACEIN	MAXEXTIFACEINID	1	A	U	0	MAXEXTIFACEIN_NDX
MAXEXTIFACEIN	EXTSYSNAME	1	A	U	1	MAXEXTIFACEIN_NDX1
MAXEXTIFACEIN	IFACENAME	2	A	U	1	MAXEXTIFACEIN_NDX1
MAXEXTIFACEIN	IFACENAME	1	A	D	0	MAXEXTIFACEIN_NDX2
MAXEXTIFACEOUT	EXTSYSNAME	1	A	U	1	MAXEXTIFACEOUT_ND1
MAXEXTIFACEOUT	IFACENAME	2	A	U	1	MAXEXTIFACEOUT_ND1
MAXEXTIFACEOUT	IFACENAME	1	A	D	0	MAXEXTIFACEOUT_ND2
MAXEXTIFACEOUT	MAXEXTIFACEOUTID	1	A	U	0	MAXEXTIFACEOUT_NDX
MAXEXTLISTVAL	MAXEXTLISTVALID	1	A	U	0	MAXEXTLISTVAL_NDX
MAXEXTLISTVAL	EXTSYSNAME	1	A	U	1	MAXEXTLISTVAL_NDX1
MAXEXTLISTVAL	IFACECONTROL	2	A	U	1	MAXEXTLISTVAL_NDX1
MAXEXTLISTVAL	VALUE	3	A	U	1	MAXEXTLISTVAL_NDX1
MAXEXTOVER	MAXEXTOVERID	1	A	U	0	MAXEXTOVER_NDX
MAXEXTOVER	EXTSYSNAME	1	A	U	1	MAXEXTOVER_NDX1
MAXEXTOVER	IFACECONTROL	2	A	U	1	MAXEXTOVER_NDX1
MAXEXTOVER	ORGID	3	A	U	1	MAXEXTOVER_NDX1
MAXEXTOVER	SITEID	4	A	U	1	MAXEXTOVER_NDX1
MAXEXTSYSCONTRO L	IFACECONTROL	1	A	U	1	MAXEXTSYSCONTROL_1
MAXEXTSYSCONTRO L	EXTSYSNAME	2	A	U	1	MAXEXTSYSCONTROL_1
MAXEXTSYSCONTRO L	MAXEXTSYSCONTROLI D	1	A	U	0	MAXEXTSYSCONTR_NDX
MAXEXTSYSTEM	DESCRIPTION	1	A	D	0	MAXEXTSYSDES_TIDX
MAXEXTSYSTEM	MAXEXTSYSTEMID	1	A	U	0	MAXEXTSYSTEM_NDX
MAXEXTSYSTEM	EXTSYSNAME	1	A	U	1	MAXEXTSYSTEM_NDX1
MAXEXTXREFVAL	MAXEXTXREFVALID	1	A	U	0	MAXEXTXREFVAL_NDX
MAXEXTXREFVAL	EXTSYSNAME	1	A	U	0	MAXEXTXREFVAL_NDX1
MAXEXTXREFVAL	IFACECONTROL	2	A	U	0	MAXEXTXREFVAL_NDX1
MAXEXTXREFVAL	VALUE	3	A	U	0	MAXEXTXREFVAL_NDX1
MAXEXTXREFVAL	NEWVALUE	4	A	U	0	MAXEXTXREFVAL_NDX1
MAXGROUP	DESCRIPTION	1	A	D	0	MAXGROUPDES_TIDX
MAXGROUP	MAXGROUPID	1	A	U	1	MAXGROUP_NDX
MAXGROUP	GROUPNAME	1	A	U	0	MAXGROUP_NDX1

Table	Column	ColSeq	Order	Unique	Cluster	Index Name
MAXGROUP	GROUPNAME	1	A	D	0	MAXGROUP_NDX2
MAXGROUP	INDEPENDENT	2	A	D	0	MAXGROUP_NDX2
MAXHANDLER	MAXHANDLERID	1	A	U	0	MAXHANDLER_NDX
MAXHANDLER	HANDLERNAME	1	A	U	1	MAXHANDLER_NDX1
MAXIFACE	DESCRIPTION	1	A	D	0	MAXIFACEDES_TIDX
MAXIFACE	MAXIFACEID	1	A	U	0	MAXIFACE_NDX
MAXIFACE	IFACENAME	1	A	U	1	MAXIFACE_NDX1
MAXIFACE	IFACETYPE	2	A	U	1	MAXIFACE_NDX1
MAXIFACE	IFACETYPE	1	A	D	0	MAXIFACE_NDX2
MAXIFACECOND	MAXIFACECONDID	1	A	U	0	MAXIFACECOND_NDX
MAXIFACECOND	IFACENAME	1	A	U	1	MAXIFACECOND_NDX1
MAXIFACECOND	IFACETYPE	2	A	U	1	MAXIFACECOND_NDX1
MAXIFACECOND	PROCNAME	3	A	U	1	MAXIFACECOND_NDX1
MAXIFACECOND	CONDITION	4	A	U	1	MAXIFACECOND_NDX1
MAXIFACECONTROL	DESCRIPTION	1	A	D	0	MAXIFACECDES_TIDX
MAXIFACECONTROL	IFACECONTROL	1	A	U	1	MAXIFACECONTROL_N1
MAXIFACECONTROL	IFACETYPE	2	A	U	1	MAXIFACECONTROL_N1
MAXIFACECONTROL	MAXIFACECONTROLID	1	A	U	0	MAXIFACECONTRO_NDX
MAXIFACEIN	MAXIFACEINID	1	A	U	0	MAXIFACEIN_NDX
MAXIFACEIN	IFACENAME	1	A	U	1	MAXIFACEIN_NDX1
MAXIFACEIN	IFACETYPE	2	A	U	1	MAXIFACEIN_NDX1
MAXIFACEIN	INTPOINTNAME	3	A	U	1	MAXIFACEIN_NDX1
MAXIFACEIN	INTPOINTNAME	1	A	D	0	MAXIFACEIN_NDX2
MAXIFACEOUT	IFACENAME	1	A	U	1	MAXIFACEOUT
MAXIFACEOUT	IFACETYPE	2	A	U	1	MAXIFACEOUT
MAXIFACEOUT	INTPOINTNAME	3	A	U	1	MAXIFACEOUT
MAXIFACEOUT	MAXIFACEOUTID	1	A	U	0	MAXIFACEOUT_NDX
MAXIFACEOUT	INTPOINTNAME	1	A	D	0	MAXIFACEOUT_NDX2
MAXIFACEPROC	DESCRIPTION	1	A	D	0	MAXIFACEPDES_TIDX
MAXIFACEPROC	MAXIFACEPROCID	1	A	U	0	MAXIFACEPROC_NDX
MAXIFACEPROC	PROCNAME	1	A	U	1	MAXIFACEPROC_NDX1
MAXIFACEPROC	IFACENAME	2	A	U	1	MAXIFACEPROC_NDX1
MAXIFACEPROC	IFACETYPE	3	A	U	1	MAXIFACEPROC_NDX1
MAXIFACEPROC	IFACENAME	1	A	D	0	MAXIFACEPROC_NDX2
MAXIFACEPROC	IFACETYPE	2	A	D	0	MAXIFACEPROC_NDX2
MAXIFACEPROC	INTPOINTNAME	1	A	D	0	MAXIFACEPROC_NDX3
MAXIFACETYPE	DESCRIPTION	1	A	D	0	MAXIFACETDES_TIDX
MAXIFACETYPE	MAXIFACETYPEID	1	A	U	0	MAXIFACETYPE_NDX
MAXIFACETYPE	IFACETYPE	1	A	U	1	MAXIFACETYPE_NDX1
MAXIFACETYPEPROP	IFACETYPE	1	A	U	0	MAXIFACETYPEPROP_1
MAXIFACETYPEPROP	PARAM	2	A	U	0	MAXIFACETYPEPROP_1
MAXIFACETYPEPROP	MAXIFACETYPEPROPID	1	A	U	1	MAXIFACETYPEPROP_2
MAXINTMSGTYPE	MAXINTMSGTYPEID	1	A	U	0	MAXINTMSGTYPE_NDX
MAXINTMSGTYPE	MESSAGETYPE	1	A	U	1	MAXINTMSGTYPE_NDX1
MAXINTOBJCOLS	MAXINTOBJCOLSID	1	A	U	0	MAXINTOBJCOLS_NDX
MAXINTOBJCOLS	INTOBJECTNAME	1	A	U	1	MAXINTOBJCOLS_NDX1
MAXINTOBJCOLS	OBJECTNAME	2	A	U	1	MAXINTOBJCOLS_NDX1
MAXINTOBJCOLS	NAME	3	A	U	1	MAXINTOBJCOLS_NDX1
MAXINTOBJCOLS	INTOBJFLDTYPE	4	A	U	1	MAXINTOBJCOLS_NDX1
MAXINTOBJDETAIL	MAXINTOBJDETAILID	1	A	U	0	MAXINTOBJDETAI_NDX
MAXINTOBJDETAIL	INTOBJECTNAME	1	A	U	1	MAXINTOBJDET_NDX1
MAXINTOBJDETAIL	OBJECTNAME	2	A	U	1	MAXINTOBJDET_NDX1

Table	Column	ColSeq	Order	Unique	Cluster	Index Name
MAXINTOBJDETAIL	OBJECTNAME	1	A	D	0	MAXINTOBJDET_NDX2
MAXINTOBJECT	DESCRIPTION	1	A	D	0	MAXINTOBJDES_TIDX
MAXINTOBJECT	MAXINTOBJECTID	1	A	U	0	MAXINTOBJECT_NDX
MAXINTOBJECT	INTOBJECTNAME	1	A	U	1	MAXINTOBJECT_NDX1
MAXINTPOINT	DESCRIPTION	1	A	D	0	MAXINTPOIDES_TIDX
MAXINTPOINT	MAXINTPOINTID	1	A	U	0	MAXINTPOINT_NDX
MAXINTPOINT	INTPOINTNAME	1	A	U	1	MAXINTPOINT_NDX1
MAXINTPOINT	INTOBJECTNAME	1	A	D	0	MAXINTPOINT_NDX2
MAXINTWSPROPS	MAXINTWSPROPSID	1	A	U	0	MAXINTWSPROPS_NDX
MAXINTWSPROPS	PROPERTY	1	A	U	1	MAXINTWSPROPS_NDX1
MAXLABELS	MAXLABELSID	1	A	U	0	MAXLABELS_NDX
MAXLABELS	APP	1	A	U	0	MAXLABELS_NDX1
MAXLABELS	ID	2	A	U	0	MAXLABELS_NDX1
MAXLABELS	PROPERTY	3	A	U	0	MAXLABELS_NDX1
MAXLISTOVERVAL	EXTSYSNAME	1	A	U	1	MAXLISTOVERVAL_ND1
MAXLISTOVERVAL	IFACECONTROL	2	A	U	1	MAXLISTOVERVAL_ND1
MAXLISTOVERVAL	ORGID	3	A	U	1	MAXLISTOVERVAL_ND1
MAXLISTOVERVAL	SITEID	4	A	U	1	MAXLISTOVERVAL_ND1
MAXLISTOVERVAL	VALUE	5	A	U	1	MAXLISTOVERVAL_ND1
MAXLISTOVERVAL	MAXLISTOVERVALID	1	A	U	0	MAXLISTOVERVAL_NDX
MAXLOOKUPMAP	MAXLOOKUPMAPID	1	A	U	0	MAXLOOKUPMAP_NDX
MAXLOOKUPMAP	TARGET	1	A	U	0	MAXLOOKUPMAP_NDX1
MAXLOOKUPMAP	LOOKUPATTR	2	A	U	0	MAXLOOKUPMAP_NDX1
MAXLOOKUPMAP	TARGETATTR	3	A	U	0	MAXLOOKUPMAP_NDX1
MAXLOOKUPMAP	SOURCE	4	A	U	0	MAXLOOKUPMAP_NDX1
MAXMENU	MAXMENUID	1	A	U	0	MAXMENU_NDX
MAXMENU	MENUTYPE	1	A	U	1	MAXMENU_NDX1
MAXMENU	MODULEAPP	2	A	U	1	MAXMENU_NDX1
MAXMENU	POSITION	3	A	U	1	MAXMENU_NDX1
MAXMENU	SUBPOSITION	4	A	U	1	MAXMENU_NDX1
MAXMESSAGES	MAXMESSAGESID	1	A	U	0	MAXMESSAGES_NDX
MAXMESSAGES	MSGGROUP	1	A	U	0	MAXMESSAGES_NDX1
MAXMESSAGES	MSGKEY	2	A	U	0	MAXMESSAGES_NDX1
MAXMESSAGES	LOCALE	3	A	U	0	MAXMESSAGES_NDX1
MAXMODULES	MODULE	1	A	U	1	MAXMODULES_NDX
MAXMODULES	MAXMODULESID	1	A	U	0	MAXMODULE_NDX
MAXOBJECT	MAXOBJECTID	1	A	U	0	MAXOBJECT_NDX
MAXOBJECT	OBJECTNAME	1	A	U	1	MAXOBJECT_NDX1
MAXOBJECT	ENTITYNAME	1	A	D	0	MAXOBJECT_NDX2
MAXOBJECT	EXTENDSOBJECT	1	A	D	0	MAXOBJECT_NDX3
MAXOBJECTCFG	MAXOBJECTID	1	A	U	0	MAXOBJECTCFG_NDX
MAXOBJECTCFG	OBJECTNAME	1	A	U	1	MAXOBJECTCFG_NDX1
MAXOBJECTCFG	ENTITYNAME	1	A	D	0	MAXOBJECTCFG_NDX2
MAXOBJECTCFG	EXTENDSOBJECT	1	A	D	0	MAXOBJECTCFG_NDX3
MAXPRESENTATION	MAXPRESENTATIONID	1	A	U	0	MAXPRESENTATIO_NDX
MAXPRESENTATION	APP	1	A	U	1	MAXPRESENT_NDX1
MAXPROCCOLS	MAXPROCCOLSID	1	A	U	0	MAXPROCCOLS_NDX
MAXPROCCOLS	PROCNAME	1	A	U	1	MAXPROCCOLS_NDX1
MAXPROCCOLS	IFACENAME	2	A	U	1	MAXPROCCOLS_NDX1
MAXPROCCOLS	IFACETYPE	3	A	U	1	MAXPROCCOLS_NDX1
MAXPROCCOLS	FIELDNAME	4	A	U	1	MAXPROCCOLS_NDX1
MAXQUEUE	MAXQUEUEID	1	A	U	0	MAXQUEUE_NDX

Table	Column	ColSeq	Order	Unique	Cluster	Index Name
MAXQUEUE	QUEUE_NAME	1	A	U	1	MAXQUEUE_NDX1
MAXRELATIONSHIP	MAXRELATIONSHIPID	1	A	U	0	MAXRELATIONSHI_NDX
MAXRELATIONSHIP	PARENT	1	A	U	1	MAXRELATIONS_NDX1
MAXRELATIONSHIP	NAME	2	A	U	1	MAXRELATIONS_NDX1
MAXREPLACEPROC	PROCNAME	1	A	U	1	MAXREPLACEPROC_ND1
MAXREPLACEPROC	IFACENAME	2	A	U	1	MAXREPLACEPROC_ND1
MAXREPLACEPROC	IFACETYPE	3	A	U	1	MAXREPLACEPROC_ND1
MAXREPLACEPROC	FIELDNAME	4	A	U	1	MAXREPLACEPROC_ND1
MAXREPLACEPROC	REPLACENULL	5	A	U	1	MAXREPLACEPROC_ND1
MAXREPLACEPROC	MAXREPLACEPROCID	1	A	U	0	MAXREPLACEPROC_NDX
MAXROLE	DESCRIPTION	1	A	D	0	MAXROLEDES_TIDX
MAXROLE	MAXROLEID	1	A	U	0	MAXROLE_NDX
MAXROLE	MAXROLE	1	A	U	1	MAXROLE_NDX1
MAXSEQUENCE	TBNAME	1	A	U	1	MAXSEQ_NDX1
MAXSEQUENCE	NAME	2	A	U	1	MAXSEQ_NDX1
MAXSEQUENCE	SEQUENCENAME	1	A	U	0	MAXSEQ_NDX2
MAXSERVICE	MAXSERVICEID	1	A	U	0	MAXSERVICE_NDX
MAXSERVICE	SERVICENAME	1	A	U	1	MAXSERVICE_NDX1
MAXSESSION	MAXSESSIONUID	1	A	U	0	MAXSESSION_NDX
MAXSESSION	MAXSESSIONID	1	A	U	1	MAXSESSION_NDX1
MAXSESSION	SERVERHOST	2	A	U	1	MAXSESSION_NDX1
MAXSESSION	SERVERNAME	3	A	U	1	MAXSESSION_NDX1
MAXSYSINDEXES	NAME	1	A	U	1	MAXSYSNDX_NDX
MAXSYSINDEXES	TBNAME	1	A	D	0	MAXSYSNDX_NDX2
MAXSYSKEYS	IXNAME	1	A	U	1	MAXSYSKEYS_NDX
MAXSYSKEYS	COLNAME	2	A	U	1	MAXSYSKEYS_NDX
MAXSYSKEYS	IXNAME	1	A	U	0	MAXSYSKEYS_NDX2
MAXSYSKEYS	COLSEQ	2	A	U	0	MAXSYSKEYS_NDX2
MAXTABLE	MAXTABLEID	1	A	U	0	MAXTABLE_NDX
MAXTABLE	TABLENAME	1	A	U	1	MAXTABLE_NDX1
MAXTABLE	EAUDITTBNAME	1	A	D	0	MAXTABLE_NDX2
MAXTABLECFG	MAXTABLEID	1	A	U	0	MAXTABLECFG_NDX
MAXTABLECFG	TABLENAME	1	A	U	1	MAXTABLECFG_NDX1
MAXTABLECFG	EAUDITTBNAME	1	A	D	0	MAXTABLECFG_NDX2
MAXTABLEDOMAIN	MAXTABLEDOMAINID	1	A	U	0	MAXTABLEDOMAIN_NDX
MAXTABLEDOMAIN	DOMAINID	1	A	U	1	MAXTABLEDOM_NDX1
MAXTABLEDOMAIN	SITEID	2	A	U	1	MAXTABLEDOM_NDX1
MAXTABLEDOMAIN	ORGID	3	A	U	1	MAXTABLEDOM_NDX1
MAXTRANSFORMPROC	PROCNAME	1	A	U	1	MAXTRANSFORMPROC_1
MAXTRANSFORMPROC	IFACENAME	2	A	U	1	MAXTRANSFORMPROC_1
MAXTRANSFORMPROC	IFACETYPE	3	A	U	1	MAXTRANSFORMPROC_1
MAXTRANSFORMPROC	FIELDNAME	4	A	U	1	MAXTRANSFORMPROC_1
MAXTRANSFORMPROC	TRANSSEQUENCE	5	A	U	1	MAXTRANSFORMPROC_1
MAXTRANSFORMPROC	MAXTRANSFORMPROCID	1	A	U	0	MAXTRANSFORMPR_NDX
MAXUSER	MAXUSERID	1	A	U	0	MAXUSER_NDX
MAXUSER	USERID	1	A	U	1	MAXUSER_NDX1
MAXUSER	LOGINID	1	A	U	0	MAXUSER_NDX2

Table	Column	ColSeq	Order	Unique	Cluster	Index Name
MAXUSER	PERSONID	1	A	U	0	MAXUSER_NDX3
MAXUSERSTATUS	MAXUSERSTATUSID	1	A	U	0	MAXUSERSTATUS_NDX
MAXUSERSTATUS	USERID	1	A	D	0	MAXUSERSTATUS_NDX1
MAXUSERSTATUS	CHANGEDATE	2	A	D	0	MAXUSERSTATUS_NDX1
MAXVARS	MAXVARSID	1	A	U	0	MAXVARS_NDX
MAXVARS	VARNAME	1	A	U	1	MAXVARS_NDX1
MAXVARS	ORGID	2	A	U	1	MAXVARS_NDX1
MAXVARS	SITEID	3	A	U	1	MAXVARS_NDX1
MAXVARS	VARNAME	1	A	U	0	MAXVARS_NDX2
MAXVARS	SITEID	2	A	U	0	MAXVARS_NDX2
MAXVARS	ORGID	3	A	U	0	MAXVARS_NDX2
MAXVARTYPE	MAXVARTYPEID	1	A	U	0	MAXVARTYPE_NDX
MAXVARTYPE	VARNAME	1	A	U	1	MAXVARTYPE_NDX1
MAXVIEW	MAXVIEWID	1	A	U	0	MAXVIEW_NDX
MAXVIEW	VIEWNAME	1	A	U	1	MAXVIEW_NDX1
MAXVIEWCFG	MAXVIEWID	1	A	U	0	MAXVIEWCFG_NDX
MAXVIEWCFG	VIEWNAME	1	A	U	1	MAXVIEWCFG_NDX1
MAXVIEWCOLUMN	MAXVIEWCOLUMNID	1	A	U	0	MAXVIEWCOLUMN_NDX
MAXVIEWCOLUMN	VIEWNAME	1	A	U	1	MAXVIEWCOLUMN_NDX1
MAXVIEWCOLUMN	VIEWCOLUMNNAME	2	A	U	1	MAXVIEWCOLUMN_NDX1
MAXVIEWCOLUMN	TABLENAME	1	A	D	0	MAXVIEWCOLUMN_NDX2
MAXVIEWCOLUMN	TABLECOLUMNNAME	2	A	D	0	MAXVIEWCOLUMN_NDX2
MAXVIEWCOLUMNCFG	VIEWNAME	1	A	U	1	MAXVIEWCOLCFG_NDX1
MAXVIEWCOLUMNCFG	VIEWCOLUMNNAME	2	A	U	1	MAXVIEWCOLCFG_NDX1
MAXVIEWCOLUMNCFG	TABLENAME	1	A	D	0	MAXVIEWCOLCFG_NDX2
MAXVIEWCOLUMNCFG	TABLECOLUMNNAME	2	A	D	0	MAXVIEWCOLCFG_NDX2
MAXVIEWCOLUMNCFG	MAXVIEWCOLUMNID	1	A	U	0	MAXVIEWCOLUMNNC_NDX
MAXXREFOVERVAL	EXTSYSNAME	1	A	U	0	MAXXREFOVERVAL_ND1
MAXXREFOVERVAL	IFACECONTROL	2	A	U	0	MAXXREFOVERVAL_ND1
MAXXREFOVERVAL	ORGID	3	A	U	0	MAXXREFOVERVAL_ND1
MAXXREFOVERVAL	SITEID	4	A	U	0	MAXXREFOVERVAL_ND1
MAXXREFOVERVAL	VALUE	5	A	U	0	MAXXREFOVERVAL_ND1
MAXXREFOVERVAL	NEWVALUE	6	A	U	0	MAXXREFOVERVAL_ND1
MAXXREFOVERVAL	MAXXREFOVERVALID	1	A	U	0	MAXXREFOVERVAL_NDX
MEASUREMENT	MEASUREMENTID	1	A	U	0	MEASUREMENT_NDX
MEASUREMENT	SITEID	1	A	D	0	MEASUREMENT_NDX1
MEASUREMENT	POINTNUM	2	A	D	0	MEASUREMENT_NDX1
MEASUREMENT	MEASUREDATE	3	A	D	0	MEASUREMENT_NDX1
MEASUREPOINT	DESCRIPTION	1	A	D	0	MEASUREPODES_TIDX
MEASUREPOINT	MEASUREPOINTID	1	A	U	0	MEASUREPOINT_NDX
MEASUREPOINT	POINTNUM	1	A	U	1	MEASUREPOINT_NDX1
MEASUREPOINT	SITEID	2	A	U	1	MEASUREPOINT_NDX1
MEASUREPOINT	ASSETNUM	1	A	D	0	MEASUREPOINT_NDX2
MEASUREPOINT	METERNAME	2	A	D	0	MEASUREPOINT_NDX2
MEASUREPOINT	SITEID	3	A	D	0	MEASUREPOINT_NDX2
MEASUREPOINT	LOCATION	1	A	D	0	MEASUREPOINT_NDX3
MEASUREPOINT	METERNAME	2	A	D	0	MEASUREPOINT_NDX3
MEASUREPOINT	SITEID	3	A	D	0	MEASUREPOINT_NDX3

Table	Column	ColSeq	Order	Unique	Cluster	Index Name
MEASUREUNIT	MEASUREUNITUID	1	A	U	0	MEASUREUNIT_NDX
MEASUREUNIT	MEASUREUNITID	1	A	U	0	MEASUREUNIT_NDX1
MEA_DUMMY_TABLE	MEA_DUMMY_TABLEID	1	A	U	0	MEA_DUMMY_TABL_NDX
METER	DESCRIPTION	1	A	D	0	METERDES_TIDX
METER	METERID	1	A	U	0	METER_NDX
METER	METERNAME	1	A	U	1	METER_NDX1
METERGROUP	GROUPNAME	1	A	U	1	GROUPNAME
METERGROUP	DESCRIPTION	1	A	D	0	METERGROUDES_TIDX
METERGROUP	METERGROUPID	1	A	U	0	METERGROUP_NDX
METERINGROUP	METERINGROUPID	1	A	U	0	METERINGROUP_NDX
METERINGROUP	GROUPNAME	1	A	U	1	METERINGROUP_NDX1
METERINGROUP	METERNAME	2	A	U	1	METERINGROUP_NDX1
METERREADING	METERREADINGID	1	A	U	0	METERREADING_NDX
METERREADING	METERREADINGID	1	A	U	1	METERREADING_NDX1
METERREADING	SITEID	2	A	U	1	METERREADING_NDX1
MODAVAIL	MODAVAILID	1	A	U	0	MODAVAIL_NDX
MR	DESCRIPTION	1	A	D	0	MRDES_TIDX
MR	MRID	1	A	U	0	MR_NDX
MR	SITEID	1	A	U	1	MR_NDX1
MR	MRNUM	2	A	U	1	MR_NDX1
MRCOST	MRCOSTID	1	A	U	0	MRCOSTU_NDX
MRCOST	SITEID	1	A	U	1	MRCOST_NDX1
MRCOST	MRCOSTID	2	A	U	1	MRCOST_NDX1
MRLINE	DESCRIPTION	1	A	D	0	MRLINEDES_TIDX
MRLINE	MRLINEID	1	A	U	0	MRLINEU_NDX
MRLINE	SITEID	1	A	U	1	MRLINE_NDX1
MRLINE	MRLINEID	2	A	U	1	MRLINE_NDX1
MRLINE	SITEID	1	A	U	0	MRLINE_NDX2
MRLINE	MRNUM	2	A	U	0	MRLINE_NDX2
MRLINE	MRLINENUM	3	A	U	0	MRLINE_NDX2
MRLINE	SITEID	1	A	D	0	MRLINE_NDX3
MRLINE	PRNUM	2	A	D	0	MRLINE_NDX3
MRSTATUS	MRSTATUSSEQ	1	A	U	0	MRSTATUSU_NDX
MRSTATUS	SITEID	1	A	U	1	MRSTATUS_NDX1
MRSTATUS	MRSTATUSSEQ	2	A	U	1	MRSTATUS_NDX1
MRSTATUS	SITEID	1	A	D	0	MRSTATUS_NDX2
MRSTATUS	MRNUM	2	A	D	0	MRSTATUS_NDX2
MXCOLLAB	MXCOLLABID	1	A	U	0	MXCOLLAB_NDX
MXCOLLAB	OWNER1SYSID	1	A	U	1	MXCOLLAB_NDX1
MXCOLLAB	OWNER2SYSID	2	A	U	1	MXCOLLAB_NDX1
MXCOLLAB	PCID	3	A	U	1	MXCOLLAB_NDX1
MXCOLLABREF	PCID	1	A	U	1	MXCOLLABREF_NDX
MXCOLLABREF	MXCOLLABREFID	1	A	U	0	MXCOLLABRE_NDX
NAMEDUSERS	NAMEDUSERSID	1	A	U	0	NAMEDUSERS_NDX
NAMEDUSERS	CONTRACTNUM	1	A	U	0	NAMEDUSERS_NDX1
NAMEDUSERS	REVISIONNUM	2	A	U	0	NAMEDUSERS_NDX1
NAMEDUSERS	ORGID	3	A	U	0	NAMEDUSERS_NDX1
NONWORKTIME	NONWORKTIMEID	1	A	U	0	NONWORKTIME_NDX
NONWORKTIME	STARTDATE	1	A	U	1	NONWORKTIME_NDX1
NONWORKTIME	ENDDATE	2	A	U	1	NONWORKTIME_NDX1
NUMERICDOMAIN	NUMERICDOMAINID	1	A	U	0	NUMERICDOMAIN_NDX
NUMERICDOMAIN	DOMAINID	1	A	U	1	NUMERICDOMAIN_NDX1

Table	Column	ColSeq	Order	Unique	Cluster	Index Name
NUMERICDOMAIN	VALUE	2	A	U	1	NUMERICDOMAIN_NDX1
NUMERICDOMAIN	SITEID	3	A	U	1	NUMERICDOMAIN_NDX1
NUMERICDOMAIN	ORGID	4	A	U	1	NUMERICDOMAIN_NDX1
NUMRANGEDOMAIN	NUMRANGEDOMAINID	1	A	U	0	NUMRANGEDOMAIN_NDX
NUMRANGEDOMAIN	DOMAINID	1	A	U	0	NUMRANGEDOM_NDX1
NUMRANGEDOMAIN	RANGESEGMENT	2	A	U	0	NUMRANGEDOM_NDX1
NUMRANGEDOMAIN	SITEID	3	A	U	0	NUMRANGEDOM_NDX1
NUMRANGEDOMAIN	ORGID	4	A	U	0	NUMRANGEDOM_NDX1
ORGANIZATION	DESCRIPTION	1	A	D	0	ORGANIZATDES_TIDX
ORGANIZATION	ORGID	1	A	U	1	ORGANIZATION_NDX
ORGANIZATION	ORGANIZATIONID	1	A	U	0	ORGANIZATIO_NDX
PALETTEITEM	PALETTEITEMID	1	A	U	0	PALETTEITEM_NDX
PASSWORDHISTORY	PASSWORDHISTORYID	1	A	U	0	PASSWORDHISTOR_NDX
PASSWORDHISTORY	USERID	1	A	U	1	PASSWORDHIST_NDX1
PASSWORDHISTORY	CHANGEDATE	2	A	U	1	PASSWORDHIST_NDX1
PERSON	DISPLAYNAME	1	A	D	0	PERSONDIS_TIDX
PERSON	PERSONUID	1	A	U	0	PERSON_NDX
PERSON	PERSONID	1	A	U	1	PERSON_NDX1
PERSON	DISPLAYNAME	1	A	D	0	PERSON_NDX2
PERSON	FIRSTNAME	1	A	D	0	PERSON_NDX3
PERSON	LASTNAME	1	A	D	0	PERSON_NDX4
PERSON	SUPERVISOR	1	A	D	0	PERSON_NDX5
PERSON	DELEGATE	1	A	D	0	PERSON_NDX6
PERSON	LOCATION	1	A	D	0	PERSON_NDX7
PERSON	LOCATIONSITE	2	A	D	0	PERSON_NDX7
PERSONCAL	PERSONCALID	1	A	U	0	PERSONCAL_NDX
PERSONCAL	PERSONID	1	A	U	1	PERSONCAL_NDX1
PERSONCAL	ORGID	2	A	U	1	PERSONCAL_NDX1
PERSONCAL	CALNUM	1	A	D	0	PERSONCAL_NDX2
PERSONCAL	ORGID	2	A	D	0	PERSONCAL_NDX2
PERSONGROUP	DESCRIPTION	1	A	D	0	PERSONGRODES_TIDX
PERSONGROUP	PERSONGROUPID	1	A	U	0	PERSONGROUP_NDX
PERSONGROUP	PERSONGROUP	1	A	U	0	PERSONGROUP_NDX1
PERSONGROUPTeam	PERSONGROUPTeamID	1	A	U	0	PERSONGROUPTEA_NDX
PERSONGROUPTeam	PERSONGROUP	1	A	U	0	PERSONGRPTEAM_NDX1
PERSONGROUPTeam	RESPPARTYGROUP	2	A	U	0	PERSONGRPTEAM_NDX1
PERSONGROUPTeam	RESPPARTY	3	A	U	0	PERSONGRPTEAM_NDX1
PERSONGROUPTeam	USEFORORG	4	A	U	0	PERSONGRPTEAM_NDX1
PERSONGROUPTeam	USEFORSITE	5	A	U	0	PERSONGRPTEAM_NDX1
PERSONSTATUS	PERSONSTATUSID	1	A	U	0	PERSONSTATUS_NDX
PERSONSTATUS	PERSONID	1	A	U	1	PERSONSTATUS_NDX1
PERSONSTATUS	CHANGEDATE	2	A	U	1	PERSONSTATUS_NDX1
PERSONSTATUS	PERSONID	1	A	D	0	PERSONSTATUS_NDX2
PERSONSTATUS	STATUS	2	A	D	0	PERSONSTATUS_NDX2
PERSONSTATUS	CHANGEDATE	3	A	D	0	PERSONSTATUS_NDX2
PHONE	PHONEID	1	A	U	1	PHONE_NDX1
PHONE	PHONENUM	1	A	D	0	PHONE_NDX2
PHONE	PERSONID	1	A	D	0	PHONE_NDX3
PM	DESCRIPTION	1	A	D	0	PMDES_TIDX
PM	PMUID	1	A	U	0	PM_NDX
PM	SITEID	1	A	U	1	PM_NDX1
PM	PMNUM	2	A	U	1	PM_NDX1

Table	Column	ColSeq	Order	Unique	Cluster	Index Name
PM	SITEID	1	A	D	0	PM_NDX2
PM	ASSETNUM	2	A	D	0	PM_NDX2
PM	SITEID	1	A	D	0	PM_NDX3
PM	LOCATION	2	A	D	0	PM_NDX3
PM	SITEID	1	A	D	0	PM_NDX4
PM	PARENT	2	A	D	0	PM_NDX4
PM	SITEID	1	A	D	0	PM_NDX5
PMANCESTOR	PMANCESTORID	1	A	U	0	PMANCESTOR_NDX
PMANCESTOR	SITEID	1	A	U	1	PMANCESTOR_NDX1
PMANCESTOR	PMNUM	2	A	U	1	PMANCESTOR_NDX1
PMANCESTOR	ANCESTOR	3	A	U	1	PMANCESTOR_NDX1
PMMETER	PMMETERID	1	A	U	0	PMMETER_NDX
PMMETER	SITEID	1	A	U	1	PMMETER_NDX1
PMMETER	PMNUM	2	A	U	1	PMMETER_NDX1
PMMETER	METERNAME	3	A	U	1	PMMETER_NDX1
PMSEASONS	PMSEASONSID	1	A	U	0	PMSEASONS_NDX
PMSEASONS	PMNUM	1	A	U	0	PMSEASONS_NDX1
PMSEASONS	STARTDAY	2	A	U	0	PMSEASONS_NDX1
PMSEASONS	STARTMONTH	3	A	U	0	PMSEASONS_NDX1
PMSEASONS	ENDDAY	4	A	U	0	PMSEASONS_NDX1
PMSEASONS	ENDMONTH	5	A	U	0	PMSEASONS_NDX1
PMSEASONS	SITEID	6	A	U	0	PMSEASONS_NDX1
PMSEQUENCE	PMSEQUENCEID	1	A	U	0	PMSEQUENCE_NDX
PMSEQUENCE	SITEID	1	A	U	1	PMSEQUENCE_NDX1
PMSEQUENCE	PMNUM	2	A	U	1	PMSEQUENCE_NDX1
PMSEQUENCE	INTERVAL	3	A	U	1	PMSEQUENCE_NDX1
PO	DESCRIPTION	1	A	D	0	PODES_TIDX
PO	FREIGHTTERMS	1	A	D	0	POFRE_TIDX
PO	POID	1	A	U	0	PO_NDX
PO	SITEID	1	A	U	0	PO_NDX1
PO	PONUM	2	A	U	0	PO_NDX1
PO	SITEID	1	A	D	0	PO_NDX2
PO	VENDOR	2	A	D	0	PO_NDX2
PO	POTYPE	3	A	D	0	PO_NDX2
PO	SITEID	1	A	D	0	PO_NDX3
PO	ORIGINALPONUM	2	A	D	0	PO_NDX3
PO	SITEID	1	A	U	0	PO_NDX4
PO	PONUM	2	A	U	0	PO_NDX4
PO	STATUS	3	A	U	0	PO_NDX4
POCOST	POCOSTID	1	A	U	0	POCOSTU_NDX
POCOST	POLINEID	1	A	U	0	POCOST_NDX1
POCOST	SITEID	2	A	U	0	POCOST_NDX1
POCOST	POCOSTID	3	A	U	0	POCOST_NDX1
POCOST	COSTLINENUM	4	A	U	0	POCOST_NDX1
POCOST	COSTLINENUM	1	A	D	0	POCOST_NDX3
POECOMSTATUS	POECOMSTATUSID	1	A	U	0	POECOMSTATUS_NDX
POECOMSTATUS	ORGID	1	A	D	0	POECOMSTATUS_NDX1
POECOMSTATUS	PONUM	2	A	D	0	POECOMSTATUS_NDX1
POECOMSTATUS	ORGID	1	A	D	0	POECOMSTATUS_NDX2
POECOMSTATUS	CHANGEDATE	2	A	D	0	POECOMSTATUS_NDX2
POECOMSTATUS	PONUM	3	A	D	0	POECOMSTATUS_NDX2
POINTWO	DESCRIPTION	1	A	D	0	POINTWODES_TIDX

Table	Column	ColSeq	Order	Unique	Cluster	Index Name
POINTWO	POINTWOID	1	A	U	0	POINTWO_NDX
POINTWO	SITEID	1	A	U	1	POINTWO_NDX1
POINTWO	WONUM	2	A	U	1	POINTWO_NDX1
POINTWO	POINTNUM	3	A	U	1	POINTWO_NDX1
POINTWO	SITEID	1	A	D	0	POINTWO_NDX2
POINTWO	POINTNUM	2	A	D	0	POINTWO_NDX2
POLINE	DESCRIPTION	1	A	D	0	POLINEDES_TIDX
POLINE	REMARK	1	A	D	0	POLINEREM_TIDX
POLINE	POLINEID	1	A	U	0	POLINEU_NDX
POLINE	SITEID	1	A	U	1	POLINE_NDX1
POLINE	POLINEID	2	A	U	1	POLINE_NDX1
POLINE	SITEID	1	A	D	0	POLINE_NDX2
POLINE	PONUM	2	A	D	0	POLINE_NDX2
POLINE	POLINENUM	3	A	D	0	POLINE_NDX2
POLINE	ITEMNUM	1	A	D	0	POLINE_NDX3
POLINE	ITEMSETID	2	A	D	0	POLINE_NDX3
POLINE	SITEID	3	A	D	0	POLINE_NDX3
POLINE	SITEID	1	A	D	0	POLINE_NDX4
POLINE	CATALOGCODE	2	A	D	0	POLINE_NDX4
POLINE	ITEMNUM	1	A	D	0	POLINE_NDX5
POLINE	CATALOGCODE	2	A	D	0	POLINE_NDX5
POLINE	PONUM	3	A	D	0	POLINE_NDX5
POLINE	POLINENUM	4	A	D	0	POLINE_NDX5
POLINE	ITEMSETID	5	A	D	0	POLINE_NDX5
POLINE	SITEID	6	A	D	0	POLINE_NDX5
POLINE	ORDERUNIT	1	A	D	0	POLINE_NDX6
POLINE	MRNUM	2	A	D	0	POLINE_NDX6
POLINE	MRLINENUM	3	A	D	0	POLINE_NDX6
POLINE	ITEMNUM	1	A	D	0	POLINE_NDX7
POLINE	PONUM	2	A	D	0	POLINE_NDX7
POLINE	ITEMSETID	3	A	D	0	POLINE_NDX7
POLINE	SITEID	4	A	D	0	POLINE_NDX7
POLINE	REFWO	1	A	D	0	POLINE_NDX8
POLINE	SITEID	2	A	D	0	POLINE_NDX8
PORTLET	PORTLETUID	1	A	U	0	PORTLET_NDX
PORTLET	PORTLETID	1	A	U	1	PORTLET_NDX1
PORTLETDISPLAY	PORTLETDISPLAYID	1	A	U	0	PORTLETDISPLAY_NDX
POSTATUS	POSTATUSID	1	A	U	0	POSTATUS_NDX
POSTATUS	ORGID	1	A	D	0	POSTATUS_NDX1
POSTATUS	PONUM	2	A	D	0	POSTATUS_NDX1
POSTATUS	ORGID	1	A	D	0	POSTATUS_NDX2
POSTATUS	CHANGEDATE	2	A	D	0	POSTATUS_NDX2
POSTATUS	PONUM	3	A	D	0	POSTATUS_NDX2
POTERM	DESCRIPTION	1	A	D	0	POTERMDES_TIDX
POTERM	POTERMID	1	A	U	0	POTERM_NDX
POTERM	SITEID	1	A	D	0	POTERM_NDX1
POTERM	PONUM	2	A	D	0	POTERM_NDX1
POTERM	TERMID	3	A	D	0	POTERM_NDX1
POTERM	DESCRIPTION	1	A	D	0	POTERM_NDX2
POTERM	TERMID	2	A	D	0	POTERM_NDX2
PPCRAFTRATE	PPCRAFTRATEID	1	A	U	0	PPCRAFTRATE_NDX
PPCRAFTRATE	CRAFT	1	A	U	0	PPCRAFTRATE_NDX1

Table	Column	ColSeq	Order	Unique	Cluster	Index Name
PPCRAFTRATE	PREMIUMPAYCODE	2	A	U	0	PPCRAFTRATE_NDX1
PPCRAFTRATE	ORGID	3	A	U	0	PPCRAFTRATE_NDX1
PPLABORRATE	PPLABORRATEID	1	A	U	0	PPLABORRATE_NDX
PPLABORRATE	ORGID	1	A	U	0	PPLABORRATE_NDX2
PPLABORRATE	LABORCODE	2	A	U	0	PPLABORRATE_NDX2
PPLABORRATE	CRAFT	3	A	U	0	PPLABORRATE_NDX2
PPLABORRATE	PREMIUMPAYCODE	4	A	U	0	PPLABORRATE_NDX2
PR	DESCRIPTION	1	A	D	0	PRDES_TIDX
PR	FREIGHTTERMS	1	A	D	0	PRFRE_TIDX
PR	PRID	1	A	U	0	PR_NDX
PR	SITEID	1	A	U	1	PR_NDX1
PR	PRNUM	2	A	U	1	PR_NDX1
PR	SITEID	1	A	D	0	PR_NDX2
PR	VENDOR	2	A	D	0	PR_NDX2
PRCOST	PRCOSTID	1	A	U	0	PRCOSTU_NDX
PRCOST	PRLINEID	1	A	U	0	PRCOST_NDX1
PRCOST	SITEID	2	A	U	0	PRCOST_NDX1
PRCOST	PRCOSTID	3	A	U	0	PRCOST_NDX1
PRCOST	COSTLINENUM	4	A	U	0	PRCOST_NDX1
PRCOST	COSTLINENUM	1	A	D	0	PRCOST_NDX2
PRECAUTION	DESCRIPTION	1	A	D	0	PRECAUTIONDES_TIDX
PRECAUTION	PRECAUTIONUID	1	A	U	0	PRECAUTION_NDX
PRECAUTION	SITEID	1	A	U	1	PRECAUTION_NDX1
PRECAUTION	PRECAUTIONID	2	A	U	1	PRECAUTION_NDX1
PREMIUMPAY	DESCRIPTION	1	A	D	0	PREMIUMPADES_TIDX
PREMIUMPAY	PREMIUMPAYID	1	A	U	0	PREMIUMPAY_NDX
PREMIUMPAY	PREMIUMPAYCODE	1	A	U	0	PREMIUMPAY_NDX1
PREMIUMPAY	ORGID	2	A	U	0	PREMIUMPAY_NDX1
PRICALC	PRICALCID	1	A	U	0	PRICALC_NDX
PRICALC	SITEID	1	A	U	1	PRICALC_NDX1
PRICALC	FINDEX	2	A	U	1	PRICALC_NDX1
PRLINE	DESCRIPTION	1	A	D	0	PRLINEDES_TIDX
PRLINE	REMARK	1	A	D	0	PRLINEREM_TIDX
PRLINE	PRLINEID	1	A	U	0	PRLINEU_NDX
PRLINE	SITEID	1	A	U	1	PRLINE_NDX1
PRLINE	PRLINEID	2	A	U	1	PRLINE_NDX1
PRLINE	SITEID	1	A	D	0	PRLINE_NDX2
PRLINE	POLINEID	2	A	D	0	PRLINE_NDX2
PRLINE	SITEID	1	A	D	0	PRLINE_NDX3
PRLINE	PONUM	2	A	D	0	PRLINE_NDX3
PRLINE	POLINENUM	3	A	D	0	PRLINE_NDX3
PRLINE	SITEID	1	A	D	0	PRLINE_NDX4
PRLINE	MRNUM	2	A	D	0	PRLINE_NDX4
PRLINE	MRLINENUM	3	A	D	0	PRLINE_NDX4
PRLINE	ITEMNUM	1	A	D	0	PRLINE_NDX5
PRLINE	SITEID	2	A	D	0	PRLINE_NDX5
PRLINE	ITEMSETID	3	A	D	0	PRLINE_NDX5
PRLINE	SITEID	1	A	D	0	PRLINE_NDX6
PRLINE	RFQLINEID	2	A	D	0	PRLINE_NDX6
PRLINE	SITEID	1	A	D	0	PRLINE_NDX7
PRLINE	RFQNUM	2	A	D	0	PRLINE_NDX7
PRLINE	RFQLINENUM	3	A	D	0	PRLINE_NDX7

Table	Column	ColSeq	Order	Unique	Cluster	Index Name
PRLINE	SITEID	1	A	D	0	PRLINE_NDX8
PRLINE	PRNUM	2	A	D	0	PRLINE_NDX8
PRLINE	PRLINENUM	3	A	D	0	PRLINE_NDX8
PROPERTYASSOC	PROPERTYASSOCID	1	A	U	0	PROPERTYASSOC_NDX
PROPERTYASSOC	MAXCONTRACTTYPE	1	A	U	1	PROPERTYASSOC_NDX1
PROPERTYASSOC	PROPERTYID	2	A	U	1	PROPERTYASSOC_NDX1
PROPERTYDEFAULT	PROPERTYDEFAULTID	1	A	U	0	PROPERTYDEFAULT_NDX
PROPERTYDEFAULT	ORGID	1	A	U	1	PROPERTYDEFAULT_NDX1
PROPERTYDEFAULT	CONTRACTTYPEID	2	A	U	1	PROPERTYDEFAULT_NDX1
PROPERTYDEFAULT	PROPERTYID	3	A	U	1	PROPERTYDEFAULT_NDX1
PRSTATUS	PRSTATUSID	1	A	U	0	PRSTATUS_NDX
PRSTATUS	SITEID	1	A	D	0	PRSTATUS_NDX1
PRSTATUS	PRNUM	2	A	D	0	PRSTATUS_NDX1
PRSTATUS	SITEID	1	A	D	0	PRSTATUS_NDX2
PRSTATUS	CHANGEDATE	2	A	D	0	PRSTATUS_NDX2
PRSTATUS	PRNUM	3	A	D	0	PRSTATUS_NDX2
PRTERM	DESCRIPTION	1	A	D	0	PRTERMDRES_TIDX
PRTERM	PRTERMID	1	A	U	0	PRTERM_NDX
PRTERM	DESCRIPTION	1	A	D	0	PRTERM_NDX1
PRTERM	TERMID	2	A	D	0	PRTERM_NDX1
QUALCRAFTSKILL	QUALCRAFTSKILLID	1	A	U	0	QUALCRAFTSKILL_NDX
QUALCRAFTSKILL	ORGID	1	A	U	0	QUALCRAFTSKIL_NDX2
QUALCRAFTSKILL	QUALIFICATIONID	2	A	U	0	QUALCRAFTSKIL_NDX2
QUALCRAFTSKILL	CRAFT	3	A	U	0	QUALCRAFTSKIL_NDX2
QUALCRAFTSKILL	SKILLLEVEL	4	A	U	0	QUALCRAFTSKIL_NDX2
QUALCRAFTSKILL	SKILLLEVEL	1	A	D	0	QUALCRAFTSKI_NDX1
QUALIFICATION	DESCRIPTION	1	A	D	0	QUALIFICAES_TIDX
QUALIFICATION	EVALUATIONMETHOD	1	A	D	0	QUALIFICAeva_TIDX
QUALIFICATION	QUALIFICATIONUID	1	A	U	0	QUALIFICATION_NDX
QUALIFICATION	ORGID	1	A	U	0	QUAL_NXD1
QUALIFICATION	QUALIFICATIONID	2	A	U	0	QUAL_NXD1
QUALSTATUS	QUALSTATUSID	1	A	U	0	QUALSTATUS_NDX
QUALSTATUS	ORGID	1	A	U	0	QUALSTATUS_NDX2
QUALSTATUS	QUALIFICATIONID	2	A	U	0	QUALSTATUS_NDX2
QUALSTATUS	CHANGEDATE	3	A	U	0	QUALSTATUS_NDX2
QUERY	QUERYID	1	A	U	0	QUERY_NDX
QUERY	APP	1	A	U	0	QUERY_NDX1
QUERY	OWNER	2	A	U	0	QUERY_NDX1
QUERY	CLAUSENAME	3	A	U	0	QUERY_NDX1
QUOTATIONLINE	DESCRIPTION	1	A	D	0	QUOTATIONDES_TIDX
QUOTATIONLINE	QUOTATIONLINEID	1	A	U	0	QUOTATIONLINEU_NDX
QUOTATIONLINE	SITEID	1	A	U	1	QUOTATIONLINE_NDX1
QUOTATIONLINE	RFQNUM	2	A	U	1	QUOTATIONLINE_NDX1
QUOTATIONLINE	RFQLINENUM	3	A	U	1	QUOTATIONLINE_NDX1
QUOTATIONLINE	VENDOR	4	A	U	1	QUOTATIONLINE_NDX1
QUOTATIONLINE	QUOTATIONLINEID	5	A	U	1	QUOTATIONLINE_NDX1
QUOTATIONLINE	MEMO	1	A	D	0	QUOTATIONMEM_TIDX
RECONCOMPFILTER	RECONCOMPFILTERID	1	A	U	0	RECONCOMPFLTR_NDX
RECONCOMPFILTER	RULENAME	1	A	U	0	RECONCOMPFLTR_NDX1
RECONCOMPFILTER	FILTERTYPE	2	A	U	0	RECONCOMPFLTR_NDX1
RECONCOMPFILTER	SEQUENCENUM	3	A	U	0	RECONCOMPFLTR_NDX1
RECONLINK	RECONLINKID	1	A	U	0	RECONLINK_NDX

Table	Column	ColSeq	Order	Unique	Cluster	Index Name
RECONLINK	ASSETID	1	A	U	0	RECONLINK_NDX1
RECONLINK	NODEID	1	A	U	0	RECONLINK_NDX2
RECONRESULT	RECONRESULTID	1	A	U	0	RECONRESULT_NDX
RECONRULE	RECONRULEID	1	A	U	0	RECONRULE_NDX
RECONRULE	RULENAME	1	A	U	0	RECONRULE_NDX1
RECONRULE	RULETYPE	2	A	U	0	RECONRULE_NDX1
RECONRULE	DESCRIPTION	1	A	D	0	RECONRULE_T1DX
RECONRULECLAUSE	RULENAME	1	A	U	0	RCNRULECLAUSE_NDX
RECONRULECLAUSE	RULETYPE	2	A	U	0	RCNRULECLAUSE_NDX
RECONRULECLAUSE	SEQUENCENUM	3	A	U	0	RCNRULECLAUSE_NDX
RECONRULECLAUSE	RECONRULECLAUSEID	1	A	U	0	RCNRULECLAUSE_NDX1
RECONTASK	RECONTASKID	1	A	U	0	RECONTASK_NDX
RECONTASK	TASKNAME	1	A	U	0	RECONTASK_NDX1
RECONTASK	DESCRIPTION	1	A	D	0	RECONTASK_T1DX
RECONTASKCOMP	RECONTASKCOMPID	1	A	U	0	RECONTASKCOMP_NDX
RECONTASKCOMP	TASKNAME	1	A	U	0	RECONTASKCOMP_NDX1
RECONTASKCOMP	COMPRULENAME	2	A	U	0	RECONTASKCOMP_NDX1
RECONTASKFILTER	RECONTASKFILTERID	1	A	U	0	RCONTSKFILTER_NDX
RECONTASKFILTER	FILTERNAME	1	A	U	0	RCONTSKFILTER_NDX1
RECONTASKFILTER	DESCRIPTION	1	A	D	0	RECONTASKFILT_T1DX
RECONTASKFLTRVAL	RECONTASKFLTRVALID	1	A	U	0	RCONTSKFLTRVAL_NDX
RECONTASKLINK	RECONTASKLINKID	1	A	U	0	RECONTASKLINK_NDX
RECONTASKLINK	TASKNAME	1	A	U	0	RECONTASKLINK_NDX1
RECONTASKLINK	CASCADEPOSITION	2	A	U	0	RECONTASKLINK_NDX1
RECONTASKLINK	TASKNAME	1	A	U	0	RECONTASKLINK_NDX2
RECONTASKLINK	LINKRULENAME	2	A	U	0	RECONTASKLINK_NDX2
RELATEDRECORD	RELATEDRECORDID	1	A	U	0	RELATEDRECORD_NDX
RELATEDRECORD	RECORDKEY	1	A	U	0	RELATEDRECORD_NDX1
RELATEDRECORD	CLASS	2	A	U	0	RELATEDRECORD_NDX1
RELATEDRECORD	SITEID	3	A	U	0	RELATEDRECORD_NDX1
RELATEDRECORD	RELATEDRECKEY	4	A	U	0	RELATEDRECORD_NDX1
RELATEDRECORD	RELATEDRECCCLASS	5	A	U	0	RELATEDRECORD_NDX1
RELATEDRECORD	RELATEDRECSITEID	6	A	U	0	RELATEDRECORD_NDX1
RELATEDRECORD	RELATETYPE	7	A	U	0	RELATEDRECORD_NDX1
RELATEDSLA	RELATEDSLAID	1	A	U	0	RELATEDSLA_NDX
RELATEDSLA	PARENTSLANUM	1	A	U	0	RELATEDSLA_NDX2
RELATEDSLA	CHILDSLANUM	2	A	U	0	RELATEDSLA_NDX2
REORDERMUTEX	SITEID	1	A	U	1	REORDERMUTEX_NDX1
REORDERMUTEX	LOCATION	2	A	U	1	REORDERMUTEX_NDX1
REORDERMUTEX	MRNUM	3	A	U	1	REORDERMUTEX_NDX1
REORDERMUTEX	TYPE	4	A	U	1	REORDERMUTEX_NDX1
REORDERPAD	SITEID	1	A	D	0	REORDERPAD_NDX1
REORDERPAD	USRNAME	2	A	D	0	REORDERPAD_NDX1
REORDERPAD	LOCATION	3	A	D	0	REORDERPAD_NDX1
REORDERPAD	ITEMNUM	1	A	D	0	REORDERPAD_NDX2
REORDERPAD	LOCATION	2	A	D	0	REORDERPAD_NDX2
REORDERPAD	USRNAME	3	A	D	0	REORDERPAD_NDX2
REORDERPAD	SITEID	4	A	D	0	REORDERPAD_NDX2
REORDERPAD	ITEMSETID	5	A	D	0	REORDERPAD_NDX2
REPORT	REPORTID	1	A	U	0	REPORT_NDX
REPORT	APPNAME	1	A	U	0	REPORT_NDX1
REPORT	REPORTNAME	2	A	U	0	REPORT_NDX1

Table	Column	ColSeq	Order	Unique	Cluster	Index Name
REPORTLABEL	REPORTLABELID	1	A	U	0	REPORTLABEL_NDX
REPORTLOOKUP	REPORTLOOKUPID	1	A	U	0	REPORTLOOKUP_NDX
RESULTSETCOLS	RESULTSETCOLSID	1	A	U	0	RESULTSETCOLS_NDX
RESULTSETCOLS	APP	1	A	U	1	RESULTSETCOLS_NDX1
RESULTSETCOLS	ATTRIBUTE	2	A	U	1	RESULTSETCOLS_NDX1
RFQ	DESCRIPTION	1	A	D	0	RFQDES_TIDX
RFQ	FREIGHTTERMS	1	A	D	0	RFQFRE_TIDX
RFQ	RFQID	1	A	U	0	RFQ_NDX
RFQ	SITEID	1	A	U	1	RFQ_NDX1
RFQ	RFQNUM	2	A	U	1	RFQ_NDX1
RFQLINE	DESCRIPTION	1	A	D	0	RFQLINEDES_TIDX
RFQLINE	REMARK	1	A	D	0	RFQLINEREM_TIDX
RFQLINE	RFQLINEID	1	A	U	0	RFQLINEU_NDX
RFQLINE	SITEID	1	A	U	1	RFQLINE_NDX1
RFQLINE	RFQLINEID	2	A	U	1	RFQLINE_NDX1
RFQLINE	SITEID	1	A	D	0	RFQLINE_NDX2
RFQLINE	RFQNUM	2	A	D	0	RFQLINE_NDX2
RFQLINE	RFQLINENUM	3	A	D	0	RFQLINE_NDX2
RFQLINE	SITEID	1	A	D	0	RFQLINE_NDX3
RFQLINE	POLINEID	2	A	D	0	RFQLINE_NDX3
RFQLINE	SITEID	1	A	D	0	RFQLINE_NDX4
RFQLINE	PONUM	2	A	D	0	RFQLINE_NDX4
RFQLINE	POLINENUM	3	A	D	0	RFQLINE_NDX4
RFQSTATUS	RFQSTATUSSEQ	1	A	U	0	RFQSTATUSU_NDX
RFQSTATUS	SITEID	1	A	U	1	RFQSTATUS_NDX1
RFQSTATUS	RFQNUM	2	A	U	1	RFQSTATUS_NDX1
RFQSTATUS	RFQSTATUSSEQ	3	A	U	1	RFQSTATUS_NDX1
RFQTERM	DESCRIPTION	1	A	D	0	RFQTERMDDES_TIDX
RFQTERM	RFQTERMID	1	A	U	0	RFQTERM_NDX
RFQVENDOR	FREIGHTTERMS	1	A	D	0	RFQVENDORFRE_TIDX
RFQVENDOR	RFQVENDORID	1	A	U	0	RFQVENDOR_NDX
RFQVENDOR	SITEID	1	A	U	1	RFQVENDOR_NDX1
RFQVENDOR	RFQNUM	2	A	U	1	RFQVENDOR_NDX1
RFQVENDOR	VENDOR	3	A	U	1	RFQVENDOR_NDX1
RFQVENDORTERM	DESCRIPTION	1	A	D	0	RFQVENDORDES_TIDX
RFQVENDORTERM	RFQVENDORTERMID	1	A	U	0	RFQVENDORTERM_NDX
ROUTES	DESCRIPTION	1	A	D	0	ROUTESDES_TIDX
ROUTES	ROUTESID	1	A	U	0	ROUTES_NDX
ROUTES	SITEID	1	A	U	1	ROUTES_NDX1
ROUTES	ROUTE	2	A	U	1	ROUTES_NDX1
ROUTE_STOP	ROUTE_STOPID	1	A	U	0	ROUTE_STOP_NDX
ROUTE_STOP	SITEID	1	A	U	1	ROUTE_STOP_NDX1
ROUTE_STOP	ROUTE	2	A	U	1	ROUTE_STOP_NDX1
ROUTE_STOP	ROUTESTOPID	3	A	U	1	ROUTE_STOP_NDX1
ROUTE_STOP	SITEID	1	A	D	0	ROUTE_STOP_NDX2
ROUTE_STOP	ROUTE	2	A	D	0	ROUTE_STOP_NDX2
ROUTE_STOP	STOPSEQUENCE	3	A	D	0	ROUTE_STOP_NDX2
ROUTE_STOP	ASSETNUM	4	A	D	0	ROUTE_STOP_NDX2
ROUTE_STOP	LOCATION	5	A	D	0	ROUTE_STOP_NDX2
ROUTE_STOP	SITEID	1	A	D	0	ROUTE_STOP_NDX3
ROUTE_STOP	ASSETNUM	2	A	D	0	ROUTE_STOP_NDX3
ROUTE_STOP	SITEID	1	A	D	0	ROUTE_STOP_NDX4

Table	Column	ColSeq	Order	Unique	Cluster	Index Name
ROUTE_STOP	LOCATION	2	A	D	0	ROUTE_STOP_NDX4
RSCONFIG	RSCONFIGID	1	A	U	1	RSCONFIG_NDX1
SAFETYLEXICON	SAFETYLEXICONID	1	A	U	0	SAFETYLEXICONU_NDX
SAFETYLEXICON	SITEID	1	A	U	1	SAFETYLEXICON_NDX1
SAFETYLEXICON	SAFETYLEXICONID	2	A	U	1	SAFETYLEXICON_NDX1
SAFETYLEXICON	SITEID	1	A	D	0	SAFETYLEXICON_NDX2
SAFETYLEXICON	LOCATION	2	A	D	0	SAFETYLEXICON_NDX2
SAFETYLEXICON	SITEID	1	A	D	0	SAFETYLEXICON_NDX3
SAFETYLEXICON	ASSETNUM	2	A	D	0	SAFETYLEXICON_NDX3
SAFETYLEXICON	SITEID	1	A	D	0	SAFETYLEXICON_NDX4
SAFETYLEXICON	HAZARDID	2	A	D	0	SAFETYLEXICON_NDX4
SAFETYLEXICON	SITEID	1	A	D	0	SAFETYLEXICON_NDX5
SAFETYLEXICON	TAGOUTID	2	A	D	0	SAFETYLEXICON_NDX5
SAFETYPLAN	DESCRIPTION	1	A	D	0	SAFETYPLADES_TIDX
SAFETYPLAN	SAFETYPLANUID	1	A	U	0	SAFETYPLAN_NDX
SAFETYPLAN	SITEID	1	A	U	1	SAFETYPLAN_NDX1
SAFETYPLAN	SAFETYPLANID	2	A	U	1	SAFETYPLAN_NDX1
SCCONFIG	SCCONFIGID	1	A	U	0	SCCONFIG_NDX
SCHEDULE	SCHEDULEID	1	A	U	0	SCHEDULE_NDX
SCHEDULE	SCHEDULENUM	1	A	D	0	SCHEDULE_NDX1
SCHEDULE	ORGID	2	A	D	0	SCHEDULE_NDX1
SCHEDULE	CONTRACTNUM	3	A	D	0	SCHEDULE_NDX1
SCHEDULE	REVISIONNUM	4	A	D	0	SCHEDULE_NDX1
SCHEDULE	CONTRACTLINENUM	5	A	D	0	SCHEDULE_NDX1
SCHEDULE	ORGID	1	A	U	0	SCHEDULE_NDX2
SCHEDULE	SCHEDULEID	2	A	U	0	SCHEDULE_NDX2
SCHEDULELINE	SCHEDULELINEID	1	A	U	0	SCHEDULELINE_NDX
SCHEDULELINE	SCHEDULELINENUM	1	A	D	0	SCHEDULELINE_NDX1
SCHEDULELINE	SCHEDULENUM	2	A	D	0	SCHEDULELINE_NDX1
SCHEDULELINE	ORGID	3	A	D	0	SCHEDULELINE_NDX1
SCHEDULELINE	CONTRACTNUM	4	A	D	0	SCHEDULELINE_NDX1
SCHEDULELINE	CONTRACTLINENUM	5	A	D	0	SCHEDULELINE_NDX1
SCHEDULELINE	REVISIONNUM	6	A	D	0	SCHEDULELINE_NDX1
SCHEDULELINE	ORGID	1	A	U	0	SCHEDULELINE_NDX2
SCHEDULELINE	SCHEDULEID	2	A	U	0	SCHEDULELINE_NDX2
SCHEDULELINE	SCHEDULELINEID	3	A	U	0	SCHEDULELINE_NDX2
SCTEMPLATE	SCTEMPLATEID	1	A	U	0	SCTEMPLATE_NDX
SERVRECTRANS	SERVRECTRANSID	1	A	U	0	SERVRECTRANSU_NDX
SERVRECTRANS	SITEID	1	A	U	1	SERVRECTRANS_NDX1
SERVRECTRANS	SERVRECTRANSID	2	A	U	1	SERVRECTRANS_NDX1
SERVRECTRANS	SITEID	1	A	D	0	SERVRECTRANS_NDX2
SERVRECTRANS	PONUM	2	A	D	0	SERVRECTRANS_NDX2
SERVRECTRANS	POLINENUM	3	A	D	0	SERVRECTRANS_NDX2
SERVRECTRANS	TRANSDATE	4	A	D	0	SERVRECTRANS_NDX2
SERVRECTRANS	BELONGSTO	1	A	D	0	SERVRECTRANS_NDX4
SERVRECTRANS	SITEID	2	A	D	0	SERVRECTRANS_NDX4
SERVRECTRANS	PONUM	1	A	D	0	SERVRECTRANS_NDX5
SERVRECTRANS	BELONGSTO	2	A	D	0	SERVRECTRANS_NDX5
SERVRECTRANS	SITEID	3	A	D	0	SERVRECTRANS_NDX5
SERVRECTRANS	DESCRIPTION	1	A	D	0	SERVRECTRDES_TIDX
SERVRECTRANS	REMARK	1	A	D	0	SERVRECTRREM_TIDX
SETS	DESCRIPTION	1	A	D	0	SETSDDES_TIDX

Table	Column	ColSeq	Order	Unique	Cluster	Index Name
SETS	SETID	1	A	U	0	SETS_NDX
SETS	SETSID	1	A	U	0	SET_NDX
SHIFT	DESCRIPTION	1	A	D	0	SHIFTDES_TIDX
SHIFT	SHIFTID	1	A	U	0	SHIFT_NDX
SHIFT	ORGID	1	A	U	1	SHIFT_NDX1
SHIFT	SHIFTNUM	2	A	U	1	SHIFT_NDX1
SHIFTPATTERNDAY	ORGID	1	A	U	1	SHIFTPATDAY_NDX1
SHIFTPATTERNDAY	SHIFTNUM	2	A	U	1	SHIFTPATDAY_NDX1
SHIFTPATTERNDAY	PATTERNDAYSEQ	3	A	U	1	SHIFTPATDAY_NDX1
SHIFTPATTERNDAY	SHIFTPATTERNDAYID	1	A	U	0	SHIFTPATTERNDA_NDX
SHIPMENT	SHIPMENTID	1	A	U	0	SHIPMENTU_NDX
SHIPMENT	SITEID	1	A	U	1	SHIPMENT_NDX1
SHIPMENT	SHIPMENTID	2	A	U	1	SHIPMENT_NDX1
SHIPMENTLINE	SHIPMENTLINEID	1	A	U	0	SHIPMENTLINEU_NDX
SHIPMENTLINE	SITEID	1	A	U	1	SHIPMENTLINE_NDX1
SHIPMENTLINE	SHIPMENTID	2	A	U	1	SHIPMENTLINE_NDX1
SHIPMENTLINE	SHIPMENTLINEID	3	A	U	1	SHIPMENTLINE_NDX1
SIGOPTION	DESCRIPTION	1	A	D	0	SIGOPTIONDES_TIDX
SIGOPTION	APP	1	A	U	1	SIGOPTION_NDX
SIGOPTION	OPTIONNAME	2	A	U	1	SIGOPTION_NDX
SIGOPTION	SIGOPTIONID	1	A	U	0	SIGOPTIO_NDX
SITE	DESCRIPTION	1	A	D	0	SITEDES_TIDX
SITE	SITEUID	1	A	U	0	SITE_NDX
SITE	SITEID	1	A	U	1	SITE_NDX1
SITEAUTH	SITEAUTHID	1	A	U	0	SITEAUTH_NDX
SITEAUTH	GROUPNAME	1	A	U	1	SITEAUTH_NDX1
SITEAUTH	SITEID	2	A	U	1	SITEAUTH_NDX1
SITEECOM	SITEECOMID	1	A	U	0	SITEECOM_NDX
SITEECOM	SITEID	1	A	U	1	SITEECOM_NDX1
SITEECOM	ORGID	2	A	U	1	SITEECOM_NDX1
SITEECOM	VENDOR	3	A	U	1	SITEECOM_NDX1
SLA	DESCRIPTION	1	A	D	0	SLADES_TIDX
SLA	SLAID	1	A	U	0	SLA_NDX
SLA	SLANUM	1	A	U	1	SLA_NDX1
SLAASSETLOC	SLAASSETLOCID	1	A	U	0	SLAASSETLOC_NDX
SLAASSETLOC	SLANUM	1	A	D	0	SLAASSETLOC_NDX1
SLAASSETLOC	SLANUM	1	A	U	0	SLAASSETLOC_NDX2
SLAASSETLOC	ASSETNUM	2	A	U	0	SLAASSETLOC_NDX2
SLAASSETLOC	LOCATION	3	A	U	0	SLAASSETLOC_NDX2
SLAASSETLOC	ASSETTYPE	4	A	U	0	SLAASSETLOC_NDX2
SLAASSETLOC	SITEID	5	A	U	0	SLAASSETLOC_NDX2
SLACOMMITMENTS	DESCRIPTION	1	A	D	0	SLACOMMITDES_TIDX
SLACOMMITMENTS	SLACOMMITMENTSID	1	A	U	0	SLACOMMITMENTS_NDX
SLACOMMITMENTS	SLANUM	1	A	U	1	SLACOMMIT_NDX1
SLACOMMITMENTS	COMMITMENTID	2	A	U	1	SLACOMMIT_NDX1
SLACONTRACT	SLACONTRACTID	1	A	U	0	SLACONTRACT_NDX
SLACONTRACT	SLANUM	1	A	U	0	SLACONTRACT_NDX2
SLACONTRACT	CONTRACTNUM	2	A	U	0	SLACONTRACT_NDX2
SLAKPI	SLAKPIID	1	A	U	0	SLAKPI_NDX
SLAKPI	SLANUM	1	A	U	0	SLAKPI_NDX2
SLAKPI	KPINAME	2	A	U	0	SLAKPI_NDX2
SLARECORDS	SLARECORDSID	1	A	U	0	SLARECORDS_NDX

Table	Column	ColSeq	Order	Unique	Cluster	Index Name
SLARECORDS	SLANUM	1	A	U	0	SLARECORDS_NDX2
SLARECORDS	OWNERTABLE	2	A	U	0	SLARECORDS_NDX2
SLARECORDS	OWNERID	3	A	U	0	SLARECORDS_NDX2
SOLUTION	DESCRIPTION	1	A	D	0	SOLUTIONDES_TIDX
SOLUTION	FR1CODE	1	A	D	0	SOLUTIONFR1_TIDX
SOLUTION	FR2CODE	1	A	D	0	SOLUTIONFR2_TIDX
SOLUTION	PROBLEMCODE	1	A	D	0	SOLUTIONPRO_TIDX
SOLUTION	SOLUTIONID	1	A	U	0	SOLUTION_NDX
SOLUTION	SOLUTION	1	A	U	0	SOLUTION_NDX1
SOLUTIONSTATUS	SOLUTIONSTATUSID	1	A	U	0	SOLUTIONSTATUS_NDX
SPAREPART	DESCRIPTION	1	A	D	0	SPAREPARTDES_TIDX
SPAREPART	SPAREPARTID	1	A	U	0	SPAREPART_NDX
SPAREPART	SITEID	1	A	D	0	SPAREPART_NDX1
SPAREPART	ASSETNUM	2	A	D	0	SPAREPART_NDX1
SPAREPART	ITEMNUM	1	A	D	0	SPAREPART_NDX2
SPAREPART	SITEID	2	A	D	0	SPAREPART_NDX2
SPAREPART	ITEMSETID	3	A	D	0	SPAREPART_NDX2
SPLEXICONLINK	SPLEXICONLINKID	1	A	U	0	SPLEXICONLINK_NDX
SPLEXICONLINK	SITEID	1	A	U	1	SPLEXICONLINK_NDX1
SPLEXICONLINK	SPWORKASSETID	2	A	U	1	SPLEXICONLINK_NDX1
SPLEXICONLINK	SAFETYLEXICONID	3	A	U	1	SPLEXICONLINK_NDX1
SPLEXICONLINK	SITEID	1	A	D	0	SPLEXICONLINK_NDX2
SPLEXICONLINK	SPWORKASSETID	2	A	D	0	SPLEXICONLINK_NDX2
SPLEXICONLINK	APPLYSEQ	3	A	D	0	SPLEXICONLINK_NDX2
SRELATEDASSET	SRELATEDASSETID	1	A	U	0	SRELATEDASSEU_NDX
SRELATEDASSET	SITEID	1	A	U	1	SRELATEDASSET_NDX1
SRELATEDASSET	SRELATEDASSETID	2	A	U	1	SRELATEDASSET_NDX1
SRELATEDASSET	SITEID	1	A	D	0	SRELATEDASSET_NDX2
SRELATEDASSET	LOCATION	2	A	D	0	SRELATEDASSET_NDX2
SRELATEDASSET	SITEID	1	A	D	0	SRELATEDASSET_NDX3
SRELATEDASSET	ASSETNUM	2	A	D	0	SRELATEDASSET_NDX3
SPWORKASSET	SPWORKASSETID	1	A	U	0	SPWORKASSETU_NDX
SPWORKASSET	SITEID	1	A	U	1	SPWORKASSET_NDX1
SPWORKASSET	SPWORKASSETID	2	A	U	1	SPWORKASSET_NDX1
SPWORKASSET	SITEID	1	A	D	0	SPWORKASSET_NDX2
SPWORKASSET	WORKLOCATION	2	A	D	0	SPWORKASSET_NDX2
SPWORKASSET	SITEID	1	A	D	0	SPWORKASSET_NDX3
SPWORKASSET	WORKASSET	2	A	D	0	SPWORKASSET_NDX3
SPWORKASSET	SITEID	1	A	D	0	SPWORKASSET_NDX4
SPWORKASSET	SAFETYPLANID	2	A	D	0	SPWORKASSET_NDX4
SYNONYMDOMAIN	SYNONYMDOMAINID	1	A	U	0	SYNONYMDOMAIN_NDX
SYNONYMDOMAIN	DOMAINID	1	A	U	1	SYNONYMDOM_NDX1
SYNONYMDOMAIN	MAXVALUE	2	A	U	1	SYNONYMDOM_NDX1
SYNONYMDOMAIN	VALUE	3	A	U	1	SYNONYMDOM_NDX1
SYNONYMDOMAIN	SITEID	4	A	U	1	SYNONYMDOM_NDX1
SYNONYMDOMAIN	ORGID	5	A	U	1	SYNONYMDOM_NDX1
TAGLOCK	TAGLOCKID	1	A	U	0	TAGLOCKU_NDX
TAGLOCK	SITEID	1	A	U	1	TAGLOCK_NDX1
TAGLOCK	TAGLOCKID	2	A	U	1	TAGLOCK_NDX1
TAGLOCK	SITEID	1	A	D	0	TAGLOCK_NDX2
TAGLOCK	TAGOUTID	2	A	D	0	TAGLOCK_NDX2
TAGLOCK	LOCKOUTID	3	A	D	0	TAGLOCK_NDX2

Table	Column	ColSeq	Order	Unique	Cluster	Index Name
TAGLOCK	SITEID	1	A	D	0	TAGLOCK_NDX3
TAGLOCK	TAGOUTID	2	A	D	0	TAGLOCK_NDX3
TAGLOCK	APPLYSEQ	3	A	D	0	TAGLOCK_NDX3
TAGOUT	DESCRIPTION	1	A	D	0	TAGOUTDES_TIDX
TAGOUT	TAGOUTUID	1	A	U	0	TAGOUT_NDX
TAGOUT	SITEID	1	A	U	1	TAGOUT_NDX1
TAGOUT	TAGOUTID	2	A	U	1	TAGOUT_NDX1
TASKSCHEDULER	SERVERNAME	1	A	U	1	TASKSCHEDULER_NDX1
TASKSCHEDULER	TASKNAME	2	A	U	1	TASKSCHEDULER_NDX1
TAX	DESCRIPTION	1	A	D	0	TAXDES_TIDX
TAX	TAXID	1	A	U	0	TAX_NDX
TAX	ORGID	1	A	U	1	TAX_NDX1
TAX	TYPECODE	2	A	U	1	TAX_NDX1
TAX	TAXCODE	3	A	U	1	TAX_NDX1
TAX	EFFECTIVE	4	A	U	1	TAX_NDX1
TAX	ORGID	1	A	D	0	TAX_NDX2
TAX	TAXCODE	2	A	D	0	TAX_NDX2
TAXTYPE	DESCRIPTION	1	A	D	0	TAXTYPEDES_TIDX
TAXTYPE	ORGID	1	A	U	1	TAXTYPE_NDX
TAXTYPE	TYPECODE	2	A	U	1	TAXTYPE_NDX
TAXTYPE	TAXTYPEID	1	A	U	0	TAXTYP_NDX
TEMPLATESTATUS	TEMPLATESTATUSID	1	A	U	0	TEMPLATESTATUS_NDX
TERM	DESCRIPTION	1	A	D	0	TERMDDES_TIDX
TERM	TERMUID	1	A	U	0	TERM_NDX
TICKET	DESCRIPTION	1	A	D	0	TICKETDES_TIDX
TICKET	FR1CODE	1	A	D	0	TICKETFR1_TIDX
TICKET	FR2CODE	1	A	D	0	TICKETFR2_TIDX
TICKET	PROBLEMCODE	1	A	D	0	TICKETPRO_TIDX
TICKET	TICKETUID	1	A	U	0	TICKET_NDX
TICKET	CLASS	1	A	U	0	TICKET_NDX1
TICKET	TICKETID	2	A	U	0	TICKET_NDX1
TICKETASSET	TICKETID	1	A	U	1	TICKETASSETNDX1
TICKETASSET	CLASS	2	A	U	1	TICKETASSETNDX1
TICKETASSET	ASSETNUM	3	A	U	1	TICKETASSETNDX1
TICKETASSET	LOCATION	4	A	U	1	TICKETASSETNDX1
TICKETASSET	SITEID	5	A	U	1	TICKETASSETNDX1
TICKETASSET	TICKETASSETID	1	A	U	0	TICKETASSET_NDX
TKOWNERHISTORY	TICKETID	1	A	U	1	TKOWNERHISTORY_NDX
TKOWNERHISTORY	CLASS	2	A	U	1	TKOWNERHISTORY_NDX
TKOWNERHISTORY	OWNDATE	3	A	U	1	TKOWNERHISTORY_NDX
TKOWNERHISTORY	TKOWNERHISTORYID	1	A	U	0	TKOWNERHISTOR_NDX
TKSTATUS	TKSTATUSID	1	A	U	0	TKSTATUS_NDX
TKSTATUS	TICKETID	1	A	U	1	TKSTATUS_NDX1
TKSTATUS	CLASS	2	A	U	1	TKSTATUS_NDX1
TKSTATUS	STATUS	3	A	U	1	TKSTATUS_NDX1
TKSTATUS	CHANGEDATE	4	A	U	1	TKSTATUS_NDX1
TKTEMPLATE	DESCRIPTION	1	A	D	0	TKTEMPLATDES_TIDX
TKTEMPLATE	TKTEMPLATEID	1	A	U	0	TKTEMPLATE_NDX
TKTEMPLATE	TEMPLATEID	1	A	U	1	TKTEMPLATE_NDX1
TKEMPLTACTIVITY	TKEMPLTACTIVITYID	1	A	U	0	TKEMPLTACTIVI_NDX
TKEMPLTACTIVITY	DESCRIPTION	1	A	D	0	TKEMPLTADES_TIDX
TOOLQUAL	TOOLQUALID	1	A	U	0	TOOLQUAL_NDX

Table	Column	ColSeq	Order	Unique	Cluster	Index Name
TOOLQUAL	ORGID	1	A	U	0	TOOLQUAL_NDX2
TOOLQUAL	QUALIFICATIONID	2	A	U	0	TOOLQUAL_NDX2
TOOLQUAL	ITEMNUM	3	A	U	0	TOOLQUAL_NDX2
TOOLQUAL	ITEMSETID	4	A	U	0	TOOLQUAL_NDX2
TOOLTRANS	TOOLTRANSID	1	A	U	0	TOOLTRANS_NDX
TOOLTRANS	SITEID	1	A	U	0	TOOLTRANS_NDX1
TOOLTRANS	ITEMNUM	2	A	U	0	TOOLTRANS_NDX1
TOOLTRANS	TOOLTRANSID	3	A	U	0	TOOLTRANS_NDX1
TOOLTRANS	SITEID	1	A	D	0	TOOLTRANS_NDX2
TOOLTRANS	ITEMNUM	2	A	D	0	TOOLTRANS_NDX2
TOOLTRANS	TRANSDATE	3	A	D	0	TOOLTRANS_NDX2
TOOLTRANS	SITEID	1	A	D	0	TOOLTRANS_NDX3
TOOLTRANS	REFWO	2	A	D	0	TOOLTRANS_NDX3
TOOLTRANS	SITEID	1	A	D	0	TOOLTRANS_NDX4
TOOLTRANS	ASSETNUM	2	A	D	0	TOOLTRANS_NDX4
TOOLTRANS	SITEID	1	A	D	0	TOOLTRANS_NDX5
TOOLTRANS	ENTERDATE	2	A	D	0	TOOLTRANS_NDX5
USERPREF	USERID	1	A	U	1	USERPREF_NDX
USERPREF	VARNAME	2	A	U	1	USERPREF_NDX
USERPREF	USERPREFID	1	A	U	0	USERPRE_NDX
USERPURGL	USERPURGLID	1	A	U	0	USERPURGL_NDX
USERPURGL	USERID	1	A	U	1	USERPURGL_NDX1
USERPURGL	ORGID	2	A	U	1	USERPURGL_NDX1
VENDORSTATUS	VENDORSTATUSID	1	A	U	0	VENDORSTATUS_NDX
VENDORSTATUS	ORGID	1	A	D	0	VENDORSTATUS_NDX1
VENDORSTATUS	STATUSDATE	2	A	D	0	VENDORSTATUS_NDX1
WARRANTYASSET	WARRANTYASSETID	1	A	U	0	WARRANTYASSET_NDX
WARRANTYLINE	WARRANTYLINEID	1	A	U	0	WARRANTYLINE_NDX
WARRANTYLINE	CONTRACTNUM	1	A	U	0	WARRANTYLINE_NDX1
WARRANTYLINE	REVISIONNUM	2	A	U	0	WARRANTYLINE_NDX1
WARRANTYLINE	ORGID	3	A	U	0	WARRANTYLINE_NDX1
WARRANTYLINE	CONTRACTLINENUM	4	A	U	0	WARRANTYLINE_NDX1
WFACTION	WFACTIONID	1	A	U	0	WFACTION_NDX
WFACTION	PROCESSNAME	1	A	U	1	WFACTION_NDX1
WFACTION	PROCESSREV	2	A	U	1	WFACTION_NDX1
WFACTION	ACTIONID	3	A	U	1	WFACTION_NDX1
WFACTION	PROCESSNAME	1	A	D	0	WFACTION_NDX2
WFACTION	PROCESSREV	2	A	D	0	WFACTION_NDX2
WFACTION	OWNERNODEID	3	A	D	0	WFACTION_NDX2
WFACTION	PROCESSNAME	1	A	D	0	WFACTION_NDX3
WFACTION	PROCESSREV	2	A	D	0	WFACTION_NDX3
WFACTION	MEMBERNODEID	3	A	D	0	WFACTION_NDX3
WFAPPTOOLBAR	WFAPPTOOLBARID	1	A	U	0	WFAPPTOOLBAR_NDX
WFAPPTOOLBAR	APPNAME	1	A	U	0	WFAPPTOOLBAR_NDX1
WFAPPTOOLBAR	TOOLBARSEQUENCE	2	A	U	0	WFAPPTOOLBAR_NDX1
WFASSIGNMENT	DESCRIPTION	1	A	D	0	WFASSIGNMDES_TIDX
WFASSIGNMENT	WFASSIGNMENTID	1	A	U	0	WFASSIGNMENTU_NDX
WFASSIGNMENT	ASSIGNID	1	A	U	1	WFASSIGN_NDX1
WFASSIGNMENT	PROCESSNAME	2	A	U	1	WFASSIGN_NDX1
WFASSIGNMENT	PROCESSREV	3	A	U	1	WFASSIGN_NDX1
WFASSIGNMENT	WFID	4	A	U	1	WFASSIGN_NDX1
WFASSIGNMENT	NODEID	5	A	U	1	WFASSIGN_NDX1

Table	Column	ColSeq	Order	Unique	Cluster	Index Name
WFASSIGNMENT	ASSIGNCODE	1	A	D	0	WFASSIGN_NDX2
WFASSIGNMENT	ASSIGNSTATUS	2	A	D	0	WFASSIGN_NDX2
WFASSIGNMENT	WFID	1	A	D	0	WFASSIGN_NDX3
WFASSIGNMENT	PROCESSNAME	2	A	D	0	WFASSIGN_NDX3
WFASSIGNMENT	PROCESSREV	3	A	D	0	WFASSIGN_NDX3
WFASSIGNMENT	NODEID	4	A	D	0	WFASSIGN_NDX3
WFASSIGNMENT	ASSIGNSTATUS	1	A	D	0	WFASSIGN_NDX4
WFCALLSTACK	WFCALLSTACKID	1	A	U	0	WFCALLSTACK_NDX
WFCALLSTACK	WFID	1	A	D	0	WFCALLSTACK_NDX1
WFCALLSTACK	PROCESSNAME	2	A	D	0	WFCALLSTACK_NDX1
WFCALLSTACK	PROCESSREV	3	A	D	0	WFCALLSTACK_NDX1
WFCALLSTACK	WFID	1	A	D	0	WFCALLSTACK_NDX2
WFCALLSTACK	WFID	1	A	U	1	WFCALLSTACK_NDX3
WFCALLSTACK	CALLSEQ	2	A	U	1	WFCALLSTACK_NDX3
WFCONDITION	WFCONDITIONID	1	A	U	0	WFCONDITION_NDX
WFCONDITION	PROCESSNAME	1	A	U	0	WFCONDITION_NDX1
WFCONDITION	PROCESSREV	2	A	U	0	WFCONDITION_NDX1
WFCONDITION	NODEID	3	A	U	0	WFCONDITION_NDX1
WFINPUT	PROCESSNAME	1	A	U	1	WFINPUT
WFINPUT	PROCESSREV	2	A	U	1	WFINPUT
WFINPUT	NODEID	3	A	U	1	WFINPUT
WFINPUT	WFINPUTID	1	A	U	0	WFINPUT_NDX
WFINSTANCE	WFID	1	A	U	1	WFINSTANCE_NDX1
WFINTERACTION	WFINTERACTIONID	1	A	U	0	WFINTERACTION_NDX
WFINTERACTION	PROCESSNAME	1	A	U	0	WFINTERACTION_NDX1
WFINTERACTION	PROCESSREV	2	A	U	0	WFINTERACTION_NDX1
WFINTERACTION	NODEID	3	A	U	0	WFINTERACTION_NDX1
WFNODE	DESCRIPTION	1	A	D	0	WFNODEDES_TIDX
WFNODE	WFNODEID	1	A	U	0	WFNODE_NDX
WFNODE	PROCESSNAME	1	A	U	1	WFNODE_NDX1
WFNODE	PROCESSREV	2	A	U	1	WFNODE_NDX1
WFNODE	NODEID	3	A	U	1	WFNODE_NDX1
WFNODE	PROCESSNAME	1	A	D	0	WFNODE_NDX2
WFNODE	PROCESSREV	2	A	D	0	WFNODE_NDX2
WFNODE	NODETYPE	3	A	D	0	WFNODE_NDX2
WFNOTIFICATION	NOTIFICATIONID	1	A	U	0	WFNOTIFICATION_NDX
WFNOTIFICATION	NOTIFICATIONID	1	A	U	0	WFNOTIFY_NDX1
WFNOTIFICATION	PROCESSNAME	2	A	U	0	WFNOTIFY_NDX1
WFNOTIFICATION	PROCESSREV	3	A	U	0	WFNOTIFY_NDX1
WFNOTIFICATION	PROCESSNAME	1	A	D	0	WFNOTIFY_NDX2
WFNOTIFICATION	PROCESSREV	2	A	D	0	WFNOTIFY_NDX2
WFNOTIFICATION	NODEID	3	A	D	0	WFNOTIFY_NDX2
WFPROCESS	DESCRIPTION	1	A	D	0	WFPROCESSDES_TIDX
WFPROCESS	WFPROCESSID	1	A	U	0	WFPROCESS_NDX
WFPROCESS	PROCESSNAME	1	A	U	1	WFPROCESS_NDX1
WFPROCESS	PROCESSREV	2	A	U	1	WFPROCESS_NDX1
WFPROCESS	OBJECTNAME	1	A	D	0	WFPROCESS_NDX2
WFPROCESS	ENABLED	2	A	D	0	WFPROCESS_NDX2
WFPROCESS	MIGRATED	1	A	D	0	WFPROCESS_NDX3
WFREVISION	WFREVISIONID	1	A	U	0	WFREVISION_NDX
WFREVISION	MAINPROCESS	1	A	U	1	WFREVISION_NDX1
WFREVISION	REVISION	2	A	U	1	WFREVISION_NDX1

Table	Column	ColSeq	Order	Unique	Cluster	Index Name
WFREVISION	PROCESSNAME	3	A	U	1	WFREVISION_NDX1
WFREVISION	REVISION	1	A	D	0	WFREVISION_NDX3
WFSTART	WFSTARTID	1	A	U	0	WFSTART_NDX
WFSTART	PROCESSNAME	1	A	U	1	WFSTART_NDX1
WFSTART	PROCESSREV	2	A	U	1	WFSTART_NDX1
WFSTART	NODEID	3	A	U	1	WFSTART_NDX1
WFSTOP	WFSTOPID	1	A	U	0	WFSTOP_NDX
WFSTOP	PROCESSNAME	1	A	U	1	WFSTOP_NDX1
WFSTOP	PROCESSREV	2	A	U	1	WFSTOP_NDX1
WFSTOP	NODEID	3	A	U	1	WFSTOP_NDX1
WFSUBPROCESS	WFSUBPROCESSID	1	A	U	0	WFSUBPROCESS_NDX
WFSUBPROCESS	PROCESSNAME	1	A	U	1	WFSUBPROC_NDX1
WFSUBPROCESS	PROCESSREV	2	A	U	1	WFSUBPROC_NDX1
WFSUBPROCESS	NODEID	3	A	U	1	WFSUBPROC_NDX1
WFTASK	WFTASKID	1	A	U	0	WFTASK_NDX
WFTASK	PROCESSNAME	1	A	U	1	WFTASK_NDX1
WFTASK	PROCESSREV	2	A	U	1	WFTASK_NDX1
WFTASK	NODEID	3	A	U	1	WFTASK_NDX1
WFTRANSACTION	TRANSID	1	A	U	0	WFTRANSACTIONU_NDX
WFTRANSACTION	NODEID	1	A	D	0	WFTRANSACTION_NDX1
WFTRANSACTION	PROCESSNAME	2	A	D	0	WFTRANSACTION_NDX1
WFTRANSACTION	WFID	3	A	D	0	WFTRANSACTION_NDX1
WFTRANSACTION	TRANSDATE	4	A	D	0	WFTRANSACTION_NDX1
WFTRANSACTION	TRANSID	1	A	U	1	WFTRANSACTION_NDX2
WFTRANSACTION	NODEID	2	A	U	1	WFTRANSACTION_NDX2
WFTRANSACTION	PROCESSNAME	3	A	U	1	WFTRANSACTION_NDX2
WFTRANSACTION	WFID	4	A	U	1	WFTRANSACTION_NDX2
WFWAITLIST	WFWAITLISTID	1	A	U	0	WFWAITLIST_NDX
WFWAITLIST	PROCESSNAME	1	A	U	0	WFWAITLIST_NDX1
WFWAITLIST	PROCESSREV	2	A	U	0	WFWAITLIST_NDX1
WFWAITLIST	NODEID	3	A	U	0	WFWAITLIST_NDX1
WFWAITLIST	EVENTNAME	4	A	U	0	WFWAITLIST_NDX1
WMMATCH	WMMATCHID	1	A	U	0	WMMATCH_NDX
WOANCESTOR	WOANCESTORID	1	A	U	0	WOANCESTOR_NDX
WOANCESTOR	SITEID	1	A	U	1	WOANCESTOR_NDX1
WOANCESTOR	WONUM	2	A	U	1	WOANCESTOR_NDX1
WOANCESTOR	ANCESTOR	3	A	U	1	WOANCESTOR_NDX1
WOANCESTOR	SITEID	1	A	D	0	WOANCESTOR_NDX2
WOANCESTOR	ANCESTOR	2	A	D	0	WOANCESTOR_NDX2
WOCONTRACT	WOCONTRACTID	1	A	U	0	WOCONTRACT_NDX
WOKEN	DESCRIPTION	1	A	D	0	WOKENDES_TIDX
WOKEN	WOKENID	1	A	U	0	WOKEN_NDX
WOKEN	SITEID	1	A	U	1	WOKEN_NDX1
WOKEN	RUNID	2	A	U	1	WOKEN_NDX1
WOKEN	RUNORDER	3	A	U	1	WOKEN_NDX1
WOHAZARD	DESCRIPTION	1	A	D	0	WOHAZARDDDES_TIDX
WOHAZARD	WOHAZARDID	1	A	U	0	WOHAZARD_NDX
WOHAZARD	SITEID	1	A	U	1	WOHAZARD_NDX1
WOHAZARD	WONUM	2	A	U	1	WOHAZARD_NDX1
WOHAZARD	HAZARDID	3	A	U	1	WOHAZARD_NDX1
WOHAZARD	WOSAFETYDATASOURCE	4	A	U	1	WOHAZARD_NDX1

Table	Column	ColSeq	Order	Unique	Cluster	Index Name
WOHAZARDPREC	WOHAZARDPRECID	1	A	U	0	WOHAZARDPREC_NDX
WOHAZARDPREC	SITEID	1	A	U	1	WOHAZARDPREC_NDX1
WOHAZARDPREC	WONUM	2	A	U	1	WOHAZARDPREC_NDX1
WOHAZARDPREC	HAZARDID	3	A	U	1	WOHAZARDPREC_NDX1
WOHAZARDPREC	PRECAUTIONID	4	A	U	1	WOHAZARDPREC_NDX1
WOHAZARDPREC	WOSAFETYDATASOURCE	5	A	U	1	WOHAZARDPREC_NDX1
WOLOCKOUT	DESCRIPTION	1	A	D	0	WOLOCKOUTDES_TIDX
WOLOCKOUT	WOLOCKOUTID	1	A	U	0	WOLOCKOUTID_NDX
WOLOCKOUT	SITEID	1	A	U	1	WOLOCKOUT_NDX1
WOLOCKOUT	WONUM	2	A	U	1	WOLOCKOUT_NDX1
WOLOCKOUT	LOCKOUTID	3	A	U	1	WOLOCKOUT_NDX1
WOLOCKOUT	WOSAFETYDATASOURCE	4	A	U	1	WOLOCKOUT_NDX1
WOLOCKOUT	DEVICEDESCRIPTION	1	A	D	0	WOLOCKOUT_T2DX
WOMETER	WOMETERID	1	A	U	0	WOMETER_NDX
WOMETER	WONUM	1	A	U	0	WOMETER_NDX1
WOMETER	SITEID	2	A	U	0	WOMETER_NDX1
WOMETER	WOMETERID	3	A	U	0	WOMETER_NDX1
WOOWNERHISTORY	WOOWNERHISTORYID	1	A	U	0	WOOWNERHISTORY_NDX
WOOWNERHISTORY	SITEID	1	A	U	0	WOOWNERHIST_NDX1
WOOWNERHISTORY	WONUM	2	A	U	0	WOOWNERHIST_NDX1
WOOWNERHISTORY	OWNDATE	3	A	U	0	WOOWNERHIST_NDX1
WOPRECAUTION	DESCRIPTION	1	A	D	0	WOPRECAUTDES_TIDX
WOPRECAUTION	WOPRECAUTIONID	1	A	U	0	WOPRECAUTION_NDX
WOPRECAUTION	SITEID	1	A	U	1	WOPRECAUTION_NDX1
WOPRECAUTION	WONUM	2	A	U	1	WOPRECAUTION_NDX1
WOPRECAUTION	PRECAUTIONID	3	A	U	1	WOPRECAUTION_NDX1
WOPRECAUTION	WOSAFETYDATASOURCE	4	A	U	1	WOPRECAUTION_NDX1
WORELEXT	RELEASEDESIGN	1	A	D	0	WORELEXREL_TIDX
WORELEXT	BUILDPROCEDURES	1	A	D	0	WORELEXTBUI_TIDX
WORELEXT	FILESINRELEASE	1	A	D	0	WORELEXTFIL_TIDX
WORELEXT	RELEASEPOLICIES	1	A	D	0	WORELEXTREL_TIDX
WORELEXT	WORELEXTID	1	A	U	0	WORELEXT_NDX
WORELEXT	SITEID	1	A	U	0	WORELEXT_NDX1
WORELEXT	WONUM	2	A	U	0	WORELEXT_NDX1
WORKLOG	DESCRIPTION	1	A	D	0	WORKLOGDES_TIDX
WORKLOG	WORKLOGID	1	A	U	1	WORKLOG_NDX1
WORKORDER	BACKOUTPLAN	1	A	D	0	WORKORDERBAC_TIDX
WORKORDER	DESCRIPTION	1	A	D	0	WORKORDERDES_TIDX
WORKORDER	ENVIRONMENT	1	A	D	0	WORKORDERENV_TIDX
WORKORDER	JUSTIFYPRIORITY	1	A	D	0	WORKORDERJUS_TIDX
WORKORDER	REASONFORCHANGE	1	A	D	0	WORKORDERREA_TIDX
WORKORDER	VERIFICATION	1	A	D	0	WORKORDERVER_TIDX
WORKORDER	WHOMISCHANGEFOR	1	A	D	0	WORKORDERWHO_TIDX
WORKORDER	WORKORDERID	1	A	U	0	WORKORDER_NDX
WORKORDER	SITEID	1	A	U	1	WORKORDER_NDX1
WORKORDER	WONUM	2	A	U	1	WORKORDER_NDX1
WORKORDER	PARENT	1	A	D	0	WORKORDER_NDX10
WORKORDER	SITEID	2	A	D	0	WORKORDER_NDX10
WORKORDER	SUPERVISOR	1	A	D	0	WORKORDER_NDX15

Table	Column	ColSeq	Order	Unique	Cluster	Index Name
WORKORDER	SITEID	2	A	D	0	WORKORDER_NDX15
WORKORDER	WOCLASS	1	A	D	0	WORKORDER_NDX17
WORKORDER	ORIGRECORDID	1	A	D	0	WORKORDER_NDX18
WORKORDER	ORIGRECORDCLASS	2	A	D	0	WORKORDER_NDX18
WORKORDER	WOCLASS	3	A	D	0	WORKORDER_NDX18
WORKORDER	SITEID	1	A	D	0	WORKORDER_NDX2
WORKORDER	STATUS	2	A	D	0	WORKORDER_NDX2
WORKORDER	SITEID	1	A	D	0	WORKORDER_NDX3
WORKORDER	HISTORYFLAG	2	A	D	0	WORKORDER_NDX3
WORKORDER	SITEID	1	A	D	0	WORKORDER_NDX6
WORKORDER	RESPONDBY	2	A	D	0	WORKORDER_NDX6
WORKORDER	SITEID	1	A	D	0	WORKORDER_NDX7
WORKORDER	ASSETNUM	2	A	D	0	WORKORDER_NDX7
WORKORDER	PROBLEMCODE	3	A	D	0	WORKORDER_NDX7
WORKORDER	STATUS	4	A	D	0	WORKORDER_NDX7
WORKORDER	SITEID	1	A	D	0	WORKORDER_NDX8
WORKORDER	JPNUM	2	A	D	0	WORKORDER_NDX8
WORKORDER	SITEID	1	A	D	0	WORKORDER_NDX9
WORKORDER	LOCATION	2	A	D	0	WORKORDER_NDX9
WORKORDER	PROBLEMCODE	3	A	D	0	WORKORDER_NDX9
WORKORDER	STATUS	4	A	D	0	WORKORDER_NDX9
WORKPERIOD	WORKPERIODID	1	A	U	0	WORKPERIOD_NDX
WORKPERIOD	ORGID	1	A	U	0	WORKPERIOD_NDX1
WORKPERIOD	CALNUM	2	A	U	0	WORKPERIOD_NDX1
WORKPERIOD	WORKDATE	3	A	U	0	WORKPERIOD_NDX1
WORKPERIOD	SHIFTNUM	4	A	U	0	WORKPERIOD_NDX1
WORKPERIOD	ORGID	1	A	D	0	WORKPERIOD_NDX2
WORKPERIOD	WORKDATE	2	A	D	0	WORKPERIOD_NDX2
WORKPERIOD	ORGID	1	A	D	0	WORKPERIOD_NDX3
WORKPERIOD	SHIFTNUM	2	A	D	0	WORKPERIOD_NDX3
WORKPERIOD	WORKDATE	3	A	D	0	WORKPERIOD_NDX3
WORKPRIORITY	WORKPRIORITYID	1	A	U	0	WORKPRIORITY_NDX
WORKPRIORITY	SITEID	1	A	U	1	WORKPRIORITY_NDX1
WORKPRIORITY	PRIORITY	2	A	U	1	WORKPRIORITY_NDX1
WORKTYPE	WORKTYPEID	1	A	U	0	WORKTYPE_NDX
WORKTYPE	ORGID	1	A	U	1	WORKTYPE_NDX1
WORKTYPE	WOCLASS	2	A	U	1	WORKTYPE_NDX1
WORKTYPE	WORKTYPE	3	A	U	1	WORKTYPE_NDX1
WORKVIEW	WORKVIEWID	1	A	U	0	WORKVIEW_NDX
WORKVIEW	OWNER	1	A	D	0	WORKVIEW_NDX1
WORKVIEW	OWNERGROUP	2	A	D	0	WORKVIEW_NDX1
WORKVIEW	RECORDKEY	1	A	U	0	WORKVIEW_NDX2
WORKVIEW	CLASS	2	A	U	0	WORKVIEW_NDX2
WORKVIEW	SITEID	3	A	U	0	WORKVIEW_NDX2
WOSAFETYLINK	WOSAFETYLINKID	1	A	U	0	WOSAFETYLINKU_NDX
WOSAFETYLINK	SITEID	1	A	U	1	WOSAFETYLINK_NDX1
WOSAFETYLINK	WOSAFETYLINKID	2	A	U	1	WOSAFETYLINK_NDX1
WOSAFETYLINK	SITEID	1	A	D	0	WOSAFETYLINK_NDX2
WOSAFETYLINK	WONUM	2	A	D	0	WOSAFETYLINK_NDX2
WOSAFETYLINK	APPLYSEQ	3	A	D	0	WOSAFETYLINK_NDX2
WOSAFETYPLAN	DESCRIPTION	1	A	D	0	WOSAFETYPLAN_NDX
WOSAFETYPLAN	WOSAFETYPLANID	1	A	U	0	WOSAFETYPLAN_NDX

Table	Column	ColSeq	Order	Unique	Cluster	Index Name
WOSAFETYPLAN	SITEID	1	A	U	1	WOSAFETYPLAN_NDX1
WOSAFETYPLAN	WONUM	2	A	U	1	WOSAFETYPLAN_NDX1
WOSTATUS	WOSTATUSID	1	A	U	0	WOSTATUS_NDX
WOSTATUS	SITEID	1	A	D	0	WOSTATUS_NDX1
WOSTATUS	CHANGEDATE	2	A	D	0	WOSTATUS_NDX1
WOSTATUS	WONUM	3	A	D	0	WOSTATUS_NDX1
WOSTATUS	SITEID	1	A	D	0	WOSTATUS_NDX2
WOSTATUS	WONUM	2	A	D	0	WOSTATUS_NDX2
WOSTATUS	SITEID	1	A	D	0	WOSTATUS_NDX3
WOSTATUS	STATUS	2	A	D	0	WOSTATUS_NDX3
WOTAGLOCK	TAGLOCKID	1	A	U	0	WOTAGLOCKU_NDX
WOTAGLOCK	SITEID	1	A	U	1	WOTAGLOCK_NDX1
WOTAGLOCK	TAGLOCKID	2	A	U	1	WOTAGLOCK_NDX1
WOTAGLOCK	SITEID	1	A	D	0	WOTAGLOCK_NDX2
WOTAGLOCK	WONUM	2	A	D	0	WOTAGLOCK_NDX2
WOTAGLOCK	TAGOUTID	3	A	D	0	WOTAGLOCK_NDX2
WOTAGLOCK	LOCKOUTID	4	A	D	0	WOTAGLOCK_NDX2
WOTAGLOCK	WOSAFETYDATASOURCE	5	A	D	0	WOTAGLOCK_NDX2
WOTAGLOCK	SITEID	1	A	D	0	WOTAGLOCK_NDX3
WOTAGLOCK	WONUM	2	A	D	0	WOTAGLOCK_NDX3
WOTAGLOCK	TAGOUTID	3	A	D	0	WOTAGLOCK_NDX3
WOTAGLOCK	APPLYSEQ	4	A	D	0	WOTAGLOCK_NDX3
WOTAGOUT	DESCRIPTION	1	A	D	0	WOTAGOUTDES_TIDX
WOTAGOUT	WOTAGOUTID	1	A	U	0	WOTAGOUT_NDX
WOTAGOUT	SITEID	1	A	U	1	WOTAGOUT_NDX1
WOTAGOUT	WONUM	2	A	U	1	WOTAGOUT_NDX1
WOTAGOUT	TAGOUTID	3	A	U	1	WOTAGOUT_NDX1
WOTAGOUT	WOSAFETYDATASOURCE	4	A	U	1	WOTAGOUT_NDX1
WPEDITSETTING	WPEDITSETTINGID	1	A	U	0	WPEDITSETTING_NDX
WPEDITSETTING	ORGID	1	A	U	1	WPEDITSETTING_NDX1
WPEDITSETTING	STATUS	2	A	U	1	WPEDITSETTING_NDX1
WPITEM	DESCRIPTION	1	A	D	0	WPITEMDES_TIDX
WPITEM	WPITEMID	1	A	U	0	WPITEM_NDX
WPLABOR	WPLABORID	1	A	U	0	WPLABOR_NDX
WPLABOR	SITEID	1	A	U	1	WPLABOR_NDX1
WPLABOR	WONUM	2	A	U	1	WPLABOR_NDX1
WPLABOR	WPLABORID	3	A	U	1	WPLABOR_NDX1
WPLABOR	SITEID	1	A	D	0	WPLABOR_NDX2
WPLABOR	WONUM	2	A	D	0	WPLABOR_NDX2
WPLABOR	LABORCODE	3	A	D	0	WPLABOR_NDX2

maximo enterprise suite

Release 6.0
April 2006

Finance Manager's Guide

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About This Guide

Maximo® applications can support General Ledger (GL) accounting practices. By integrating Maximo with a financial application, you can access Maximo data and track Maximo transactions within your financial application(s).

The *Maximo Enterprise Suite Finance Manager's Guide* discusses the financial data collection features in Maximo. More specifically, the guide explains how GL account codes default as a result of standard Maximo processes, such as inserting records, using resources, receiving materials, record insertion, resource usage, materials receipt, and approving invoices.

For more information about establishing the account codes used in Maximo, refer to the *Maximo Enterprise Suite System Administrator's Guide*.

Why Read This Guide?

This guide provides information for understanding and monitoring financial processes in Maximo.

Who Should Read This Guide?

The Finance Manager or anyone else in your organization responsible for integrating Maximo with external financial systems should read this guide.

How to Use This Guide

The procedures and processes in this manual describe a default “out of the box” Maximo configuration. Because you can customize Maximo to meet the needs of your business, they might not match your Maximo configuration exactly.

Notation Conventions

The Maximo fields described in this manual depict the standard or default formats. Note that you can customize Maximo in the following ways:

- ▼ Adding custom fields
- ▼ Assigning applications to different modules
- ▼ Changing application and module names

- ▼ Changing field names
- ▼ Creating custom applications
- ▼ Displaying or not displaying applications
- ▼ Displaying or not displaying fields

Typographical Conventions

This guide uses the following typographical conventions:

the “path” Maximo uses to fill the General Ledger (GL) field named at the left of or above the first arrow.

Italics, when referring to other documentation, or for emphasis.

UPPER CASE, when referring to table and column names in the database.

Bold, when referring to field names.

Typographical Symbol

The ⇐ symbol used in this chapter means “comes from” or “defaults to.” When you read a statement from left to right, this symbol describes for you the “path” that Maximo uses to fill the GL field named to the left of or above the first arrow.

The field to the right of the last arrow must meet one of the following criteria:

- ▼ It is the field where you entered the GL account code or segment in Maximo, generally in the Chart of Accounts application.
- ▼ It is a field in another application in Maximo, which has its own section. To trace the GL account code all the way back to its entry in Chart of Accounts or other ultimate source application, refer to that section.

Chapter Contents

Maximo applications can support General Ledger (GL) accounting practices. By integrating Maximo with a financial application, you can access Maximo data and track Maximo transactions within your financial application(s).

The following table briefly describes each chapter in this document. Read the chapters in the order they appear and perform the tasks in sequence as written.

Chapter Contents Table

Chapter Name	Chapter Contents
Chapter 1: Security and Database Configuration	Mentions facets of Maximo of interest to the finance manager.
Chapter 2: Transaction Types	<ul style="list-style-type: none"> ▼ all transaction types created by Maximo ▼ groups transactions by their relevant database tables ▼ lists the processes by which you create the transactions.
Chapter 3: Valid GL Accounts	Lists Maximo GL account names (such as “inventory control account”), briefly describes the functions of each account.
Chapter 4: Financial Process Chapters	Background information to help you understand Chapter 5 – Chapter 10.
Chapter 5: Financial Processes in Assets	Lists and describes financial processes for the Assets and Locations applications
Chapter 6: Financial Processes in Inventory	Lists and describes financial processes for the Item Master, Inventory, Issues and Transfers, and Tools applications
Chapter 7: Financial Processes in Preventive Maintenance	Lists and describes financial processes for Preventive Maintenance application
Chapter 8: Financial Processes in Purchasing	Lists and describes financial processes for the Companies, Purchase Requisitions, Purchase Orders, Receiving, and Invoices (and Accounts Payable) applications
Chapter 9: Financial Processes in Resources	Lists and describes financial processes for the Labor application
Chapter 10: Financial Processes in Service Desk	Lists and describes financial processes for the Service Requests, Incidents, and Problems application
Appendix: GL Database Columns	Lists the GL account columns found in Maximo user applications.

Related Documentation

You can find more information related to the Maximo *Finance Manager's Guide* in the following documents:

Related Documentation Table.

Document	Description
<i>MXES User's Guide</i>	Provides an overview of Maximo features, and describes relationships among modules.
<i>MXES System Administrator's Guide</i>	Explains the following tasks: <ul style="list-style-type: none">▼ how to customize the system▼ manage the database▼ set up accounting features of the general ledger▼ use Maximo utilities
Online Help	Provides step by step procedures for every action in Maximo

Support

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The Support Web site includes information about product releases, software patches, and documentation updates. To find the most current version of a document, refer to the Support Web site's Knowledge Base.

Security and Database Configuration

1

This chapter describes the following topics as they are related to the *Maximo Enterprise Suite Finance Manager's Guide*:

- ▼ Security
- ▼ Database Configuration

Security

Security is important when implementing GL account codes within Maximo so that Maximo can communicate with a financial system.

Groups (of users) establish Maximo security. You establish and maintain security through the Users application (for users) and the Security Groups application (for groups) in the Security module. Security groups can have as many users as needed for security purposes. Also, users must belong to each corresponding group to have that type of security access.

For more information about establishing security levels for users, refer to the *Maximo Enterprise Suite System Administrator's Guide* and Security Help.

Database Configuration

The section describes the following database configuration actions:

- ▼ Authorizing GL Component Access
- ▼ Configuring your GL Account
- ▼ Using the Chart of Accounts Application
- ▼ Setting up Validation
- ▼ Specifying Validation Options for GL Account Codes
- ▼ Working with Locations

Authorizing GL Component Access

You set up GL account code formats using the **GL Account Configuration** action in the Database Configuration application in the Configuration module.

You use the GL Components tab in the Security Groups application to specify which groups can edit the account codes.

You can specify edit privileges separately for each component of the account code, letting you restrict users from updating specified GL components while letting them edit other components.

For more information about authorizing GL component access, refer to the *Maximo Enterprise Suite System Administrator's Guide*.

Configuring your GL Account

Use the **GL Account Configuration** action in the Database Configuration application to specify the basic format of GL account codes. Every organization will use this format. To support different configurations for each organization, configure your GL components to the maximum length that any organization might use.

Account Components

Several distinct components (also called segments) represent each GL code. Delimiters separate components when the account codes appear on your page. Maximo always stores the delimiters in the database, which lets your database support variable lengths for individual components.

Use GL Account Configuration to define the length and the data type of each component and to indicate whether each component is mandatory or optional.

The first component of the GL code is the cost center. You can use up to three characters to define your own cost center. The following are examples of cost centers you can define:

- ▼ FIN (Finance Group)
- ▼ RD (Research and Development)
- ▼ SM (Sales and Marketing)

For more information about GL account code formats, refer to the *Maximo Enterprise Suite User's Guide*.

Mandatory and Optional Components

Within an account code, a component can be mandatory or optional. In a fully-defined account, you must specify all mandatory components. In a partially-defined account, you can identify the mandatory component by the placeholder characters that it contains.

You do not have to specify an optional component. The optional component appears only if you specify it. Any optional components must come at the end of the account string. You cannot place an optional component between two mandatory components.

Example

You designated the first three components of an account as mandatory and the fourth as optional, making 1234-567 an unacceptable account code. Since the third component is mandatory, you must assign characters to the third component, even if you use placeholders. If both the third and fourth components are unknown, the account code would be 1234-567-???, assuming that you are using the character “?” as your placeholder. Since the fourth component is both optional and unknown, that component does not appear.

For more information about using GL Account Configuration, refer to the *Maximo Enterprise Suite System Administrator's Guide*.

Using the Chart of Accounts Application

In the Chart of Accounts application, you can perform the following activities:

- ▼ Enter company GL defaults, by company type
- ▼ Enter inventory-related account defaults for all inventory locations
- ▼ Enter resource code control accounts
- ▼ Enter valid values for each of the GL account components
- ▼ Select validation options
- ▼ Set up financial periods

You use the Chart of Accounts application to identify GL accounts in Maximo. By using GL Account Configuration in the Database Configuration application, you can configure Maximo to use the GL accounts in your external financial system. Using the same account structure, Maximo can work interactively with your external financial system.

To ensure that your Maximo represents your external financial system's GL accounts properly, check the Chart of Accounts application, which displays the GL accounts in Maximo.

For more information on using the Chart of Accounts application, refer to the *Maximo Enterprise Suite System Administrator's Guide* and the Chart of Accounts help.

Setting up Validation

Within the Chart of Accounts Application, Maximo clears the **Deactivate GL Validations?** check box by default to indicate that Maximo has enabled validation.

To enable both GL account code validation and financial period validation, do not select the **Deactivate GL Validations?** check box.

For more information about the fields contained on the Validation Options dialog box, see “Specifying Validation Options for GL Account Codes” on page 1-4.

Specifying Validation Options for GL Account Codes

To specify how you want Maximo to validate GL accounts when users enter them in a GL account fields, you use the Validation Options dialog box in Chart of Accounts.

NOTE You specify the format of GL account codes using the GL Account Configuration dialog box in Database Configuration.

To specify how you want Maximo to validate GL accounts, complete the following steps:

- 1 Open the Chart of Accounts application.
- 2 In the Organizations table window, select the organization for which you want to specify validation rules.
- 3 From the Select Action menu, select **Validation Options** to open the Validation Options dialog box, which contains four check box boxes.
- 4 Select or clear the appropriate check boxes:
 - ▼ **Deactivate GL Validations?** – If you leave this check box cleared (the default), Maximo validates GL entries in GL account fields against values in Chart of Accounts as specified by the following two check boxes (**Validate GL Component Combinations?** and **Validate Financial Periods?**).

If you select this check box:

- Maximo does not validate any GL fields. You disable the general ledger feature even though users can still enter values in GL fields.
 - Maximo clears the remaining check boxes, and you cannot select them.
- ▼ **Validate GL Component Combinations?** – You can either select or clear this check box.
 - If you select this check box (the default), Maximo only accepts a GL account entry if the combination of component values matches a GL account code in the GL Accounts table window. The Select GL Account dialog box does not display any component value that has not been used as part of a GL account code in the GL Accounts table window.
 - If you clear this check box, Maximo accepts any combination of valid component values. To be valid, a component value must match a value in the GL Component Maintenance dialog box. The composite GL account code does not have to match an existing one in the GL Accounts table window.
 - ▼ **Validate Financial Periods?** – If you select this check box (the default), Maximo verifies that a transaction falls within an open, valid financial period, as defined in the Financial Periods dialog box.

If you clear this check box, Maximo does not validate against defined financial periods.

To define your company's financial periods, use the Chart of Accounts application. For more information, refer to the *Maximo Enterprise Suite System Administrator's Guide*.

After you close a financial period by entering an actual close date, Maximo no longer assigns any financial transactions to that period.

- ▼ **Require valid GL account for all transactions?** – If you clear this check box (the default), Maximo allows transactions when users do not specify a valid GL account.
- ▼ If you select this check box, valid GL debit and credit accounts must be present on all transactions. In most cases, Maximo uses the GL accounts from the vendor record as a default.

5 To save any validation changes, click **OK**.

Example

You configure account codes to have three mandatory components. You make 1111 a valid first component, 222 a valid second component and 333 a valid third component. However, you create no account code in Chart of Accounts containing both 222 as a second component and 333 as a third component.

If you select the **Validate GL Component Combinations?** check box, you cannot use the account code 1111-222-333.

If, you clear the **Validate Component Combinations?** check box, you can use the account code 1111-222-333.

Working with Locations

Maximo recognizes and tracks several location types. You should understand how and why you use each location type and how each type differs from the others. You can establish a **GL** account code for any type of location.

Operating Locations

Operating locations are where you use your assets; therefore, employees usually write work orders either for a location itself or an asset in an operating location. You also use operating locations to build a location hierarchy. You can design the location hierarchy to include all locations in your plant against which work orders are written. You also can use the hierarchy to track assets moving in and out of locations.

You can have several location hierarchies within Maximo and hierarchies can share locations. You may find it helpful to assign default GL account codes to locations, instead of assets, in Maximo. For more information, refer to the *Maximo Enterprise Suite User's Guide* and Locations Help.

Other Asset Type Locations

In addition to operating locations, assets also can be in other "asset type" locations, such as vendor, salvage, and repair locations. You can assign default GL accounts to these locations.

Storeroom Locations

You name an inventory storeroom using its location. Employees stock items in and from where they issue items. For more information about storeroom locations and other inventory type locations, refer to the *Maximo Enterprise Suite User's Guide* and Inventory Help.

Other Inventory Type Locations

Other “inventory type” locations are labor and courier. Use labor and courier locations to track inventory items either en route to or from vendors, or between a storeroom and its destination (another storeroom, or a work order site, for example).

Courier records can have an associated company location record, and labor records can have an associated labor location record. You also can transfer inventory directly to a labor or courier location. For more information about location types, refer to the *Maximo Enterprise Suite User's Guide*.

Transaction Types

2

The following tables list Maximo transaction types by their associated database table.

Each Maximo database table's name is uppercase, followed by the table's description. For each database table, the following tables list transaction types and associated processes.

In the Transaction Type column, the database name for the transaction is uppercase, followed by the transaction's full name or description.

The Associated Processes column briefly describes the Maximo processes that can write the corresponding transaction type to the database table. For more information about these processes, see Chapter 4, "Financial Processes."

Database Tables

The section contains information for the following database tables:

- ▼ INVOICETRANS – Invoice Transactions
- ▼ INVTRANS – Inventory Transactions
- ▼ LABTRANS – Labor Transactions
- ▼ MATRECTRANS – Material Receipts Transactions
- ▼ MATUSETRANS – Material Use Transactions
- ▼ SERVRECTRANS – Service Receipts Transactions
- ▼ TOOLTRANS – Tools Transactions

INVOICETRANS -- Invoice Transactions

The following table lists the transaction types and associated processes for the INVOICETRANS (Invoice Transactions) table.

INVOICETRANS Transaction Types and Associated Processes

Transaction Type	Transaction Value
TOTAL – Invoice total transaction	The total amount of the invoice, including tax.
TAX1 – Tax transaction for tax type 1	The line cost equals the sum of tax type 1 on all invoice lines, if the invoice includes tax type 1.
TAX2 – Tax transaction for tax type 2	The line cost equals the sum of tax type 2 on all invoice lines, if the invoice includes tax type 2.
TAX3 – Tax transaction for tax type 3	The line cost equals the sum of tax type 3 on all invoice lines, if the invoice includes tax of type 3.
TAX4 – Tax transaction for tax type 4	The line cost equals the sum of tax type 4 on all invoice lines, if the invoice includes tax of type 4.
TAX5 – Tax transaction for tax type 5	The the line cost equals the sum of tax type 5 on all invoice lines, if the invoice includes tax type 5.
INVCEVAR – Invoice cost variance transaction	<p>For materials received into a storeroom if a cost variance between receipt and invoice exists, and if either following condition is true:</p> <p>UpdateInventory = 1 and invoice quantity > current balance</p> <p>Or</p> <p>UpdateInventory = 0, the line cost equals the sum of all price variances on the invoice</p>
CURVAR – Currency variance transaction	<p>Approve invoice for materials to go to storeroom if a currency variance between receipt and invoice exists and if either following condition is true:</p> <p>UpdateInventory = 1 and invoice quantity > current balance</p> <p>Or</p> <p>Update Inventory = 0, the line cost equals the sum of all currency variances on the invoice</p>

INVTRANS -- Inventory Transactions

The following table lists the transaction types and associated processes for the INVTRANS (Inventory Transactions) table.

INVTRANS Transaction Types and Associated Processes

Transaction Type (Value)	Inventory Action
AVGCSTADJ – Average cost adjustment	Adjust Average Cost action in Inventory.
CAPCSTADJ – Capitalized cost adjustment	Adjust Capitalized Cost action in Inventory.
CURBALADJ – Current balance adjustment	Adjust Current Balance action in Inventory.
	Reconcile Balances action in Inventory.
INSERTITEM – Inserting an item record	Insert an item/location record in Inventory.
	Duplicate record.
	Add Item to Storeroom Location action in Inventory.
	The Transfer In tab or Transfer Out tab in the Issues and Transfers application, if used to transfer material items to a storeroom location where the items did not previously exist.
PCOUNTADJ – Physical count adjustment	Adjust Physical Count action in Inventory.
STDCSTADJ – Standard cost adjustment	Adjust Standard Cost action in Inventory.
STDRECADJ – Standard receipt adjustment	Receive Material on Purchase Orders into storeroom if the following conditions are met:
	<ul style="list-style-type: none"> ▼ Default issue cost is set to standard. ▼ Receipt price differs from the standard cost.

LABTRANS -- Labor Transactions

The following table lists the transaction types and associated processes for the LABTRANS (Labor Transactions) table.

LABTRANS Transaction Types and Associated Processes:

Transaction Type (Value)	Associated Processes
WORK	Report labor use of type WORK (that is, for hours spent in actual work time).
NON-WORK	Report labor use of type NON-WORK (that is, for hours spent in non-work transaction).
OT-REF	Report labor use of type OT-REF (that is, for hours spent in overtime refused)—memo transaction only.
TRAV	Report labor use of type TRAV (that is, for hours spent in travel time). Synonym of WORK.
WMATL	Report labor use of type WMATL (that is, for hours spent waiting for materials). Synonym of WORK.
SICK	Report labor use of type SICK (that is, for hours spent in sick time). Synonym of NON-WORK.
VAC	Report labor use of type VAC (that is, for hours spent in vacation time). Synonym of NON-WORK.

MATRECTRANS -- Material Receipts Transactions

The following table lists the transaction types and associated processes for the MATRECTRANS (Material Receipts Transactions) table.

MATRECTRANS Transaction Types and Associated Processes

Transaction Type (Value)	Associated Processes
RECEIPT – Material receipt	Material Receipt in Receiving.
RETURN – Material return	Material Returns in Receiving.
TRANSFER – Material transfer	Transfer Current Item action in Inventory. Transfer In and Transfer Out in Issues and Transfers. Material receipt, internal in Receiving. Move/modify assets from non-storeroom location to inventory-type location in Assets, Purchasing, or Work Orders.
INVOICE – Invoice variance	Approve invoice for materials purchased for a storeroom, if a cost variance between receipt and invoice exists.

MATUSETRANS -- Material Use Transactions

The following table lists the transaction types and associated processes for the MATUSETRANS (Material Use Transactions) table.

MATUSETRANS Transaction Types and Associated Processes

Transaction Type (Value)	Associated Processes
ISSUE – Issue or usage	Issue an item in Inventory Control. Issue an item in Issues and Transfers. Report metered material use against a work order. Report actual material use. Material receipt, external, issue on receipt.

Transaction Type (Value)	Associated Processes
RETURN – Return item to store	Return a non-rotating item using Issue Current Item in Inventory.
	Return an item using Issues and Transfers.
	Report actual material use.

SERVRECTRANS -- Service Receipts Transactions

The following table lists the transaction types and associated processes for the SERVRECTRANS (Service Receipts Transactions) table.

SERVRECTRANS Transactions Types and Associated Processes

Transaction Type (Value)	Associated Processes
RECEIPT	Service receipt in Receiving.
INVOICE – Invoice variance	Approve invoice for services, either with no PO, or with a cost variance between receipt and invoice.
	Approve invoice for services subsequent to distributing costs for those services.

TOOLTRANS -- Tools Transactions

The following table lists the transaction types and associated processes for the TOOLTRANS (Tools Transactions) table.

TOOLTRANS Transaction Type and Associated Process

Transaction Type (Value)	Associated Process
none	Stores records that show actual tool use.

Valid GL Accounts

3

Overview

This chapter describes the valid General Ledger (GL) account types that you can establish and use with Maximo. You can set up these accounts within Maximo so that they correspond to accounts that you use in your external accounting system.

When you establish your Chart of Accounts in Maximo, you can match the account *codes* in your accounting system to the account *names* in the Maximo Chart of Accounts application. For information about the Chart of Accounts application, refer to the *Maximo Enterprise Suite System Administrator's Guide*.

Maximo transactions have a debit and a credit entry. For each transaction, Maximo writes a certain account to the database as the debit account. However, the cost of the transaction can be negative or positive to create the correct net accounting effect. In other words, Maximo can create the net effect of a credit to a given account by “debiting” that account with a negative cost amount.

For example, in recording a receipts price variance, Maximo “debits” the receipts price variance account, whether the receipt price is higher or lower than the purchase order price. If the receipt price is lower than the purchase order price, Maximo “debits” the receipts price variance account by a negative amount. Similarly, Maximo can create the net effect of a debit by “crediting” an account by a negative amount.

Company-Related Accounts

This section describes the following company-related accounts:

- ▼ AP Suspense account
- ▼ Receive But Not Invoiced (RBNI) account

AP Suspense Account

The AP Suspense account holds the value of invoices that you have approved, but not paid. When you approve an invoice, Maximo credits the AP Suspense account for the invoice total transaction, and debits the RBNI account.

You can establish the AP Suspense account on a company-by-company basis. If you do not specify an account for a particular company, Maximo defaults to the AP Suspense account in the Chart of Accounts. The Chart of Accounts lists the AP Suspense account by company type, under the Company-Related Accounts action.

RBNI Account vs. AP Suspense Account When Invoice Is Approved

Maximo debits the . . .	and credits the . . .
RNBI account,	AP Suspense account.

Received but not Invoiced (RBNI) Account

Maximo uses the RBNI account to track materials and services that you have received, but that you have not yet invoiced. When you receive an item, Maximo credits the RBNI account. When you approve the invoice for that item, Maximo debits the RBNI account for the invoice total transaction.

You can establish the RBNI account on a company-by-company basis. If you do not specify an account for a particular company, Maximo defaults to the RBNI account in the Chart of Accounts. The Chart of Accounts lists the RBNI accounts by company type, under the **Company-Related Accounts** action.

Inventory-Related Accounts

This section describes the following inventory-related accounts:

- ▼ Currency Variance account
- ▼ Inventory Control account
- ▼ Inventory Cost Adjustment account
- ▼ Inventory GL account (item resource code)
- ▼ Invoice Cost Variance account
- ▼ Purchase Variance account
- ▼ Receipts Price Variance account
- ▼ Rotating Suspense account
- ▼ Shrinkage Cost account

Currency Variance Account

Maximo uses the Currency Variance account to track differences between the receipt price and the invoice cost that result from changes in the exchange rate. Even if the exchange rate fluctuates between receipt and invoice, Maximo debits this account only if either following condition is true:

- ▼ You cleared the **Update Cost/Currency Variances on Inventory Costs?** check box.

or

- ▼ You selected the **Update Cost/Currency Variances on Inventory Costs?** check box and the invoice amount exceeds the current balance.

If you use standard cost, clear the **Update Cost/Currency Variances on Inventory Costs?** check box.

If you clear the check box, Maximo writes the transaction amount to the Currency Variance account. If you select the check box and the invoice amount exceeds its current balance, the second condition listed above is true, Maximo writes only the difference to the Currency Variance account.

NOTE The **Update Cost/Currency Variances on Inventory Costs?** check box is located on the Inventory Defaults dialog box. To access this dialog box, complete the following steps:

- 1 Select **Administration > Organizations** to open the Organizations application.
- 2 Select an organization from the list Maximo provides and click the Organization tab.
- 3 From the Select Action menu and select **Inventory Options > Inventory Defaults** to open the Inventory Defaults dialog box.

Maximo debits the Currency Variance account in a Currency Variance transaction:

- ▼ If an exchange rate change causes the invoice cost in base currency to exceed the receipt cost in base currency, the transaction amount is positive.
- ▼ If an exchange rate change causes the invoice cost in base currency to be less than the receipt cost in base currency, the transaction amount is negative.

Maximo pairs this account with the Inventory Control account: When the currency variance account's value increases, the Inventory Control account's value decreases.

Currency Variance Account vs. Inventory Control Account

If the Currency Variance account . . .	the Inventory Control account . . .
increases,	decreases.
decreases,	increases.

Variance accounts track price variances by *storeroom location*, not by *item*.

Inventory Control Account

The Inventory Control account stores the monetary value of the stock in the associated storeroom location. When you transfer an item, Maximo debits the receiving storeroom and credits the issuing storeroom. Also, Maximo credits the inventory control account for the following transactions involving inventory items:

- ▼ receipts price variance
- ▼ invoice cost variance
- ▼ currency variance
- ▼ and material issue or use

Maximo debits the Inventory Control account for the following transactions involving inventory items: receipt, total cost variance, and return. The inventory control account is also the debit account when a stock adjustment results from:

- ▼ adjust current balance
- ▼ adjust standard cost
- ▼ change capitalized status
- ▼ reconcile balances

Inventory Cost Adjustment Account

Maximo uses the inventory cost adjustment account to track changes when the **Adjust Average Cost** or **Adjust Standard Cost** actions cause the average price or the standard price, respectively, to change.

Maximo credits this account in an average cost adjustment or standard cost adjustment transaction. Maximo pairs the inventory cost adjustment account with the Inventory Control account. When Maximo credits the Inventory Cost adjustment account, it debits the Inventory Control account. When the average or standard cost increases, the transaction amount is positive.

Average or Standard Cost vs. Transaction Amount

If the average or standard cost . . .	the transaction amount is . . .
increases,	positive.
decreases,	negative.

Inventory GL Account (item resource code)

The Inventory GL account holds the resource code associated with the commodity group (that you set up in the Chart of Accounts), and appears as a segment of merged accounts in transactions such as issues, returns, and transfers of the item from the storeroom location.

Invoice Cost Variance Account

Maximo uses the Invoice Cost Variance account to track variances in the price, expressed in the vendor's currency, between receipt and invoice for the associated storeroom location. Even if the cost, expressed in the vendor's currency, changes between receipt and invoice, Maximo debits this account only if either of the following conditions is true:

- ▼ UPDATEINVENTORY in the MAXVARS table is set to 0 (No).

or

- ▼ UPDATEINVENTORY in the MAXVARS table is set to 1 (Yes), and the invoice monetary value exceeds the current balance.

(If you use the standard cost, set the UpdateInventory flag to 0, [No].)

If the flag is set to 0, Maximo writes the amount of the transaction to the Invoice Cost Variance account. If the flag is 1 and the invoice amount exceeds the account balance, Maximo writes only the difference to the Invoice Cost Variance account.

Maximo debits the Invoice Cost Variance account in an invoice cost variance transaction. When the invoice line cost exceeds the receipt cost, the transaction amount is positive. When the invoice line cost is less than the receipt cost, the transaction amount is negative.

Invoice Line Cost vs. Transaction Value

If the invoice line cost . . .	the transaction amount is . . .
exceeds the receipt cost,	positive.
is less than the receipt cost,	negative.

Maximo pairs this account with the Inventory Control account. When the Invoice Cost Variance account's value increases, the Inventory Control account's value decreases.

NOTE Variance accounts track price variances by *storeroom location*, not by *item*.

Purchase Variance Account

Maximo does not use the Purchase Variance Account for any transactions.

Receipts Price Variance Account

Maximo uses the Receipts Price Variance account for the standard cost only, to track for differences between the inventory standard cost and the receipt cost (which is storeroom specific), for items in the associated storeroom location. Maximo debits the Return Price Variance account in an inventory standard receipt adjustment transaction. When the purchase price at receipt exceeds the standard cost, the transaction amount is positive. When the purchase price at receipt is less than the standard cost, the transaction amount is negative.

Purchase Price at Receipt vs. Transaction Amount Value

If the purchase price at receipt . . .	the transaction amount is . . .
exceeds the standard cost,	positive.
is less than the standard cost,	negative.

Maximo pairs the Receipts Price Variance account with the Inventory Control account; when the Receipts Price Variance account's value increases, the Inventory Control account value decreases.

NOTE Variance accounts track price variances by *storeroom location*, not by *item*.

Rotating Suspense Account

The Rotating Suspense account holds the accumulated cost of repairs to an asset until you move the asset into a storeroom.

The Rotating Suspense account is the debit account for work orders that you charge to a storeroom (that is, for which the **Charge to Store?** check box is selected). Maximo charges this account when you use material, labor, or tools to complete the work order. When Maximo debits this account for resource use, it credits the appropriate resource control account.

In addition, Maximo debits the Rotating Suspense account when you receive a service associated with rotating assets if the **Charge to Store?** check box is selected. When you approve the invoice for this service, if the cost of the service on the approved invoice exceeds the cost at receipt, Maximo debits this account for the variance. When Maximo debits the Rotating Suspense account for the received or invoiced service, it credits the vendor's RBNI account.

Rotating Suspense Account vs. RBNI Account

Maximo debits the . . .	and credits the . . .
rotating suspense account,	vendor's RBNI account.

Finally, the Rotating Suspense account is the credit account when you move rotating assets from a non-storeroom location to an inventory-type location. When you move the assets into the storeroom, Maximo writes a transaction of type TRANSFER to the MATRECTRANS table. The transfer transaction causes Maximo to credit the Rotating Suspense account and debit the Inventory Control account for the receiving storeroom.

Rotating Suspense Account vs. Inventory Control Account

Maximo debits the . . .	and credits the . . .
inventory control account	rotating suspense account

In the Chart of Accounts application, you can specify a *global* Rotating Suspense account code by selecting the **Organization Default Account** action and entering a value in the **Global Rotating Suspense Account** field.

The value you enter becomes the default for the Rotating Suspense Account (ASSET.ROTSUSPACCT) field in the Assets application or you can specify a new value in this field.

NOTE By default, the ASSET.ROTSUSPACCT field is not visible in Maximo.

Shrinkage Cost Account

Maximo uses the Shrinkage Cost account to track differences between actual inventory quantities and Maximo-calculated quantities. Maximo credits this account in a current balance adjustment transaction and in a reconciling balances transaction. When the actual inventory quantity exceeds the Maximo-calculated current balance, the transaction amount is positive.

Shrinkage Cost Account vs. Transaction Value

If the actual inventory quantity . . .	the transaction amount is . . .
exceeds the Maximo-calculated current balance	positive.
is less than the Maximo-calculated current balance	negative.

Maximo pairs this account with the Inventory Control account, which is the debit account in a current balance adjustment transaction.

Location and Asset Accounts

This section describes the following location and asset-related accounts:

- ▼ Asset GL Account
- ▼ Operating Location GL Account

Asset GL Account

The Asset GL account is the default debit account for work orders, purchase orders, and other types of accounts against an asset. You can establish this account only on the asset record (it does not default from any other record in Maximo).

Assign GL accounts to locations instead of to assets (see note following this paragraph). The **Asset GL Account** field does not appear initially in the Assets application. Therefore, to specify a GL account for a particular asset, first display the **Asset GL Account** field in the Assets application.

NOTE If you fully specify an Asset GL account, Maximo never charges costs related to that asset (that is, resulting from a work order) to the operating location GL account, regardless of the asset's location. More specifically, any account components that you specify in creating the asset GL account overrides those same components in the operating location GL account. For example, if you create a work order in asset with GL account 1111-222-???, and the work order is to be performed at an operating location with GL account 1111-333-444, the GL debit account for the work order is 1111-222-444.

GL Debit Account for Work Order from Asset and Location GL Accounts

Account	Number
Asset GL account	1111-222-???
Operating Location GL account	1111-333-444
GL Debit account for Work Order	1111-222-444

Operating Location GL Account

The operating location GL account is the default debit account for work orders, purchase orders, and other types of accounts against the location. You can establish this account only on the operating location record (it does not default from any other record in Maximo).

Preventive Maintenance Account

This section describes the PM (preventive maintenance) GL account.

PM GL Account

Maximo uses the PM GL account when a preventive maintenance record generates a work order. Typically, you specify only one segment of the account code to represent the type of work. You establish this account directly on the PM record.

On the work order, Maximo merges this account with the asset and/or location GL account code(s), if those exist. In the merger, if codes have defined components in the same segment, the PM GL account components have the highest priority; that is, the PM GL account code segment(s) override defined segments in the same position from the location and/or asset GL account codes.

Resource Codes

In Maximo, you can associate resource codes – typically one segment of a GL account – with resources used on work orders. The following resource codes are described in this section:

- ▼ Inventory Resource Code
- ▼ Labor Resource Code
- ▼ Tool Resource Code

Resource Accounting

Associating the codes lets you do *resource accounting*. With resource accounting, you assign an account component to each resource in Maximo. Maximo merges this account component, called the resource code, into the GL debit account for the cost of the work order or other transaction when you record use of the resource. You can establish resource codes in the Chart of Accounts for groups of resources (items of a certain type, for example). You also can establish resource codes on individual records.

Resource accounting offers the advantage of letting you perform in-depth analysis of resource use. For example, you can analyze use by commodity group, individual item, or labor code.

Inventory Resource Code

Inventory Resource codes are the inventory resource component of the debit account in a transaction. For example, when you create a work order requiring an inventory item, that work order's line item includes the inventory resource account component in the GL debit account code.

In the Chart of Accounts, you can define inventory resource codes by commodity group. Additionally, to track items by individual item identifiers, display the **GL account** field in the Item Master application and overwrite the code on the item record itself.

Labor Resource Code

Labor Resource Code are the labor resource component of the debit account in a transaction. For example, when you create a work order requiring labor, the work order's line item includes the labor resource account segment in the GL debit account code.

In the Chart of Accounts, you can define one labor resource code for internal labor, and another for external labor. Additionally, to track laborers by individual identifier, display the **GL account** field in the Labor application and overwrite the code on the labor record itself.

Tool Resource Code

Tool resource codes are the tool resource component of the debit account in a transaction. For example, when you create a work order requiring a tool, that work order's line item includes the tool resource account component in the GL debit account code.

In the Chart of Accounts, you can create two resource codes, one for internal resource tools and one for external resource tools. Additionally, to change the default resource code by individual tool identifier, go to **Inventory > Tools**, select the Tools tab, and select **Tool/Organization Details** from the Select Action Menu.

Resource Control Accounts

This section describes the following resource control accounts:

- ▼ External Labor Resource Control account
- ▼ External Tools Control account
- ▼ Internal Labor Control account
- ▼ Internal Tools Control account

External Labor Control Account

Maximo uses the External Labor Control account as the credit account for any external labor transaction. It is the accrual account for the value of external (contract) labor “issued” to work orders or other activities. For example, Maximo credits this account when you report external labor use on a work order.

You define the external labor control account in the Chart of Accounts for all external labor. You also can define default accounts by the external labor’s vendor. You can overwrite the account code on the individual labor record. To do so, display the **Labor Control Account** field in the Labor application.

Maximo pairs this account with the debit account in the transaction, which includes the labor resource code as a component.

External Tools Control Account

Maximo uses the external tools control account as the credit account for any external tool transaction; it is the accrual account for the value of external (contractor’s) tools issued to work orders or other activities. For example, Maximo credits this account when you report external tool use on a work order.

You define the external tools control account for each vendor in the Companies application for all external tools owned by that individual vendor. In the Chart of Accounts, you can create two resource codes, one for internal resource tools and one for external resource tools. Additionally, to change the default resource code by individual tool identifier, go to **Inventory > Tools**, select the Tools tab, and select **Tool/Organization Details** from the Select Action Menu.

Maximo pairs the External Tools Control account with the debit account in the transaction, which includes the tool resource code as a component.

Internal Labor Control Account

Maximo uses the internal labor control account as the credit account for any internal labor transaction. It is the accrual account for the value of internal labor “issued” to work orders or other activities. For example, Maximo credits this account when you report internal labor use on a work order.

You define the Internal Labor Control account in the Chart of Accounts for all internal labor; you also can define default accounts by the labor’s work location. You can overwrite the account code on the individual labor record. To do so, display the **Labor Control Account** field in the Labor application.

Maximo pairs this account with the debit account in the transaction, which includes the labor resource code as a component.

Internal Tools Control Account

Maximo uses the internal tools control account as the credit account for any internal tool transaction. It is the accrual account for the value of internal tools issued to work orders or other activities. For example, Maximo credits this account when you report internal tool use on a work order.

To define the default internal tools control account, go to **Financial > Chart of Accounts** and select **Organization Default Accounts** from the Select Action menu.

You can overwrite the account code on the individual tool record. To display the **Control Account** field go to **Inventory > Tools** and select **Tool/Organization Details** from the Select Action menu.

Maximo pairs this account with the debit account in the transaction, which would include the tool resource code as a component.

Tax Accounts

This section describes the following tax accounts:

- ▼ Paid Tax GL account
- ▼ Unpaid Tax GL account

Paid Tax GL Account

The Paid Tax GL account is the accrual account for tax that you pay to a vendor or supplier. In most countries, you pay tax to a vendor or supplier, instead of a government tax authority. You can specify the Paid Tax GL account in two ways:

- ▼ You can specify a value for individual tax codes, or specify a Tax Type GL account in the **Paid** field that Maximo will use as the default.
- ▼ You can specify a Paid Tax GL account for tax types 1 through 5.

When you approve an invoice that includes tax, Maximo debits the Paid Tax GL account. Maximo uses the Paid Tax GL account as defined for each tax code. If an individual GL account has not been assigned for the tax code, Maximo uses the GL account that is specified for the tax type.

The transaction amount is the sum of the amounts specified for each tax type in the invoice lines. (For an invoice of type Credit, the amount is negative.)

When the invoice includes tax, Maximo pairs the paid tax GL account with the RBNI account; in this case, when Maximo debits the paid tax GL account, it credits the RBNI account.

When the invoice does not include tax, Maximo pairs the paid tax GL account with the unpaid tax GL account; in this case, when Maximo debits the unpaid tax GL account, it credits the paid tax account.

Invoices with and without Tax vs. Accounts

If the invoice . . .	Maximo debits the . . .	and credits the . . .
includes tax,	paid tax GL account	RBNI account.
does not include tax,	unpaid tax GL account	paid tax account.

Unpaid Tax GL Account

The **Update Cost/Currency Variances on Inventory Costs?** check box is located on the Inventory Defaults dialog box. To access this dialog box, complete the following steps:

- 1** Select **Administration > Organizations** to open the Organizations application.
- 2** Select an organization from the list Maximo provides and click the Organization tab.
- 3** From the Select Action menu, select **Inventory Options > Inventory Defaults** to open the Inventory Defaults dialog box.

You can create and manage the Unpaid Tax GL account, also within the Organizations application, by selecting **Purchasing Options > Tax Options** from the Select Action menu.

The **Unpaid Tax GL Account** field is the accrual account for unpaid tax. You use this account only for invoices that require you to pay tax directly to a government tax authority, instead of vendors or suppliers.

You can indicate the Unpaid Tax GL account in two ways:

- ▼ Specify an Unpaid Tax GL account for tax type 1 through 5. Maximo will use this account as the default.
- ▼ Specify a value in the **Unpaid Tax GL Account** field for each individual tax code.

When you approve an invoice, Maximo debits the Unpaid Tax GL account. Maximo uses the Unpaid Tax GL account as defined for each tax code. If an individual GL account has not been assigned for the tax code, Maximo uses the GL account for that tax type.

The transaction amount is the sum of the amounts specified for each tax type in the invoice lines. (For an invoice of type Credit, the amount is negative.) When Maximo debits the Unpaid Tax GL account, it credits the Paid Tax GL account.

Financial Process Chapters

4

This chapter assists you in understanding the following chapters:

- ▼ Chapter 5: Financial Processes in Assets
- ▼ Chapter 6: Financial Processes in Inventory
- ▼ Chapter 7: Financial Processes in Preventive Maintenance
- ▼ Chapter 8: Financial Processes in Purchasing
- ▼ Chapter 9: Financial Processes in Resources
- ▼ Chapter 10: Financial Processes in Service Desk

General Ledger Account Transaction Processes

This chapter describes in detail the processes that cause Maximo to write general ledger account transactions. A “process” is a series of tasks that you can perform in Maximo. Generally, these transactions reside in Maximo transaction tables, which you can map to your external financial system.

NOTE Processes resulting in debit/credit transactions use decimal fields and amount (cost) fields. To minimize the effects of rounding in calculations, use the Database Configuration application to set the “scale” (the number of places calculated and displayed to the right of the decimal point) of these fields to six or more places.

For a process to assign a default code to a particular account, you first must establish that default code in the Chart of Accounts.

Example

If you insert a company record for a vendor, Maximo assigns a default code to the Received But Not Invoiced (RNBI) account. For the assignment to occur, however, you first must establish which code to use for the RNBI account for vendors.

To establish your vendor RNBI code, use the Chart of Accounts application (**Company-Related Accounts** action). For more information about establishing accounts, refer to the *Maximo Enterprise Suite System Administrator's Guide* and the Chart of Accounts Help.

To overwrite the default code for an account, you must have authorization. For more information, see “Database Configuration,” on page 1-1.

If you have authorization to edit account codes, you might need to display the field in the relevant application. For example, suppose that for a certain labor record, you want to use a code other than the default for the GL account. To overwrite the default account code, you first must make the **GL Account** field visible in the Labor application.

Merged Account Codes

Certain processes cause Maximo to create or use a merged account code. For example, reporting labor use against a work order usually causes a debit to a merged account. The sources of the merged account are the Labor GL account and the Work Order GL account.

In this example, Maximo merges both the Labor GL account and the Work Order GL account as neither one usually has all of its components specified. For example, if the Labor GL account is ???-??-300, and the Work Order GL account is 6000-300-???, the Debit account for labor use is 6000-300-300.

Debit Account for Labor Use from Merger of Labor and Work Order GL Accounts

Account	Number
Labor GL account	???-??-300
Work Order GL account	6000-300-???
Debit account for Labor Use	6000-300-300

If, however, these two accounts both have the second component specified, the second component of one account code must take precedence over the second component of the other account code. Maximo has rules about which accounts take precedence over others.

For the relevant processes in this guide, we show a table with a numbered list of source accounts. For these processes, the account with the higher priority (lower number) takes precedence over the account with the lower priority (higher number). For example, in the process, "Report Internal Labor Usage," Maximo displays the sources of the debit and credit accounts in priority in the following table:

Debit and Credit Accounts for Report Internal Labor Usage

Source of GL Account	Debit	Credit	Source of GL Account
1 Labor GL account	\$15.00 x 2 = \$30.00	\$15.00 x 2 = \$30.00	Labor control account
2 Work Order GL account			
3 Asset GL account			
4 Operating Location GL account			

Consider what the merge order of the debit account components for this particular process illustrates as a general rule: If you charge a financial transaction, involving a resource, to a work order, an asset, or an operating location, the merge order of the components of the relevant GL accounts always has the listed priority.

Example

GL account codes specified on the PM, asset, and operating location records named in the Work Orders application.

Merged Accounts and Account Numbers

Account	Number
PM record GL account (priority 1)	2345-??-???
Asset GL account (priority 2)	6789-787-???
Operating location GL account (priority 3)	5555-999-XYZ
Work Order GL account	2345-787-XYZ

Example

Purchase a bearing that you will charge to work order 1020:

- ▼ Work order 1020 is for repairing a forklift in the shipping and receiving department.
- ▼ The item resource code for a bearing is ???-??-200.
- ▼ The work order GL account for work order 1020 is ???-301-201.
- ▼ The forklift has no specified GL account.
- ▼ The location GL account for shipping and receiving is 6500-300-???

The resulting GL debit account for the transaction is 6500-300-200.

- ▼ You specify the first component for only the location GL (6500).
- ▼ You specify the second component both in the work order GL (301) and the location GL (300), and the location GL takes priority,
- ▼ You specify the third component for both the item resource code (200) and the work order GL (201), and the item resource code takes priority.

GL Debit Accounts and Account Numbers

Account	Number
Item Resource Code	???-??-200
Work Order GL account	???-301-201
Location GL account	6500-300-???
GL Debit account	6500-300-200

NOTE When Maximo merges account codes the result can be an account code that is not established in the Chart of Accounts application. In that case, an error message appears and you cannot complete the current transaction. Use the following table to determine further action:

Merged Account Codes Action Table

If your company . . .	then . . .
intends to use the merged account code	an authorized user must establish the account code in Chart of Accounts before you can proceed with the attempted transaction
does not use the merged account code	you must ensure that you are attempting a valid transaction.

GL Account Tracking

In Maximo most users do not need to be concerned which GL account codes to enter in the application. After you have defined the accounts and associated codes in Chart of Accounts (or, in a few cases, specified on Maximo records), most GL account fields default to an account code or merged codes entered elsewhere in Maximo.

Maximo validates each account code or segment that you enter in Chart of Accounts or in GL fields in other Maximo applications, against the account codes in the Chart of Accounts application. (In most cases, if you have authority, you can overwrite the default GL code.)

This following section describes where Maximo locates the GL account codes that populate various fields or database columns. For each application described in Chapter 5 – Chapter 10, the GL field information is divided into two sections:

- ▼ Displayed Fields
- ▼ Database Fields

Displayed Fields

The Displayed Fields sections of the financial processes chapters name the GL field you see on the page, or would see on the page if the associated field were displayed, and names the field in Maximo that is the source of the GL code in that field.

If Maximo uses the value in another field as the default “source” field, the field containing the value that Maximo used as the default might be listed as the origin of the source, and so on; if not, you can refer to the source field elsewhere in this chapter to find out *its* source.

The financial processes chapters present the information in the following format:

Field Name (COLUMNNAME) ← Source field on source page ← Source field/page

You can read the \Leftarrow symbol in this chapter to mean “comes from” or “defaults to.” When you read a statement from left to right, this symbol describes for you the “path” Maximo uses to fill the GL field named to the left of or above the first arrow.

Example

The **GL Debit Account** field on the PR Lines tab:

GL Debit Account (GLDEBITACCT) \Leftarrow **GL Control Account** field (not displayed) for storeroom location in the Inventory application.

The field to the right of the last arrow must meet one of the following criteria:

- ▼ It is the field where someone entered the GL account code or segment in Maximo, generally, in the Chart of Accounts application.
- ▼ It is a field in another Maximo application, which has its own section. To trace the GL account code to its entry in Chart of Accounts or other ultimate source application, refer to that section.

Most fields in Maximo applications are associated with a column in a database table. Although Maximo calculates some fields for display on the page, (that is, they have no associated database table column where Maximo stores the value), all GL fields have associated database table columns. By using the standard page views in Maximo, you can see some values from the GL-related columns in the database table.

However, Maximo does not display other GL-related fields automatically. Although a database column in the table is associated with the application, Maximo does not display the data in that column unless you make the field visible.

Account Code Priorities

A number of instances exist in Maximo where the GL code in a field can come from more than one potential source field. If GL codes are in more than one potential source field, Maximo merges those codes. When these codes merge, there is an order of priority for the multiple sources, so that when there are “competing” codes or segments of codes, Maximo knows which code or segment to use. The possible sources are listed in order of their priority in the potential merger. Codes or segments from higher-priority (lower number) sources take precedence over codes or segments from lower-priority (higher number) sources.

Example

The **GL Account** field in the Work Orders application:

GL Account (GLACCOUNT) \Leftarrow

- 1 Preventive Maintenance **GL Account** field \Leftarrow manual entry (no default);
- 2 Asset **GL Account** field (not displayed) \Leftarrow manual entry (no default);
- 3 Locations **GL Account** field \Leftarrow manual entry (no default).

The PM, Asset, and Location fields on a work order provide possible links to the PM, Asset, and Operating locations records' GL accounts. For any fields that are filled on the work order record, Maximo checks the corresponding records and obtains the GL accounts from the fields according to the priorities listed above—1 through 3.

For example, if GL accounts exist for all three, the PM GL account takes priority over both the asset GL account and the location GL account. If no PM record exists (or no PM GL account), the asset record's GL account has next priority. If neither a PM GL account nor an asset GL account exist, Maximo uses the location GL account.

The account inserted into the **Work Orders GL Account** field can be a combination, or merger, of the three references accounts. If an account with higher priority is only partially defined (for example, 2345-??-??), and an account of lower priority has defined segments where the higher priority does not, the segments from the account with the lower priority fill in the undefined segments in the higher priority account.

Intermediate Sources of Account Codes

Several cases of GL fields might or might not have one or more “intermediate” source fields between the online field and its ultimate source. For example, the GL fields on a PO line come from the PR line if a PR exists; otherwise, they come directly from the source. Such possible intermediate sources are in parentheses.

Example

The **GL Debit Account** field on the Inventory Transactions Report.

GL Debit Account (GLDEBITACCT) \Leftarrow **GL Debit Account** field on PO Lines tab \Leftarrow (**GL Debit Account** field on PR Lines application) \Leftarrow **GL Control Account** field (not displayed) for storeroom location in the Inventory application

Database Fields

The Database Fields sections of the financial processes chapters provide similar information as the Displayed Fields section. Rather than provide names of fields in applications or on pages, the Database Fields section provides database table and column names.

The Database section presents table and column name information in the following format:

TABLENAME1.COLUMNNAME \Leftarrow TABLENAME2.COLUMNNAME

Financial Processes in Assets

5

This chapter describes the financial processes for the following applications in the Assets module:

- ▼ Assets
- ▼ Locations

For general information about the contents of this chapter, see Chapter 4, “Financial Process Chapters.”

Assets Application

You must display the **GL Account** field on an asset record in order to enter an account code.

The **Rotating Suspense Account** field will only contain a code when the asset is rotating (that is, an item number is specified on the asset record).

Database Fields

ASSET.GLACCOUNT ⇐ manual entry (no default)

ASSET.ROTSUSPACCT ⇐ ACCOUNTDEFAULTS.GLDEFAULT (where DFLTGROUP = INVRELACC and GROUPVALUE = ROTSPACCT)
(**Global Rotating Suspense Account** field on the Inventory-Related Accounts dialog box in Chart of Accounts)

Move/Modify Assets

To complete this process, select **Move/Modify Assets** from the Select Action menu in the Asset application.

Moving and modifying assets between non-storeroom locations (for example, between operating locations, or from an operating location to a repair location) has no financial implications in Maximo, but Maximo does record an asset-move transaction and lists validated GL accounts.

Moving and modifying rotating assets from a non-storeroom location to an inventory-type location does have financial implications: Maximo records an asset-move transaction and a financial transaction.

Move and Modify Assets Between Operating or Other Non-Storeroom Locations

Moving and modifying assets does not create any GL financial transactions, or change any GL account fields on asset or location records. However, when you enter the new location on the Move/Modify Assets dialog box, if you have defined an asset GL account, Maximo performs a preliminary account validation. More specifically, Maximo determines if merging the asset's GL account and the new location's GL account produces a valid account code.

The following table illustrates how Maximo determines a valid account code.

Move/Modify Assets Account Validation

Account	Number
Asset GL account	????-??-200
Destination Location GL account	6004-304-???
Merged GL account	6004-304-200

If 6004-304-200 is a valid account, Maximo can move/modify the asset. Maximo stores the validated account codes with the transaction record. To view the account stored with the transaction, select the **View Asset History** action from the Select Action menu.

If merging the asset GL account and the destination location GL account does not produce a valid account, entering the destination location on the Move/Modify Assets page produces an error message.

Using the above example, suppose that 6004-304-200 is invalid. The first line of the error message reads, "GL account 6004-304-200 is invalid." The message shows the source account codes (for example, 6004-304-???, and ???-300-200) that merged into the invalid account code. As stated in the error message, you can proceed with the move/modify by changing the Asset GL account and/or the Destination Location GL account to make the merger valid. Alternatively, an authorized user can establish the currently invalid account code as a valid account code in Chart of Accounts.

On the Move/Modify Assets page, and in the asset transaction record (this is not a financial transaction), the **GL Credit Account** field displays the old merged GL account (for example, of asset/from location) and the **GL Debit Account** field displays the new merged GL account (for example, of asset/to location). You cannot modify the credit or debit account while moving the asset.

NOTE In a standard move/modify transaction, Maximo does not change, credit, or debit any GL accounts that might have been associated with the asset by displaying the **GL Account** field on the asset record. If the asset is a rotating asset and has an associated rotating suspense account, moving/modifying it does not affect on that suspense account, except when moving the rotating asset to a storeroom. For more information, see the following section.

Displayed Fields

You can see the fields for an asset-move/modify transaction on the Move/Modify Assets page.

GL Debit Account (GLDEBITACCT) \Leftarrow **GL Account** field in Locations for the destination or “to” location.

GL Credit Account (GLCREDITACCT) \Leftarrow **GL Account** field in Locations for the source or “from” location.

Database Fields

Again, these transactions in ASSETTRANS are not financial transactions, but rather, move/modify asset transactions.

ASSETTRANS.GLDEBITACCT \Leftarrow ASSET.GLACCOUNT (**GL Account** field in Asset)

ASSETTRANS.GLCREDITACCT \Leftarrow ASSET.GLACCOUNT (**GL Account** field in Asset)

Move Rotating Assets from Non-Storeroom Location to Storeroom or Inventory Control Location

Moving a rotating asset from a non-storeroom location to a storeroom or other inventory-type location (labor, courier) creates *two* transactions:

- 1 an *asset-move transaction*
- 2 a *financial transaction*—an inventory material receipt transaction, TRANSFER—written to the MATRECTRANS table.

Note that the asset-move transaction displays, in the **GL Debit Account** field, the merger of the asset’s GL account (if any) and the storeroom location’s GL account. The move transaction shows, in the **GL Credit Account** field, the merger of the asset’s GL account and the “from” location’s GL account.

Storeroom Location Control Account vs. Rotating Suspense Account

Maximo debits the...	and credits the...
storeroom location’s control account	rotating suspense account.

This financial transaction uses the storeroom location’s control account as the debit account and the rotating suspense account as the credit account.

Primary Transaction

When you click View Details for an asset record on the Move/Modify Assets page, Maximo displays the **GL Credit Account** and **GL Debit Account** fields. These fields are read-only.

Maximo defaults to debit the storeroom’s control account and credit the rotating asset’s rotating suspense account. Click **OK** to create both transactions:

- ▼ the asset-move transaction
- ▼ the storeroom’s material receipt transaction

Maximo uses the date and time in the **Change Date** field on the Move/Modify Assets page to determine the financial period for the transaction. The **Change Date** field defaults to the system date and time.

Example

Move a rotating asset, asset #11430, from its current operating location to the central storeroom.

Source of GL Account for Moved Rotating Asset

Source of GL Account	Debit	Credit	Source of GL Account
Inventory control account	\$150.00 *	\$150.00 *	Rotating suspense account

*The amount of the transaction is zero if you have not applied any charges to the asset. Maximo stores the charges against the rotating asset in the asset's rotating suspense account. At the time of the move, Maximo debits the storeroom control account and credits the rotating suspense account.

Moving Rotating Assets from Non-Storeroom Location to Storeroom or Other Inventory-Type Location

This move to an inventory location results in not only an asset-move transaction (ASSETTRANS table), but also a financial transaction (MATRECTRANS table).

On the Move/Modify Assets page (asset-move transaction):

Displayed Fields

GL Debit Account (GLDEBITACCT) ← **Inventory Control Account** field for item at destination location in the Inventory application (not displayed) ← **Inventory Control Account** field on the Inventory-Related Accounts dialog box in Chart of Accounts for the associated inventory-type location.

NOTE If the “to” location is a labor or courier location, the **GL Debit Account** field defaults to the **Control Account** field of the transit location record associated with the labor or courier.

GL Credit Account (GLCREDITACCT) ← **Rotating Suspense Account** field (not displayed) in Asset ← **Global Rotating Suspense Account** field on the Inventory-Related Accounts dialog box in Chart of Accounts.

These following transactions in ASSETTRANS are only move/modify asset transactions, not financial transactions.

Database Fields

ASSETTRANS.GLDEBITACCT ← INVCOST.CONTROLACC for item at destination location ← LOCATIONS.CONTROLACC

ASSETTRANS.GLCREDITACCT ← ASSET.ROTSUSPACCT ← ACCOUNTDEFAULTS.GLDEFAULT (where DFLTGROUP = INVRELACC and GROUPVALUE = ROTSPACCT)

The following transactions to MATRECTRANS are financial transactions.

MATRECTRANS.GLDEBITACCT ← INVCOST.CONTROLACC for item at destination location ← LOCATIONS.CONTROLACC

MATRECTRANS.GLCREDITACCT ⇐ ASSET.ROTSUSPACCT ⇐ ACCOUNTDEFAULTS.GLDEFAULT (where DFLTGROUP = INVRELACC and GROUPVALUE = ROTSUSPACCT)

Swap Assets

To swap an asset, select **Swap Assets** from the Select Action menu in the Assets application. Swapping assets involves replacing one asset with another.

The following table refers you to GL financial transaction information for the asset you are replacing:

GL Financial Transaction Information

If the asset you are replacing is moved from an operating location or a non-storeroom location to . . .	the general ledger financial transaction for swapping this asset is identical to that for . . .
another operating location or another non-storeroom location	“Move and Modify Assets Between Operating or Other Non-Storeroom Locations,” on page 5-2.
a storeroom or other inventory control-type location	“Move Rotating Assets from Non-Storeroom Location to Storeroom or Inventory Control Location,” on page 5-3.

The following table provides GL financial information for the replacement asset:

GL Financial Transaction Information

You can move the replacement asset from a non-storeroom location to . . .	The general ledger financial transaction for swapping this asset is identical to that for . . .
an operating location.	“Move and Modify Assets Between Operating or Other Non-Storeroom Locations,” on page 5-2.

Locations Application

This section provides the displayed field and database field for the Locations application.

Displayed Field

GL Account (GLACCOUNT) ⇐ manual entry (no default).

Database Field

LOCATIONS.GLACCOUNT ⇐ manual entry (no default)

NOTE Besides the GLACCOUNT column, the LOCATIONS database table also contains the following columns: CONTROLACC, INVOICEVARACC, CURVARACC, SHRINKAGEACC, INVCOSTADJACC, and RECEIPTVARACC. These database columns are relevant to only inventory-type locations.

Financial Processes in Inventory

6

This chapter describes the financial processes for the following applications in the Inventory module:

- ▼ Item Master
- ▼ Inventory
- ▼ Issues and Transfers
- ▼ Tools

For general information about the contents of this chapter, see Chapter 4, “Financial Process Chapters.”

Item Master Application

This section describes how you can use the **Change Capitalized Status** action in the Item Master Application to write general ledger account transactions.

Change Status from Non-Capitalized to Capitalized

To change an item’s status from non-capitalized to capitalized, select **Change Capitalized Status** from the Select Action menu. On the Change Capitalized Status dialog box, manually enter an account code that you plan to use as the capital GL account. Maximo does not provide a default capital GL account.

Maximo changes the following for that item:

- ▼ storeroom status to capitalized
- ▼ the average, last, and standard costs to zero in all storerooms containing that item

Maximo uses the system date and time to determine the financial period for the transaction.

Primary Transactions

When you select the **Current Capitalized Status** check box on the Change Capitalized Status dialog box, Maximo associates the account code you manually entered in the **Capital GL Account** field with the item, for all storerooms containing the item. In the CONTROLACC column of the INVCOST table, Maximo replaces the Inventory Control account code with the Capital GL account code for all storerooms containing the item. In effect, this transfers the charge or value associated with the item from the Inventory Control account to the Capital GL account.

In the INVCOST table, for each row that corresponds to an item, Maximo clears the SHRINKAGEACC and INVCOSTADJACC columns. For each storeroom that contains the item, Maximo writes a CAPCSTADJ transaction to the INVTRANS table.

Displayed Fields

GL Debit Account (GLDEBITACCT) ← manually entered **Capital GL Account** field on the Change Capitalized Status dialog box in the Item Master application.

GL Credit Account (GLCREDITACCT) ← **GL Control Account** field (not displayed) in the Inventory application ← **Inventory Control Account** field on the Inventory-Related Accounts dialog box in Chart of Accounts.

Database Fields

INVTRANS.GLDEBITACCT ← manual entry on the Change Capitalized Status dialog box (no default)

INVTRANS.GLCREDITACCT ← INVCOST.CONTROLACC ← LOCATIONS.CONTROLACC

Example

A pump is currently in the central storeroom at last, standard, and average costs of \$6400. The current balance of pumps in the Central storeroom is 2. The same pump is in the Garage storeroom at last, standard, and average cost of \$6500. The current balance of pumps in the Garage storeroom is 3.

You change the capitalized status from non-capitalized to capitalized for the pump. Because two storerooms contain the pump, two transactions appear in INVTRANS:

Source of GL Account for Change Capitalized Status

Source of GL Account	Debit	Credit	Source of GL Account
Manually entered capital GL account	2 x \$6,400.00	2 x \$6,400.00	Inventory control account of Central storeroom
	= \$12,800.00	= \$12,800.00	
Manually entered capital GL account	3 x \$6,500.00	3 x \$6,500.00	Inventory control account of Garage storeroom
	= \$19,500.00	= \$19,500.00	

Maximo determines the transaction's value by using the following formula:

$$\text{Line cost} = \text{Current Balance} \times \text{Issue Cost}$$

where

Issue Cost = Average Cost or Standard Cost, depending on the setting specified in Multisite Setup for Issue Cost.

Example

A pump is currently stored in one storeroom at last cost of \$6200, standard cost of \$6400, and average cost of \$6300. The current balance of pumps is 2. You change its capitalized status from non-capitalized to capitalized. The Average Cost is in place (that is, the Default Issue Cost is set to average in Multisite Setup).

Source of GL Account for Capitalized Item.

Source of GL Account	Debit	Credit	Source of GL Account
Manually entered capital GL account	2 x \$6,300.00	2 x \$6,300.00	Inventory control account
	= \$12,600.00	= \$12,600.00	

NOTE If you use standard cost, the value of the transaction is \$12,800, two times the standard cost of \$6400.

Secondary Transaction

The values in the **Standard Cost** and **Average Cost** fields are set to zero. When you issue the now-capitalized item, Maximo issues the item at zero cost.

In the INVCOST table, the system clears both the SHRINKAGEACC (shrinkage cost account) and INVCOSTADJACC (inventory cost adjustment account) columns. If you subsequently perform a transaction that causes a debit either to the Shrinkage Cost account or the Inventory Cost adjustment account, the GLDEBITACCT column is blank for that transaction. Similarly, if you perform a transaction that causes a credit either to the Shrinkage Cost account or to the Inventory Cost adjustment account, the GLCREDITACCT column is blank for that transaction.

In the INVCOST table, the CONTROLACC column contains the Capital GL account code. If you perform a transaction, such as a transfer, with the capitalized item, the account code you manually enter in the **Capital GL Account** field acts as the control account in the transaction.

Example

You capitalize a pump, and you enter 7000-800-900 as the Capital GL account code. Now, you transfer the capitalized pump from the Central storeroom to the Garage storeroom.

If the pump is not capitalized, the debit account is the Inventory Control account of the Garage storeroom, and the credit account is the Inventory Control account of the Central storeroom. Since the pump is capitalized, the following transaction occurs:

Source of GL Account for Capitalized Item

Source of GL Account	Debit	Credit	Source of GL Account
7000-800-900	\$0.00	\$0.00	7000-800-900
(Capital GL account)			(Capital GL account)

Change Status from Capitalized to Non-Capitalized

To change the Capitalized status from capitalized to non-capitalized, select **Change Capitalized Status** from the Select Action menu in Item Master. You can enter a memo in the **Memo** field, but the **Current Capitalized Status?** field is read-only on the Change Capitalized Status dialog box.

The system changes the status to non-capitalized for all storerooms containing the item. The average, last, and standard costs remain at zero for all storerooms. You establish these default account codes in the Storeroom application.

Maximo uses the system date and time to determine the financial period for the transaction.

Primary Transaction

When you select **Change Capitalized Status** on the Change Capitalized Status dialog box, Maximo writes a record, TRANSTYPE = CAPCSTADJ, to the INVTRANS table for each storeroom containing the item. The line cost of the transaction from Y to N is always zero.

Example

A capitalized pump is currently stocked both in the Central storeroom and in the Garage storeroom. Since the pump is capitalized, the last, standard, and average costs equal zero in both storerooms. You change the status from capitalized to non-capitalized for that pump.

Since two storerooms contain the pump, two transactions appear in INVTRANS:

Source of GL Account for Capitalized Item

Source of GL Account	Debit	Credit	Source of GL Account
Inventory control account of Central	\$0.00	\$0.00	Capital GL account
Inventory control account of Garage	\$0.00	\$0.00	Capital GL account

To set the item's issue cost to a non-zero value, select an action from the Select Action menu in Inventory:

If you issue items at average cost, select **Inventory > Inventory Adjustments > Average Cost**.

If you don't want the item's cost to be zero in any storeroom, select **Inventory > Inventory Adjustments > Standard Cost**.

Displayed Fields

GL Credit Account (GLDEBITACCT) ⇐ **Inventory Control Account** field on the Inventory-Related Accounts dialog box in Chart of Accounts.

GL Credit Account (GLCREDITACCT) ⇐ read-only **Capital GL Account** field on the Change Capitalized Status dialog box in the Item Master application ⇐ **GL Control Account** field (not displayed) in the Inventory application ⇐ manual entry on displayed field; *or*

⇐ account code manually entered on Change Capitalized Status dialog box in the Item Master application if there was a previous transaction from non-capitalized to capitalized. (In that earlier transaction from non-capitalized to capitalized, Maximo wrote the code you entered in the **Capital GL Account** field to the **GL Control Account** field on the item/location record.)

Database Fields

INVTRANS.GLDEBITACCT ⇐ LOCATIONS.CONTROLACC

INVTRANS.GLCREDITACCT ⇐ INVCOST.CONTROLACC ⇐ manual entry (no default)

Secondary Transaction

When the item becomes non-capitalized, the Control, Shrinkage, and Inventory Cost Adjustment account codes default according to storeroom location. In the database, this event occurs in the INVCOST table. You establish these default account codes in the Storerooms application.

Inventory Application

Eight accounts are associated with inventory records that Maximo uses for inventory transactions, for material receipt transactions, and for material usage transactions. For more information on these eight accounts, see the following sections:

- ▼ “Accounts in the INVCOST Table and the Locations Table,” on page 6-6
- ▼ “Accounts Only in the Locations Table,” on page 6-7
- ▼ “Accounts Only in the Locations Table,” on page 6-7

Inventory accounts default to the item's type and location. Additionally, items can have item/location specific accounts.

Establish Account Codes

To establish the default . . .	use the . . .
inventory GL resource account code	Inventory Resource Code dialog box in Chart of Accounts.
account codes for location accounts	Inventory-Related Accounts dialog box in Chart of Accounts.

Also, when adding a storeroom in the Storerooms application, you can specify the default account codes on the Storeroom tab.

When you add items to storerooms, Maximo uses the storeroom location accounts as the default for that item/location record. When you specify an item type, Maximo uses the GL resource account code for that item type as the default.

To edit codes assigned to the storeroom location accounts, display the fields in the Inventory application. Editing the code by using the Inventory application changes the code for only the item/location record showing on the page.

Example

Suppose that all items in the Central Storeroom have the default inventory control account of 6600-800-800. Item #1001 is showing in the Inventory application, and you change the code showing in the **Control Account** field to 6600-800-801. As a result, item #1001 in Central now has control account code 6600-800-801, but other items in Central still have control account code 6600-800-800.

The remaining four inventory-related accounts are in the Locations database table, not in the Inventory table. The following four accounts are in the Locations table:

- ▼ Currency Variance account
- ▼ Invoice Cost Variance account
- ▼ Purchase Variance account
- ▼ Receipts Price Variance account

Accounts in the INVCOST Table and the Locations Table

Three account fields are associated with the item/location's inventory cost record (that is, the INVCOST database table *and* the Locations table). Like the field for the inventory GL account, the Inventory application does not display these fields.

If you display any of these account fields, you can edit the codes in those fields to make them item-specific. Editing the account codes in the Inventory application does not change the account for all items in that inventory location, but rather, only for that location record.

Database Fields

INVCOST.CONTROLACC \Leftarrow LOCATIONS.CONTROLACC (**Inventory Control Account** field on the Inventory-Related Accounts dialog box in Chart of Accounts and on the Storeroom tab of the Storeroom application) \Leftarrow direct entry (no default)

INVCOST.SHRINKAGEACC \Leftarrow LOCATIONS.SHRINKAGEACC (**Shrinkage Cost Account** field on the Inventory-Related Accounts dialog box in Chart of Accounts and on the Storeroom tab of the Storeroom application) \Leftarrow direct entry (no default)

INVCOST.INVCOSTADJACC \Leftarrow LOCATIONS.INVCOSTADJACC (**Inventory Cost Adjustment** account field both on the Inventory-Related Accounts dialog box in Chart of Accounts and on the Storeroom tab of the Storeroom application) \Leftarrow direct entry (no default)

Accounts Only in the Locations Table

Four account fields are not associated with the Inventory Cost table, but with the Locations table. You can view and edit these four fields on the Storeroom tab in the Storeroom application.

Displayed Fields

Receipts Variance Account (RECEIPTVARACC) \Leftarrow **Receipts Price Variance Account** field

Invoice Variance Account (INVOICEVARACC) \Leftarrow **Invoice Cost Variance Account** field

Currency Variance Account (CURVARACC) \Leftarrow **Currency Variance Account** field

Purchase Variance Account (PURCHVARACC) \Leftarrow **Purchase Variance Account** field

NOTE Maximo does not use the Purchase Variance account for any transactions. If you want to use commitment accounting, you can customize Maximo to use this account to store differences between PO costs and invoice costs when using a budget.

Database Fields

LOCATIONS.RECEIPTVARACC \Leftarrow direct entry (no default)

LOCATIONS.INVOICEVARACC \Leftarrow direct entry (no default)

LOCATIONS.CURVARACC \Leftarrow direct entry (no default)

LOCATIONS.PURCHVARACC \Leftarrow direct entry (no default)

Account in Only the Inventory Cost Table

One inventory GL account (item resource code) is associated with the item/location's inventory cost record (that is, the Inventory Cost (INVCOST) table). To establish the default inventory GL account (item resource) code, use the Inventory Resource Code dialog box in Chart of Accounts. The codes on the Inventory Resource Code dialog box vary by item type.

A **GL Account** field is also in the Inventory application that you can make visible. You can edit the account code to make the code specific to an item/location record.

Database Fields

INVCOST.GLACCOUNT \Leftarrow ACCOUNTDEFAULTS.GLDEFAULT (where DFLTGROUP = INVRESCODE) (Inventory Resource field for the item type on Inventory Resource Codes dialog box in Chart of Accounts. (This item resource code is usually only one component of the Inventory **GL Account** field.) \Leftarrow direct entry (no default)

Insert Item

Inserting a master item or item/location record is not a financial transaction. Inserting items does not cause Maximo to write any GL account codes being to the **GL Debit Account** and **GL Credit Account** fields in the transaction record.

Adjust Current Balance

The **Current Balance Adjustment** and **Reconcile Balances** actions create a CURBALADJ transaction. Maximo uses the account in the **Control GL Account** field as the debit account and the account in the **Shrinkage Cost Account** field as the credit account.

The Current Balance Adjustment dialog box in the Inventory application adjusts the current balance of a stocked item, which is a running total of how many instances of that item are in a storeroom. For each bin in this storeroom, you can enter a new current balance and specify the control and shrinkage account numbers associated with this adjustment.

To adjust the current balance of an item, complete the following steps:

- 1 From the Inventory application, display the item record whose current balance you want to adjust.
- 2 From the Select Action menu, select **Inventory Adjustments > Current Balance**. The Current Balance Adjustment dialog box opens, with the **item name** and **description** fields populated.
- 3 In the **New Balance** field, type a new balance value for each bin that you want to adjust.
- 4 Click **OK**. The Current Balance Adjustment dialog box closes, and Maximo saves the new balance for each bin.

Maximo writes a CURBALADJ (current balance adjustment) transaction to the INVTRANS table.

The INVCOST table is the primary source of the default codes for the inventory control account and the Shrinkage GL account.

NOTE Maximo uses the system date and time to determine the financial period for the transaction.

Example

Adjust the current balance of a bearing. The default issue cost in the Organizations application is set to Average Cost and the bearing in inventory has an average cost of \$22.00. Both the physical count and current balance are 4, but you know that the current balance is actually 3

Source of GL Account for Adjust Current Balance

Source of GL Account	Debit	Credit	Source of GL Account
Inventory Control account	(3-4) x \$22.00= -\$22.00	(3-4) x \$22.00= -\$22.00	Shrinkage Cost account

NOTE If you capitalize the item, the default debit account is the Capital GL account, the default credit account is empty, and the line cost is zero. For more information, see “Change Status from Capitalized to Non-Capitalized,” on page 6-4.

Inventory Transaction, Type = CURBALADJ

When you select **Adjust Current Balance** or **Reconcile Balances** from the Select Action menu, Maximo writes a current balance adjustment (CURBALADJ) transaction to the Inventory Transactions (INVTRANS) table.

Displayed Fields

GL Debit Account (GLDEBITACCT) ⇐ **GL Control Account** field (not displayed) in the Inventory application ⇐ **Inventory Control Account** field on the Inventory-Related Accounts dialog box in Chart of Accounts.

GL Credit Account (GLCREDITACCT) ⇐ **GL Shrinkage Account** field (not displayed) in the Inventory application ⇐ **Shrinkage Cost Account** field on the Inventory-Related Accounts dialog box in Chart of Accounts.

Database Fields

INVTRANS.GLDEBITACCT ⇐ INVCOST.CONTROLACC ⇐
LOCATIONS.CONTROLACC

INVTRANS.GLCREDITACCT ⇐ INVCOST.SHRINKAGEACC ⇐
LOCATIONS.SHRINKAGEACC

Adjust Physical Count

When you select **Physical Count Adjustment** from the Select Action menu, Maximo writes a physical count adjustment transaction (PCOUNTADJ) to the Inventory Transactions table.

The physical count is typically a number you adjust at predefined intervals, such as monthly, quarterly, or annually. For each storeroom that carries an item, you can view the bin number, lot number, and the physical count that Maximo currently reports.

After you perform an inventory count, you can adjust the physical count for any storeroom and enter the count date. You can then reconcile the balance to the current count.

To adjust the physical count of an item, complete the following steps:

- 1 From the List tab of the Inventory application, display the item you want.
- 2 From the Select Action menu, select **Inventory Adjustments > Physical Count**. The Physical Count Adjustment dialog box opens, with item name location, and count information.
- 3 In the **Count Date** field, enter the date when you took the physical count or click **Select Date and Time** to retrieve the date.

NOTE If you use the **Physical Count Date** field in the header section, Maximo changes the date for all rows in the table window. If you do not want to adjust the count date for all rows, edit the **Count Date** field for each row you want to change.

- 4 Click **Refresh** to update the count dates in the table window.
- 5 For each bin you want to adjust, enter a new physical count value in the **New Count** field.

- Click **OK**. The Physical Count Adjustment dialog box closes. Maximo saves the new physical count for each storeroom and writes a record, TRANSTYPE = PCOUNTADJ, to the INVTRANS table.

Example

Adjust the physical count of a bearing, currently in inventory at last, standard, and average cost of \$22.00. The physical count is shown as 4, but the new physical count is 2.

Source of GL Account for Adjust Physical Count Transaction

Source of GL Account	Debit	Credit	Source of GL Account
Shrinkage cost account	(-2) x \$22.00 = -\$44.00	(-2) x \$22.00 = -\$44.00	Shrinkage cost account

Adjusting the physical count has no net effect accounts in the GL. The net effect occurs only when you complete the reconcile balances process. For more information see “Reconcile Balances,” on page 6-10.

Inventory Transaction, Type = PCOUNTADJ

A physical count adjustment writes a transaction to the INVTRANS table, and appears in the Inventory Transactions application. Since the transaction uses the same account for the debit side and the credit side, the transaction has no net effect on the general ledger.

Displayed Fields

GL Debit Account (GLDEBITACCT) ⇐ **GL Shrinkage Account** field (not displayed) in the Inventory application ⇐ **Shrinkage Cost Account** field on the Inventory-Related Accounts dialog box in Chart of Accounts.

GL Credit Account (GLCREDITACCT) ⇐ **GL Shrinkage Account** field (not displayed) in the Inventory application ⇐ **Shrinkage Cost Account** field on the Inventory-Related Accounts dialog box in Chart of Accounts.

Database Fields

INVTRANS.GLDEBITACCT ⇐ INVCOST.SHRINKAGEACC ⇐ LOCATIONS.SHRINKAGEACC

INVTRANS.GLCREDITACCT ⇐ INVCOST.SHRINKAGEACC ⇐ LOCATIONS.SHRINKAGEACC

Reconcile Balances

When you select **Reconcile Balances** from the Select Action menu, Maximo creates a current balance adjustment (RECBALADJ) transaction. For more information, see “Adjust Current Balance,” on page 6-8.

To reconcile balances, select **Reconcile Balances** from the Select Action menu. This process sets the current balance equal to the physical count plus or minus any transactions that occur between the physical count and reconciliation. From a GL account perspective, the **Reconcile Balances** action is similar to the **Adjust Current Balances** action. On the Reconcile Balances page, both the **Control GL Account** field and the **Shrinkage GL**

Account field display their respective default account codes, as defined for that item/location.

For example, if you reconcile the current balance of an item in the central storeroom, the **Control GL Account** field defaults to the inventory control account for that item, in the central storeroom.

NOTE The INVCOST table is the primary source of the default codes for the Inventory Control account and the Shrinkage GL account.

Maximo uses the system date and time to determine the financial period for the transaction.

When you click **OK** on the Reconcile Balances page, Maximo writes a reconcile balance adjustment (RECBALADJ) transaction to the INVTRANS table.

Example

Reconcile the current balance of a bearing, currently in inventory at last, standard, and average cost of \$22.00. The physical count is 2, but the current balance is initially 3

Source of GL Account for Reconcile Balance.

Source of GL Account	Debit	Credit	Source of GL Account
Inventory control account	(4-3) x \$22.00 = -\$22.00	(4-3) x \$22.00 = -\$22.00	Shrinkage cost account

If you capitalize the item, the default debit account is the Capital GL account, the default credit account is blank, and the line cost is zero. For more information, see “Change Status from Non-Capitalized to Capitalized,” on page 6-1.

Adjust Standard Cost

When you select **Standard Cost Adjustment** from the Select Action menu, Maximo creates a Standard Cost Adjustment (STDCSTADJ) transaction. Maximo uses the account in the **Control GL Account** field as the debit account and the account in the **Cost Adjustment GL Account** field as the credit account.

The INVCOST table is the primary source of the default code for the inventory control account. Maximo uses the system date and time to determine the financial period for the transaction.

The **Standard Cost** field on the Inventory tab is read-only so you must use the Adjust Standard Cost dialog box to make any changes to the standard cost.

The Standard Cost Adjustment dialog box contains the following columns:

- ▼ Condition Code
- ▼ Condition Rate
- ▼ Description
- ▼ Standard Cost

The Standard Cost Adjustment dialog box contains the following columns you can edit:

- ▼ Control Account for the INVCOST record
- ▼ Cost Adjustment Account for the INVCOST record
- ▼ New Standard Cost

To adjust an item's standard cost, complete the following steps:

- 1 From the List tab of the Inventory application, display the item whose Standard Cost you want to adjust.
- 2 Click the Inventory tab to see that item's inventory information.
- 3 From the Select Action menu, select **Inventory Adjustments > Standard Cost**. The Standard Cost Adjustment dialog box opens.

The standard cost value is shown in the **Standard Cost** field.

- 4 Type the adjusted standard cost value in the **New Standard Cost** field.

NOTE If you are adjusting the cost of an item that is condition-enabled, you can adjust the costs for all condition levels.

- 5 Update the GL account information in the **Control Account** and **Cost Adjustment** fields.

Adjusting the Standard Cost will affect these values.

- 6 Click **OK**. The **Standard Cost** field on the Inventory tab displays the new value.

Maximo records the standard cost adjustment in the Inventory Transactions table and writes a STDCSTADJ (standard cost adjustment) transaction to the INVTRANS table.

NOTE Use the **Standard Cost Adjustment** action only if you use standard cost management.

Example

Adjust the standard cost of a bearing from \$22.00 to \$25.00. The current balance of the item is 2.

Source of GL Account for Standard Cost Adjustment

Source of GL Account	Debit	Credit	Source of GL Account
Inventory control account	(\$25.00- \$22.00) x 2= \$6.00	(\$25.00- \$22.00)x 2= \$6.00	Inventory cost adjustment account

If you capitalize the item, the standard cost is zero, and you cannot perform the transaction.

Inventory Transaction, Type Field = STDCSTADJ

When you select **Adjust Standard Cost** from the Select Action menu, Maximo writes a STDCSTADJ transaction to the Inventory Transactions (INVTRANS) table.

Displayed Fields

GL Debit Account (GLDEBITACCT) ← **GL Control Account** field (not displayed) in the Inventory application ← **Inventory Control Account** field on the Inventory-Related Accounts dialog box in Chart of Accounts.

GL Credit Account (GLCREDITACCT) ← **GL Cost Adjustment Account** field (not displayed) in the Inventory application ← **Inventory Cost Adjustment Account** field on the Inventory-Related Accounts dialog box in Chart of Accounts.

Database Fields

INVTRANS.GLDEBITACCT ← INVCOST.CONTROLACC ←
LOCATIONS.CONTROLACC

INVTRANS.GLCREDITACCT ← INVCOST.INVCOSTADJACC ←
LOCATIONS.INVCOSTADJACC

Adjust Average Cost

When you select **Average Cost Adjustment** from the Select Action menu, Maximo creates an Average Cost Adjustment (AVGCSTADJ) transaction. Maximo uses the account in the **Control GL Account** field as the debit account and the account in the **Cost Adjustment GL Account** field as the credit account.

You might want to adjust the average cost value if you issue items at average cost and want any price increases reflected immediately in the issue cost.

To adjust the average cost of an item, complete the following steps:

- 1 From the List tab of the Inventory application, display the item whose average cost you want to adjust.
- 2 Click the Inventory tab. The Inventory tab opens.
- 3 On the Select Action menu, select **Inventory Adjustments > Average Cost**. The Average Cost dialog box opens.
- 4 Type the average cost value in the **Average Cost** field. If you are adjusting the cost of a condition enabled item, you can adjust the costs for all condition levels.

NOTE You can enter a new value for the average cost directly; or you can specify a percentage increase/decrease by which to adjust the average cost in the **Cost %** field. If you enter a figure in the **Cost %** field, Maximo updates the **New Average Cost** field accordingly.

TIP To enter a ten-percent increase, enter 10. If you enter 0.10, Maximo increases the average cost one-tenth of one percent.

5 Update the GL account information in the **Control Account** and **Cost Adjustment Account** fields. Adjusting the current balance figure affects these values.

6 Click **OK**. The **Average Cost** field on the Inventory tab displays the new value. Maximo records the average cost adjustment in the Inventory Transactions table.

The INVCOST table is the primary source of the default account code for the inventory control account.

Maximo uses the system date and time to determine the financial period for the transaction.

When you click **OK** on the Average Cost Adjustment page, Maximo writes an AVGCSTADJ transaction to the INVTRANS table.

Example

Adjust the average cost of a bearing from \$22.00 to \$25.00. The current balance of the item is 2

Source of GL Account for Average Cost Adjustment

Source of GL Account	Debit	Credit	Source of GL Account
Inventory control account	(\$25.00- \$22.00)x 2= \$6.00	(\$25.00- \$22.00)x 2 = \$6.00	Inventory cost adjustment account

If you capitalize the item, the average cost is zero, and you cannot perform the transaction.

Inventory Transaction, Type Field = AVGCSTADJ

When you select **Adjust Average Cost** from the Select Action menu, Maximo writes an AVGCSTADJ transaction to the Inventory Transactions (INVTRANS) table.

Displayed Fields

GL Debit Account (GLDEBITACCT) ← **GL Control Account** field (hidden) in the Inventory application ← **Inventory Control Account** field on the Inventory-Related Accounts dialog box in Chart of Accounts.

GL Debit Account (GLCREDITACCT) ← **GL Cost Adjustment Account** field (hidden) in the Inventory application ← **Inventory Cost Adjustment Account** field on the Inventory-Related Accounts dialog box in Chart of Accounts.

Database Fields

INVTRANS.GLDEBITACCT <= INVCOST.CONTROLACC <=
LOCATIONS.CONTROLACC

INVTRANS.GLCREDITACCT<=INVCOST.INVCOSTADJACC <=
LOCATIONS.INVCOSTADJACC

Issue Current Item

For both issues and returns, the GL account fields on the Issue Current Item page default in the same way that the GL account fields default in the Issues and Transfers application. For a description of the sources of the GL fields on the Issue Current Item page, see “Issues Tab,” on page 6-29.

In the Inventory application, to issue an item, select **Issue Current Item** from the Select Action menu.

Maximo uses the date and time in the **Entered Date** field on the Issue Current Item page to determine the financial period for the transaction. The **Entered Date** field defaults to the system date and time.

When you click **Save** to issue the item, Maximo writes a record, ISSUETYPE = ISSUE, to the MATUSETRANS table.

Example

Issue 20 bearings at \$0.50 (issue cost)

Source of GL Account for Average Cost Adjustment

Source of GL Account	Debit	Credit	Source of GL Account
1 Inventory GL account (item resource code)	20 x \$0.50 = \$10.00	20 x \$0.50 = \$10.00	Inventory control account
2 If issued to a work order ⇒ work order GL account			
3 If issued to asset ⇒			
▼ Asset GL account			
▼ GL account of asset's location			

Source of GL Account	Debit	Credit	Source of GL Account
4	If issued to a location ⇒		
	▼ If only one asset at location, asset GL account		
	▼ Location GL account		

If you capitalize the item (bearings), the default credit account is the Capital GL account, and the line cost is zero. For more information, see “Change Status from Non-Capitalized to Capitalized,” on page 6-1.

Return an Item

To return an item, select **Issue Current Item** from the Select Action menu.

Maximo uses the date and time in the **Entered Date** field on the Issue Current Item page to determine the financial period for the transaction. The **Entered Date** field defaults to the system date and time.

Primary Transaction

When you click **Save**, Maximo writes a record, ISSUETYPE = RETURN, to the MATUSETRANS table.

Example

Return 4 bearings at \$0.50 (issue cost

Source of GL Account Code for Return an Item

Source of GL Account	Debit	Credit	Source of GL Account
Inventory control account	4 x \$0.50 = \$2.00	4 x \$0.50 = \$2.00	1 Inventory GL account (item resource code) 2 If returned from a work order ⇒ work order GL account 3 If returned from asset ⇒ Asset GL account GL account of asset's location 4 If returned from a location ⇒ If only one asset at location, asset GL account Location GL account

If you capitalize the item, the default debit account is the Capital GL account, and the line cost is zero. For more information, see “Change Status from Non-Capitalized to Capitalized,” on page 6-1.

Transfer Current Item

The following sections describe the displayed fields and detailed fields for the **Transfer Current Item** action in the Inventory application.

Displayed Fields

GL Debit Account (GLDEBITACCT) ⇐

*If the item is transferred to a labor or courier location, the **Control Account** field for the labor or courier in Locations; otherwise,*

*If in response to an internal purchase order, the **GL Debit Account** field on the PO Lines tab; otherwise,*

GL Control Account field (not displayed) in the Inventory application for the “to” location ⇐ **Inventory Account** field on the Inventory-Related Accounts dialog box in Chart of Accounts.

GL Credit Account field (GLCREDITACCT) ⇐

*the **GL Credit Account** field on the PO Lines tab if in response to an internal purchase order, otherwise,*

GL Control Account field (not displayed) in the Inventory application for “from” location \Leftarrow **Inventory Account** field on the Inventory-Related Accounts dialog box in Chart of Accounts.

Database Fields

MATRECTRANS.GLDEBITACCT \Leftarrow

If transferred to a labor or courier location, LOCATIONS.CONTROLACC; otherwise,

If in response to an internal purchase order, POLINE.GLDEBITACCT; otherwise,

INVCOST.CONTROLACC for “to” location \Leftarrow LOCATIONS.CONTROLACC

MATRECTRANS.GLCREDITACCT \Leftarrow

INVCOST.CONTROLACC for “from” location \Leftarrow LOCATIONS.CONTROLACC

Assemble/Disassemble Kit

Maximo contains two actions that let you work with kits:

- ▼ assemble kit (gather items to create a kit)
- ▼ disassemble kit (take a kit apart)

Assemble / Disassemble Balance Information

When you . . .	you increase the balance of the . . .	and you reduce the balance of the . . .
assemble a kit	kit record	respective items within the kit.
disassemble a kit	respective items within the kit	kit record.

NOTE Assembling and disassembling kits is not a financial process; consequently it is not documented in this guide. For more information on kits, refer to Maximo Help.

Kit Cost Variance Transaction

If a discrepancy exists between the value of a kit and the combined cost of that kit’s components, Maximo writes a Kit Cost Variance (KITCOSTVAR) transaction that represents the variance between the two (the cost of a kit and the combined cost of that kit’s components).

This financial transaction uses the storeroom location’s Control account as the debit account and the Receipt Variance account as the credit account. The following example illustrates the transaction:

Example

Disassemble a kit using the standard cost: The kit's value is \$430 (standard cost), the combined standard cost of the components is \$410. This action results in a cost variance of \$20.

Source of GL Code for Kit Cost Variance

Source of GL Account	Debit	Credit	Source of GL Account
Storeroom Location's Control Account	\$20.00	\$20.00	Receipt Variance Account

Receipt Adjustment Transactions

This section describes the following types of inventory transactions indicated by the **Transaction Type** field:

- ▼ Transfer Transactions
- ▼ PO Material Receipts Transactions
- ▼ Standard Receipt Adjustment Transactions

Transfer Transactions

You can view transaction records for transfers on the Transactions tab in Inventory, just as you can view them in Issues and Transfers. For information about the sources of the GL fields for these transaction records, see “Transfer Out Tab,” on page 6-30 and “Transfer In Tab,” on page 6-31.

The Issue Type for this transaction is TRANSFER, which Maximo writes to the database table. However, it does not appear in the **Issue Type** field on the page.

PO Material Receipts Transactions

This section lists displayed and database fields for the following types of PO Material Receipts transactions:

- ▼ direct issue purchases from outside vendors
- ▼ storeroom purchases from outside vendors
- ▼ storeroom purchases from internal vendors

For Storeroom Purchases (Issue on Receipt? = N) from Outside Vendor

Displayed Fields

GL Debit Account (GLDEBITACCT) ← **GL Debit Account** field on PO Lines tab ← (**GL Debit Account** field on PR Lines tab) ← **GL Control Account** field (hidden) for storeroom location in the Inventory application.

GL Credit Account (GLCREDITACCT) ← **GL Credit Account** field on PO Lines tab ← (**GL Credit Account** field on PR Lines tab) ← **RBNI** field for vendor in Companies ← **RBNI** field for Company Type for vendor on Company-Related Accounts dialog box in Chart of Accounts.

Database Fields

MATRECTRANS.GLDEBITACCT ← POLINE.GLDEBITACCT ← (PRLINE.GLDEBITACCT) ← INVCOST.CONTROLACC

MATRECTRANS.GLCREDITACCT ← POLINE.GLCREDITACCT ← (PRLINE.GLCREDITACCT) ← COMPANIES.RBNIACC ← COMPANYACCDEF.RBNIACC (where TYPE = vendor company's type)

For Storeroom Purchases (Issue on Receipt? = N) from Internal Vendor (Another Storeroom)

Displayed Fields	<p>GL Debit Account (GLDEBITACCT) ⇐ GL Debit Account field on PO Lines tab ⇐ (GL Debit Account field on PR Lines tab) ⇐ GL Control Account field (hidden) for receiving storeroom location ⇐ Inventory Control Account field on the Inventory-Related Accounts dialog box in Chart of Accounts.</p> <p>GL Credit Account (GLCREDITACCT) ⇐ GL Credit Account field on PO Lines tab ⇐ (GL Credit Account field on PR Lines tab) ⇐ GL Control Account field (hidden) for “vendor” storeroom location ⇐ Inventory Control Account field on the Inventory-Related Accounts dialog box in Chart of Accounts.</p>
Database Fields	<p>MATRECTRANS.GLDEBITACCT ⇐ POLINE.GLDEBITACCT ⇐ (PRLINE.GLDEBITACCT) ⇐ INVCOST.CONTROLACC (of receiving storeroom location)</p> <p>MATRECTRANS.GLCREDITACCT ⇐ POLINE.GLCREDITACCT ⇐ (PRLINE.GLCREDITACCT) ⇐ INVCOST.CONTROLACC (of vendor storeroom location)</p>

For Direct Issue Purchases (Issue on Receipt? = Y) From Outside Vendor

NOTE You can create direct issue purchase requisitions and purchase orders only for external vendors.

The sources for service receipt GL accounts are the same, except that no item resource code (**Inventory GL Account** field) is involved with services.

NOTE The following displayed fields and database fields are listed in order of account priorities. For more information on account code priorities, see page 4-5.

Displayed Fields	<p>GL Debit Account (GLDEBITACCT) ⇐ GL Debit Account field on PO Lines tab ⇐ (GL Debit Account field on PR Lines tab) ⇐</p> <ol style="list-style-type: none"> 1 GL Account field (hidden) in the Inventory application ⇐ Inventory Resource field for item Type field on Inventory Resource Codes dialog box in Chart of Accounts; 2 Work Order GL Account field; 3 Asset GL Account field (hidden); 4 Location GL Account field. <p>GL Credit Account (GLCREDITACCT) ⇐ GL Credit Account field on PO Lines tab ⇐ (GL Credit Account field on PR Lines tab) ⇐ RBNI field for vendor in Companies ⇐ RBNI field for Company Type field (for vendor on PO line) on Company-Related Accounts dialog box in Chart of Accounts.</p>
Database Fields	<p>MATRECTRANS.GLDEBITACCT ⇐ POLINE.GLDEBITACCT ⇐ (PRLINE.GLDEBITACCT) ⇐</p> <ol style="list-style-type: none"> 1 INVCOST.GLACCOUNT ⇐ ACCOUNTDEFAULTS.GLDEFAULT (where DFLTGROUP = INVRESCODE and GROUPVALUE = item type for item on PO line)

2 WORKORDER.GLACCOUNT

3 ASSET.GLACCOUNT

4 LOCATIONS.ACCOUNT

MATRECTRANS.GLCREDITACCT \Leftarrow POLINE.GLCREDITACCT \Leftarrow
 (PRLINE.GLCREDITACCT) \Leftarrow COMPANIES.RBNIACC \Leftarrow
 COMPANYACCDEF.RBNIACC (where TYPE = vendor company's type)

Standard Receipt Adjustment Transactions

When you use the standard cost, you can create this transaction as a secondary transaction to a material receipt transaction when the receipt price differs from the standard cost.

Displayed Fields

GL Debit Account (GLDEBITACCT) \Leftarrow **Receipts Price Variance Account** field for storeroom location \Leftarrow **Receipts Price Variance Account** field on the Inventory-Related Accounts dialog box in Chart of Accounts.

GL Credit Account (GLCREDITACCT) \Leftarrow **GL Control Account** field (not displayed) in the Inventory application \Leftarrow **Inventory Control Account** field on the Inventory-Related Accounts dialog box in Chart of Accounts.

Database Fields

INVTRANS.GLDEBITACCT \Leftarrow LOCATIONS.RECEIPTVARACC
 INVTRANS.GLCREDITACCT \Leftarrow INVCOST.CONTROLACC \Leftarrow
 LOCATIONS.CONTROLACC

Issues and Transfers Application

This section describes the following processes within the Issues and Transfer Application:

- ▼ Issue an Item within One Site
- ▼ Issue an Item Between Sites within the Same Organization
- ▼ Return Previously Issued Item
- ▼ Transfer Out
- ▼ Transfer In

Issue an Item within One Site

In Issues and Transfers, you can issue an item from the Issue tab within the same site.

Maximo uses the date and time in the **Actual Date** field to determine the financial period for the transaction. The **Actual Date** field defaults to the system date and time.

Transaction

When you click **Save**, Maximo writes a record, ISSUETYPE = ISSUE, to the MATUSETRANS table.

Example

Issue 20 bearings at \$0.50 (issue cost).

Source of GL Account for Issuing an Item

Source of GL Account	Debit	Credit	Source of GL Account
1 Inventory GL account (item resource code)	20 x \$0.50 = \$10.00	20 x \$0.50 = \$10.00	Inventory control account
2 If issued to a work order ⇒ work order GL account			
3 If issued to asset ⇒ Asset GL account GL account of asset's location			
4 If issued to a location ⇒ If only one asset at location, asset GL account Location GL account			

If you capitalize the item, the default credit account is the Capital GL account, and the line cost is zero. For more information, see “Change Status from Non-Capitalized to Capitalized,” on page 6-1.

Issue an Item Between Sites within the Same Organization

In Issues and Transfers, you can issue an item from the Issue tab between sites within the same organization.

Maximo uses the date and time in the **Actual Date** field to determine the financial period for the transaction. The **Actual Date** field defaults to the system date and time.

Transaction

When you click **Save**, Maximo writes a record, ISSUETYPE = ISSUE, to the MATUSETRANS table.

Example

Issue 20 bearings at \$0.50 (issue cost) from the storeroom in Site A to the storeroom in Site B

Source of GL Account for Issuing an Item Between Sites in Same Organization.

Source of GL Account	Debit	Credit	Source of GL Account
1 Inventory GL account (item resource code)	20 x \$0.50 = \$10.00	20 x \$0.50 = \$10.00	Inventory control account
2 If issued to a work order ⇒ work order GL account			
3 If issued to asset ⇒ Asset GL account GL account of asset's location			
4 If issued to a location ⇒ If only one asset at location, asset GL account Location GL account			

NOTE If you capitalize the item, the default credit account is the Capital GL account, and the line cost is zero. For more information, see “Change Status from Non-Capitalized to Capitalized,” on page 6-1.

Return Previously Issued Item

To return an item, click **Select Items for Return** on the Issue tab.

Maximo uses the date and time in the **Actual Date** field in the table window to determine the financial period for the transaction. The **Actual Date** field defaults to the system date and time.

To return items in Issues and Transfers, select the applicable items from a list of previously issued items. Maximo posts the transaction with a negative line cost and the accounts will be the same debit and credit as the issue transaction. These accounts are read-only.

Transaction

When you click **Save**, Maximo writes a record, ISSUETYPE = RETURN, to the MATUSETRANS table.

Example

Return 4 bearings that were issued at \$0.50 each. At issue, the debit account was 1111-111-111 and the credit account was 2224-224-222.

Source of GL Account for Returning a Previously Issued Item

Source of GL Account	Debit	Credit	Source of GL Account
1111-111-111	4 x \$0.50 = \$2.00	4 x \$0.50 = \$2.00	2224-224-222
GL Debit used when item was issued (read-only)			GL Credit used when item was issued (read-only)

Transfer Out

To transfer out an item, click **Select Items for Transfer** on the Transfer Out tab.

Maximo uses the date and time in the **Actual Date** field to determine the financial period for the transaction. The **Actual Date** field defaults to the system date and time.

Primary Transaction

When you click **Save**, Maximo writes a record, ISSUETYPE = TRANSFER, to the MATUSETRANS table.

Example 1

Transfer 20 bearings at \$0.50 (issue cost) from the central storeroom to the packaging storeroom in the same site.

Source of GL Account for Transferring an Item within the Same Site

Source of GL Account	Debit	Credit	Source of GL Account
1 Inventory control account of destination storeroom.	20 x \$0.50 = \$10.00	20 x \$0.50 = \$10.00	Inventory control account of source storeroom.
2 If in response to an internal purchase order ⇒ purchase order line GL Debit Account			If in response to an internal purchase order ⇒ purchase order line GL Credit Account

Example 2

Transfer 20 bearings at \$0.50 (issue cost) from the central storeroom in Site A to the packaging storeroom in Site B within the same organization.

Source of GL Account for Transferring an Item within the Same Organization

Source of GL Account	Debit	Credit	Source of GL Account
3 Inventory Control Account of Central Storeroom in Site B.	20 x \$0.50 = \$10.00	20 x \$0.50 = \$10.00	Clearing Account of Organization B

NOTE Using the previous example to complete a transfer of items across organizations, Maximo requires two transactions:

- 1 The central storeroom in Site A must issue items to a courier.
- 2 The packaging storeroom in Site B must transfer items in from the courier to the storeroom.

If you capitalize the item and it already exists in the destination, the default for both the debit and credit accounts is the capital GL account, and the line cost is zero. For more information, see “Change Status from Non-Capitalized to Capitalized,” on page 6-1.

If you capitalize the item and your company is stocking it in the destination for the first time, the debit account for the transfer is the Inventory Control account of the destination. The credit account is the Capital GL account.

Transferring a capitalized item to a new inventory location inserts the item as capitalized into the new inventory location. The control account for the item in that new inventory location is the Inventory Control account, not the Capital GL account.

Secondary Transaction

Transferring against an internal PO creates the same transaction as receiving material against an internal PO. For more information, see “Material Receipt, Internal,” on page 8-8.

Transferring against an internal PO produces a secondary transaction under the following conditions:

- ▼ your standard cost is used as your issue cost
- ▼ the receipt price varies from the standard price in the destination storeroom

In either scenario, Maximo writes the following record to the INVTRANS table:

TRANSTYPE = STDRECADJ

Maximo determines the value of the transaction (line cost) with the following equation:

$$\text{Receipt Qty} \times (\text{Receipt Price} - \text{Standard Price})$$

Example

You transfer 20 bearings into the central storeroom at \$0.50 each (primary transaction), but the standard cost of the bearings in the central storeroom is \$0.45 each. Your company uses the standard cost.

NOTE If the item is capitalized, the default credit account is the Capital GL account. Furthermore, because the standard cost of a capitalized item is zero, the line cost for the standard receipt adjustment transaction equals the receipt price of the item. For more information, see “Change Status from Non-Capitalized to Capitalized,” on page 6-1.

Source of GL Account with Different Item Costs

Source of GL Account	Debit	Credit	Source of GL Account
Receipts price variance account	(\$0.50 - \$0.45) x 20 = \$1.00	(\$0.50 - \$0.45) x 20 = \$1.00	Inventory control account

NOTE Maximo performs all cost entries and calculations in the base currency.

Transfer In

To transfer in an item, click **Select Items for Transfer** on the Transfer In tab.

Maximo uses the date and time in the **Actual Date** field to determine the financial period for the transaction. The **Actual Date** field defaults to the system date and time.

Primary Transaction

When you click **Save**, Maximo writes the following record to the MATRECTRANS table:

ISSUETYPE = TRANSFER

Example

Transfer 20 bearings at \$0.50 (issue cost) to the packaging storeroom from the central storeroom.

Source of GL Account for Transfer Between Storerooms

Source of GL Account	Debit	Credit	Source of GL Account
1 Inventory control account of destination storeroom.	20 x \$0.50 = \$10.00	20 x \$0.50 = \$10.00	Inventory control account of source storeroom.

Source of GL Account	Debit	Credit	Source of GL Account
2 Inventory control account of destination storeroom.			Inventory control account of source storeroom.

Example

Transfer 20 bearings at \$0.50 (issue cost) from the central storeroom in Site A to the packaging storeroom in Site B within the same organization.

Source of GL Account for Transfer Between Sites, Same Organization

Source of GL Account	Debit	Credit	Source of GL Account
3 Inventory control account of destination storeroom in Site B.	20 x \$0.50 = \$10.00	20 x \$0.50 = \$10.00	Inventory control account of source storeroom in Site A.
4 If in response to an internal purchase order with no courier ⇒ purchase order line GL Debit Account.			If in response to an internal purchase order with no courier ⇒ purchase order line GL Credit Account.
5 If in response to an internal purchase order with courier ⇒ purchase order line GL Debit Account			If in response to an internal purchase order with courier ⇒ clearing account of organization

Transfer 20 bearings at \$0.50 (issue cost) from the central storeroom in Site A, Organization A to the packaging storeroom in Site B, Organization B

Source of GL Account for Transfer Between Sites, Different Organizations

Source of GL Account	Debit	Credit	Source of GL Account
6 Inventory Control Account of Central Storeroom in Site B.	20 x \$0.50 = \$10.00	20 x \$0.50 = \$10.00	Clearing Account of Organization B.

NOTE Using the previous example, to transfer items across organizations, Maximo requires two transactions:

- 1 The central storeroom in Site B must transfer items from the storeroom to the courier.

2 The packaging storeroom in Site A must receive items from a courier.

If the item is capitalized and it already exists in the destination, the default for both the debit and credit accounts is the Capital GL account, and the line cost is zero. For more information, see “Change Status from Non-Capitalized to Capitalized,” on page 6-1.

If the item is capitalized and your company is stocking it in the destination for the first time, the debit account for the transfer is the Inventory Control account of the destination. The credit account is the Capital GL account.

Transferring a capitalized item to a new inventory location inserts the item as capitalized into the new inventory location. The control account for the item in that new inventory location is the Inventory Control account, not the Capital GL account.

Secondary Transaction

Transferring against an internal PO creates the same transaction as receiving material against an internal PO. For more information, see “Material Receipt, Internal,” on page 8-8.

Transferring against an internal PO produces a secondary transaction under the following conditions:

- ▼ Standard cost is used as your issue cost.
- ▼ The receipt price varies from the standard price in the destination storeroom.

Under these conditions, Maximo writes the following record to the INVTRANS table:

TRANSTYPE = STDRECADJ, to the INVTRANS table.

Maximo determines the value of the transaction (line cost) with the following equation:

Receipt Qty x (Receipt Price - Standard Price)

Example

You transfer 20 bearings into the central storeroom at \$0.50 each (primary transaction), but the standard cost of the bearings in the central storeroom is \$0.45 each. Your company uses the standard cost.

Source of GL Account for Transfer with Different Costs

Source of GL Account	Debit	Credit	Source of GL Account
Receipts price variance account	(\$0.50 - \$0.45)	(\$0.50 - \$0.45)	Inventory control account
	x 20 = \$1.00	x 20 = \$1.00	

If the item is capitalized, the default credit account is the Capital GL account. Also, since the standard cost of a capitalized item is zero, the line cost for the standard receipt adjustment transaction equals the receipt price of the item.

For more information, see “Change Status from Non-Capitalized to Capitalized,” on page 6-1.

NOTE Maximo performs all cost entries and calculations in the base currency.

Issues and Transfers Database Transactions

In Issues and Transfers, you can transfer an item against an internal purchase order. This section explains the GL transactions resulting from “Transfer In” and “Transfer Out,” earlier in this chapter. For more information, see “Material Receipt, Internal,” on page 8-8.

Issues Tab

When you issue an item, Maximo determines the default accounts in the following ways:

Issue Type of Issue

GL Debit Account (GLDEBITACCT) ⇐

- GL Account** field (not displayed) in the Inventory application ⇐ **Inventory Resource** field for the Item Type on the Inventory Resource Codes dialog box in Chart of Accounts (this typically would be only one segment only of the **GL Debit Account** field);
- GL Account** field in Work Orders, if work order number specified; ⇐ **GL Account** field in Preventive Maintenance, if based on PM record; *or*, **GL Account** field in Asset (not displayed); *or*, **GL Account** field in Locations;
- GL Account** field in Asset (not displayed);
- GL Account** field in Locations.

GL Credit Account (GLCREDITACCT) ⇐ **GL Control Account** field (not displayed) in the Inventory application.

Issue Type of Issue

MATUSETRANS.GLDEBITACCT ⇐

- INVCOST.GLACCOUNT ⇐ ACCOUNTDEFAULTS.GLDEFAULT (where DFLTGROU = INVRESCODE)

2 WORKORDER.GLACCOUNT \Leftarrow PM.GLACCOUNT; *or*,
ASSET.GLACCOUNT; *or*, LOCATIONS.GLACCOUNT

3 ASSET.GLACCOUNT

4 LOCATIONS.GLACCOUNT

MATUSETRANS.GLCREDITACCT \Leftarrow INVCOST.CONTROLACC \Leftarrow
LOCATIONS.CONTROLACC

Issue Type of Return

GL Debit Account (GLDEBITACCT) \Leftarrow **GL Credit Account** on Select
Items for Return page for selected item.

GL Credit Account (GLCREDITACCT) \Leftarrow **GL Debit Account** on Select
Items for Return page for selected item.

Issue Type of Return

MATUSETRANS.GLDEBITACCT \Leftarrow MATUSETRANS.GLCREDITACCT for
the item's issue transaction.

MATUSETRANS.GLCREDITACCT \Leftarrow MATUSETRANS.GLDEBITACCT for
the item's issue transaction.

Transfer Out Tab

This section provides GL field information for the Transfer Out tab.

Displayed Fields

GL Debit Account (GLDEBITACCT) \Leftarrow

the **Control Account** field for the labor or courier in Locations, *if the item is transferred to a labor or courier location; between two storerooms at the same site.*

the **GL Debit Account** field on the PO Lines tab *if in response to an internal purchase order; between two storerooms at the same site.*

the **Clearing Account** of the transferring out site's organization if in response to an internal purchase order between a transferring out site and a receiving site.

GL Control Account field (not displayed) in the Inventory application for the "to" location \Leftarrow **Inventory Account** field on the Inventory-Related Accounts dialog box in Chart of Accounts.

GL Credit Account (GLCREDITACCT) \Leftarrow

the **GL Credit Account** field on the PO Lines tab *if in response to an internal purchase order, otherwise,*

GL Control Account field (not displayed) in the Inventory application for "from" location \Leftarrow **Inventory Account** field on the Inventory-Related Accounts dialog box in Chart of Accounts.

Database Fields

MATRECTRANS.GLDEBITACCT \Leftarrow

LOCATIONS.CONTROLACC, if transferred to a labor or courier location, otherwise,

POLINE.GLDEBITACCT, if in response to an internal purchase order; between two storerooms at the same site.

ORGANIZATION.CLEARING ACCOUNT, clearing account of the transferring out site's organization if in response to an internal purchase order between a transferring out site and a receiving site.

INVCOST.CONTROLACC for "to" location ⇐ LOCATIONS.CONTROLACC

MATRECTRANS.GLCREDITACCT ⇐

POLINE.GLCREDITACCT, if in response to an internal purchase order; otherwise,

INVCOST.CONTROLACC for "from" location ⇐ LOCATIONS.CONTROLACC

Transfer In Tab

This section provides GL field information for the Transfer In tab.

Displayed Fields

GL Debit Account (GLDEBITACCT) ⇐

If in response to an internal purchase order, the **GL Debit Account** field on the PO line otherwise,

GL Control Account field (not displayed) in the Inventory application for "to" location ⇐ **Inventory Control Account** field on the Inventory-Related Accounts dialog box in Chart of Accounts.

GL Credit Account (GLCREDITACCT) ⇐

If the item is transferred from a labor our courier location, the **Control Account** field for the labor or courier in the Locations application, otherwise

If in response to an internal purchase order, the **GL Credit Account** field on the PO line otherwise,

If in response to an internal purchase order between a receiving site and a transferring out site, the **Clearing Account** of the receiving site's organization.

GL Control Account field (not displayed) in the Inventory application for the "from" location ⇐ **GL Control Account** field (not displayed) in Locations for the "from" location ⇐ **Inventory Control Account** field on the Inventory-Related Accounts dialog box in Chart of Accounts.

Database Fields

MATRECTRANS.GLDEBITACCT ⇐

If in response to an internal purchase order, POLINE.GLDEBITACCT; otherwise,

INVCOST.CONTROLACC for "to" location ⇐ LOCATIONS.CONTROLACC

MATRECTRANS.GLCREDITACCT ⇐

If transferred from a labor or courier location, LOCATIONS.CONTROLACC; otherwise,

If in response to an internal purchase order, POLINE.GLCREDITACCT; otherwise,

If in response to an internal purchase order between a receiving site and a transferring out site, ORGANIZATION.CLEARING ACCOUNT, the clearing account of the receiving site's organization.

INVCOST.CONTROLACC for "from" location \Leftarrow
LOCATIONS.CONTROLACC

Tools Application

Both the tools GL accounts (tool resource codes) and the tools control accounts can be divided into two different types: internal and external. For the tools GL account, the tool resource code that you assign to Outside? = N becomes the default for the internal tools GL account, whereas the code that you assign to Outside? = Y becomes the default for the external tools GL account.

As with the tools GL accounts (tool resource codes), there are internal and external tools control accounts. Thus, the tools control account code that you assign to Outside? = N becomes the default for the internal tools control account, whereas the codes that you assign to Outside? = Y become the defaults for the external tools control accounts.

Furthermore, for the external tools control accounts, you can assign a unique default code for each vendor.

If Outside? Field = N

TOOL.GLACCOUNT \Leftarrow ACCOUNTDEFAULTS.GLDEFAULT (where DFLTGROUP = TOOLRESCODE and GROUPVALUE = N) (Tool Resource field for Outside? = N on Tool Resource Codes dialog box in Chart of Accounts) \Leftarrow direct entry (no default)

TOOL.CONTROLACC \Leftarrow ACCOUNTDEFAULTS.GLDEFAULT (where DFLTGROUP = INTTOOLREC, and GROUPVALUE = ALL) (Control Account field on Internal Tools Control Accounts dialog box in Chart of Accounts) \Leftarrow direct entry (no default)

If Outside? Field = Y

TOOL.GLACCOUNT \Leftarrow ACCOUNTDEFAULTS.GLDEFAULT (where DFLTGROUP = TOOLRESCODE, and GROUPVALUE = Y) (Tool Resource field for Outside? = Y on Tool Resource Codes dialog box in Chart of Accounts) \Leftarrow direct entry (no default)

TOOL.CONTROLACC \Leftarrow ACCOUNTDEFAULTS.GLDEFAULT (where DFLTGROUP = EXTTOOLREC, and GROUPVALUE = vendor name) (Control Account field for Vendor on External Tools Control Accounts dialog box in Chart of Accounts) \Leftarrow direct entry (no default)

Financial Processes in Preventive Maintenance

7

This chapter describes the financial processes for the Preventive Maintenance application in the Preventive Maintenance module.

For general information about the contents of this chapter, see Chapter 4, “Financial Process Chapters.”

Preventive Maintenance Application

Maximo uses any GL account (segment) entered in the Preventive Maintenance application on work orders that you generate from the PM record.

Displayed Field

GL Account (GLACCOUNT) ← manual entry (no default)

Database Field

PM.GLACCOUNT ← manual entry (no default)

Financial Processes in Purchasing

8

This chapter describes the financial processes for the following applications in the Purchasing module:

- ▼ Companies
- ▼ Purchase Requisitions
- ▼ Purchase Orders
- ▼ Receiving
- ▼ Invoices

For general information about the contents of this chapter, see Chapter 4, “Financial Process Chapters.”

Companies Application

Displayed Fields

In the Companies application, the GL account fields (**AP Control Account**, **RBNI Account**, **Suspense Account**) default according to company type as specified in the **Company Type** field.

RBNI (RBNIACC) \Leftarrow **RBNI** field for Company Type on Company-Related Accounts dialog box in Chart of Accounts.

Suspense (APSUSPENSEACC) \Leftarrow **AP Suspense** field for Company Type on Company-Related Accounts dialog box in Chart of Accounts.

AP Control (APCONTROLACC) \Leftarrow **AP Control** field for Company Type on Company-Related Accounts dialog box in Chart of Accounts.

Database Fields

COMPANIES.RBNIACC \Leftarrow COMPANYYACCDEF.RBNIACC

COMPANIES.APSUSPENSEACC \Leftarrow COMPANYYACCDEF.
APSUSPENSEACC

COMPANIES.APCONTROLACC \Leftarrow COMPANYYACCDEF.APCONTROLACC

Purchase Requisitions

This section describes the following actions, selected from the PR Lines tab in the Purchase Requisitions application, that cause Maximo to write GL account transactions:

- ▼ Material requisitions for direct issue (Issue on Receipt? = Y)
- ▼ Material requisitions from internal vendor (another storeroom)
- ▼ Material requisitions for storeroom from external vendor

PR Lines Tab

The following sections describe the displayed fields and database fields for material requisitions.

Material Requisitions for Storeroom From External Vendor

The following sections describe the displayed fields and database fields for Material Requisitions for a storeroom from an external vendor.

Displayed Fields

GL Debit Account (GLDEBITACCT) \Leftarrow **GL Control Account** field (not displayed) for storeroom location in the Inventory application.

GL Credit Account (GLCREDITACCT) \Leftarrow **RBNI** field for Vendor in Companies \Leftarrow **RBNI** field for **Company Type** field (for Vendor on PR line) on Company-Related Accounts dialog box in Chart of Accounts.

Database Fields

PRLINE.GLDEBITACCT \Leftarrow INVCOST.CONTROLACC

PRLINE.GLCREDITACCT \Leftarrow COMPANIES.RBNIACC \Leftarrow COMPANYACCDEF.RBNIACC (where TYPE = vendor company's type)

Material Requisitions for Direct Issue (Issue on Receipt? = Y)

The following sections describe the displayed fields and database fields for Material Requisitions for a direct issue when Issue on Receipts = Y.

Displayed Fields

Maximo can create direct issue requisitions and purchase orders can only be created for an external vendor.

GL Debit Account (GLDEBITACCT) \Leftarrow

GL Account field (not displayed) in the Inventory application \Leftarrow **Inventory Resource** field for item **Type** field on Inventory Resource Codes dialog box in Chart of Accounts;

1 Work Order GL Account field;

2 Asset GL Account field (not displayed);

3 Location GL Account field.

GL Credit Account (GLCREDITACCT) \Leftarrow **RBNI** field for Vendor in Companies \Leftarrow **RBNI** field for **Company Type** field (for Vendor on PR line) on Company-Related Accounts dialog box in Chart of Accounts.

Database Fields	PRLINE.GLDEBITACCT ⇐ <ol style="list-style-type: none"> 1 INVCOST.GLACCOUNT ⇐ ACCOUNTDEFAULTS.GLDEFAULT (where DFLTGROUP = INVRESCODE and GROUPVALUE = item type for item on PO line) 2 WORKORDER.GLACCOUNT 3 ASSET.GLACCOUNT 4 LOCATIONS.GLACCOUNT PRLINE.GLCREDITACCT ⇐ COMPANIES.RBNIACC ⇐ COMPANYACCDEF.RBNIACC (where TYPE = vendor company's type)
------------------------	--

Material Requisitions From Internal Vendor (Another Storeroom)

The following section describes the displayed fields and database fields for Material Requisitions from the storeroom of an internal vendor.

NOTE This transaction involves internal PO's within the same site or between two sites within the same organization.

Displayed Fields	<p>GL Debit Account (GLDEBITACCT) ⇐ GL Control Account field (not displayed) in the Inventory application for requisitioning storeroom location ⇐ Inventory Control Account field on the Inventory-Related Accounts dialog box in Chart of Accounts.</p> <p>GL Credit Account (GLCREDITACCT) ⇐ GL Control Account field (not displayed) in the Inventory application for "vendor" storeroom location ⇐ Inventory Control Account field on the Inventory-Related Accounts dialog box in Chart of Accounts.</p>
-------------------------	---

Database Fields	PRLINE.GLDEBITACCT ⇐ INVCOST.CONTROLACC (of requisitioning location) ⇐ LOCATIONS.CONTROL.ACC PRLINE.GLCREDITACCT ⇐ INVCOST.CONTROLACC (of vendor location) ⇐ LOCATIONS.CONTROL.ACC
------------------------	---

NOTE You cannot create a service requisition that names an internal vendor.

Material Requisitions From Internal Vendor (Another Storeroom) in a Different Organization

The following section describes the displayed fields and database fields for Material Requisitions from an internal vendor in a different organization.

Displayed Fields	<p>GL Debit Account (GLDEBITACCT) ⇐ GL Control Account field (not displayed) in the Inventory application for requisitioning storeroom location ⇐ Inventory Control Account field on the Inventory-Related Accounts dialog box in Chart of Accounts.</p> <p>GL Credit Account (GLCREDITACCT) ⇐ Organization Clearing Account field in the Organization application for the receiving site's organization.</p>
-------------------------	--

Database Fields	PRLINE.GLDEBITACCT ⇐ INVCOST.CONTROLACC (of requisitioning location) ⇐ LOCATIONS.CONTROL.ACC PRLINE.GLCREDITACCT ⇐ ORGANIZATION.CLEARINGACCOUNT
------------------------	--

Purchase Requisitions for Services

The following sections describes the following types of Service Requisitions:

- ▼ Line Type = Service
- ▼ Line Type = Standard Service
- ▼ Rotating Asset when the **Charge to Store?** check box = Y

Purchase Requisitions (Line Type = Service)

The following section describes the displayed fields for Service Requisitions when the Line Type = Service.

Displayed Fields

The **GL Debit Account** and **GL Credit Account** fields for a service requisition default just as they do for a direct issue material requisition (page 8-2) except that the merger does not involve an item resource code unless the you order the service requisition for an asset and you select the **Charge to Store?** check box.

Purchase Requisitions (Line Type = Standard Service)

The following section describes the displayed fields for Service Requisitions when the Line Type = Standard Service.

Displayed Fields

GL Debit Account (GLDEBITACCT) ← **GL Account** field for the Organization / Service item as defined in the Service Items application using the **Service Item / Organization Details** action.

GL Credit Account (GLCREDITACCT) ← **RBNI** field for vendor in Companies ← **RBNI** field for **Company Type** field (for vendor on PR line) on Company-Related Accounts dialog box in Chart of Accounts.

Database Fields

PRLINE.GLDEBITACCT ← ITEMORGINFO.GLACCOUNT

PRLINE.GLCREDITACCT ← COMPANIES.RBNIACC (of vendor) ← COMPANYACCDEF.RBNIACC where TYPE = vendor company's type

Purchase Requisitions for Rotating Asset, When Charge to Store? = Y

The following section describes the displayed fields for Service Requisitions when the **Issue on Receipts** check box = Y for a rotating asset and the **Charge to Store?** check box = Y.

Displayed Fields

GL Debit Account (GLDEBITACCT) ← **Rotating Suspense Account** field (not displayed) in Asset ← **Global Rotating Suspense Account** field on the Inventory-Related Accounts dialog box in Chart of Accounts.

GL Credit Account (GLCREDITACCT) ← **RBNI** field for vendor in Companies ← **RBNI** field for **Company Type** field (for vendor on PR line) on Company-Related Accounts dialog box in Chart of Accounts.

Database Fields

PRLINE.GLDEBITACCT ← ASSET.ROTSUSPACCT ← ACCOUNTDEFAULTS.GLDEFAULT (where DFLTGROUP = INVRELACC and GROUPVALUE = ROTTSUSPACCT)

PRLINE.GLCREDITACCT ← COMPANIES.RBNIACC (of vendor) ← COMPANYACCDEF.RBNIACC where TYPE = vendor company's type

Purchase Orders Application

This section describes the **Material Orders from External Vendor** action, selected from the PO Lines tab in the Purchase Orders application, that causes Maximo to write GL account transactions.

PO Lines Tab

You can copy PO line items from PR line items, or you can enter them directly on a purchase order. In the first case, Maximo copies the GL fields from the PR. In the second case, PO line GL fields default exactly as they do on a PR.

The following section shows the case of ordering storeroom items from an external vendor, with the PR line shown in parentheses, indicating that Maximo might have copied the PO GL information from there.

For information about other cases of purchase orders (from internal vendor, for issue on receipt materials, or for services), see “PR Lines Tab,” on page 8-2.

Material Orders From External Vendor

The following sections describe the displayed fields and database fields for Material Orders from external vendors.

Displayed Fields

GL Debit Account (GLDEBITACCT) \Leftarrow **GL Debit Account** field on PR line \Leftarrow **GL Control Account** field (not displayed) for storeroom location in the Inventory application.

GL Credit Account (GLCREDITACCT) \Leftarrow **GL Credit Account** field on PR line \Leftarrow **RBNI** field for vendor in Companies \Leftarrow **RBNI** field for **Company Type** field (for vendor on PO line) on Company-Related Accounts dialog box in Chart of Accounts.

Database Fields

POLINE.GLDEBITACCT \Leftarrow (PRLINE.GLDEBITACCT) \Leftarrow INVCOST.CONTROLACC

POLINE.GLCREDITACCT \Leftarrow (PRLINE.GLCREDITACCT) \Leftarrow COMPANIES.RBNIACC \Leftarrow COMPANYYACCDEF.RBNIACC where TYPE = vendor company's type

Receiving Application

This section describes the following types of receipts:

- ▼ Material Receipt, External, into Storeroom
- ▼ Material Receipt, External, issue on Receipt
- ▼ Material Receipts, Inspection Required
- ▼ Material Receipts are Organizations, Internal

Material Receipt, External, into Storeroom

You perform this process on the Material Receipts tab in Receiving.

Maximo uses the date and time in the **Received Date** field to determine the financial period for the transaction. The **Received Date** field defaults to the system date and time.

NOTE The Loaded Cost column in the table window represents the cost of material, plus any taxes or standard services that have been added to the line.

Primary Transaction

When you click **Save**, Maximo writes a record to the MATRECTRANS table.

Example

Receive 20 bearings at \$0.50 each.

Source of GL Account for Material Receipts, External into Storeroom

Source of GL Account	Debit	Credit	Source of GL Account
Purchase order line	10 x \$0.50 =	20 x \$0.50 =	Purchase order line
Debit Account	\$5.00	\$10.00	Credit Account

For the default order of the PO line accounts, see Case 1 in the process, "Insert a PR Line Item Record" in Chapter 5, "Non-Financial Processes."

NOTE All cost entries and calculations are made in the base currency.

Material Receipt, External, Issue on Receipt

To do this process on the Material Receipts tab click New Row or Select Ordered Items.

Maximo uses the date and time in the **Received Date** field to determine the financial period for the transaction. The **Received Date** field defaults to the system date and time.

Primary Transaction

When you click **Save**, Maximo writes a record, ISSUETYPE = RECEIPT, to the MATRECTRANS table.

As with the previous process (Material Receipt, External, into Storeroom), you use the same debit and credit accounts for inserting a PO line or PR line. For more information about how the accounts default, see Case 2 in the process, "Insert a PR Line Item Record" in Chapter 5, "Non-Financial Processes."

Secondary Transaction

Maximo also writes a record to MATUSETRANS table. This record represents the issue of the item upon receipt. From an accounting perspective, it is the same transaction as in MATRECTRANS.

Material Receipt, Inspection Required?

The following section describes how to process a receipt, when Maximo requires an inspection of the item, through the Material Receipts tab in the Receiving application.

Maximo determines the inspection status through the **Inspection Required?** check box on the PO Lines in the Purchase Orders application.

Purchase Orders Application with Receipt Required? check box indicated

If you selected the **Inspection Required?** check box, the Inspection Status on the Material Receipts tab defaults to WINSP (Waiting for Inspection) upon receipt.

Use the **Change Inspection Status** action in the Receiving application to accept or reject these items.

Receiving Application with Change Inspection Status action indicated

In the following example, you have transferred eight items to your storeroom and returned two to the vendor. After you complete the transaction, the Material Receipts tab displays updated line item information.

Example

The following table shows what GL transactions Maximo writes when a user receives 10 copper tubings at \$0.50 each. Upon inspection, eight copper tubings are accepted and the remaining two copper tubings are rejected.

Source of GL Account for Material Receipt, Inspection Required

Transaction Type	Source of GL Account	Debit	Credit	Source of GL Account
Receipt	Holding Location GL account	10 x \$0.50 = \$5.00	10 x \$0.50 = \$5.00	RBNI (Received But Not Invoiced) GL account from company application
Transfer to your Storeroom	Your Storeroom's GL account	8 x \$0.50 = \$4.00	8 x \$0.50 = \$4.00	Holding Location GL account
Return to Holding Location	Holding Location GL account	-2 x \$0.50 = -\$1.00	-2 x \$0.50 = -\$1.00	RBNI GL account from company application

Material Receipt, Internal

To receive an item against an internal PO, you use the Issues and Transfers application with the Receiving application.

Maximo uses the date and time in the **Received Date** field to determine the financial period for the transaction. The **Received Date** field defaults to the system date and time.

When you click **Save**, Maximo writes a record, ISSUETYPE = TRANSFER to the MATRECTRANS table.

If you use standard cost, a potential secondary transaction can occur. For example, if you move the item from storeroom A to storeroom B, and the item's receipt price in Maximo differs from the item's standard price in storeroom B. Maximo writes a record, TRANSTYPE = STDRECADJ, to the INVTRANS table.

The value of the transaction (that is, the LINECOST) is equal to the following equation:

$$[\text{Receipt Quantity} \times (\text{Receipt Price in Maximo} - \text{Standard Price in Storeroom B})]$$

Depending upon whether you are receiving an item that is rotating and/or required inspection, use the following table to determine whether you should refer to Case 1 (page 8-8) or Case 2 (page 8-9).

Case 1/Case 2 Reference Table

If you are receiving an item against an internal PO and that item is . . .	and . . .	refer to . . .
rotating	requires inspection	Case 1.
rotating	does not require inspection	Case 1.
non-rotating	requires inspection	Case 1.
non-rotating	does not require inspection	Case 2.

Case 1

You create an internal PO and add a PO line where the item quantity is five and the unit cost is \$10. You want to transfer the item from the Central Storeroom at your Bedford site to the Central Storeroom at your Nashua site.

The number of transactions you enter in Issues and Transfers depends upon whether you are receiving a rotating or non-rotating item.

Case 1 Receiving Item and Transaction Table

If you are receiving . . .	you enter . . .
a rotating item,	one transaction for each item.
a non-rotating item,	one transaction for all items.

Each of these transactions appears in the MATRECTRANS table as type TRANSFER and inspection status TRANSFER.

NOTE If you are receiving an inspection-required item, Maximo requires a courier for that item.

Source of GL Account for Rotating Item

Source of GL Account	Debit	Credit	Source of GL Account
Your Bedford site's Clearing account	1 * \$10 = \$10	1 * \$10 = \$10	Your Bedford site's Inventory Control account for the Central storeroom.
	1 * \$10 = \$10	1 * \$10 = \$10	
	1 * \$10 = \$10	1 * \$10 = \$10	
	1 * \$10 = \$10	1 * \$10 = \$10	

Source of GL Account for Non-Rotating Item

Source of GL Account	Debit	Credit	Source of GL Account
Your Bedford site's Clearing account	5 * \$10 = \$50	5 * \$10 = \$50	Your Bedford site's Inventory Control account for the Central storeroom.

Use the Receiving application if you need to confirm or inspect the item or serialize the transaction.

Receive Item and Transfer to Central Storeroom in your Nashua Site

Source of GL Account	Debit	Credit	Source of GL Account
Your Nashua site's holding location	5 * \$10 = \$50	5 * \$10 = \$50	Your organization's Clearing account for the Bedford site
Inventory Control of Central Storeroom in Nashua site	5 * \$10 = \$50	5 * \$10 = \$50	Your Nashua site's holding location

Case 2

You create an internal PO and add a PO line where the item quantity is five and the unit cost is \$10. You want to transfer the item from the Central Storeroom at your Bedford site to the Central Storeroom at your Nashua site.

In Issues and Transfers, you enter one transaction for the five non-rotating items that do not require inspection.

NOTE Maximo does not require a courier since the item does not require inspection.

Transfer from Central Storeroom at your Bedford Site

Source of GL Account	Debit	Credit	Source of GL Account
Your Inventory Control account for Nashua's Central Storeroom	5 * \$10 = \$50	5 * \$10 = \$50	Your Inventory Control account for Bedford's Central Storeroom

Material Receipt across Organizations Internal

There are two types of material receipts across internal organizations:

- ▼ Material Returns
- ▼ Service Receipts

Material Returns

To return an item against a PO, use the Material Receipts tab and click **New Row** or **Select Items for Return**. When using New Row, enter a negative quantity for the return. If you use Select Items for Return, Maximo automatically creates a negative quantity transaction.

When you click **Save**, Maximo writes a record, ISSUETYPE = RETURN, to the MATRECTRANS table. If the transaction was created by using Select Items for Return, Maximo records a reference to the original receipt transaction by populating the RECEIPTREF column in the MATRECTRANS table.

Service Receipts

To receive a service, use the Service Receipts tab and click either **New Row** or **Select Ordered Services**.

Maximo uses the date and time in the **Received Date** field to determine the financial period for the transaction. The **Received Date** field defaults to the system date and time.

When you click **Save**, Maximo writes a record, TRANSTYPE = RECEIPT, to the SERVRECTRANS table.

From a GL perspective, this process produces a transaction analogous to the primary transaction for an external material receipt (that is, you use the same debit and credit accounts as you use for inserting either a PO line or a PR line). For more information about how the accounts default, see Cases 2 and 3 in the process “Insert a PR Line Item Record” in Chapter 5, “Non-Financial Processes.”

NOTE The **GL Debit Account** and **GL Credit Account** fields on both the Material Receipts tab and the Service Receipts tab have the same sources as they do for the associated PR or PO line. For more information, see “Purchase Orders Application,” on page 8-5.

Invoices Application

Although Maximo might create records to establish GL accounts, no GL transactions occur until you approve the invoice. Upon invoice approval, many transactions can occur.

Maximo uses the date and time in the **Entered Date** field in the Invoices application to determine the financial period for transactions in this application. All transactions are in the base currency.

NOTE Processes that result in debit/credit transactions use decimal fields and amount (cost) fields. To minimize the effects of rounding in calculations, use the Database Configuration application to set the “scale” (the number of places calculated and displayed to the right of the decimal point) of these fields to six or more places.

Invoice Lines Tab

Use the Invoice application to select the Invoice Lines tab.

You can copy invoice line items from PO line items or enter them directly. If you copy an invoice line from a PO, the **GL Debit Account** field for that invoice line defaults to the PO line debit account. When you directly enter invoice line items, the invoice line **GL Debit Account** field defaults exactly as if you were inserting a PR line. For more information about how the debit account defaults, see “PR Lines Tab,” on page 8-2.

The **GL Credit** field source is always the RBNI account for the vendor that the user has specified in the Invoices application.

In the Database section, both the PO line and the PR line are shown in parentheses, indicating that you may have copied the invoice GL information from the PO. For information about account defaults for invoices containing either materials to be issued on receipt or services, see “PR Lines Tab,” on page 8-2.

Inserting invoice lines creates no GL transactions until you reach the “approve invoice” stage. For more information, see “Approve Invoice” on page 8-14.

Displayed Fields

GL Debit Account (GLDEBITACCT) \Leftarrow **GL Debit Account** field on PO Lines tab \Leftarrow **GL Debit Account** field on PR Lines tab \Leftarrow **GL Control Account** field (not displayed) for storeroom location in the Inventory application.

GL Credit Account (GLCREDITACCT) \Leftarrow **RBNI** field in Companies for vendor \Leftarrow **RBNI** field for **Company Type** field (for vendor in Invoices application) on Company-Related Accounts dialog box in Chart of Accounts.

Database Fields

INVOICECOST.GLDEBITACCT \Leftarrow (POLINE.GLDEBITACCT) \Leftarrow (PRLINE.GLDEBITACCT) \Leftarrow INVCOST.CONTROLACC

INVOICECOST.GLCREDITACCT \Leftarrow COMPANIES.RBNIACC \Leftarrow COMPANYACCDEF.APSUSPENSEACC (where TYPE = vendor company’s type)

Not Charged to Store

You receive an invoice for two hours of computer repair at \$50 an hour. The invoice has no associated PO and it is not Charged to Store. In addition to the primary transaction, Maximo writes a transaction to the SERVRECTRANS table.

GL Account Source when Invoice Not Charged to Store

Source of GL Account	Debit	Credit	Source of GL Account
1 If issued to a work order ⇒ work order GL account	2 x \$50.00 = \$100.00	2 x \$50.00 = \$100.00	Company RBNI (Received But Not Invoiced) account
2 If issued to asset ⇒ Asset GL account GL account of asset's location			
3 If issued to a location ⇒ If only one asset at location, asset GL account Location GL account			

Service for Item With No PO, if Charge to Store? = N

Database Fields

SERVRECTRANS.GLDEBITACCT ⇐ INVOICECOST.GLDEBITACCT ⇐ or, WORKORDER.GLACCOUNT, or, ASSET.GLACCOUNT, or, LOCATIONS.GLACCOUNT

SERVRECTRANS.GLCREDITACCT ⇐ COMPANIES.RBNIACC ⇐ COMPANYACCDEF.RBNIACC (where TYPE = vendor company's type)

Charged to Store

If the **Charge to Store?** check box is selected, the system carries the charges through to the rotating asset.

You receive an invoice for 2 hours of computer repair at \$50 an hour. The invoice has no associated PO, and it is Charged to Store. In addition to the primary transaction, Maximo writes a transaction to SERVRECTRANS

GL Account Source when Invoice Charged to Store

Source of GL Account	Debit	Credit	Source of GL Account
Asset rotating suspense account	2 x \$50.00 = \$100.00	2 x \$50.00 = \$100.00	Company RBNI account

Furthermore, when UPDATEINVENTORY = 1, Maximo updates the database inventory cost of the rotating asset (for example, the computer).

Service for Item With No PO, if Charge to Store? = Y

Database Fields

SERVRECTRANS.GLDEBITACCT \Leftarrow INVOICECOST.GLDEBITACCT
 \Leftarrow ASSET.ROTSUSPACCT \Leftarrow ACCOUNTDEFAULTS.GLDEFAULT (where
 DFLTGROUP = INVRELACC and GROUPVALUE = ROTSPACCT)

SERVRECTRANS.GLCREDITACCT \Leftarrow COMPANIES.RBNIACC \Leftarrow
 COMPANYACCDEF.RBNIACC (where TYPE = vendor company's type)

Distribute Costs Page

Default information on this page comes from the INVOICECOST table; where data results from inserting invoice line items. The **GL Debit Account** and **GL Credit Account** source fields are the same as those used when inserting an invoice line, discussed previously in "Invoice Lines Tab," on page 8-11.

As with inserting invoice lines, using the Distribute Costs page creates no GL transactions until you reach the "approve invoice" stage. For more information, see "Approve Invoice," on page 8-14.

Displayed Fields

GL Debit Account (GLDEBITACCT) \Leftarrow **GL Debit Account** field on invoices line.

GL Credit Account (GLCREDITACCT) \Leftarrow **GL Credit Account** field on invoices line \Leftarrow **RBNI** field in Companies for vendor \Leftarrow **RBNI** field for **Company Type** field (for vendor in Invoices) on Company-Related Accounts dialog box in Chart of Accounts.

Database Fields

INVOICECOST.GLDEBITACCT (\Leftarrow POLINE.GLDEBITACCT)(\Leftarrow
 PRLINE.GLDEBITACCT)

INVOICECOST.GLCREDITACCT \Leftarrow COMPANIES.APSUSPENSEACC \Leftarrow
 COMPANYACCDEF.RBNIACC (where TYPE = vendor company's type)

Example

Materials are purchased for a storeroom.

GL Debit Account (GLDEBITACCT) \Leftarrow **GL Debit Account** field on PO line
 \Leftarrow **GL Debit Account** field on PR line \Leftarrow **GL Control Account** field (not
 displayed) for storeroom location in the Inventory application.

GL Credit Account (GLCREDITACCT) \Leftarrow **RBNI** field in Companies for
 vendor \Leftarrow **RBNI** field for **Company Type** field (for vendor in Invoices) on
 Company-Related Accounts dialog box in Chart of Accounts.

INVOICECOST.GLDEBITACCT (\Leftarrow POLINE.GLDEBITACCT) \Leftarrow
 (PRLINE.GLDEBITACCT) \Leftarrow INVCOST.CONTROLACC

INVOICECOST.GLCREDITACCT \Leftarrow COMPANIES.RBNIACC \Leftarrow
 COMPANYACCDEF.RBNIACC (where TYPE = vendor company's type)

Transactions Resulting From Distributing Costs

NOTE The actual GL transactions occur only at the time of invoice approval.

For Materials

MATRECTRANS.GLDEBITACCT \Leftarrow INVOICECOST.GLDEBITACCT \Leftarrow
 POLINE.GLDEBITACCT

MATRECTRANS.GLCREDITACCT \Leftarrow INVOICECOST.GLCREDITACCT \Leftarrow
 POLINE.GLCREDITACCT

Approve Invoice

All displayed GL fields in the Invoices application already acquired their values when you inserted the invoice lines. When you approve an invoice, Maximo does not affect the values in any application GL fields; however, Maximo does create at least one database transaction and possibly others.

Maximo uses the date and time in the **Entered Date** field in the Invoices application to determine the financial period for transactions in this application.

If a PO number for the invoiced item exists *and* the **Buy Ahead** field (usually not displayed by default) in the Purchase Orders application is set to Buy Ahead, the exchange rate at invoice approval is the rate locked in with the vendor when you create the PO. Otherwise, if the **Vendor Currency** field in the Invoices application is populated, the exchange rate is the current active rate from the Exchange Rate table in Currency Management.

Invoice Total Transaction (Primary Transaction)

When you approve an invoice, Maximo writes the following record to the INVOICETRANS table:

TRANSTYPE = TOTAL

Example

Approve an invoice for 20 bearings at \$0.50 each, plus tax of \$0.75.

GL Account Source to Approve an Invoice

Source of GL Account	Debit	Credit	Source of GL Account
Company RBNI account	(20 x \$0.50) + \$0.75	(20 x \$0.50) + \$0.75	Company AP suspense account
	= \$10.75	= \$10.75	

A secondary transaction moves the tax portion into a tax account. We include tax in the preceding example to emphasize that the line cost for the TOTAL transaction includes tax. For more information about taxes, see the following section on Tax transactions.

NOTE Even if the unit cost of the item is in a foreign currency (for example, Canadian dollars, the LINECOST is in the base currency (for example, U.S. dollars). The approval date determines the exchange rate used at invoice approval. The enter date in the INVOICE table determines the financial period.

Database Fields

INVOICETRANS.GLDEBITACCT \Leftarrow COMPANIES.RBNIACC \Leftarrow COMPANYACCDEF.RBNIACC (where TYPE = vendor company's type)

INVOICETRANS.GLCREDITACCT \Leftarrow COMPANIES.APSUSPENSEACC \Leftarrow COMPANYACCDEF.APSUSPENSEACC (where TYPE = vendor company's type)

Additional Transactions

The following additional transactions can occur. Maximo writes these potential transactions are written to the INVOICETRANS, MATRECTRANS, and/or SERVRECTRANS tables. All transactions are in the base currency.

Service Transaction for Each Invoice Line With no Associated PO Line

If the invoice contains a line for a service for which no PO line exists, Maximo writes an additional transaction to the SERVRECTRANS table. Because no associated PO exists, no receipt for that service exists. However, Maximo requires an entry to account for the receipt stage. Therefore, the debit account defaults as if you inserted a PO line (or a PR line).

Additional Possible Transaction for Materials

Materials to be Issued on Receipt

If the item is a material to be issued on receipt, Maximo accounts for any change in the item cost by writing entries to both the MATRECTRANS and MATUSETRANS tables. The accounts default as if you were inserting a PR line. If the materials are charged to a work order, Maximo also updates the Actual Materials Cost.

Example

You approve an invoice for 20 bearings at 3.30 CAD each. The base currency is US dollars, and the exchange rate is currently 5.00 Canadian dollars per 1.00 US dollar. At the point of receipt, the item price is only 3.00 CAD, and the exchange rate is 6.00 CAD per US dollar.

At receipt, the bearings are 3.00 CAD = \$0.50 each.

At invoice approval, the bearings are 3.30 CAD = \$0.66 each.

Maximo writes the following record, ISSUETYPE = INVOICE to both the MATRECTRANS and MATUSETRANS tables

Source of GL Account for MATRECTRANS and MATUSETRANS.

Source of GL Account	Debit	Credit	Source of GL Account
Debit account established upon insertion of invoice line = PO line debit Account	(\$0.66-\$0.50) x 20 = \$3.20	(\$0.66-\$0.50) x 20 = \$3.20	PO line credit account = Company RBNI account

If Issue on Receipt? = Y

MATUSETRANS.GLDEBITACCT <= INVOICECOST.GLDEBITACCT <= POLINE.GLDEBITACCT

MATUSETRANS.GLCREDITACCT <= INVOICECOST.GLCREDITACCT <= POLINE.GLCREDITACCT

For Service

SERVRECTRANS.GLDEBITACCT <= INVOICECOST.GLDEBITACCT <= POLINE.GLDEBITACCT

SERVRECTRANS.GLCREDITACCT <= INVOICECOST.GLCREDITACCT <= POLINE.GLCREDITACCT

Tax Transactions

As in the preceding example, an invoice can include tax. If so, in addition to the transaction of TRANSTYPE = TOTAL, Maximo writes transactions to the INVOICETRANS table with TRANSTYPE = TAX n , where $1 \leq n \leq 5$. The value of n depends on which tax type you selected for the tax in Chart of Accounts.

Pay Tax to Vendor

Recall the example used for the primary transaction:

Example 1

Approve an invoice for 20 bearings at \$0.50 each, plus tax of \$0.75.

If the tax is of type Tax 1, Maximo writes the following tax transaction: TRANSTYPE = TAX1 to INVOICETRANS.

Source of GL Account for Pay Tax to Vendor

Source of GL Account	Debit	Credit	Source of GL Account
Paid Tax GL account	\$0.75	\$0.75	Company RBNI account

Example 2

Additionally, Maximo has an option to add taxes to the cost of the item. When you choose this option and Pay Tax to Vendor is true, Maximo writes a single

transaction of TRANSTYPE=TOTAL to the INVOICETRANS table. Maximo does not write a tax type transaction in this scenario.

If Tax Paid to Vendor (Pay Tax to Vendor? = Y) and if Tax is of Type Tax n , where $1 \leq n \leq 5$

INVOICETRANS.GLDEBITACCT \leftarrow INVOICE.TAX n GL \leftarrow TAXTYPE.INCLUSIVEGL

INVOICETRANS.GLCREDITACCT \leftarrow COMPANIES.RBNIACC \leftarrow COMPANYACCDEF.RBNIACC (where TYPE = vendor company's type)

Do Not Pay Tax to Vendor

Recall the example used for the primary transaction:

Example 1

Approve an invoice for 20 bearings at \$0.50 each, plus tax of \$0.75.

If the tax is of type Tax 1, Maximo writes a tax transaction with TRANSTYPE = TAX1 to INVOICETRANS

Source of GL Account for Do Not Pay Tax to Vendor

Source of GL Account	Debit	Credit	Source of GL Account
Paid Tax GL account	\$0.75	\$0.75	Unpaid Tax GL account

Example 2

When you can add tax to items and Pay Tax to Vendor is false, Maximo writes two transactions to the INVOICETRANS table:

- ▼ a transaction of TRANSTYPE=TAX n , where $1 \leq n \leq 5$
- ▼ a transaction of TRANSTYPE=TOTAL.

Approve an invoice for 20 bearings at \$0.50 each, plus tax of \$0.75.

If the tax is of type Tax 1, Maximo writes a tax transaction with TRANSTYPE = TAX1 to INVOICETRANS.

Source of GL Account for Do Not Pay Tax to Vendor with added Tax Items

Source of GL Account	Debit	Credit	Source of GL Account
Company RBNI Account	\$0.75	\$0.75	Unpaid Tax GL account

Database Fields

If Tax Paid Directly to Authority (Pay Tax to Vendor? = N) and if Tax is of Type Tax n , where $1 \leq n \leq 5$

INVOICETRANS.GLDEBITACCT \leftarrow INVOICE.TAX n GL \leftarrow TAXTYPE.EXCLUSIVEGL

INVOICETRANS.GLCREDITACCT \leftarrow TAXTYPE.INCLUSIVEGL

Cost Variance Transactions

If time lapses between receiving the item and approving the invoice, the cost associated with the invoice line might differ from the cost of the item at receipt. Both the resulting transaction(s) and the transaction table(s) to which they are written vary in accordance with several factors. Furthermore, if you purchased the item for a storeroom, Maximo accounts for the variance based on the source of the cost change, including the following potential sources:

- 1 the cost on the invoice is different than the cost at receipt
- 2 the exchange rate changes between the time of receipt and invoice approval

With any cost variance, Maximo writes a transaction to either MATRECTRANS or SERVRECTRANS, depending on whether the item is material or service. As with records written to PRLINE and POLINE, the source of the accounts varies, depending on the nature of the item and on the planned use for the item.

In addition, Maximo might write currency variance and invoice cost variance transactions to INVOICETRANS.

Variations for Materials

If the invoice line is for materials, Maximo calculates the total exchange rate gain or loss related to the line. Maximo combines this amount with the total variance due to cost changes related to the same invoice line. Maximo writes one transaction for both currency variance and invoice cost variance to the MATRECTRANS table (and to the MATUSETRANS table, if set to Issue on Receipt on the PO line). Both the debit and credit accounts default as if you were inserting a receipt line for a PO. In addition, if Maximo tracks variances the system can write separate transactions for each type of variance to the INVOICETRANS table.

If you purchased the item for inventory (not for issue on receipt), Maximo accounts for any cost variances based on two determining factors:

- ▼ the quantity of an item on the invoice, relative to the current balance of the item in the storeroom *at the time of invoice approval*
- ▼ the value of UPDATEINVENTORY in MAXVARS

If many items are issued or transferred out since receipt, the current balance at invoice approval time might be less than the invoice quantity.

In the following three cases, Maximo writes a transaction to the MATRECTRANS table and/or the INVOICETRANS table for the entire variance.

- ▼ UPDATEINVENTORY = 1 (the default) and Invoice Quantity \leq Current Balance (page 8-19)
- ▼ UPDATEINVENTORY = 1 (the default) and Invoice Quantity $>$ Current Balance (page 8-19)
- ▼ UPDATEINVENTORY = 0 and Maximo does not update the Average Cost (page 8-21)

Case 1

UPDATEINVENTORY = 1 (the default) and Invoice Quantity ≤ Current Balance

For the items remaining in inventory, Maximo also updates the average cost of the item to reflect the per unit variance by writing a transaction of *TRANSTYPE = INVOICE* to the *MATRECTRANS* table for the amount in inventory.

Example

You approve an invoice for 20 bearings at 3.30 CAD each. The base currency is US dollars, and the exchange rate is currently 5.00 Canadian dollars per 1.00 US dollar. At the point of receipt, the item price is only 3.00 CAD, and the exchange rate is 6.00 CAD per US dollar.

At receipt, the bearings are 3.00 CAD = \$0.50 each.

At invoice approval, the bearings are 3.30 CAD = \$0.66 each.

Average Cost Change

Originally, 10 items were in the storeroom at \$0.50 each. Upon receipt, there are 30 items at \$0.50 each for a total value of \$15.00. Upon invoice approval, Maximo increases the value by \$3.20 to \$18.20. The average cost is \$18.20 divided by 30 = \$0.61.

NOTE If you capitalize this item, the average cost in the storeroom changes. If the item you capitalized has a zero cost in the storeroom before you approve the invoice, it has a positive cost after you approve the invoice.

Source of GL Account for Invoice Cost Variance Transaction

Source of GL Account	Debit	Credit	Source of GL Account
Debit account established upon insertion of invoice line = PO Line debit account	(\$0.66-\$0.50) x 20 = \$3.20	(\$0.66-\$0.50) x 20 = \$3.20	PO line credit account = company RBNI account

Case 2

UPDATEINVENTORY = 1 (the default) and Invoice Quantity > Current Balance

For the items remaining in inventory, Maximo also updates the average cost of the item to reflect the per unit variance by writing a transaction of *TRANSTYPE = INVOICE* to the *MATRECTRANS* table for the amount in inventory.

Maximo writes a transaction of *TRANSTYPE = INVCEVAR* to the *INVOICETRANS* table for the items that you issued out of the storeroom. Maximo writes this transaction after you received the item, but before you approve the item.

If a change in the exchange rate caused any of the remaining variance, Maximo writes a transaction of *TRANSTYPE = CURVAR* to the *INVOICETRANS* table for the remainder of the currency variance.

Example

From your inventory, you receive 20 bearings when the exchange rate is 3.00 Canadian Dollars (CAD) = \$0.50 US Dollars (USD). (For this example, assume you already have 10 bearings currently in inventory.)

When the exchange rate changes to 3.00 CAD = \$.60 USD, you issue all 10 of the items that were already in inventory plus four of the 20 bearings that you recently received.

When you receive the invoice for the 20 bearings, the exchange rate is 3.30 CAD = \$0.66 USD.

Average Cost Change

Each of the 20 bearings you ordered is now worth \$0.16 more at invoice than at receipt. Of those 20 items, 4 have already been issued from the storeroom.

Instead of taking the \$3.20 (20 x \$0.16 = \$3.20) and allocating it among the 16 remaining items, which would create a \$0.20 increase per item, Maximo maintains the storeroom's average cost correctly by increasing the average cost of each item by \$0.16 to \$0.66.

Upon invoice approval, Maximo accounts for the 16 bearings remaining in the storeroom by debiting the inventory control account and crediting the RBNI account by 16 x \$0.16 = \$2.56. Also, Maximo debits the invoice cost variance account and credits the company RBNI account by 4 x \$0.16 for the already issued four bearings.

Source of GL Account for Average Price Change

Source of GL Account	Debit	Credit	Source of GL Account
Inventory Control Account	16 x \$0.16 = \$2.56	16 x \$0.16 = \$2.56	Company RBNI account

The remaining amount of \$3.20 - \$2.56 = \$0.64 is allocated between the currency variance and invoice cost variance accounts through the following transactions that Maximo writes to the INVOICETRANS table.

NOTE If you capitalize this item, the average cost in the storeroom changes. Even if the capitalized item has a cost of \$0.00 in the storeroom before you approve the invoice, it has a positive cost after you approve the invoice.

Currency Variance Transaction

Here, we must control for the cost variable. The cost on receipt was 3.00 CAD = \$0.50. If the cost at invoice had been 3.00 CAD, as opposed to 3.30 CAD, the cost per bearing at invoice would have been 3.00 CAD = \$0.60. Four invoice items are no longer in the storeroom.

Source of GL Account for Currency Variance Transaction

Source of GL Account	Debit	Credit	Source of GL Account
Currency variance account	(\$0.60-\$0.50) x 4 = \$0.40	(\$0.60-\$0.50) x 4 = \$0.40	Company RBNI account

NOTE If the item is capitalized, the credit account is the inventory control account and not the Capital GL account.

Invoice Cost Variance Transaction

In this transaction, we must control the exchange rate variable. If the exchange rate at receipt is the same as the invoice exchange rate, the cost per bearing at receipt is 3.00 CAD = \$0.60 (not \$0.50). The cost at invoice was 3.30 CAD = \$0.66. Four items are no longer in the storeroom.

NOTE Variance accounts track cost variances by **storeroom location**, not by **item**.

Source of GL Account for Invoice Cost Variance Transaction

Source of GL Account	Debit	Credit	Source of GL Account
Invoice Cost Variance account of Storeroom	(\$0.66-\$0.60) x 4 = \$0.24	(\$0.66-\$0.60) x 4 = \$0.24	Company RBNI account

The \$0.64 variance for the four items in inventory consists of a \$0.40 currency variance and a \$0.24 cost variance.

NOTE Even if the item is capitalized, the credit account is the inventory control account, not the Capital GL account.

Case 3

UPDATEINVENTORY = 0 and Maximo does not update the Average Cost

A change in the exchange rate causes Maximo to write a record, TRANSTYPE = CURVAR, to the INVOICETRANS table for that portion of the total variance.

A change in the cost in the foreign currency causes Maximo to write a record, TRANSTYPE = INVCEVAR, to the INVOICETRANS table for that portion of the total variance.

NOTE Both the preceding overview and the following example apply to both capitalized and non-capitalized items.

Example

You approve an invoice for 20 bearings at 3.30 CAD each. The base currency is US dollars, and the exchange rate is currently 5.00 Canadian dollars per 1.00 US dollar. At the point of receipt, the item price is only 3.00 CAD, and the exchange rate is 6.00 CAD per US dollar.

At receipt, the bearings are 3.00 CAD = \$0.50 each.

At invoice approval, the bearings are 3.30 CAD = \$0.66 each.

Currency Variance Transaction

The cost on receipt is 3.00 CAD = \$0.50. If the cost at invoice is 3.00 CAD, as opposed to 3.30 CAD, the cost per bearing at invoice is 3.00 CAD = \$0.60. Maximo writes the CURVAR transaction to the INVOICETRANS table

Source of GL Account for Currency Variance Transaction.

Source of GL Account	Debit	Credit	Source of GL Account
Currency variance account	(\$0.60-\$0.50) x 20 = \$2.00	(\$0.60-\$0.50) x 20 = \$2.00	Inventory control account

NOTE Even if the item is a capitalized item, the credit account is the inventory control account, not the Capital GL account.

Invoice Cost Variance Transaction

For this transaction, you control the exchange rate variable. If the exchange rate at receipt is the same as the invoice exchange rate, the cost per bearing at receipt is 3.00 CAD = \$0.60 (not \$0.50). The cost at invoice was 3.30 CAD = \$0.66. Maximo writes the INVCEVAR transaction to INVOICETRANS.

NOTE Variance accounts track cost variances by **storeroom location**, not by **item**.

Source of GL Account for Invoice Cost Variance Transaction

Source of GL Account	Debit	Credit	Source of GL Account
Invoice Cost Variance account of Storeroom	(\$0.66-\$0.60) x 20 = \$1.20	(\$0.66-\$0.60) x 20 = \$1.20	Inventory Control account

The \$3.20 variance for the 20 items on the invoice is made of a \$2.00 currency variance and a \$1.20 cost variance.

NOTE Even if the item is capitalized, the credit account is the inventory control account, not the Capital GL account.

Variances for Services

If the line item is a service, Maximo tracks any change in the item cost by writing an entry to the SERVRECTRANS table. The accounts default as if you were inserting a PR line.

Furthermore, if the service is associated with a work order, Maximo updates the actual service cost for the work order.

Service Not Charged to Store

You receive an invoice for a service that required 2 hours at a rate of 3.30 CAD per hour. The base currency is US dollars, and the exchange rate is currently 5.00 CAD per dollar. At the point of receipt, the item price is only 3.00 CAD, and the exchange rate is 6.00 CAD per US dollar.

At receipt, the hourly rate is 3.00 CAD = \$50.00

If no exchange rate change occurs, the hourly rate at invoice approval is 3.30 CAD = \$55.00 However, the exchange rate changed to 5.00 CAD per dollar. Therefore, at invoice approval, the hourly rate is 3.30 CAD = \$66.

Maximo writes the following transaction to the SERVRECTRANS table

Source of GL Account for Service Not Charged to Store

Source of GL Account	Debit	Credit	Source of GL Account
1 If issued to a work order ⇒ work order GL account	(\$66.00- \$50.00) x 2 = \$32.00	(\$66.00- \$50.00) x 2 = \$32.00	Company RBNI account
2 If issued to asset ⇒ Asset GL account GL account of asset's location			
3 If issued to asset ⇒ Asset GL account GL account of asset's location			

Service Charged to Store

The debit account for the transaction to the SERVRECTRANS table is the rotating suspense account of the asset that was serviced. Otherwise, this transaction works exactly as if the invoice is for a service where the **Charge to Store** check box is clear.

In addition, if UPDATEINVENTORY = 1, Maximo updates the database inventory cost of the rotating asset.

Transactions Resulting From the Distribute Costs Process

Recall the following conditions that determine Distribute Costs:

- ▼ the invoice line has a PO line number specified
- ▼ you receive the line and distributed the costs to another GL account

At invoice approval, Maximo makes the corresponding entries to the GL depending upon the invoice line item.

Invoice Line Item and Maximo transaction table

If the invoice line item is a . . .	Maximo writes the transaction to the . . .
material,	MATRECTRANS table.
service,	SERVRECTRANS table.

Maximo can distribute costs for only material line items when you select the **Issue on Receipt?** check box. At the approve invoices stage, consider any

lines that the user inserts on the Distribute Costs page as new invoice lines that need the receipt transaction.

Example

Suppose that originally, as a result of your receiving 20 bearings at \$0.50 each, Maximo writes the following transaction to the MATRECTRANS table

Source of GL Account for Service Charged to Store

Source of GL Account	Debit	Credit	Source of GL Account
1111-111-111 (Purchase order line debit account)	20 x \$0.50 = \$10.00	20 x \$0.50 = \$10.00	3333-333-333 (Purchase order line credit account)

Later, you decide that you should charge 20% of the cost to account 2224-111-111 (perhaps two bearings went to a different location than planned).

Using the distribute costs process, you back out the invoice line corresponding to that receipt. On the Distribute Cost page, you distribute the cost. Upon invoice approval, Maximo writes the following transactions to the MATRECTRANS table. The account codes are the codes you entered on the Distribute Costs page.

Source of GL Account for MATRECTRANS Table

Source of GL Account	Debit	Credit	Source of GL Account
1111-111-111 (Purchase order line debit account)	-\$10.00	-\$10.00	3333-333-333 (Purchase order line credit account)
1111-111-111 (Purchase order line debit account)	\$8.00	\$8.00	3333-333-333 (Purchase order line credit account)
2224-111-111 (Defaults as if receiving the item)	\$2.00	\$2.00	3333-333-333 (Defaults as if receiving the item)

Financial Processes in Resources

9

This chapter describes the financial processes for the Labor application in the Labor module.

For general information about the contents of this chapter, see Chapter 4, “Financial Process Chapters.”

Labor Application

The rate records associated with a Labor (Labor Craft Rate) typically receive one set of default GL accounts if they are internal labor rates (vendor is null), and another set if they are external labor rates (vendor is not null).

Database Fields

If Vendor is null

LABORCRAFTRATE.GLACCOUNT \Leftarrow
ACCOUNTDEFAULTS.GLDEFAULT (where DFLTGROUP =
LABRESCODE and GROUPVALUE = 0) (**Labor Resource** field for Outside?
= N on Labor Resource Codes dialog box in Chart of Accounts) \Leftarrow direct entry
(no default)

LABORCRAFTRATE.CONTROLACC \Leftarrow
LOCATIONS.INTLABREC (where the LOCATION =
LABOR.WORKLOCATION and SITE=LABOR.WORKSITE)

If Vendor is not null

LABORCRAFTRATE.GLACCOUNT \Leftarrow
ACCOUNTDEFAULTS.GLDEFAULT (where DFLTGROUP =
LABRESCODE and GROUPVALUE = 1) (**Labor Resource** field for Outside?
= Y on Labor Resource Codes dialog box in Chart of Accounts) \Leftarrow direct entry
(no default)

LABOR.CONTROLACC \Leftarrow ACCOUNTDEFAULTS.GLDEFAULT (where
DFLTGROUP = EXLABREC and GROUPVALUE = vendor name) (**Control
Account** field for associated **Vendor** field on Internal Labor Control
Accounts dialog box in Chart of Accounts) \Leftarrow direct entry (no default)

Financial Processes in Service Desk

10

This chapter describes the financial processes for the Service Requests, Incidents, and Problems application in the Service Desk module.

Service Requests, Incidents, and Problems Applications

The following section describes the default GL account rules for starting and stopping the timer in the Service Requests, Incidents, or Problems application.

For general information about the contents of this chapter, see Chapter 4, “Financial Process Chapters.”

Starting and Stopping the Timer to Capture Time Spent on a Ticket

The following fields describe GL account default rules once you have started the timer.

Displayed Fields

GL Account (GLACCOUNT) \Leftarrow **GL Control Account** field (displayed), normal validation rules for GL accounts apply.

GL Account (GLACCOUNT) \Leftarrow **GL Control Account** field (not displayed), refer to the following table.

The following table describes which GL account rules apply when the GL Control Account field does not appear on the ticket

GL Account Rules without GL Control Account Field on Ticket

If Asset or Location are . . .	and Site and Asset Site are . . .	you should use the GL account . . .
not on ticket	equal or not equal	<p>from the Labor record of the user running the application as the LABTRANS (GL) default.</p> <p>If the GL account does not exist, Maximo uses the Global Ticket GL account as the LABTRANS (GL) default.</p>
on ticket	not equal	<p>Maximo associates with the Asset or Location to generate the LABTRANS (GL) record.</p> <p>If asset or location does not have an associated GL account, Maximo uses the GL account from the Labor record of the user running the application as the LABTRANS (GL) default.</p> <p>If the Labor record does not have a valid GL account, Maximo uses the Global Ticket GL account as the LABTRANS (GL) default.</p>
both on ticket	equal	<p>as determined by existing Asset or Location merging rules.</p> <p>If asset and location do not have associated GL accounts, Maximo uses the GL account from the Labor record of the user running the application as the LABTRANS (GL) default.</p> <p>If the Labor record does not have a valid GL account, Maximo uses the Global Ticket GL account as the LABTRANS (GL) default.</p>

Financial Processes in Work Orders

11

This chapter describes the financial processes for the following applications in the Work Orders module:

- ▼ Work Order Tracking
- ▼ Quick Reporting
- ▼ Labor Reporting

For general information about the contents of this chapter, see Chapter 4, “Financial Process Chapters.”

Work Order Tracking Application

This section describes the following Work Order Tracking application processes:

- ▼ Report Actual Material Use
- ▼ Report Actual Labor Use
- ▼ Report Actual Tool Use
- ▼ Move/Modify Assets
- ▼ Swap Assets

Report Actual Material Use

Maximo uses the date and time in the **Actual Date** field to determine the financial period for the transaction. The **Actual Date** field defaults to the system date and time.

When you click **Save**, after you enter material use information, Maximo writes a record, ISSUETYPE = ISSUE, to the MATUSETRANS table. Maximo posts the quantity as a negative value.

Example

Report use of 20 bearings (item type = BEARINGS), that costs \$0.20 per piece, on the Materials subtab on the Actuals tab in Work Order Tracking.

Source of GL Account for Report Actual Material Use

Source of GL Account	Debit	Credit	Source of GL Account
1 Inventory GL account (item resource code)	-20 x \$0.20 = \$4.00	-20 x \$0.20 = \$4.00	Inventory control account
2 Work order GL account			

NOTE If the item is capitalized, the default credit account is the Capital GL account, and the line cost is zero. For more information, see “Change Status from Non-Capitalized to Capitalized,” on page 6-1.

If Issue Type Field is set to “Return”

After you enter material use information and click **Save**, Maximo writes the following record to the MATUSETRANS table:

ISSUETYPE = RETURN

The system posts the quantity as a positive value.

Example

Report return of 20 bearings (item type = BEARINGS), that costs \$0.20 each, on the Materials subtab on the Actuals tab in Work Order Tracking.

Source of GL Account for Report Actual Material Use – Return Issue Type

Source of GL Account	Debit	Credit	Source of GL Account
1 Inventory GL account (item resource code)	20 x \$0.20 = -\$4.00	20 x \$0.20 = -\$4.00	Inventory Control account
2 Work order GL account			

NOTE If the item is capitalized, the default debit account is the capital GL account, and the line cost is zero. For more information, see “Change Status from Non-Capitalized to Capitalized,” on page 6-1.

The GL fields for actual material use that is reported or viewed in Work Orders default just as they do when the usage is recorded or viewed in the Inventory application (page 6-5) or the Issues and Transfers application (page 6-21).

Report Actual Labor Use

The GL fields for actual labor use that is reported or viewed in Work Orders default just as they do when the usage is recorded or viewed in Labor Reporting. For more information about GL field sources, see “Labor Reporting Application,” on page 11-6.

At the transaction level, reporting actual labor use by labor code or craft works just as it does when using the Labor Reporting application to report labor use. For more information, see the following sections:

- ▼ “Report Labor Use for Internal Resources,” on page 11-8
- ▼ “Report Labor Use for External Resources,” on page 11-9

Maximo uses the date and time in the **Actual Date** field to determine the financial period for the transaction. The **Actual Date** field defaults to the system date and time.

Report Actual Tool Use

The following section describes displayed fields and database fields for Internal Tools and External Tools.

Internal Tools

Maximo uses the date and time in the **Entered Date** field in the table to determine the financial period of the transaction. The **Entered Date** field defaults to the system date and time.

Example

Report 2 hours' use of a hoist that costs \$5.00 an hour on the Tools subtab in the Actuals tab in Work Order Tracking.

Source of GL Account for Report Actual Tool Use (Internal Tools)

Source of GL Account	Debit	Credit	Source of GL Account
1 Internal tools GL account (resource code)	2 x \$5.00 = \$10.00	2 x \$5.00 = \$10.00	Internal tools control account
2 Work order GL account			

Displayed Fields

GL Debit Account (GLDEBITACCT) ⇐

- 1 **GL Account** field in the **Tool / Organization Details** action of the Tools application ⇐ **Internal Tool Resource Code** field from the **Resource Codes** action in Chart of Accounts;
- 2 **GL Account** field in Work Orders. The GL fields for actual material use that is reported or viewed in Work Orders default just as they do when the usage is recorded or viewed in the Inventory application (page 6-5) or the Issues and Transfers application (page 6-21). See these sections for additional information.

GL Credit Account (GLCREDITACCT) ⇐ **Control Account** field in the **Tool / Organization Details** action of the Tools application ⇐ **Control Account** field in the Organization Default Accounts action of the Chart of Accounts.

Database Fields

TOOLTRANS.GLDEBITACCT ⇐

1 ITEMORGINFO.GLACCOUNT ⇐ ACCOUNTDEFAULTS.GLDEFAULT (where DFLTGROUP = TOOLRESCODE and GROUPVALUE = 0) ⇐ direct entry (no default)

2 WORKORDER.GLACCOUNT ⇐ PM.GLACCOUNT or ASSET.GLACCOUNT or LOCATIONS.GLACCOUNT

TOOLTRANS.GLCREDITACCT ⇐ ITEMORGINFO.CONTROLACC ⇐ ACCOUNTDEFAULTS.GLDEFAULT (where DFLTGROUP = TOOLREC and GROUPVALUE = TOOLRECACT) ⇐ direct entry (no default)

External Tools

Report external tool use the same as you report internal tool use. If the tool's **Outside?** check box is selected, Maximo uses the external tool resource code on the debit side, and the external tools control account, established by tool vendor, on the credit side.

When you click **Save** after entering tool use information, Maximo writes a record to the TOOLTRANS table.

Maximo uses the date and time in the **Entered Date** field in the table window to determine the financial period for the transaction. The **Entered Date** field defaults to the system date and time.

Example

Report 2 hours' use of a hoist, at \$7.00 an hour, belonging to a contractor, on the Tools subtab in the Actuals tab in Work Order Tracking

Source of GL Account for Report Actual Tool Use (External Tools)

Source of GL Account	Debit	Credit	Source of GL Account
1 External tools GL account (resource code)	2 x \$7.00 = \$14.00	2 x \$7.00 = \$14.00	External tools control account, for tool vendor
2 Work order GL account			

Displayed Fields

GL Debit Account (GLDEBITACCT) ⇐

1 **GL Account** field in the **Tool / Organization Details** action of the Tools application ⇐ **External Tool Resource Code** field from the **Resource Codes** action in Chart of Accounts;

2 **GL Account** field in Work Orders. The GL fields for actual material use that is reported or viewed in Work Orders default just as they do when the usage is recorded or viewed in the Inventory application (page 6-5) or the Issues and Transfers application (page 6-21). See these sections for additional information.

GL Credit Account (GLCREDITACCT) \Leftarrow **Control Account** field in the **Tool / Organization Details** action of the Tools application \Leftarrow **Tool Control Account** field for Vendor in the Companies application.

Database Fields

TOOLTRANS.GLDEBITACCT \Leftarrow

1 ITEMORGINFO.GLACCOUNT \Leftarrow ACCOUNTDEFAULTS.GLDEFAULT (where DFLTGROUP = TOOLRESCODE and GROUPVALUE = 1 \Leftarrow direct entry (no default))

2 WORKORDER.GLACCOUNT \Leftarrow PM.GLACCOUNT or ASSET.GLACCOUNT or LOCATIONS.GLACCOUNT

TOOLTRANS.GLCREDITACCT \Leftarrow ITEMORGINFO.CONTROLACC \Leftarrow COMPANIES.TOOLCONTROLACCOUNT \Leftarrow direct entry (no default)

Move/Modify Assets

You can select **Move/Modify Assets** from the Select Action menu in Work Order Tracking. This action is described in detail in the Assets application section. For more information, see “Move/Modify Assets,” on page 5-1.

Swap Assets

The following section describes displayed fields and database fields for the Swap Assets process in Work Order tracking.

Displayed Fields

GL account (GLACCOUNT) \Leftarrow

1 Preventive Maintenance GL Account field \Leftarrow manual entry (no default);

2 Asset GL Account field (not displayed) \Leftarrow manual entry (no default);

3 Operating Locations GL Account field \Leftarrow manual entry (no default).

The account inserted into the **Work Orders GL Account** field can be a combination, or merger, of the three reference accounts.

Example

Maximo merges the following accounts:

2345-???-??? PM **GL account** (priority 1)

6789-787-??? Asset **GL account** (priority 2)

5555-999-XYZ Operating locations **GL account** (priority 3)

to produce Work Order **GL account** 2345-787-XYZ.

Database Fields

WORKORDER.GLACCOUNT \Leftarrow PM.GLACCOUNT, *or*, ASSET.GLACCOUNT, *or*, LOCATIONS.GLACCOUNT

Quick Reporting Application

The **GL Account** field in these applications, whether displayed or not, populates just as it does in Work Order Tracking.

In the Quick Reporting application, you can perform the following actions:

- ▼ move/modify assets
- ▼ report actual labor use
- ▼ report actual material use
- ▼ report actual tool use

These processes are identical to the processes in the Work Order Tracking application described in this chapter.

Labor Reporting Application

The Labor Reporting application lets you report actual labor usage and see the transaction records of previously reported actual labor usage, whether reported via this application or via the Labor subtab on the Actuals tab in Work Order Tracking.

You can edit the **GL Debit Account** field and the **GL Credit Account** field when reporting labor usage. Once you click **Save**, Maximo records the transaction and all fields become read-only.

Work Types

The GL fields default in the same manner for all three work types:

- ▼ NON-WORK (including Sick (SICK) and Vacation (VAC))
- ▼ OT-REF (overtime refused)
- ▼ WORK (including Travel (TRAV) and Waiting on Material (WMATL))

Reporting WORK

To report WORK, you must enter any one of the following items:

- ▼ Asset Number
- ▼ GL Debit Account
- ▼ Operating Location
- ▼ Work Order Number

If you enter the Work Order Number, Asset Number, or Operating Location, Maximo defaults a value to the GL Debit Account field.

Reporting NON-WORK and OT-REF

To report NON-WORK and OT-REF, you can leave the following fields blank:

- ▼ GL Debit Account
- ▼ Work Order
- ▼ Asset
- ▼ Operating Location

If you do not specify a GL Debit Account, Maximo leaves that field blank.

Displayed Fields

GL Debit Account (GLDEBITACCT) ⇐

- 1 **GL Account** field (not displayed) in Labor ⇐ **Labor Resource** field (for Vendor = Null *or* for Vendor = Not Null) on Labor Resource Codes dialog box in Chart of Accounts;
- 2 **GL Account** field in Work Orders (see source description in Work Order Tracking section,
- 3 **GL Account** field (not displayed) in Asset.
- 4 **GL Account** field in Locations.

GL Credit Account (GLCREDITACCT) ⇐

- 1 **Control Account** field (not displayed) in Labor ⇐ **Control Account** field for Work Location on Internal Labor Control Accounts dialog box in Chart of Accounts; *or*
- 2 **Control Account** field for Vendor on External Labor Control Accounts dialog box in Chart of Accounts; *or*
- 3 **GL Debit Account** field from purchase order line on PO Lines page in Purchase Orders.

Database Fields

LABTRANS.GLDEBITACCT ⇐

- 1 LABORCRAFTRATE.GLACCOUNT ⇐
ACCOUNTDEFAULTS.GLDEFAULT (where DFLTGROUP =
LABRESCODE and GROUPVALUE = 0 *or* GROUPVALUE = 1)
- 2 WORKORDER.GLACCOUNT
- 3 ASSET.GLACCOUNT
- 4 LOCATIONS.GLACCOUNT

LABTRANS.GLCREDITACCT ⇐ LABOR.CONTROLACC ⇐
LOCATIONS.INTLABREC

⇐ ACCOUNTDEFAULTS.GLDEFAULT (where DFLTGROUP = EXLABREC
and GROUPVALUE = vendor name) *or*

If LABTRANS.PONUM is not null, LABTRANS.GLCREDITACCT ⇐
POLINE.DEBITGLACCT (where LABTRANS.PONUM = POLINE.PONUM
and LABTRANS.POLINENUM = POLINE.POLINENUM)

Report Labor Use

The following sections describe the following financial transactions in the Labor Reporting application that cause Maximo to write General Ledger account transactions:

- ▼ Report Labor Use for External Resources
- ▼ Report Labor Use for Internal Resources

Report Labor Use for Internal Resources

The Labor Reporting application lets you report actual labor use and see the transaction records of previously reported actual labor use, whether reported via this application or the Labor subtab on the Actuals tab in Work Order Tracking. You can edit the **GL Debit Account** field and the **GL Credit Account** field when you report labor use before you save the record. After Maximo records the transaction, all fields become read-only.

The GL fields default in the same manner for all three work types:

- ▼ NON-WORK (including SICK and VAC)
- ▼ OT-REF
- ▼ WORK (including TRAV and WMATL)

In order to report use of type WORK, enter any of the following items:

- ▼ a GL debit account
- ▼ a work order number
- ▼ an asset number
- ▼ an operating location

In the cases of NON-WORK and OT-REF, you can report “usage” without entering this data. If you do not enter a work order number, asset number, or location, the **GL Debit Account** field does not default to anything. In such cases, you would typically enter a code manually in the **GL Credit Account** field.

Primary Transaction

When you save a record after reporting actual labor use, Maximo writes a record of type WORK (or a synonym) to the LABTRANS table.

Maximo uses the date and time in the **Enter Date** field to determine the financial period for the transaction. The **Enter Date** field defaults to the system date and time.

Example

Joe Jones works for 2 hours at a rate of \$15.00 per hour.

Source of GL Code for Report Labor Use for Internal Resources

Source of GL Account	Debit	Credit	Source of GL Account
1 Internal labor GL account (resource code)	\$15.00 x 2 = \$30.00	\$15.00 x 2 = \$30.00	Internal labor control account of work location
2 Work order GL account			
3 Asset GL account			
4 Operating location GL account			

The preceding table lists GL sources in order of priority. For example, the Labor Resource account code overrides any defined segment in the same position of the Work Order GL account, which, if present, overrides the Asset GL account which overrides any segment(s) in the same position from the location's GL account.

Report Labor Use for External Resources

You report external labor usage similarly to how you report internal labor usage.

When you save a record after reporting actual labor use, Maximo writes a record of type WORK (or a synonym) to the LABTRANS table.

Maximo uses the date and time in the **Enter Date** field in the Daily Time table to determine the financial period for the transaction. The **Enter Date** field defaults to the system date and time.

Example 1

Bill Smith works for 2 hours at a rate of \$15.00 per hour. A vendor provides Bill's services.

Source of GL Code for Report Labor Use for External Resources

Source of GL Account	Debit	Credit	Source of GL Account
1 External labor GL account (resource code)	\$15.00 x 2 = \$30.00	\$15.00 x 2 = \$30.00	External labor control account for the vendor
2 Work order GL account			
3 Asset GL account			
4 Operating location GL account			

Example 2

As above, Bill Smith works for 2 hours at a rate of \$15.00 per hour. A vendor provides Bill's services, but the following example has an outstanding purchase order for those services.

Source of GL Code for Report Labor Use for External Resources

Source of GL Account	Debit	Credit	Source of GL Account
1 External labor GL account (resource code)	\$15.00 x 2 = \$30.00	\$15.00 x 2 = \$30.00	Purchase Order lines GL debit account.
2 Work order GL account			
3 Asset GL account			
4 Operating location GL account			

Maximo assumes that the purchase order's GL debit account for the external service order is a temporary charge account; receiving the service in Labor Reporting, therefore, clears the charge in the temporary account and charges the correct debit account.

The preceding table lists GL sources in order of priority. For example, the Labor Resource account code overrides any defined segment in the same position of the Work Order GL account, which overrides the Asset GL account, if present, which overrides any segment(s) in the same position from the operating location's GL account.

GL Database Columns

Appendix

Overview

The table in this appendix lists the GL account columns found in Maximo user applications. It shows the Maximo Application, table, and column name for each column. The table also indicates whether you must fully specify the GL account.

The **GL Account Specification Required (Fully or Partially)** column indicates whether the GL database column (and its corresponding field on a tab) requires a fully specified account, or whether Maximo will accept a partially specified account.

A fully specified account has an account code in each required component, for example, 6100-350-SAF. A partially specified account has placeholder characters for one or more account components, for example, 6100-??-SAF.

GL Database Column Definitions

Application	Table	Column Name	GL Account Specification Required (Fully or Partially)
CHRTACCT	TAX	EXCLUSIVEGL	Fully
CHRTACCT	TAX	INCLUSIVEGL	Fully
CHRTACCT	TAXTYPE	EXCLUSIVEGL	Fully
CHRTACCT	TAXTYPE	INCLUSIVEGL	Fully
COMPANY	COMPANIES	APCONTROLACC	Fully
COMPANY	COMPANIES	APSUSPENSEACC	Fully
COMPANY	COMPANIES	RBNIACC	Fully
COMPANY	COMPANIES	APCONTROLACC	Fully
ASSET	ASSETTRANS	GLDEBITACCT	Partially
ASSET	ASSETTRANS	GLCREDITACCT	Partially
ASSET	ASSET	GLACCOUNT	Partially
ASSET	ASSET	ROTSUSPACCT	Fully
INVENTOR	INVCOST	CONTROLACC	Fully
INVENTOR	INVCOST	GLACCOUNT	Partially
INVENTOR	INVCOST	INVCOSTADJACC	Fully
INVENTOR	INVCOST	SHRINKAGEACC	Fully
INVENTOR	INVRESERVE	GLACCOUNT	Fully
INVENTOR	INVTRANS	GLCREDITACCT	Fully
INVENTOR	INVTRANS	GLDEBITACCT	Fully
INVENTOR	REORDER	CONTROLACC	Fully

Appendix: GL Database Columns

Application	Table	Column Name	GL Account Specification Required (Fully or Partially)
INVENTOR	REORDER	GLACCOUNT	Fully
INVOICE	APTRANS	GLCREDITACCT	Fully
INVOICE	APTRANS	GLDEBITACCT	Fully
INVOICE	INVOICE	APCONTROLACCT	Fully
INVOICE	INVOICE	APSUSPENSEACCT	Fully
INVOICE	INVOICE	TAX1GL	Fully
INVOICE	INVOICE	TAX2GL	Fully
INVOICE	INVOICE	TAX3GL	Fully
INVOICE	INVOICE	TAX4GL	Fully
INVOICE	INVOICE	TAX5GL	Fully
INVOICE	INVOICECOST	GLCREDITACCT	Fully
INVOICE	INVOICECOST	GLDEBITACCT	Fully
INVOICE	INVOICETRANS	GLCREDITACCT	Fully
INVOICE	INVOICETRANS	GLDEBITACCT	Fully
INVOICE	SCHARGES	GLDEBITACCT	Fully
LABOR	LABORCRAFTRATE	CONTROLACC	Fully
LABOR	LABORCRAFTRATE	GLACCOUNT	Partially
LABOR	LABTRANS	GLCREDITACCT	Fully
LABOR	LABTRANS	GLDEBITACCT	Fully
LOCATION	LOCATIONS	CONTROLACC	Fully
LOCATION	LOCATIONS	CURVARACC	Fully
LOCATION	LOCATIONS	GLACCOUNT	Partially
LOCATION	LOCATIONS	INVCOSTADJACC	Fully
LOCATION	LOCATIONS	INVOICEVARACC	Fully
LOCATION	LOCATIONS	PURCHVARACC	Fully
LOCATION	LOCATIONS	INVOICEVARACC	Fully
LOCATION	LOCATIONS	PURCHVARACC	Fully
LOCATION	LOCATIONS	RECEIPTVARACC	Fully
LOCATION	LOCATIONS	SHRINKAGEACC	Fully
PM	PM	GLACCOUNT	Partially
PO	POLINE	GLCREDITACCT	Fully
PO	POLINE	GLDEBITACCT	Before approval: Partially On approval: Fully

Application	Table	Column Name	GL Account Specification Required (Fully or Partially)
PR	PRLINE	GLCREDITACCT	Fully
PR	PRLINE	GLDEBITACCT	Before approval: Partially On approval: Fully
RECEIVING	MATRECTRANS	GLCREDITACCT	Fully
RECEIVING	MATRECTRANS	GLDEBITACCT	Fully
RECEIVING	MATUSETRANS	GLCREDITACCT	Fully
RECEIVING	MATUSETRANS	GLDEBITACCT	Fully
RFQ	RFQLINE	GLDEBITACCT	Fully
RFQ	RFQVENDOR	GLCREDITACCT	Fully
RFQ	QUOTATIONLINE	GLCREDITACCT	Fully
SERV	SERVRECTRANS	GLCREDITACCT	Fully
SERV	SERVRECTRANS	GLDEBITACCT	Fully
TOOL	TOOL	CONTROLACC	Fully
TOOL	TOOL	GLACCOUNT	Partially
TOOL	TOOLTRANS	GLCREDITACCT	Fully
TOOL	TOOLTRANS	GLDEBITACCT	Fully
WOTRACK	WORKORDER	GLACCOUNT	Partially
WOTRACK	WOSTATUS	GLACCOUNT	Partially

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Report Administration and Development Guide

mro software™

make it *all* count

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About This Guide

This section contains the following information:

- ▼ a list of chapter names, each with a brief description
- ▼ a table of file names, titles, and summaries of all Actuate® documentation included with Maximo®
- ▼ instructions for obtaining online customer support

Audience

The following table identifies five types of report users and summarizes the tasks associated with each type of user:

User	Tasks
Business User	<ul style="list-style-type: none"> ▼ uses spreadsheets and other computer software programs frequently in their day to day activities ▼ executes complex reports, such as analysis, crosstab, and hierarchical reports, to analyze processes and information ▼ creates information objects (saved queries) with e.Report® Designer Professional ▼ creates spreadsheets with eSpreadsheet®
End User	<ul style="list-style-type: none"> ▼ runs and prints a limited number of reports with emphasis on quick and ready access to information ▼ relies on report data to provide the specific information necessary to do a job
Report Administrator	<ul style="list-style-type: none"> ▼ adds and deletes reports, queries, and spreadsheets in the Report Encyclopedia® (Encyclopedia) ▼ deletes scheduled jobs when users no longer require them ▼ performs as administrator and manager of the Encyclopedia ▼ sets up report archiving policies ▼ sets up user or group report privileges ▼ uses the Maximo Report Administration module to register, modify, or delete reports and their parameters
Report Developer	<ul style="list-style-type: none"> ▼ tests reports ▼ publishes reports to the Encyclopedia ▼ uses complex SQL and database queries required for report development ▼ uses e.Report Designer Professional to create or modify reports and information objects (saved queries) ▼ uses the Maximo Report Administration module
System Administrator	<ul style="list-style-type: none"> ▼ installs Management Console ▼ maintains the Report Server ▼ sets Maximo and report property files for proper configuration

What's in this Guide?

The following table briefly describes of the contents of each chapter and appendix in this document.

Report Administration Guide Chapter and Appendix Descriptions Table

Chapter	Description	Audience
Chapter 1, "Understanding Actuate Components"	<ul style="list-style-type: none"> ▼ configuring Maximo network with Actuate ▼ defining hardware requirements ▼ listing of Actuate features and components 	▼ All
Chapter 2, "Listing Overview and Detail Reports by Application"	listing of applications with both overview and detail reports	▼ All
Chapter 3, "Using Maximo Reports"	<ul style="list-style-type: none"> ▼ accessing reports ▼ running queries ▼ using request pages ▼ using the reporting toolbar 	▼ All
Chapter 4, "Creating Spreadsheet Reports"	creating reports using Maximo eSpreadsheet Designer	<ul style="list-style-type: none"> ▼ Business User ▼ Report Developer
Chapter 5, "Using Maximo Query in e.Report Designer Professional"	<ul style="list-style-type: none"> ▼ adding parameters to queries ▼ creating queries ▼ modifying columns in queries ▼ posting queries to an iServer 	<ul style="list-style-type: none"> ▼ Business User ▼ Report Developer
Chapter 6, "Administering Reports"	▼ using the new Report Administration application	<ul style="list-style-type: none"> ▼ Report Administrator ▼ Report Developer
Chapter 7, "Loading and Configuring e.Report Designer Professional"	<ul style="list-style-type: none"> ▼ locating source code structure ▼ pointing to Maximo configuration files 	▼ Report Developer
Chapter 8, "Compiling and Running Reports in e.Report Designer Professional"	<ul style="list-style-type: none"> ▼ compiling reports in e.Report Designer Professional ▼ opening reports in e.Report Designer Professional ▼ running reports in e.Report Designer Professional ▼ selecting reports in e.Report Designer Professional 	▼ Report Developer

Chapter	Description	Audience
Chapter 9, "Using Advanced Features in e.Report Designer Professional"	<ul style="list-style-type: none"> ▼ adding parameters to a report ▼ creating hyperlinks ▼ creating your first report ▼ passing the where clause from Maximo to the report ▼ using templates 	▼ Report Developer
Chapter 10, "Configuring Actuate"	<ul style="list-style-type: none"> ▼ setting privileges ▼ setting privileges by role ▼ setting privileges by user ▼ using the jobs folder 	▼ Report Administrator ▼ System Administrator
Chapter 11, "Adding Reports to the Encyclopedia"	<ul style="list-style-type: none"> ▼ adding (registering) reports to the Encyclopedia ▼ opening the Encyclopedia 	▼ Report Administrator
Chapter 12, "Maintaining a Report Server"	<ul style="list-style-type: none"> ▼ archiving reports ▼ clearing completed notices ▼ compiling reports in batch format ▼ increasing the JVM maximum heap size on the iServer ▼ setting up factories and processors 	▼ System Administrator
Chapter 13, "Setting up Localized Reports and Queries in Maximo"	<ul style="list-style-type: none"> ▼ determining report language ▼ localizing queries ▼ localizing reports 	▼ Report Administrator ▼ Report Developer
Appendix A, "Maximo.Properties File Descriptions"	<ul style="list-style-type: none"> ▼ defining all report server properties ▼ defining selected database properties 	▼ System Administrator
Appendix B, "RSSE Properties Descriptions"	<ul style="list-style-type: none"> ▼ defining RSSE_Localhost properties ▼ defining RSSE_Maximo properties 	▼ System Administrator
Appendix C, "Actuatei18ntext.Properties File Descriptions"	<ul style="list-style-type: none"> ▼ defining Actuate externalized text properties 	▼ System Administrator

Related Actuate Documentation

You can find the following Actuate documentation in the manuals folder on the Actuate Reporting Release 8 e.Report Designer Professional CD-ROM.

Actuate Documentation shipped with Maximo

File Name	Title	Description
actuate-glossary.pdf	Actuate 8 Glossary	▼ defining terms used in Actuate 8.
using-management-console.pdf	Using Actuate Management Console	▼ running reports ▼ working with items in an Encyclopedia volume
ereport-designer-pro-install.pdf	Installing e.Report Designer Professional Release 8	▼ installing e.Report Designer Professional Release 8 on Windows® 2000 and Windows XP Professional
developing-basic-reports.pdf	Developing Actuate Basic Reports with Actuate e.Report Designer Professional	▼ designing reports using the graphical user interface ▼ developing programs with e.Report Designer Professional
programming-with-actuate-basic.pdf	Programming with Actuate Basic	▼ developing programs with Actuate Basic including data types, functions, keywords, operators, and statements
working-with-basic-reports.pdf	Working with Actuate Basic Reports	▼ downloading Actuate Basic Reports ▼ printing Actuate Basic reports ▼ searching Actuate Basic Reports ▼ viewing Actuate Basic Reports
programming-with-afc.pdf	Programming with Actuate Foundation Classes	▼ using class inheritances, hierarchies properties, variables, and methods ▼ working with classes and topics
working-with-multiple-locales.pdf	Working with Multiple Locales	▼ designing and deploying report applications in languages other than U.S. English.
designing-spreadsheet-reports.pdf	Designing Spreadsheet Reports using Actuate e.Spreadsheet Designer	▼ designing and publishing e.Spreadsheet reports ▼ establishing a data source connection ▼ formatting and manipulating data.
accessing-data-spreadsheet.pdf	Accessing Data using e.Spreadsheet Technology	▼ accessing data ▼ understanding data access concepts
programming-spreadsheet-reports.pdf	Programming Spreadsheet Reports using e.Spreadsheet Technology	▼ reviewing classes and code samples ▼ using callback classes ▼ working with XSL style sheets

Related Maximo Documentation

You can find more information regarding MXES in the following documents.:

Document	Description
Maximo Enterprise Suite (MXES) Installation Guide	<ul style="list-style-type: none"> ▼ configuring Maximo ▼ installing Maximo
MXES System Administrator's Guide	<ul style="list-style-type: none"> ▼ customizing the system ▼ managing the database ▼ setting up accounting features of the general ledger ▼ using Maximo utilities
MXES User's Guide	<ul style="list-style-type: none"> ▼ describing relationships among modules. ▼ using Maximo features
Help	<ul style="list-style-type: none"> ▼ using step-by-step procedures to complete Maximo tasks

Support

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mro.com

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The Support Web site includes information about product releases, software patches, and documentation updates. To find the most current version of a document, refer to the Support Web site's Knowledge Base.

Understanding Actuate Components

1

This chapter provides information on the following topics:

- ▼ using Actuate as your reporting application
- ▼ defining Actuate components
- ▼ configuring the Maximo network with your Actuate server

Using Actuate as your Reporting Application

Overview

Maximo Enterprise Suite (MXES) uses Actuate as its reporting tool. Actuate's information delivery solution lets you create, manage, and deliver interactive content that you can act on.

You can use Actuate to perform the following tasks:

- ▼ access information seamlessly throughout Maximo
- ▼ focus on specific information to help users pinpoint problems
- ▼ offer security at report and/or user level
- ▼ enable sending reports via e-mail as .pdf or .xls documents
- ▼ schedule reports to run now, later, or on a recurring basis
- ▼ deliver dynamic content in a browser to users
- ▼ hyperlink among reports to get the information you need
- ▼ search report content for specific information
- ▼ print reports in .pdf format for clear viewing
- ▼ download report information to .pdf, spreadsheet, or rich-text format (.rtf) for further analysis

Defining Actuate Components

MRO Software integrates the following Actuate components in MXES:

- ▼ Active Portal
- ▼ Encyclopedia
- ▼ e.Report Designer and e.Report Designer Professional
- ▼ Maximo Query
- ▼ eSpreadsheet
- ▼ iServer
- ▼ Management Console

This section describes each component in detail. For a diagram of a Maximo network configuration with Actuate, see “Configuring the Maximo Network with your Actuate Server,” on page 1-7.

Active Portal

Active Portal lets you use the Web to access reports in your Encyclopedia through Microsoft® Internet Explorer.

Encyclopedia

The Encyclopedia is a repository that contains the items managed by the iServer. These items include folders, report files, and user profiles.

e.Report Designer and e.Report Designer Professional

Actuate offers two report development tools:

- ▼ e.Report Designer
- ▼ e.Report Designer Professional

e.Report Designer is a simplified version of e.Report Designer Professional. The report developer’s skill level and the complexity of the report dictate whether you use e.Report Designer or e.Report Designer Professional.

e.Report Designer

e.Report Designer is a flexible tool that lets report developers create or modify simple reports quickly. Reports created in e.Report Designer require no programming skills.

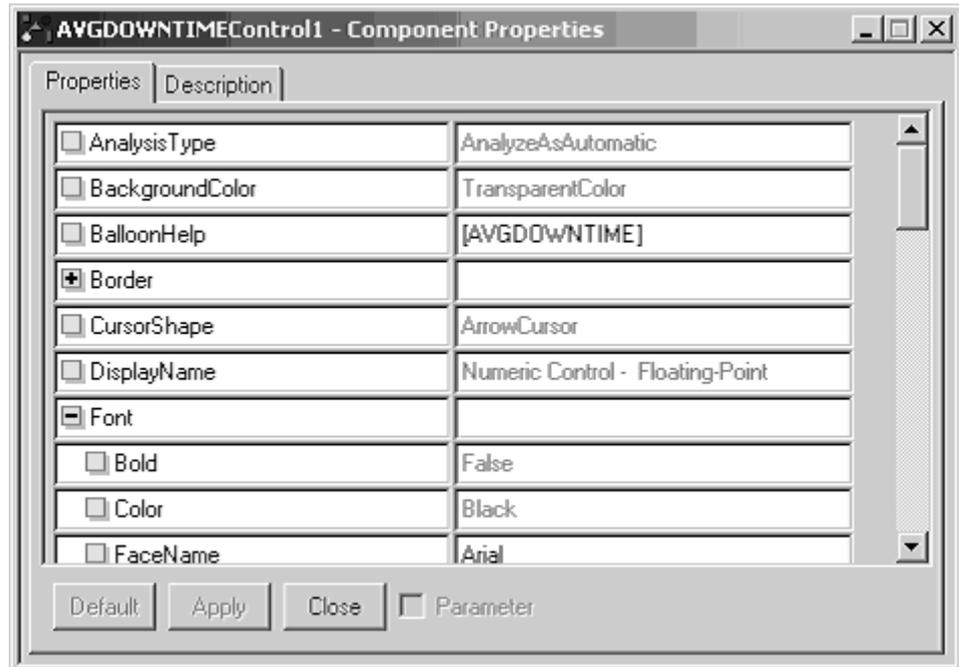
e.Report Designer has the following features:

- ▼ lets developers create code-free e.Reports
- ▼ modifies e.Reports through a template-based system

- ▼ shares e.Report Designer format with e.Report Designer Professional so that all users can leverage and share your development work
- ▼ simplifies the process of creating e.Reports

The following figure shows some of the properties on the Properties tab in e.Report Designer:

Component Properties Dialog Box



Minimum Hardware Requirements

To run e.Report Designer, you need to meet the following minimum hardware requirements:

- ▼ Intel® Pentium®-based processor with 300 MHz
- ▼ 128 MB of memory for Windows XP Professional or Windows 2000 operating system
- ▼ 175 MB free space

NOTE Unlike e.Report Designer Professional, described in the following section, e.Report Designer cannot overwrite or view methods.

e.Report Designer Professional

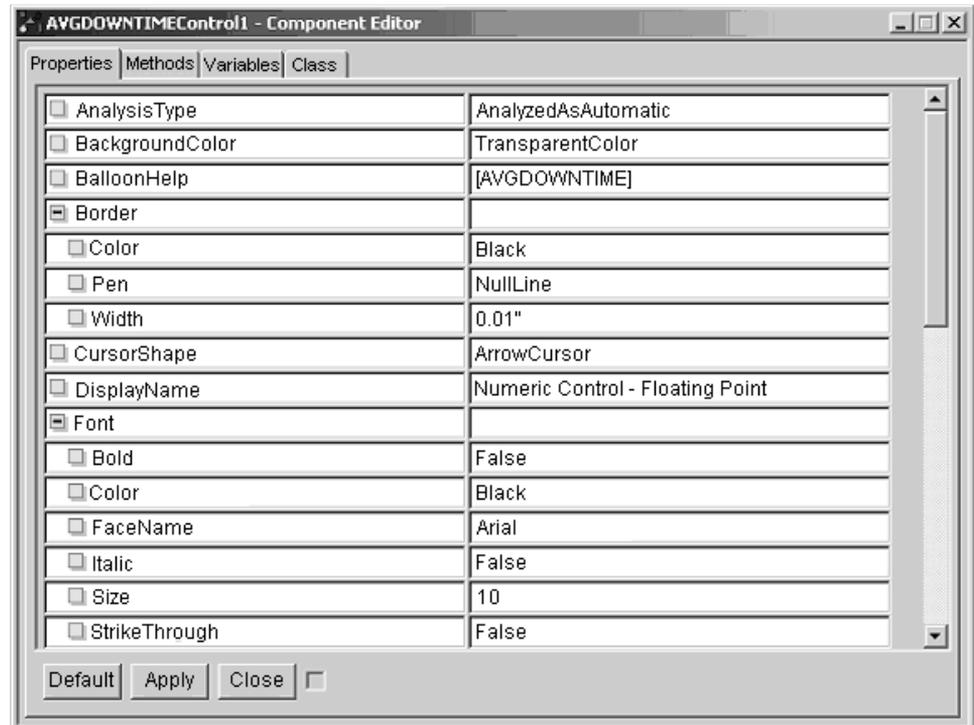
e.Report Designer Professional is a tool that professional report developers install on their desktop to let them create custom reports and/or modify existing reports. Using e.Report Designer Professional lets developers deliver complex reports in multiple layouts.

Use e.Report Designer Professional to perform the following tasks:

- ▼ create and maintain large numbers of e.Reports efficiently by using a development model based on libraries
- ▼ design, build, and distribute report object designs for delivery via the Web
- ▼ override complex methods
- ▼ plan content layout for rapid e.Report development
- ▼ support complex data access and formatting requirements by using the extended capabilities of e.Report designs with Actuate Basic

The following figure shows some of the properties on the Properties tab in e.Report Designer Professional.

Component Properties Dialog Box



For information about advanced functions in e.Report Designer Professional, see the following chapters:

- ▼ Chapter 7: “Loading and Configuring e.Report Designer Professional”
- ▼ Chapter 8: “Compiling and Running Reports in e.Report Designer Professional”
- ▼ Chapter 9: “Using Advanced Features in e.Report Designer Professional”

Minimum Hardware Requirements

- ▼ Intel Pentium-based 300 MHz processor
- ▼ 128MB of memory for Windows XP Professional or Windows 2000 operating system
- ▼ 175MB free space

Maximo Query

The report administrator or business user opens Maximo Query to develop information in a row/column format. It uses a wizard to guide users in field selection, sort order, filtering, and report format. You can name and save these queries for later use.

You can view reports created with Maximo Query using either Microsoft Internet Explorer, Microsoft Excel, or Adobe® Acrobat® Reader®.

eSpreadsheet

To run eSpreadsheet, you need to meet the following minimum hardware requirements:

eSpreadsheet lets you create a report using a spreadsheet format. You can create and format a report, and you can add graphs, headers, footers, and other spreadsheet-type features such as calculating totals.

Minimum Hardware Requirements

- ▼ Intel Pentium-based 450 MHz processor
- ▼ 128 MB of memory for Windows XP Professional or Windows 2000 operating system
- ▼ 150 MB free space

iServer

The Actuate iServer lets you generate report documents and queries, manage them in the Encyclopedia, and share them with other users.

Management Console

Management Console lets you manage reports. Management Console also lets report developers deploy and test reports on the Encyclopedia. After installing Management Console on a server, the report administrator can open, copy, view, modify, and delete reports.

The following table lists the tasks you can perform using Management Console.

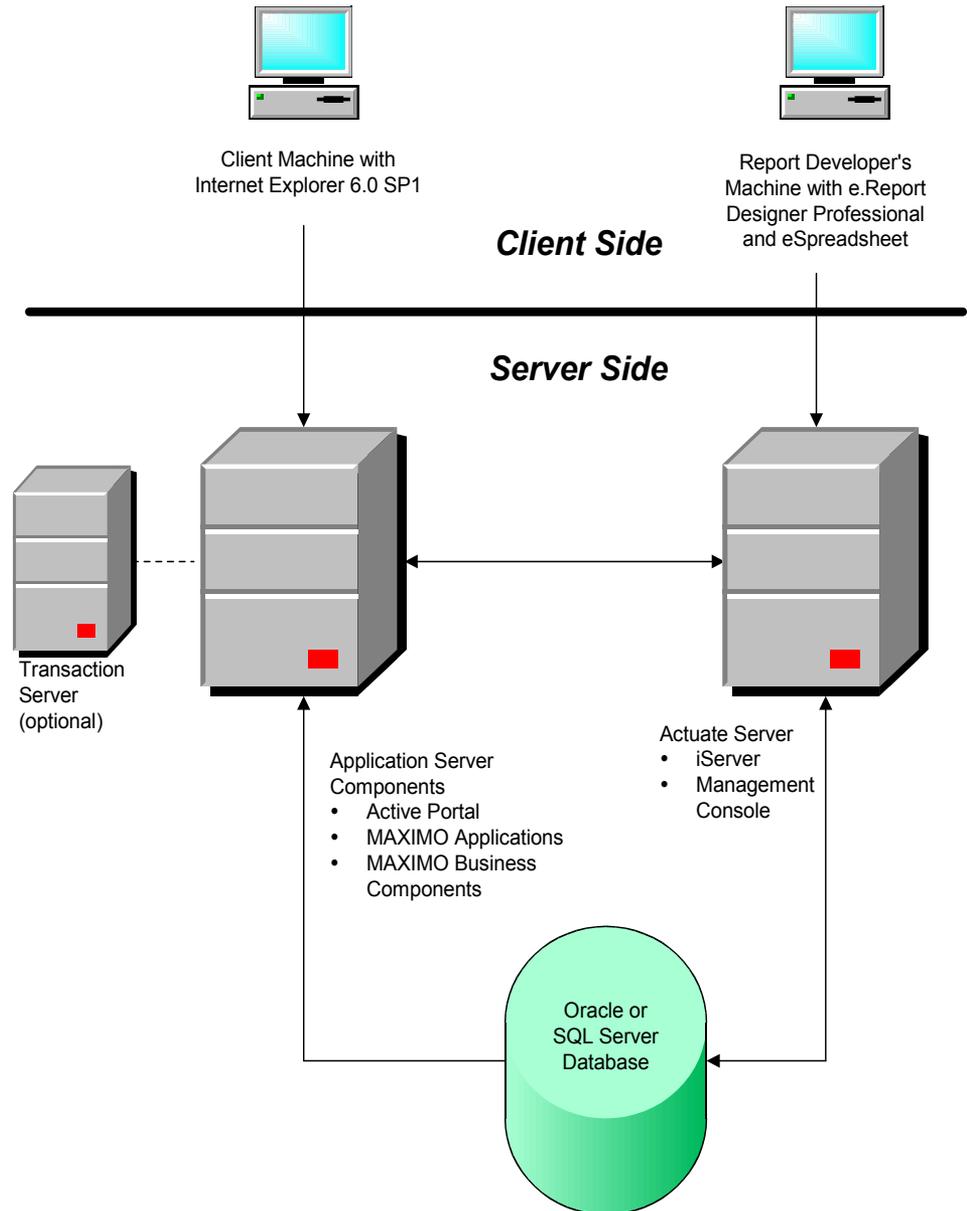
Management Console Tasks

To perform this task	See this chapter
Manage reports	Chapter 3, "Using Maximo Reports"
Manage groups	Chapter 10, "Configuring Actuate"
Add reports	Chapter 11, "Adding Reports to the Encyclopedia"
Archive (delete) reports	Chapter 12, "Maintaining a Report Server"

Configuring the Maximo Network with your Actuate Server

The following diagram shows the Actuate 8 server in a Maximo network environment.

Maximo Network Configuration with Actuate



The Network Configuration depicted in this drawing is only one example of an Actuate Server setup. Your setup can vary depending on your individual implementation requirements.

Listing Overview and Detail Reports by Application

2

This chapter contains a table of Maximo applications that have both list (overview) and detail reports. These reports are part of the standard Maximo installation.

NOTE Depending on your Maximo license, you might receive additional reports for other Maximo applications.

Your report administrator can create additional reports customized for your site or business. Your system administrator can customize and delete existing reports and as add new reports in Maximo.

The following table lists the types of reports in Maximo:

Maximo Report Types, Descriptions, and Examples Table

Report Type	Description	Example
Analysis	A report providing calculated values or a graphical representation of the data.	Summary of Asset Failures by Location
Crosstab	A report displaying data in grid format using rows and columns.	Asset Availability Report
Detail	A report detailing a specific record. You can select this report for one record, selected records, or all records.	Work Order Details Report
Hierarchy	A report showing parent-child relationships.	Maintenance Cost by System Report
List/ Overview	A report listing a limited amount of details about a set of records. You can select this report for one record, selected records, or all records.	Purchase Order List Report
Queries	A report in which the user selects unique fields, filtering, and grouping to meet individual needs.	List of Expired Items Query

Listing Overview and Detail Reports by Application

The following table lists each Maximo application that has both overview and detail reports, the module where you can find the reports, and the names of the reports.

Maximo Applications with Overview and Detail Reports Table

Maximo Application	Module	Report Name
Master Contracts	Contracts	Contract List Report Master Contracts Detail Report
Labor Rate Contracts	Contracts	Contract List Report Labor Rate Contracts Detail Report
Lease/Rental Contracts	Contracts	Contract List Report Lease/Rental Contracts Detail Report
Purchase Contracts	Contracts	Contract List Report Purchase Contract Detail Report
Warranty Contracts	Contracts	Contract List Report Warranty Contract Details Report
Job Plans	Planning	Job Plans List Report Job Plans Detail Report
Invoices	Purchasing	Invoices List Report Invoices Detail Report
Purchase Orders	Purchasing	Purchase Order List Report Purchase Order Details Report
Purchase Requisitions	Purchasing	Purchase Requisitions List Report Purchase Requisitions Details Report
Request for Quotations	Purchasing	Request for Quotations List Report Request for Quotations Detail Report
Quick Reporting	Work Orders	Quick Reporting List Report Work Order Details Report
Work Order Tracking	Work Orders	Work Order Tracking Detail Report Work Order Tracking Overview Report

Using Maximo Reports

3

This chapter covers the following topics:

- ▼ reports – signing in, opening, and running
- ▼ request pages – entering parameters, sending reports via e-mail, and scheduling reports
- ▼ reporting toolbar – printing, downloading, and searching
- ▼ queries – accessing, customizing, and running

Signing in to Reports

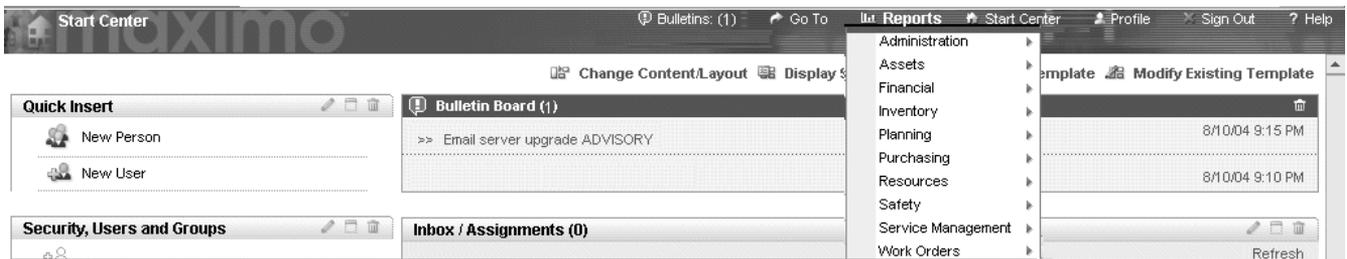
When you sign in to Maximo using your Maximo username and password, Maximo automatically signs you in to Actuate. You access reports through Maximo.

Opening Reports

You can access the report functions in Maximo in either of the following ways:

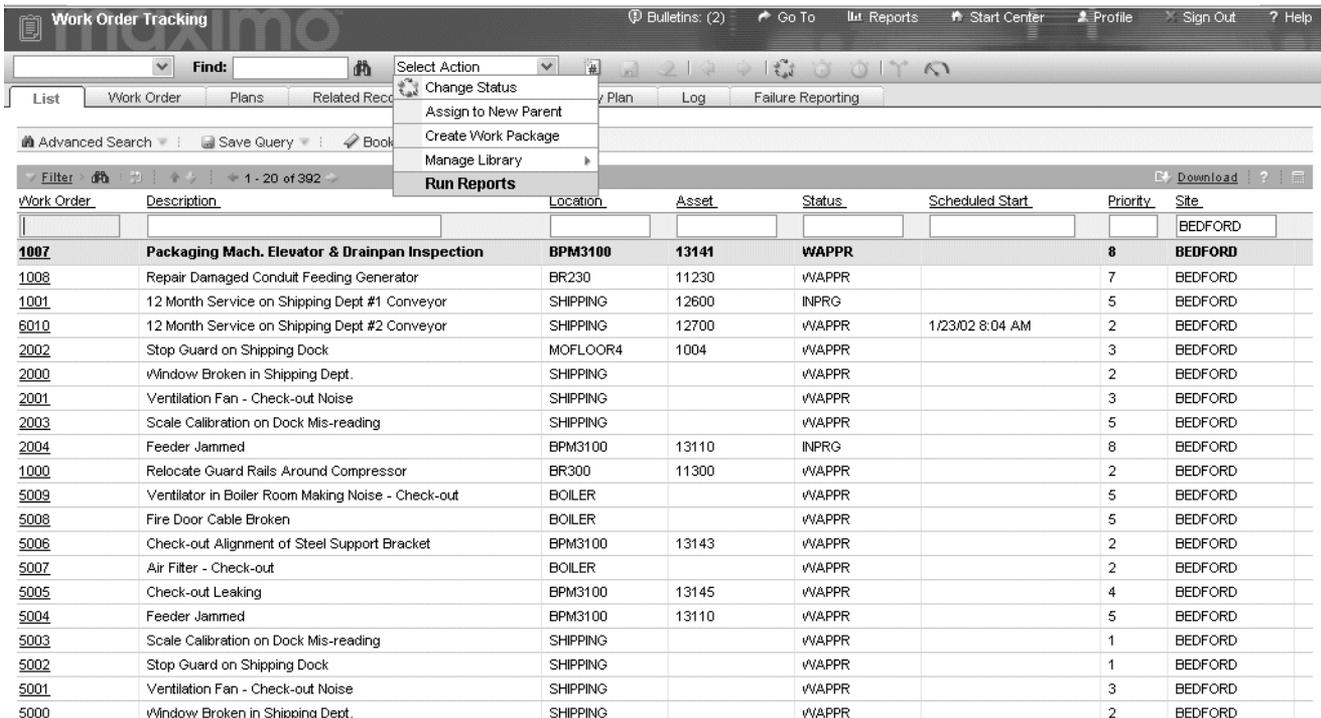
- ▼ From the Navigation Bar on the Start Center, select Reports which opens the list of applications containing reports.

Selecting Reports on Navigation Bar



- ▼ From the Select Action menu of any Maximo application containing reports, select **Run Reports**.

Selecting Run Reports on Select Action Menu (Work Order Tracking application)



Using Business Analysis and Reporting Tabs

This section describes the three tabs available on the Business Analysis and Reporting page. You can access this page by selecting one of the following methods:

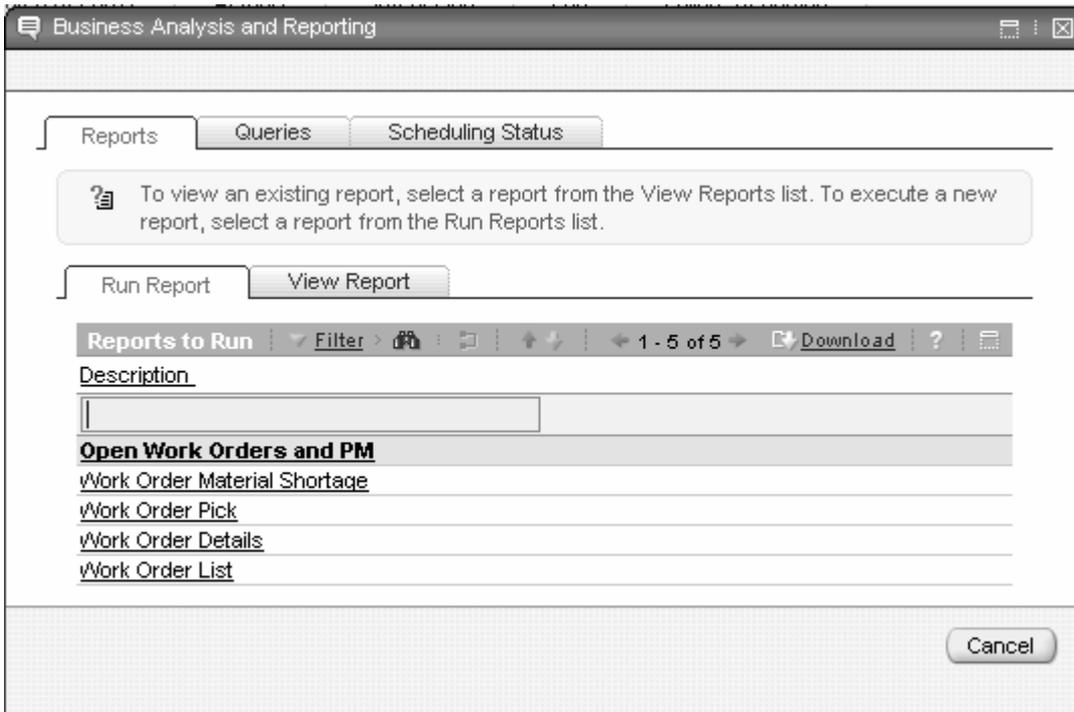
- ▼ Click **Reports**>*Application Name*.
- ▼ Select Run Reports from the **Select Action** menu.

Reports Tab

The Reports tab contains the following subtabs:

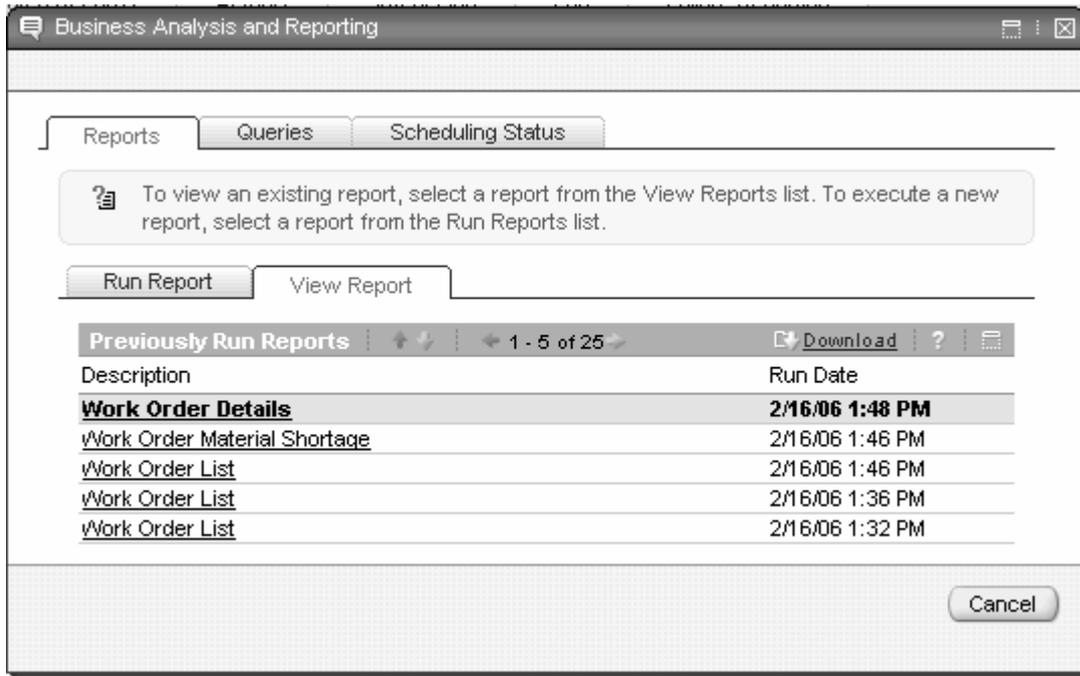
- ▼ Run Report – lists reports that you can run in the application. Click a report to bring up its request page.

Run Report Subtab (Work Order Tracking Application)



- ▼ View Report – lists reports that were previously saved in the application. To open a report in your browser, click the report name.

View Report Subtab (Work Order Tracking Application)

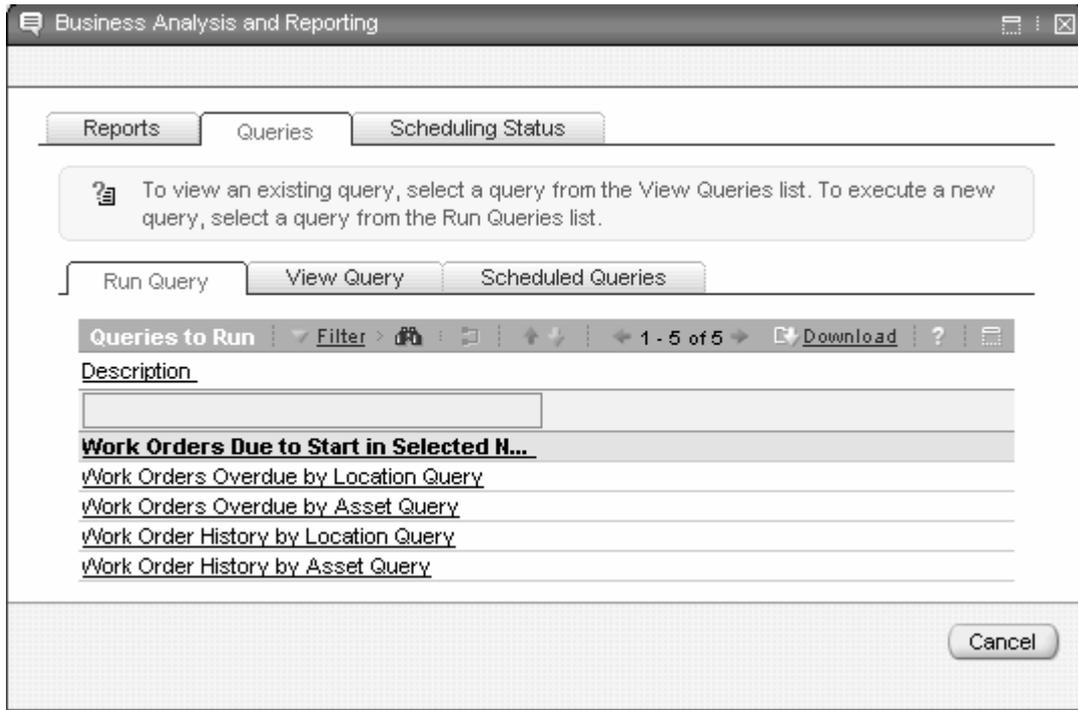


Queries Tab

The Queries tab contains the following subtabs:

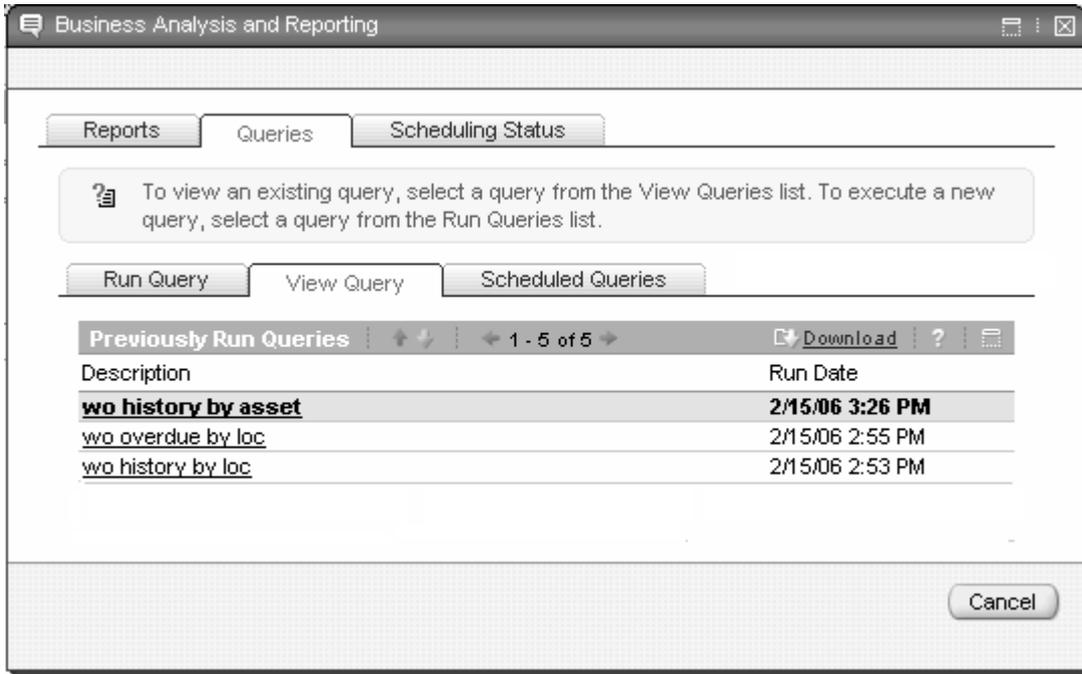
- ▼ Run Query – lists queries that you can run in the application. Click a query to bring up the query wizard in the report browser. You can use the wizard to form your own unique query.

Run Query Subtab (Work Order Tracking Application)



- ▼ View Query – lists queries that were previously saved in the application. To open a saved query, click the query name. You then can run the query to get “real-time” data.

View Query Subtab (Work Order Tracking Application)



Scheduling Status Tab

You use the Scheduling Status tab to view the status of submitted reports or queries. Reports can have any of the following statuses;

Report Status	Description
Schedule	Going to run at a specific date and time.
Pending	Waiting to run.
Running	Generating right now.

Scheduling Status Tab (Asset Application)

The screenshot shows a window titled "Business Analysis and Reporting" with three tabs: "Reports", "Queries", and "Scheduling Status". The "Scheduling Status" tab is active, showing a table of scheduled reports. The table has three columns: "Description", "Submission Time", and "Next Start Time". The "Purchase Order List" report is highlighted in bold. A "Cancel" button is visible at the bottom right of the window.

Description	Submission Time	Next Start Time
Purchase Order Status Details	Thu Feb 16 13:32:10 EST 2006	Wed Mar 01 16:00:00 EST 2006
Purchase Order List	Thu Feb 16 13:31:49 EST 2006	Thu Feb 16 14:00:00 EST 2006
List of Items Currently on Order Query	Thu Feb 16 13:30:04 EST 2006	Thu Feb 16 13:35:00 EST 2006
List of Items Currently on Order Query	Thu Feb 16 13:29:47 EST 2006	Thu Feb 16 13:35:00 EST 2006
Purchase Order List	Thu Feb 16 13:23:27 EST 2006	Fri Feb 17 13:30:00 EST 2006

Using the Request Page Tabs

This section describes the three tabs available on the Request Page.

Tab	Purpose
Run Report	Specify report parameters.
E-mail Report	Send a report via e-mail.
Schedule Run Report Interval	Set report run schedule.

NOTE The following Maximo reports do not have request pages. You can access them only from other reports or from actions embedded in Maximo applications.

- ▼ Asset Cost Rollup Update Report
- ▼ E-commerce Details Report
- ▼ Inventory ABC Update Report
- ▼ Inventory EOQ Update Report
- ▼ Inventory ROP Update Report
- ▼ Material Requisition Detail Report
- ▼ Suggested Reorder Report
- ▼ Vendor Contacts Report

Run Report Tab

When you run a report, the parameters that open on the Run Report tab vary from report to report. For some reports, Maximo requires that you enter parameters.

NOTE An asterisk (*) denotes required parameter fields.

Request Page for Asset Move History Report

Request Page

Run Report | E-mail Report | Schedule Report Run Interval

Fill in the fields in the Parameters section below and select the Submit button to run the report. If no parameters are displayed, the report will execute against the current/selected/all record set. Optionally, fill out the Email or Schedule Tabs to set e-mail notification preferences and schedule report run times.

Asset Move History

Asset * =11430

Current Site * =BEDFORD

From Site

From Location

To Site

To Location

Submit Cancel

E-mail Report Tab

You can send a report via e-mail from the E-mail Report tab. To send a report, complete the following fields:

Field	Purpose
To	Select one or more pre-defined e-mail addresses or type e-mail addresses for non-Maximo users.
Comments	Type any message you want to accompany the report.
File Type	Send a report electronically as an Adobe .pdf or spreadsheet .xls attachment.

NOTE You cannot send queries through e-mail.

E-mail Report Tab

The screenshot shows a web application window titled "Request Page". At the top, there are three tabs: "Run Report", "E-mail Report", and "Schedule Report Run Interval". The "E-mail Report" tab is selected. Below the tabs, there is a help icon and a text box that says: "Enter the e-mail address(s) that you want to send this report to. Separate multiple e-mail addresses with a comma." Below this, there are three main sections: "To" with a text input field containing "maximouser@mro.com", "Comments" with a text area containing "See the attached report.", and "File Type" with two radio buttons: "PDF" (which is selected) and "XLS". At the bottom right of the window, there are two buttons: "Submit" and "Cancel".

Schedule Report Run Interval Tab

The Schedule Report Run Interval tab lets you schedule when you want to run the report.

Interval	Frequency
Immediate	Now
At This Time	<p>On a specific date and time in the future.</p> <p>Enter a date or click the Select Date icon. The date you enter must be in (M or MM)/ (D or DD)/YY format. Enter a time when you want to run the report on that date.</p> <p>Use this option to schedule complex and/or lengthy reports to run during off-peak hours in order to keep system resource availability high for your end users. For example, run the Estimated vs. Actual Work Order Cost report overnight or on the weekend.</p>
Recurring	<p>At regular intervals.</p> <p>To select a report run interval, click the Select Value icon. For example, you can run a report every Monday or on the first day or last day of the month. Also, enter a time when you want to run the report on that day.</p>

Schedule Report Run Interval Tab

Request Page

Run Report E-mail Report **Schedule Report Run Interval**

? Indicate below when you would like to run this report. Please note that if you select recurring reports, copies of each report will be e-mailed to any recipients you have indicated in the E-mail section.

Immediate

At this time 6/1/05 at 1:00 AM **(HH:MM AM or PM)**

Recurring at **(HH:MM AM or PM)**

Submit **Cancel**

Running a Report

This section describes how to run a report in Maximo. For this example, you will run the Asset Move History report.

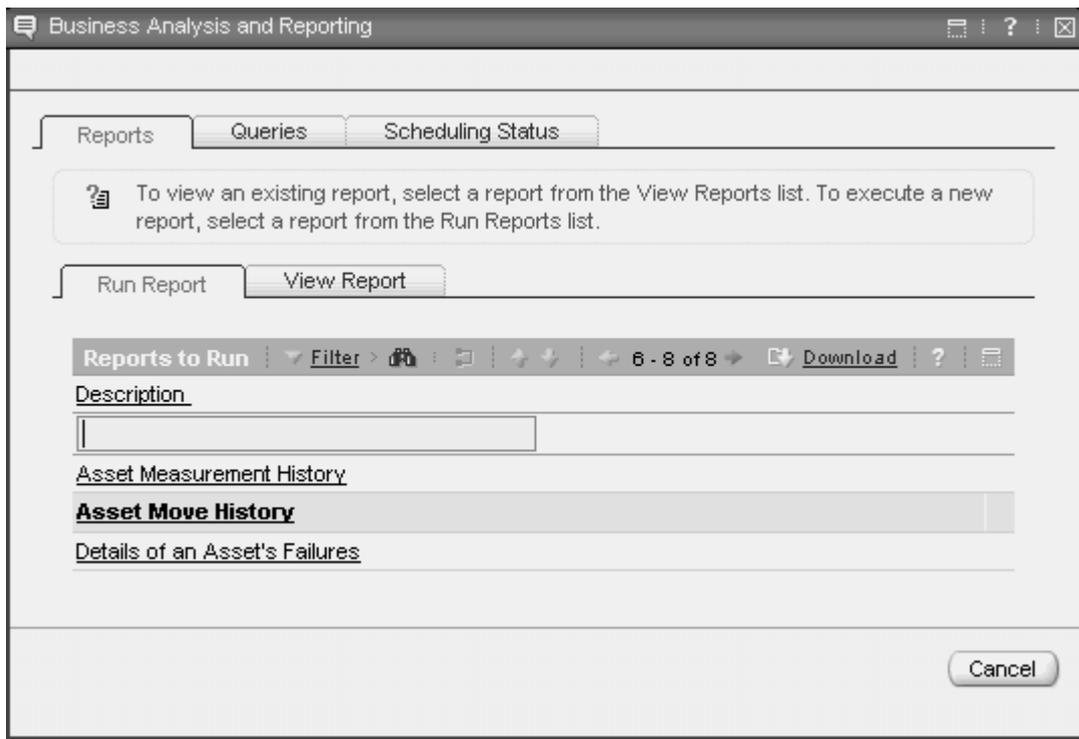
NOTE The Asset Move History Report is an example of a Parameter-based report, as opposed to a Current/Selected/All report. For further information on running these two types of reports, see the following sections:

- ▼ “Running Current/Selected/All Reports,” on page 6-21
- ▼ “Defining and Running Parameter-Based Reports,” on page 6-27

To run the Asset Move History report, complete the following section:

- 1 Open the Assets application in Maximo.
- 2 From the Select Action menu, select **Run Reports** to open the Reports tab.
- 3 Select the Asset Move History report.

Run Report Tab (Asset Application)



- Enter any required parameters. For example, in the Asset Move History Request Page, you must enter an asset number and a current site.

Run Report Tab (for Asset Move History Report)

Request Page

Run Report | E-mail Report | Schedule Report Run Interval

Fill in the fields in the Parameters section below and select the Submit button to run the report. If no parameters are displayed, the report will execute against the current/selected/all record set. Optionally, fill out the Email or Schedule Tabs to set e-mail notification preferences and schedule report run times.

Asset Move History

Asset * =11430

Current Site * =BEDFORD

From Site

From Location

To Site

To Location

Submit Cancel

- To open the Reporting page and view the report in browser (DHTML) format, click **Submit**. The Asset Move History report appears.

Reporting Page with Asset Move History Report

Reporting

Page: 1 of 1

Asset Move History

Asset: 11430

Description: Centrifugal Pump 100GPM/60FT HD

Current Site: BEDFORD

From Site:

From Location:

To Site:

To Location:

Leased Asset ?: N

Date Moved	From Site	From Location	From Parent	To Site	To Location	To Parent
1/7/2005 1:16:01	BEDFORD	BR430	11400	BEDFORD	BR400	11400
5/24/1994 12:53:00	BEDFORD	CENTRAL		BEDFORD	BR430	11400
2/19/1994 11:21:00	BEDFORD	JOHNS		BEDFORD	CENTRAL	
2/12/1994 10:24:12	BEDFORD	REPAIR		BEDFORD	JOHNS	
2/5/1994 9:25:00	BEDFORD	BR450	11400	BEDFORD	REPAIR	
5/30/1992 11:21:00	BEDFORD			BEDFORD	BR450	11400

Using the Reporting Toolbar

After you execute a report or a query, the report or query displays in the report browser. The following sections describe how to use the Reporting Toolbar to perform the following actions:

- ▼ Print a report
- ▼ Download a report
- ▼ Search within a report

Printing a Report

To print your report using the report browser in Adobe Acrobat Reader, complete the following steps:

NOTE Do not use your browser's printing option to print a report. Actuate uses Adobe Acrobat Reader to generate the report for printing. For information on which versions of Adobe Acrobat MRO Software supports, see the following section, "Supported Adobe Acrobat Versions."

- 1 Click the Print icon on the reporting toolbar in Maximo. A separate browser session launches. The report opens in Adobe Acrobat Reader, displaying a print dialog box.

Reporting Toolbar with Print Icon indicated



- 2 To print your report on the default printer, click **OK**.

To cancel printing, click **Cancel**. If you click **Cancel**, the separate browser session remains open, letting you review and print the report from the Acrobat toolbar.

Supported Adobe Acrobat Versions

MRO Software supports the following versions of Adobe Acrobat Reader:

- ▼ 7.0.

MRO Software supports this version for only MXES, Patch 4 and later MXES releases.

- ▼ 6.0.

If you are using this version with Microsoft Internet Explorer 6.0, you cannot print PDF documents when the source URL exceeds 255 characters. Adobe fixed this bug in Adobe Acrobat version 6.0.1.

- ▼ 5.1

- ▼ 5.0

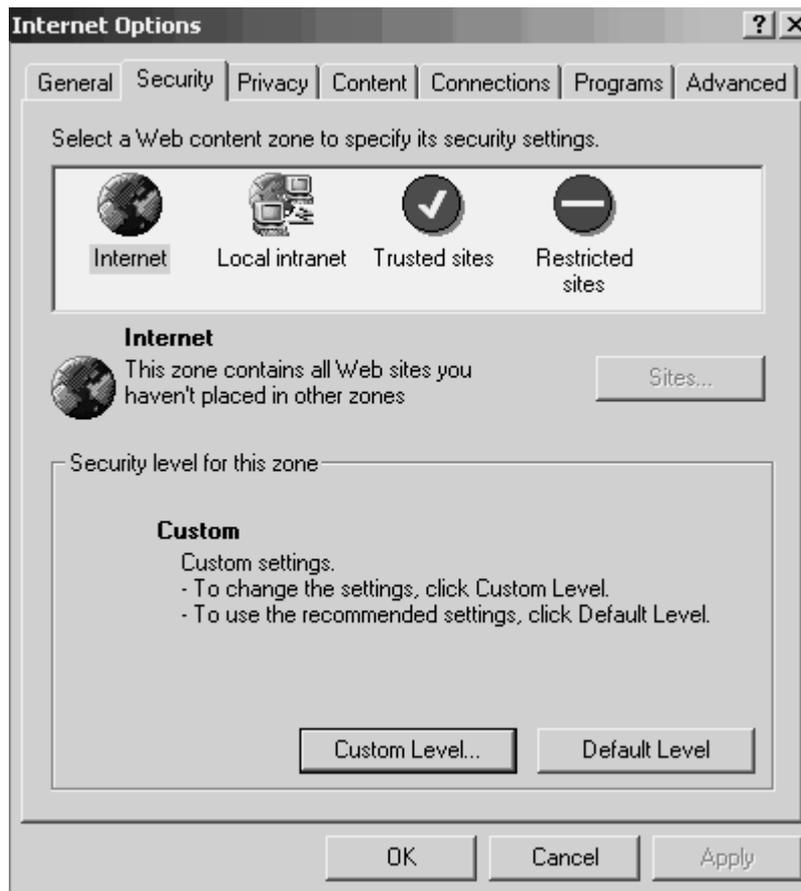
Attached Documents in Maximo

The Attached Document feature in Maximo lets you attach Microsoft Word documents, PDF files, Web page, diagrams, pictures, and other documents to individual Maximo reports. Your report administrator determines whether a report prints with attached documents.

To enable Attached Documents when you run a report, complete the following steps:

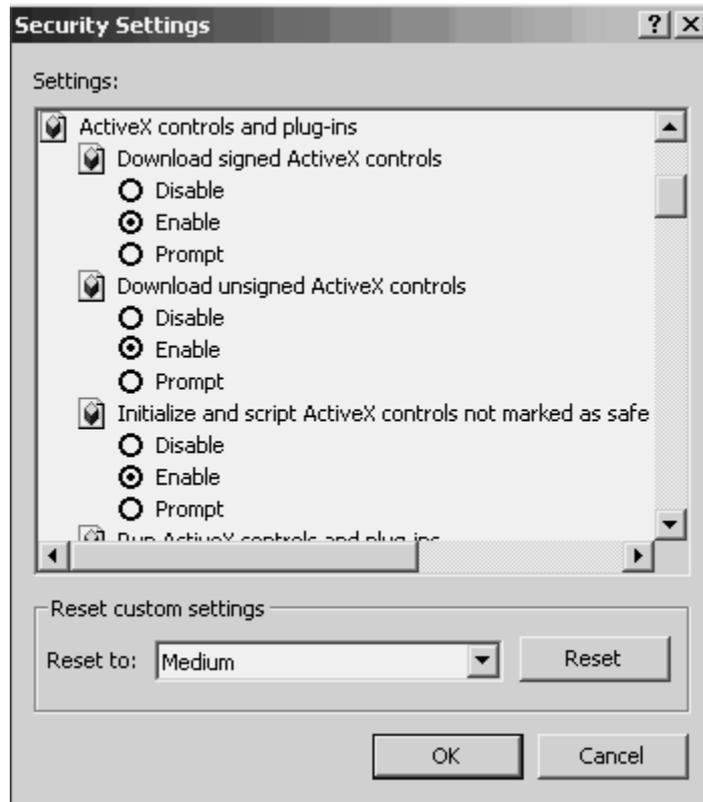
- 1 In Internet Explorer, select **Tools>Internet Options** to open the Internet Options dialog box.

Internet Options Dialog Box (Security Tab)



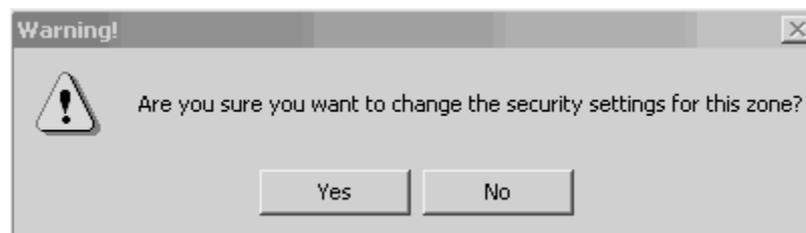
- 2 Select the Security tab.
- 3 Click **Custom Level** to open the Security Settings dialog box.

Security Settings Dialog Box



- 4 Set all ActiveX® controls and plug-ins to Enable. The following list contains all of your ActiveX controls and plug-ins:
 - ▼ Download signed ActiveX controls
 - ▼ Download unsigned ActiveX controls
 - ▼ Initialize and script ActiveX controls not marked as safe
 - ▼ Run ActiveX controls and plug-ins
 - ▼ Scripts ActiveX controls marked safe for scripting
- 5 Click **OK**. You receive a warning message.

Warning! Message



- 6 To save your settings, click **Yes**. The Security tab reappears.

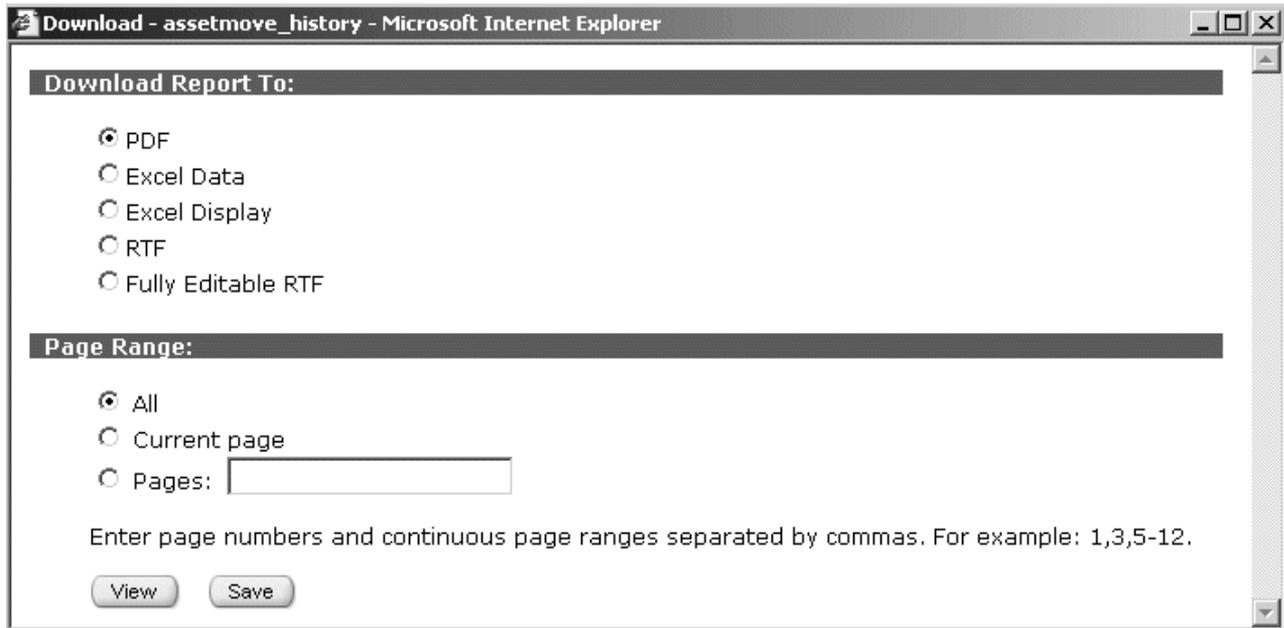
You now can attach documents to your Maximo reports.

Downloading a Report

By downloading your report in Maximo, you can convert your browser output to any of the five formats described in this section. To download a report, complete the following steps:

- 1 Click the Download icon on the Reporting toolbar. The Download dialog box opens.

Download Dialog Box



- 2 In the Download Dialog Box, complete the following two sections:
 - a **Download Report To:** – Select a download option.

Download Option	Description
PDF	report output in Adobe Acrobat format (PDF format).
Excel Data	a format used mainly for tabular or listing reports. The appearance is not always faithful to the original report and does not work well for complex reports. Potential issues include images and graphs that do not open, data that is difficult to read against some background colors, and the loss of accuracy for component positioning.
Excel Display	a format that resembles an Actuate report on an Excel spreadsheet.
RTF	report output in Rich Text Format. The report’s visual layout is similar to browser (DHTML) layout.

Download Option	Description
Fully Editable RTF	report output in Rich Text Format, with more flexibility when manipulating output. For example, you can move and delete several lines from a report at one time. This format produces a larger RTF file than RTF format.

b Page Range: – Select a page range option.

Page Range Option	Description
All	Print all pages.
Current Page	Print page that currently appears.
Pages	Type page numbers to print.

- To view the report, click **View**. To save the report, click **Save**. A separate dialog box opens that lets you view or save the report page(s) in the format you selected.

Options for Downloading

When you download a report, the option you select determines the report's appearance. This section provides an example of how one report, the Asset Cost Rollup Report, opens differently depending on the download option (PDF, Excel Data, Excel Display, RTF, or Fully Editable (RTF) that you select.

For detailed information about each download option, see the previous section, "Downloading a Report".

Asset Cost Rollup Report in PDF format

Asset Cost Rollup									
This report displays the costs the asset incurred since the date the report was last run. The costs of the assets are rolled up to their parents, and any other levels in the asset hierarchy.									
	New YTD Cost	Previous YTD Costs	Budget Costs	New Total Cost	Previous Total Cost	New Labor Cost	New Material Cost	New Tool Cost	New Service Costs
11200 HVAC System- 50 Ton Cool Cap/ 450000 Btu	1,307.45	723.45	1,500.00	13,707.45	13,123.45	0.00	584.00	0.00	0.00
11300 Reciprocating Compressor- Air	5,009.00	4,865.00	3,000.00	27,509.00	27,365.00	0.00	144.00	0.00	0.00
11400 Boiler- 50,000 Lb/Hr/ Gas Fired/ Water Tube	4,865.00	4,865.00	5,000.00	114,765.00	114,765.00	0.00	0.00	0.00	0.00
11430 Centrifugal Pump 100GPM/60FT HD	5,739.00	122.00	1,500.00	16,851.56	11,234.56	0.00	4,717.00	0.00	900.00
11450 Centrifugal Pump 100GPM/60FTHD	382.07	241.00	1,600.00	375.63	234.56	0.00	141.07	0.00	0.00
11460 Burner, Gas Fired- For Boiler	37.00	37.00	0.00	37.00	37.00	0.00	0.00	0.00	0.00
11480 Centrifugal Pump 100 GPM, 60 FT-HD	706.00	706.00	1,300.00	7,865.06	7,865.06	0.00	0.00	0.00	0.00
12222 Centrifugal Pump 100 GPM, 60 FT-HD	860.54	860.54	1,750.00	6,543.86	6,543.86	0.00	0.00	0.00	0.00

Asset Cost Rollup Report in Excel Data Format

Asset Cost Rollup									
This report displays the costs the asset incurred since the date the report was last run. The costs of the assets are rolled up to their parents, and any other levels in the asset hierarchy.									
	New YTD Cost	Previous YTD Costs	Budget Costs	New Total Cost	Previous Total Cost	New Labor Cost	New Material Cost	New Tool Cost	New Service Costs
11200 HVAC System- 50 Ton Cool Cap/ 450000 Btu Heat Cap	1,307.45	723.45	1,500.00	13,707.45	13,123.45	0.00	584.00	0.00	0.00
11300 Reciprocating Compressor- Air Cooled/100 CFM	5,009.00	4,865.00	3,000.00	27,509.00	27,365.00	0.00	144.00	0.00	0.00
11400 Boiler- 50,000 Lb/Hr/ Gas Fired/ Water Tube	4,865.00	4,865.00	5,000.00	114,765.00	114,765.00	0.00	0.00	0.00	0.00
11430 Centrifugal Pump 100GPM/60FT HD	5,739.00	122.00	1,500.00	16,851.56	11,234.56	0.00	4,717.00	0.00	900.00
11450 Centrifugal Pump 100GPM/60FTHD	382.07	241.00	1,600.00	375.63	234.56	0.00	141.07	0.00	0.00
11460 Burner, Gas Fired- For Boiler	37.00	37.00	0.00	37.00	37.00	0.00	0.00	0.00	0.00

Asset Cost Rollup Report in Excel Display Format

Asset Cost Rollup									
This report displays the costs the asset incurred since the date the report was last run. The costs of the assets are rolled up to their parents, and any other levels in the asset hierarchy.									
	New YTD Cost	Previous YTD Costs	Budget Costs	New Total Cost	Previous Total Cost	New Labor Cost	New Material Cost	New Tool Cost	New Service Costs
11200 HVAC System- 50 Ton Cool Cap/ 450000 Btu Heat Cap	1,307.45	723.45	1,500.00	13,707.45	13,123.45	0.00	584.00	0.00	0.00
11300 Reciprocating Compressor- Air Cooled/100 CFM	5,009.00	4,865.00	3,000.00	27,509.00	27,365.00	0.00	144.00	0.00	0.00
11400 Boiler- 50,000 Lb/Hr/ Gas Fired/ Water Tube	4,865.00	4,865.00	5,000.00	114,765.00	114,765.00	0.00	0.00	0.00	0.00
11430 Centrifugal Pump 100GPM/60FT HD	5,739.00	122.00	1,500.00	16,851.56	11,234.56	0.00	4,717.00	0.00	900.00
11450 Centrifugal Pump 100GPM/60FTHD	382.07	241.00	1,600.00	375.63	234.56	0.00	141.07	0.00	0.00
11460 Burner, Gas Fired- For Boiler	37.00	37.00	0.00	37.00	37.00	0.00	0.00	0.00	0.00
11480 Centrifugal Pump 100 GPM, 60 FT-HD	706.00	706.00	1,300.00	7,865.06	7,865.06	0.00	0.00	0.00	0.00
12222 Centrifugal Pump 100 GPM, 60 FT-HD	860.54	860.54	1,750.00	6,543.86	6,543.86	0.00	0.00	0.00	0.00

Asset Cost Rollup Report in RTF Format

Asset Cost Rollup									
This report displays the costs the asset incurred since the date the report was last run. The costs of the assets are rolled up to their parents, and any other levels in the asset hierarchy.									
	New YTD Cost	Previous YTD Costs	Budget Costs	New Total Cost	Previous Total Cost	New Labor Cost	New Material Cost	New Tool Cost	New Service Costs
11200 HVAC System- 50 Ton Cool Cap/ 450000 Btu	1,307.45	723.45	1,500.00	13,707.45	13,123.45	0.00	584.00	0.00	0.00
11300 Reciprocating Compressor- Air	5,009.00	4,865.00	3,000.00	27,509.00	27,365.00	0.00	144.00	0.00	0.00
11400 Boiler- 50,000 Lb/Hr/ Gas Fired/ Water Tube	4,865.00	4,865.00	5,000.00	114,765.00	114,765.00	0.00	0.00	0.00	0.00
11430 Centrifugal Pump 100GPM/60FT HD	5,739.00	122.00	1,500.00	16,851.56	11,234.56	0.00	4,717.00	0.00	900.00
11450 Centrifugal Pump 100GPM/60FTHD	382.07	241.00	1,600.00	375.63	234.56	0.00	141.07	0.00	0.00
11460 Burner , Gas Fired- For Boiler	37.00	37.00	0.00	37.00	37.00	0.00	0.00	0.00	0.00
11480 Centrifugal Pump 100 GPM, 60 FT-HD	706.00	706.00	1,300.00	7,865.06	7,865.06	0.00	0.00	0.00	0.00
12222 Centrifugal Pump 100 GPM, 60 FT-HD	860.54	860.54	1,750.00	6,543.86	6,543.86	0.00	0.00	0.00	0.00
13110 Feeder System	988.48	876.98	1,500.00	4,627.50	4,516.00	0.00	111.50	0.00	0.00

Asset Cost Rollup Report in Fully Editable RTF Format

Asset Cost Rollup									
This report displays the costs the asset incurred since the date the report was last run. The costs of the assets are rolled up to their parents, and any other levels in the asset hierarchy.									
	New YTD Cost	Previous YTD Costs	Budget Costs	New Total Cost	Previous Total Cost	New Labor Cost	New Material Cost	New Tool Cost	New Service Costs
11200 HVAC System- 50 Ton Cool Cap/ 450000 Btu	1,307.45	723.45	1,500.00	13,707.45	13,123.45	0.00	584.00	0.00	0.00
11300 Reciprocating Compressor- Air	5,009.00	4,865.00	3,000.00	27,509.00	27,365.00	0.00	144.00	0.00	0.00
11400 Boiler- 50,000 Lb/Hr/ Gas Fired/ Water Tube	4,865.00	4,865.00	5,000.00	114,765.00	114,765.00	0.00	0.00	0.00	0.00
11430 Centrifugal Pump 100GPM/60FT HD	5,739.00	122.00	1,500.00	16,851.56	11,234.56	0.00	4,717.00	0.00	900.00
11450 Centrifugal Pump 100GPM/60FT HD	382.07	241.00	1,600.00	375.63	234.56	0.00	141.07	0.00	0.00
11460 Burner, Gas Fired- For Boiler	37.00	37.00	0.00	37.00	37.00	0.00	0.00	0.00	0.00
11480 Centrifugal Pump 100 GPM, 60 FT-HD	706.00	706.00	1,300.00	7,865.06	7,865.06	0.00	0.00	0.00	0.00
12222 Centrifugal Pump 100 GPM, 60 FT-HD	860.54	860.54	1,750.00	6,543.86	6,543.86	0.00	0.00	0.00	0.00
13110 Feeder System	988.48	876.98	1,500.00	4,627.50	4,516.00	0.00	111.50	0.00	0.00

Searching within a Report for a Specific Record

For some reports, you might want to isolate specific records. To find specific records in a lengthy report, use the Search function in Actuate.

In the following example, you search the Asset Move History report to locate all search results from the REPAIR location. To search for this data in a report, complete the following steps:

- 1 In the Assets application, open the Asset Move History report.
- 2 On the Reporting Toolbar in Maximo, click the Search icon to open the Search panel on the left side of the report page.

Asset Move History Report with New Search Panel

The screenshot displays the Maximo Reporting interface. On the left, a search panel is open, titled 'New Search Search Now'. It contains a dropdown menu with 'None Selected', a 'Search Now' button, and a table with columns 'Report Field', 'Value', and 'Display'. The main report area, titled 'Asset Move History', shows details for Asset 11430, including its description 'Centrifugal Pump 100GPM/60FT HD', current site 'BEDFORD', and various location and parent information. Below this, a table lists the asset's move history.

Date Moved	From Site	From Location	From Parent	To S
1/7/2005 1:16:01	BEDFORD	BR430	11400	BEDFC
5/24/1994 12:53:00	BEDFORD	CENTRAL		BEDFC
2/19/1994 11:21:00	BEDFORD	JOHNS		BEDFC
2/12/1994 10:24:12	BEDFORD	REPAIR		BEDFC
2/5/1994 9:25:00	BEDFORD	BR450	11400	BEDFC
5/30/1992 11:21:00	BEDFORD			BEDFC

- 3 Add the **From Location** field search query by clicking data in that column. In the following figure, you selected all search criteria from the REPAIR location.

NOTE You can also choose to search on multiple fields.

Asset Move History Report with Search Criteria

The screenshot shows the Maximo Reporting interface. On the left, a search panel titled 'New Search Search Now' is open. It shows 'None Selected' in a dropdown menu. Below, there is a table with columns 'Report Field', 'Value', and 'Display'. The row 'From Location: REPAIR' has a checkmark in the 'Display' column. A 'Search Now' button is at the bottom of the panel. The main report area, titled 'Asset Move History', shows details for Asset: 11430, Description: Centrifugal Pump 100GPM/60FT HD, Current Site: BEDFORD, and From Site: BEDFORD. Below this is a table with columns: Date Moved, From Site, From Location, From Parent, and To Site. The table contains several rows of data, with the 'From Location' column highlighted in the first row.

Date Moved	From Site	From Location	From Parent	To Site
1/7/2005 1:16:01	BEDFORD	BR430	11400	BEDFC
5/24/1994 12:53:00	BEDFORD	CENTRAL		BEDFC
2/19/1994 11:21:00	BEDFORD	JOHNS		BEDFC
2/12/1994 10:24:12	BEDFORD	REPAIR		BEDFC
2/5/1994 9:25:00	BEDFORD	BR450	11400	BEDFC
5/30/1992 11:21:00	BEDFORD			BEDFC

- 4 Click **Search Now** to search on the criteria you entered. The filtered records appear as a link in the Search panel.

Asset Move History Report with Value Returned from Search Criteria

The screenshot shows the Maximo Reporting interface. On the left, a search panel titled 'New Search Search Now' is open. It shows 'Smart Search found 1 matches.' Below, there is a table with columns 'Report Field', 'Value', and 'Display'. The row 'From Location: REPAIR' has a checkmark in the 'Display' column. A 'Search Now' button is at the bottom of the panel. The main report area, titled 'Asset Move History', shows details for Asset: 11430, Description: Centrifugal Pump 100GPM/60FT HD, Current Site: BEDFORD, and From Site: BEDFORD. Below this is a table with columns: Date Moved, From Site, From Location, From Parent, and To Site. The table contains several rows of data, with the 'From Location' column highlighted in the first row.

Date Moved	From Site	From Location	From Parent	To Site
1/7/2005 1:16:01	BEDFORD	BR430	11400	BEDFC
5/24/1994 12:53:00	BEDFORD	CENTRAL		BEDFC
2/19/1994 11:21:00	BEDFORD	JOHNS		BEDFC
2/12/1994 10:24:12	BEDFORD	REPAIR		BEDFC
2/5/1994 9:25:00	BEDFORD	BR450	11400	BEDFC
5/30/1992 11:21:00	BEDFORD			BEDFC

- 5 To jump to the report page containing the relevant data, click a result link. Result links appear underlined in the search panel.

NOTE In addition to searching for one match, you also can use search expressions to find a set of matches. Maximo supports several operators and wildcard characters that you can use in search expressions.

You can use the following operators:

Operator	Definition
[,]	Comma to separate values.
[=]	Equal. By default, the equal operator is implied.
[>]	greater than or alphabetically after.
[>=]	Greater than or equal to.
[-]	Hyphen to indicate ranges.
[<]	Less than or alphabetically before.
[<=]	Less than or equal to.
[!]	Not

You can use the following global wildcard characters:

Character	Definition
[*]	Find any number of characters.
[#]	Find any one ASCII numeric character.
[?]	Find any one character.

Adding and Removing a Search Field

Some reports are lengthy due to their queries. To find specific information in a lengthy report, use the Search function in Actuate.

In the following example, you search the Asset Move History report to locate all search results from the REPAIR location. To search for this data in a report, complete the following steps:

- 1 Open an Asset Move History report. In this example, the Asset Move History report is for asset 11430.
- 2 On the Reporting Toolbar, click the Search icon to open the Search panel.

Asset Move History Report with New Search Panel

The screenshot shows the Maximo Reporting interface. At the top, there is a 'Reporting' toolbar with a 'Close Report' button. Below the toolbar, the main report area displays 'Asset Move History' for 'Asset: 11430'. The report details include: 'Description: Centrifugal Pump 100GPM/60FT HD', 'Current Site: BEDFORD', 'From Site:', 'From Location:', 'To Site:', 'To Location:', and 'Leased Asset ? : N'. A table below the details shows the history of moves with columns: Date Moved, From Site, From Location, From Parent, and To Site. The search panel is open on the left, showing 'None Selected' in the dropdown menu and a 'Search Now' button. The search panel also has a table with columns: Report Field, Value, and Display.

Date Moved	From Site	From Location	From Parent	To Site
1/7/2005 1:16:01	BEDFORD	BR430	11400	BEDFC
5/24/1994 12:53:00	BEDFORD	CENTRAL		BEDFC
2/19/1994 11:21:00	BEDFORD	JOHNS		BEDFC
2/12/1994 10:24:12	BEDFORD	REPAIR		BEDFC
2/5/1994 9:25:00	BEDFORD	BR450	11400	BEDFC
5/30/1992 11:21:00	BEDFORD			BEDFC

- 3 To add a report field to your search, click data in the report and enter a value in the Value column that appears in the Search panel.

For example, to search for asset 11430 in the Repair location only, complete the following steps:

- a Click a value in the From Location column
- b Type Repair in the Value field that appears.
- c Click **Search Now**.

Asset Move History Report with From Location Selected as Search Value

The screenshot shows the Maximo Reporting interface. On the left, a search pane titled 'New Search Search Now' is open. It contains a dropdown menu set to 'None Selected', a text input field with 'REPAIR' entered, and a 'Search Now' button. The main report area displays the following details:

- Asset: 11430
- Description: Centrifugal Pump 100GPM/60FT HD
- Current Site: BEDFORD
- From Site:
- From Location:
- To Site:
- To Location:
- Leased Asset ? : N

Date Moved	From Site	From Location	From Parent	To Site
1/7/2005 1:16:01	BEDFORD	BR430	11400	BEDFC
5/24/1994 12:53:00	BEDFORD	CENTRAL		BEDFC
2/19/1994 11:21:00	BEDFORD	JOHNS		BEDFC
2/12/1994 10:24:12	BEDFORD	REPAIR		BEDFC
2/5/1994 9:25:00	BEDFORD	BR450	11400	BEDFC
5/30/1992 11:21:00	BEDFORD			BEDFC

4 You can remove a field from the search in two ways:

- ▼ Click a data field in the report, again.
- ▼ Click the Remove Item from List icon next to the field in the Search pane.

The Search column no longer appears in the Search list.

Asset Move History Report with Remove Icon from List icon indicated

This screenshot is identical to the previous one, but the search pane shows a small 'X' icon next to the 'REPAIR' entry in the search list, indicating it has been removed from the search criteria.

5 To remove all search fields, click **New Search**.

Asset Move History Report with New Search indicated

Reporting Close Report

Page: 1 of 1

New Search Search Now X

Select saved search

None Selected

Click on a report field to add it to the search

Report Field	Value	Display
--------------	-------	---------

Search Now

Asset Move History

Asset: 11430

Description: Centrifugal Pump 100GPM/60FT HD

Current Site: BEDFORD

From Site:

From Location:

To Site:

To Location:

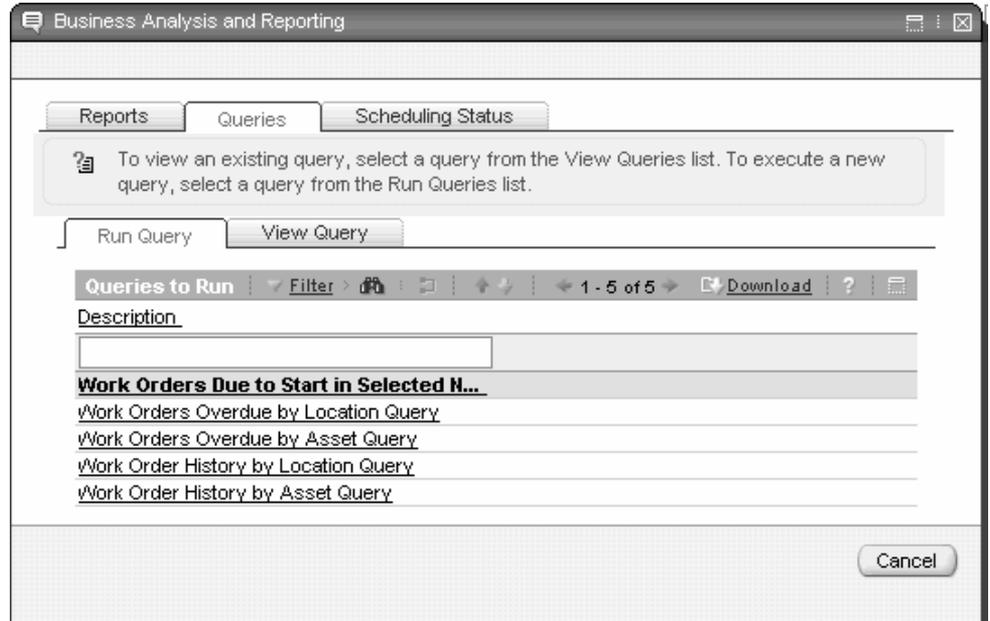
Leased Asset ? : N

Date Moved	From Site	From Location	From Parent	To Site
1/7/2005 1:16:01	BEDFORD	BR430	11400	BEDFC
5/24/1994 12:53:00	BEDFORD	CENTRAL		BEDFC
2/19/1994 11:21:00	BEDFORD	JOHNS		BEDFC
2/12/1994 10:24:12	BEDFORD	REPAIR		BEDFC
2/5/1994 9:25:00	BEDFORD	BR450	11400	BEDFC
5/30/1992 11:21:00	BEDFORD			BEDFC

Accessing a Query

When an end user accesses a query (also known as an information object), Maximo opens the following page:

Queries Tab for Work Orders Tracking Application

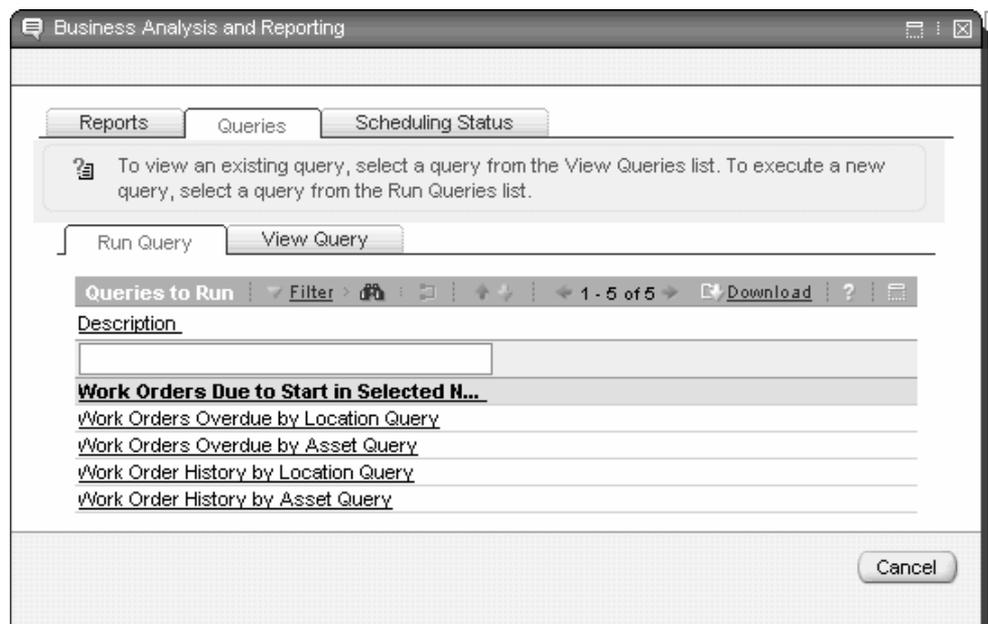


Running a Query

In the following example, you run a query to create a Work Order Start and Finish Dates Report by user Wilson.

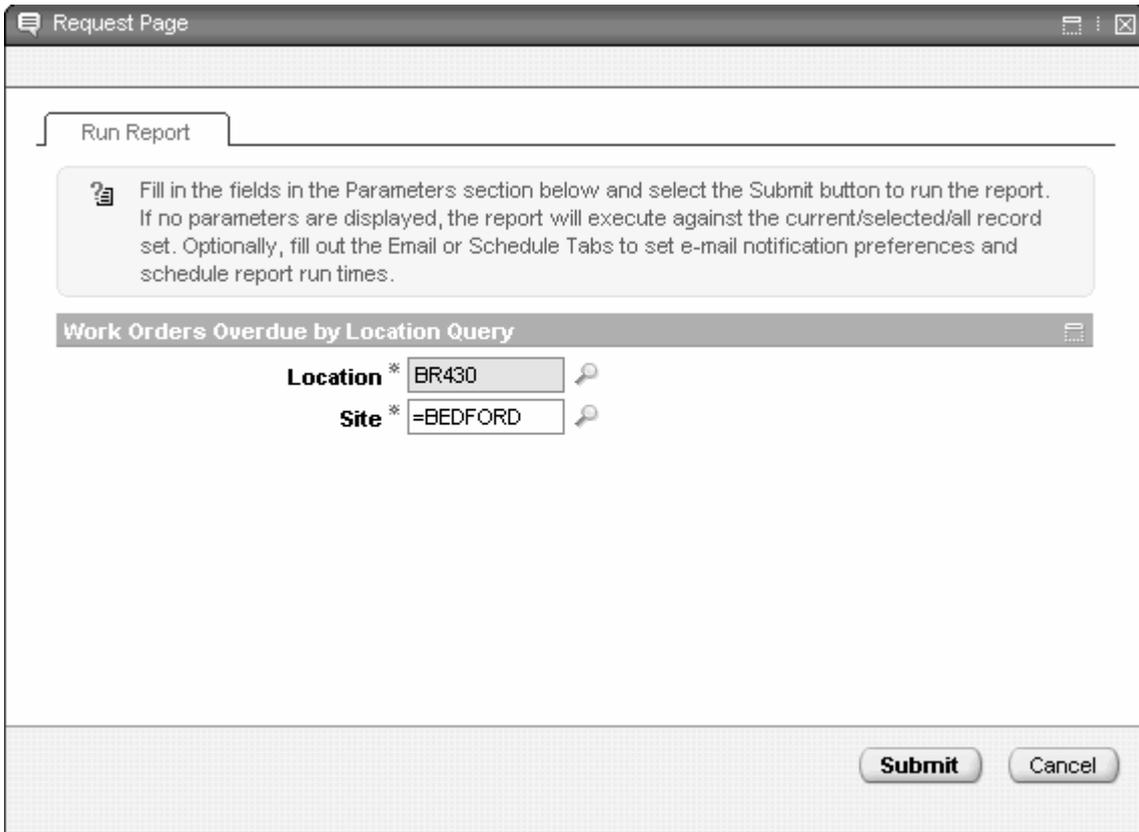
- 1 From the Maximo Start Center, select **Work Orders>Work Order Tracking** to open the Work Order Tracking application.
- 2 Select **Run Reports** from the Select Action menu to open the Business Analysis and Reporting dialog box.
- 3 To display a list of queries in this application, click the Queries tab.

Business Analysis and Reporting Dialog Box (Queries Tab)



- 4 In the Run Query subtab, select the Work Orders Overdue by Location query to open the Request Page dialog box. Type a location and site or click the Select Value icon with either field to open a dialog box containing available values.
- 5 To run the query, click **Submit**.

Request Page Dialog Box (Run Report Tab)



Customizing a Query

After you select a query in Maximo and click **Submit**, a series of five tabs opens. Each tab gives you a different way to customize your report.

Query Tabs and Descriptions Table

Tab	Purpose
Contents	Select the fields to appear on the report.
Groups	Specify how to group information on the report.
Sorting	Indicate whether the groups selected should open in ascending or descending order.
Filters	Select any customer filters. This page defaults to the parameters you entered on the request page.
Finish	Selecting a format for your report: <ul style="list-style-type: none"> ▼ browser (DHTML) ▼ Excel ▼ PDF <p>You also use this tab to save your query.</p>

NOTE To print, download, or search a report you **MUST** open your query in browser (DHTML) format on the Finish tab.

In the following section, you will create a Work Order Start and Finish Date Query.

To create this query, complete the following steps:

1 After you select the query (the Work Order Start and Finish Dates Query) in Maximo, the Content tab opens. On the Content tab, select the following columns to appear on your query:

- ▼ Work Order
- ▼ Work Order Description
- ▼ Scheduled Start
- ▼ Scheduled Finish

Work Order Start and Finish Date Query (Content Tab)

The screenshot shows a software interface for customizing a query. At the top, there are five tabs: "1. Content", "2. Groups", "3. Sorting", "4. Filters", and "5. Finish". The "1. Content" tab is active. Below the tabs, the instruction "Choose the fields to include to your query." is displayed. The interface is divided into two main sections: "Available Columns" on the left and "Selected Columns" on the right. In the "Available Columns" list, "Actual Start" is highlighted. In the "Selected Columns" list, "Work Order", "Work Order Description", "Schedule Start", and "Schedule Finish" are listed, with "Schedule Finish" highlighted. Between the two lists are four arrow buttons: ">>", ">", "<", and "<<". To the right of the "Selected Columns" list is a vertical double-headed arrow button. At the bottom of the window, there are five buttons: "Preview", "Cancel", "Back", "Next", and "Finish".

- 2 To select the Groups Tab, click **Next**.
- 3 On the Groups tab, select the following groups to appear on your Work Order Start and Finish Dates query:
 - ▼ Schedule Start as your Level 1 Group
 - ▼ Schedule Finish as your Level 2 Group

Work Order Start and Finish Date Report (Groups Tab)

The screenshot displays a configuration window for a report. At the top, there are five tabs: '1. Content', '2. Groups', '3. Sorting', '4. Filters', and '5. Finish'. The '2. Groups' tab is active. Below the tabs, the instruction 'Choose the fields you want to group by.' is shown. The window is divided into two main sections: 'Fields' on the left and 'Grouping' on the right. The 'Fields' section contains a list with 'Work Order' (highlighted) and 'Work Order Description'. The 'Grouping' section contains a tree structure with 'Groups' at the top, followed by 'Level 1: Schedule Start' and 'Level 2: Schedule Finish'. Between the two sections are two arrow buttons: a right-pointing arrow (>) and a left-pointing arrow (<). To the right of the 'Grouping' list is a vertical double-headed arrow (↑↓). At the bottom of the window, there are five buttons: 'Preview', 'Cancel', 'Back', 'Next', and 'Finish'.

- 4 To select the Sorting tab, click **Next**.
- 5 On the Sorting tab, use the drop-down list to select the following sort order:
 - ▼ Ascending for Schedule Start
 - ▼ Ascending for Schedule Finish

Work Order Start and Finish Dates Report (Sorting Tab)

1. Content 2. Groups 3. Sorting 4. Filters 5. Finish

Specify the sort order.

— Groups —

Schedule Start Ascending ▼

Schedule Finish Ascending ▼

— Detail —

Ascending ▼

Preview Cancel Back Next Finish

- 6 To select the Filters Tab, click **Next**.
- 7 To include any custom filters, use the **Custom Filters** text boxes to select specifications that further refine your search.

NOTE The **Location** and **Site** fields default to the values you selected in the Request Page (see page 3-32).

Filters Tab for Work Orders Start and Finish Dates Report

1. Content 2. Groups 3. Sorting 4. Filters 5. Finish

Enter values for the predefined filters and custom filters.

— Predefined Filters (Parameters)

Location	BR430
Site	BEDFORD

— Custom Filters

=

Preview Cancel Back Next Finish

8 To select the Finish tab, click **Next**.

9 On the Finish tab, enter or accept the values in the following fields:

Field	Description
Page Header	Enter a title for the query. The title appears at the top of the report when users run it
Output Format	The default output format is Browser (DHTML).
Query Name	If you want to save the query, you must enter a name for the query.
Description	Enter a unique query description to appear in the View Queries section of the Queries tab in Maximo. If you do not enter a description, the Query Name appears to the user as the Description.

NOTE To print, download, or search a report, you **MUST** open your query in browser (DHTML) format.

Work Order Start and Finish Dates Report (Finish Tab)

10 To run the report, click **Run**. The report appears in the output format you selected.

You have created a query on Work Order Start and Finish Dates.

Work Order Start and Finish Dates Report in Browser DHTML format

The screenshot shows a browser window titled 'Reporting' with a 'Close Report' button. The page number is '1 of 5'. The report title is 'Work Order Start and Finish Dates'. The data is presented in a table-like format with alternating shaded rows.

Work Order Start and Finish Dates	
Work Order:	31150
Schedule Start:	11/24/2001
Schedule Finish:	11/25/2001
Work Order Description	11430 prob work
Work Order:	40093
Schedule Start:	10/3/2000
Schedule Finish:	10/7/2000 3:45:27
Work Order Description	MAINTENANCE
Work Order:	40112
Schedule Start:	12/2/2000
Schedule Finish:	12/6/2000 3:45:27
Work Order Description	MAINTENANCE

Creating Spreadsheet Reports

4

Overview

Business users can use Maximo eSpreadsheet to create reports in spreadsheet format quickly. You can create a report with formatting, and then, you can add graphs, headers, footers, and other spreadsheet-type features.

This chapter describes the following topics related to Maximo eSpreadsheet Designer:

- ▼ installing Maximo eSpreadsheet Designer
- ▼ setting up a JDBC™ Connection
- ▼ creating a Maximo eSpreadsheet Designer Report using the Report Range Wizard
- ▼ modifying the SQL query
- ▼ creating a parameter
- ▼ defining a parameter
- ▼ linking related tables through joins
- ▼ running the report locally (as a test)
- ▼ finding information on additional topics
- ▼ finding information on advanced topics

Installing Maximo eSpreadsheet Designer

You must install Maximo eSpreadsheet Designer on a client computer with a JDBC connection to the iServer.

To install and configure Maximo eSpreadsheet Designer on a client computer, accept all default values during the installation process.

Setting Up a JDBC Connection

The following section describes how to set up your JDBC Connection in Data Manager. To check your JDBC connection, complete the following steps:

- 1 On your Actuate Report Server, shut down the PMD (Process Management Daemon) Service.

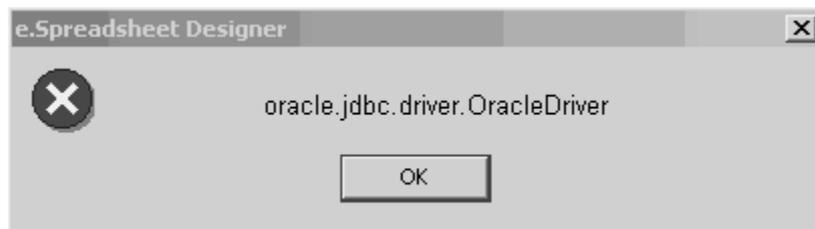
NOTE For more information about PMD, see the *Maximo Enterprise Suite Installation Guide*.

- 2 Shut down Maximo eSpreadsheet Designer on your client computer.
- 3 On the machine where you installed Maximo, go to the following location in Maximo root:

`\applications\activeportal\WEB-INF\lib`

- 4 Copy `oraclethin.jar` (if running against an Oracle database) or `opta.jar` (if running against a Microsoft SQL Server™ (SQL Server database) to the following locations:
 - ▼ On your client computer: `... \eSpreadsheet\extensions`
 - ▼ On the Actuate Report Server: `... \iServer\eSpreadsheet\extensions`
- 5 On your Actuate Report Server, restart the PMD Service.
- 6 Open Maximo eSpreadsheet Designer and select JDBC Connections. If you do not set up your JDBC Connection properly, you receive an error message.

Maximo eSpreadsheet Designer Error Message (Oracle)



Creating a Report

The following section describes how to create a report using the Report Range Wizard in Maximo eSpreadsheet Designer. The following example shows you how to create a Work Order by Labor Cost report. Your report also will include groupings by status, location, and site.

To create the example report, complete the following steps:

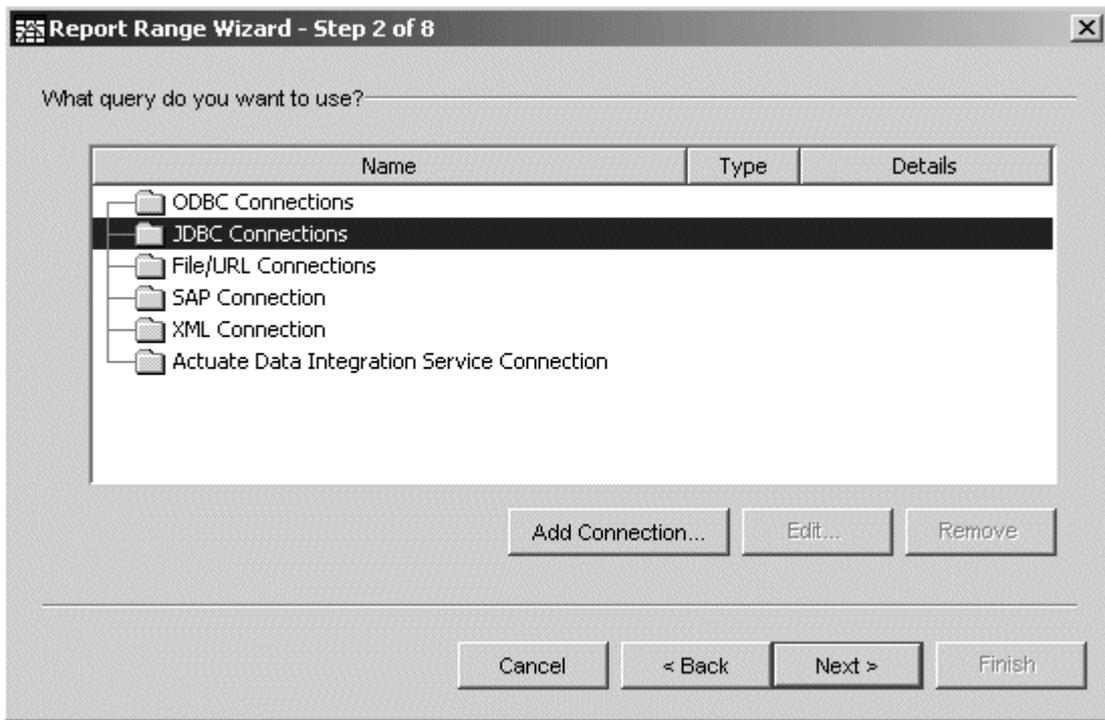
- 1 Go to the Start menu and choose Programs/Actuate 8/Actuate e.Spreadsheet Designer to open Maximo eSpreadsheet Designer.
- 2 Select **Data>Report Range Wizard** to open the Report Range Wizard – Step 1 of 8 dialog box. Accept the default.

Report Range Wizard – Step 1 of 8 Dialog Box



3 Click **Next** to open the Step 2 of 8 dialog box.

Report Range Wizard – Step 2 of 8 Dialog Box



- 4 Select JDBC Connections. Click **Add Connection** to open the JDBC Connection dialog box.

NOTE You must select JDBC Connections whether you run an Oracle or SQL Server database.

JDBC Connection Dialog Box (Oracle Database)

The screenshot shows the 'JDBC Connection' dialog box with the 'Connection' tab selected. The fields are as follows:

- Driver class name: oracle.jdbc.driver.OracleDriver
- Connection URL: (e.g., jdbc:odbc:mydata) jdbc:oracle:thin:@<dbserver>:1521:<SID>
- User name: maximo
- Password: *****

Buttons: OK, Cancel, Apply

JDBC Connection Dialog Box (SQL Server Database)

The screenshot shows the 'JDBC Connection' dialog box with the 'Connection' tab selected. The fields are as follows:

- Driver class name: com.inet.tds.TdsDriver
- Connection URL: (e.g., jdbc:odbc:mydata) jdbc:inetdae7a:<hostname>:1433?database=<da>
- User name: maximo
- Password: *****

Buttons: OK, Cancel, Apply

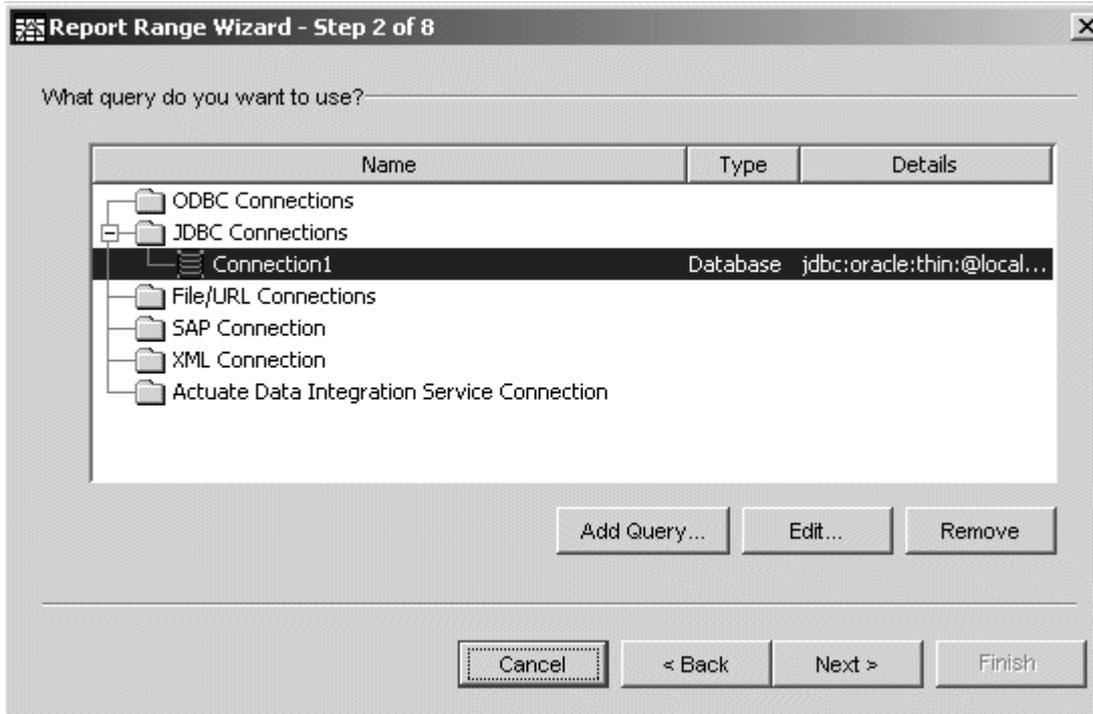
- 5 Enter data in the four fields on the connection tab. The information you enter is in the Database Properties section of the MAXIMO.PROPERTIES file (property names indicated in parentheses after each field).

Field	Oracle	SQL Server
Driver Class Name (mxe.db.driver)	oracle.jdbc.driver.OracleDriver	com.inet.tds.TdsDriver
Connection URL (mxe.db.url)	<p>jdbc:oracle:thin:@<dbserver>:1521:<sid></p> <p>where</p> <p><dbserver> is the name of your database server</p> <p>1521 is your default Oracle port number</p> <p><sid> is your Oracle system identifier</p>	<p>jdbc:inetdae7a:<servername>:1433?database=<databasename>&language=us_english&nowarnings=true</p> <p>where</p> <p><servername> is your database server name</p> <p>1433 is your default SQL Server port number</p> <p><databasename> is your SQL Server database name</p> <p>NOTE You can put 7 (supports Unicode) or 7a (supports ascii) after the string jdbc:inetdae. Currently, Maximo supports only ascii for SQL server.</p>
User Name (mxe.db.user)	Enter the database user whom the server uses to attach to the database server. The default is maximo.	
Password (mxe.db.password)	Enter the password for the username of the database schema owner. The default is maximo	

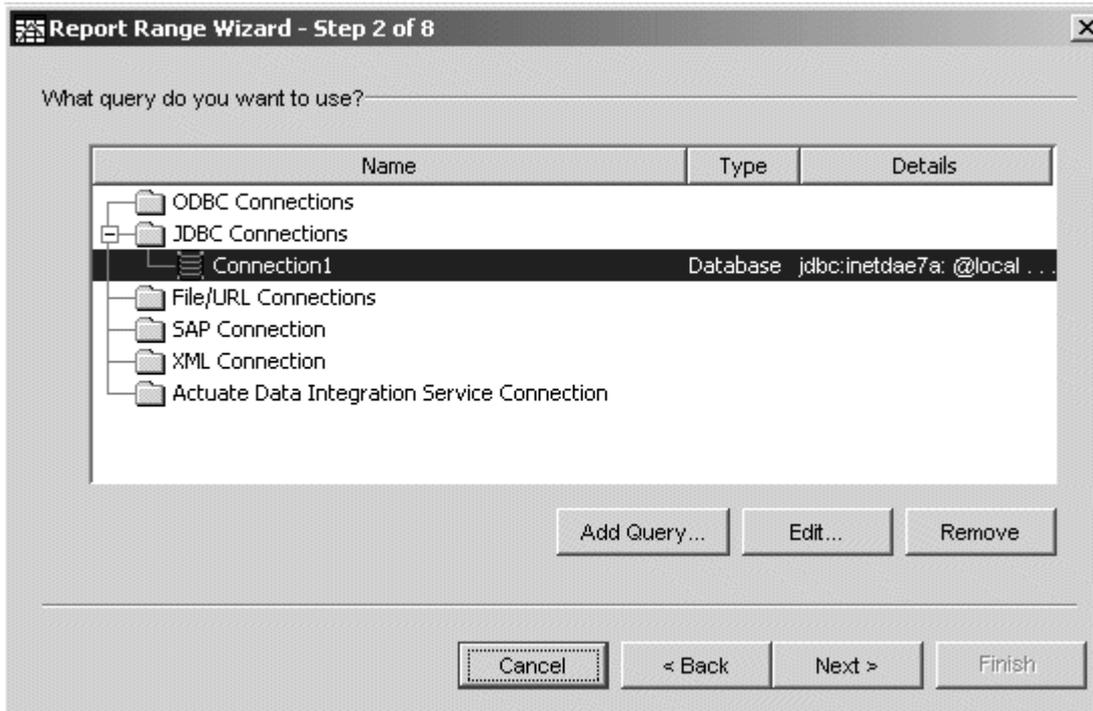
6 To accept your changes, click **Apply**.

7 To reopen the Step 2 of 8 dialog box, click **OK**.

Report Range Wizard – Step 2 of 8 Dialog Box (Oracle Database)

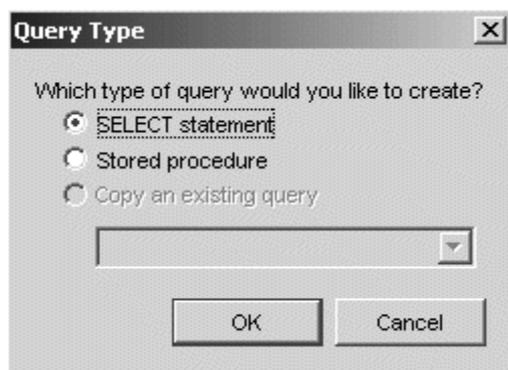


Report Range Wizard – Step 2 of 8 Dialog Box (SQL Server Database)



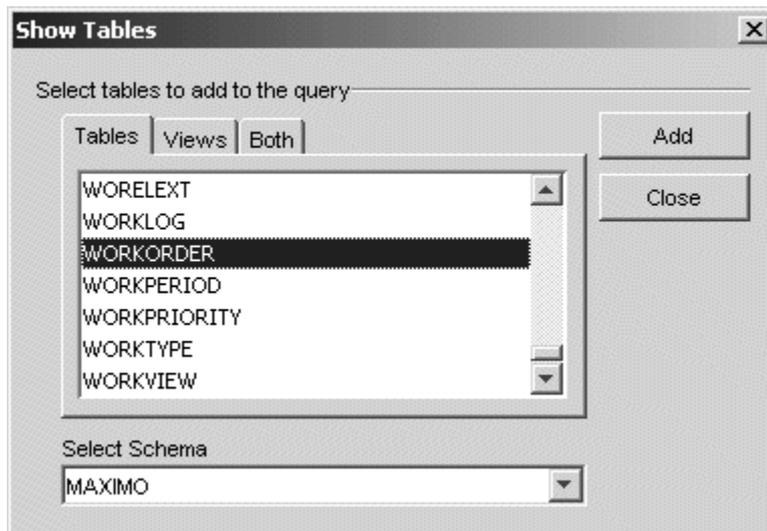
8 Click **Add Query** to open the Query Type dialog box.

Query Type Dialog Box



9 Select **SELECT Statement**. To open the Show Tables dialog box, click **OK**.

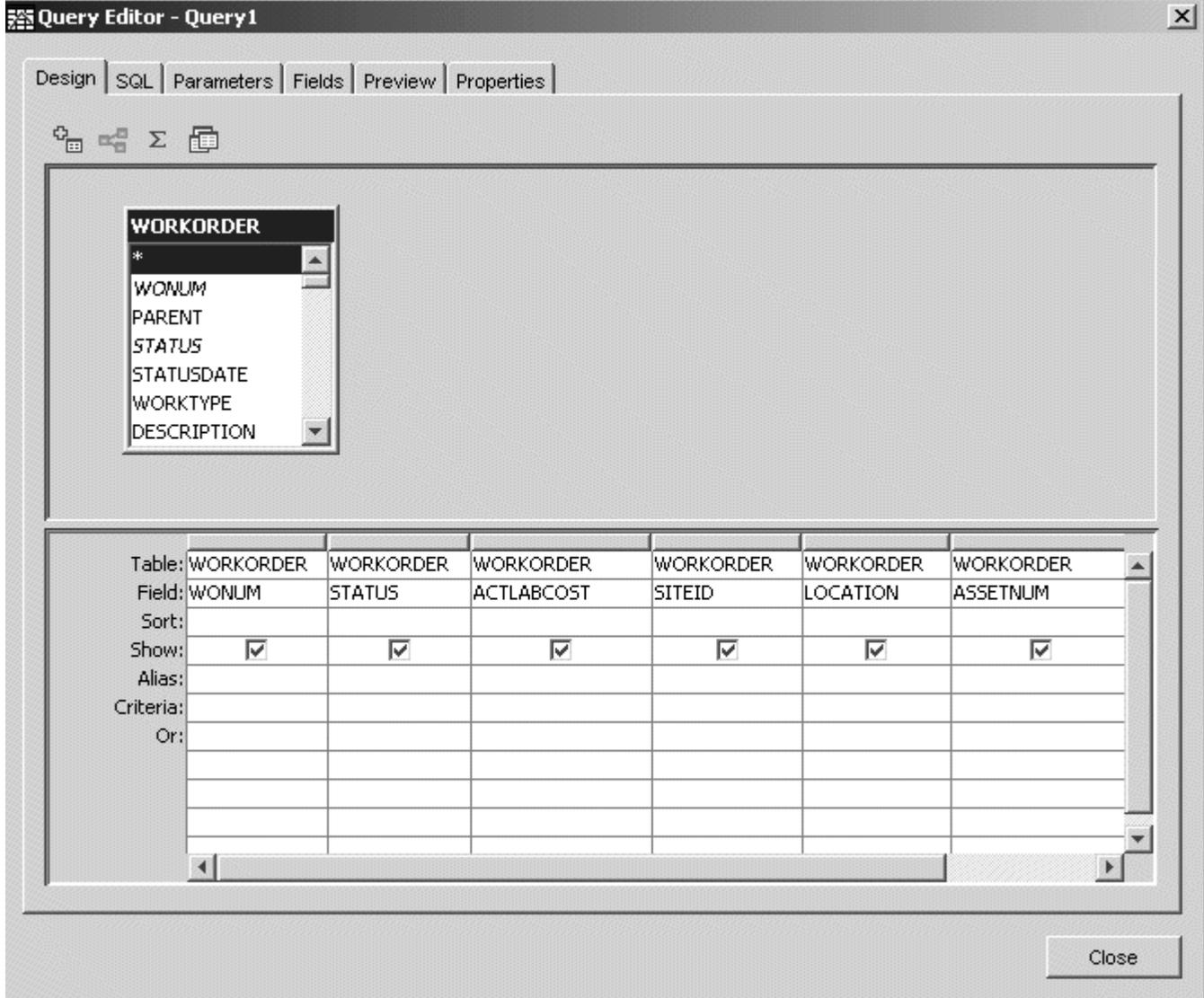
Show Tables Dialog Box (Tables Tab)



- 10** Select the table (WORKORDER) which stores the data for this report. Click **Add**, then **Close** to open the Query Editor Dialog box.

NOTE If no tables open, click the plus sign (+) icon to open a Show Tables window.

Query Editor Dialog Box (Design Tab)



- 11** Add the WONUM column to the query by either scrolling to it and double-clicking or dragging-and-dropping it to the lower pane.

- 12** Repeat the previous step for each of the following fields:

- ▼ STATUS
- ▼ ACTLABCOST
- ▼ SITEID
- ▼ LOCATION
- ▼ ASSETNUM

13 Click **Close** to open the Save Query dialog box.

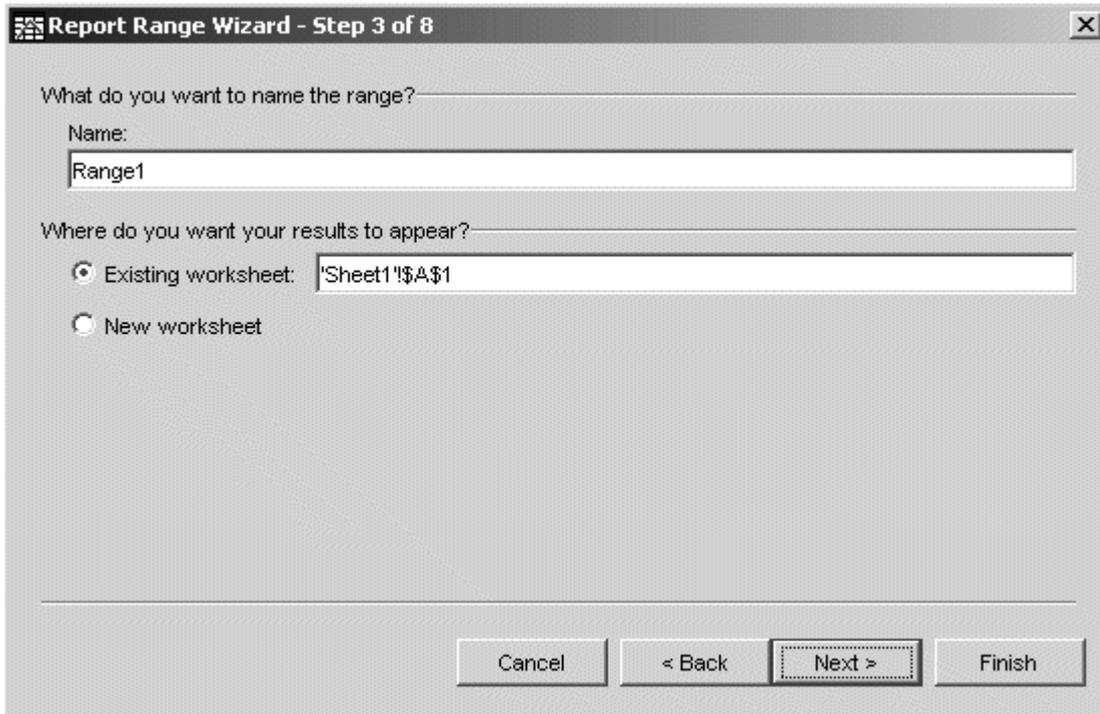
e.Spreadsheet Designer Save Query Dialog Box



14 Click **Yes** to save the query. The Step 2 of 8 dialog box reopens.

15 Click **Next** to open the Step 3 of 8 dialog box.

Report Range Wizard – Step 3 of 8 Dialog Box



The screenshot shows a dialog box titled "Report Range Wizard - Step 3 of 8". It contains the following elements:

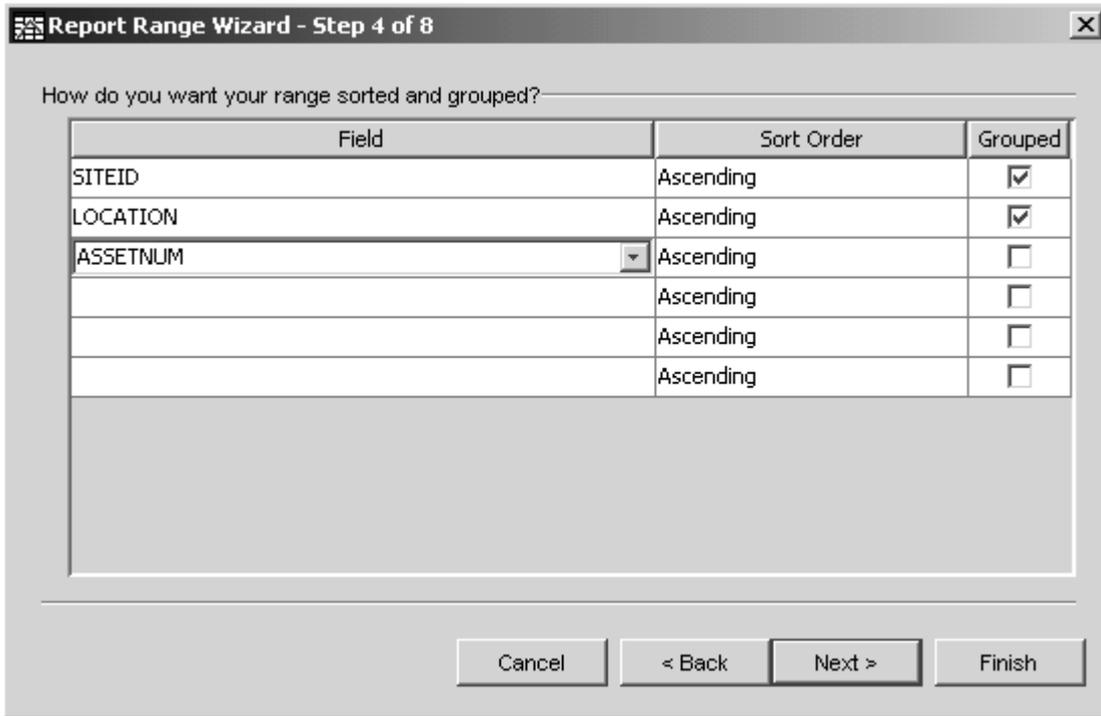
- A question: "What do you want to name the range?"
- A "Name:" label above a text input field containing "Range1".
- A question: "Where do you want your results to appear?"
- Two radio button options:
 - Existing worksheet: 'Sheet1'!\$A\$1
 - New worksheet
- Four buttons at the bottom: "Cancel", "< Back", "Next >" (highlighted with a dashed border), and "Finish".

16 Indicate where you want to see the results on an existing worksheet or on a new worksheet.

If you use the default setting, the Report Range Wizard places the report on the upper left corner of the spreadsheet.

17 Click **Next** to open the Step 4 of 8 dialog box.

Report Range Wizard – Step 4 of 8 Dialog Box



18 You can sort data in ascending or descending order. You can also determine the report grouping structure.

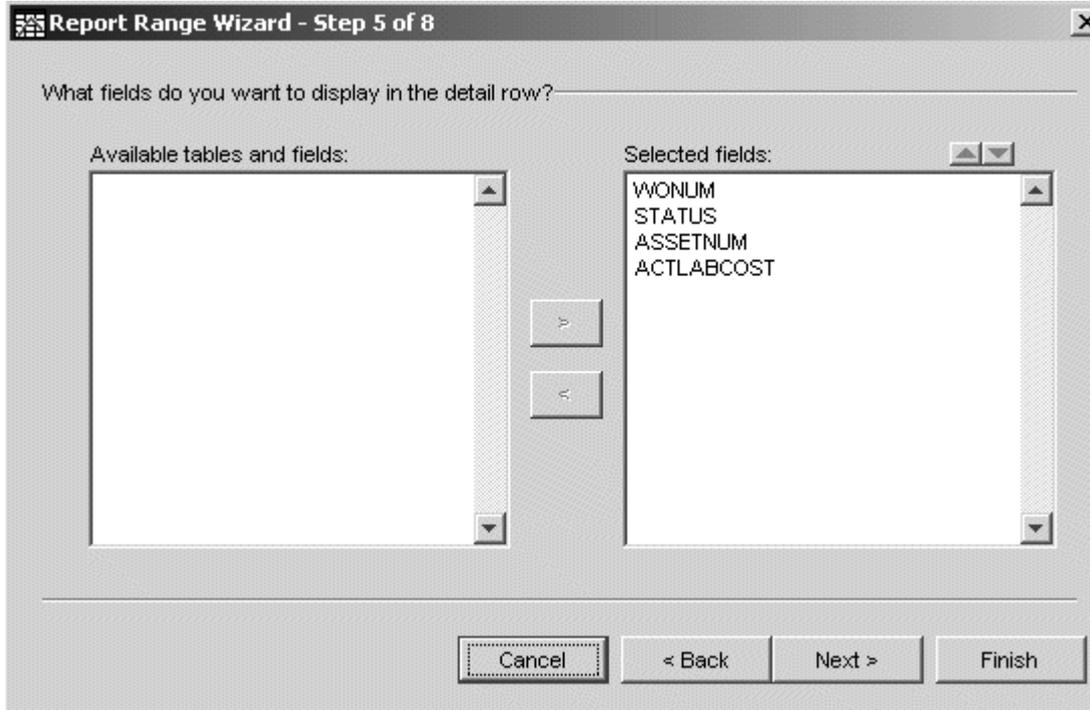
For the Workorder by Labor Cost report, click the drop-down arrow to select a field and complete the columns as indicated:

- ▼ **SITEID** – sort this field in ascending order and group items together
- ▼ **LOCATION**– sort this field in ascending order and group items together
- ▼ **ASSETNUM**– sort this field in ascending order

19 Click **Next** to open the Step 5 of 8 dialog box.

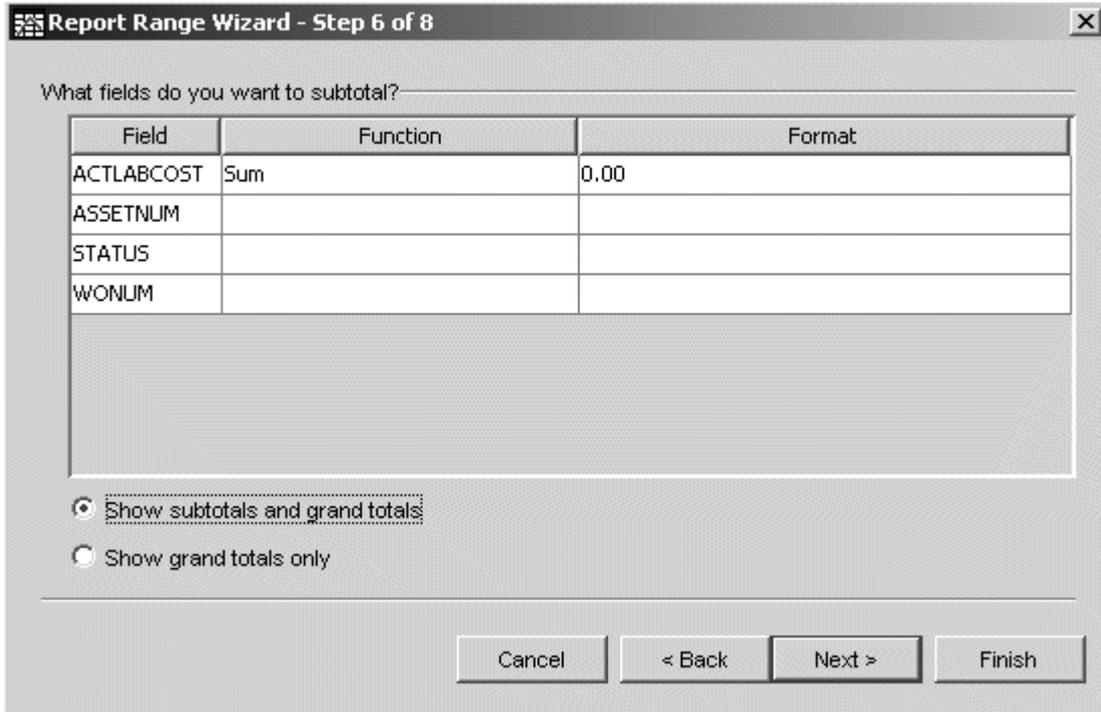
Use the Step 5 of 8 dialog box to hide or reorder the remaining report fields. Maximo displays the fields on the report in the same order that you list them in the **Selected fields** list box.

Report Range Wizard – Step 5 of 8 Dialog Box



20 If you do not want to move any fields, or after you move one or more fields, click **Next** to open the Step 6 of 8 dialog box

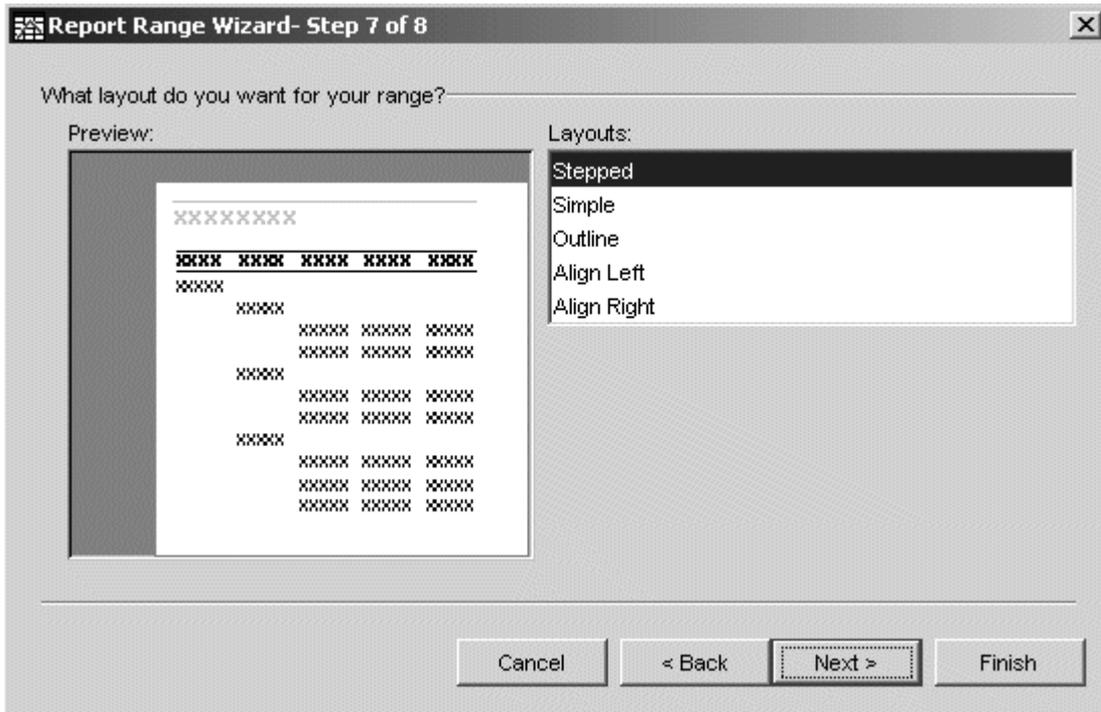
Report Range Wizard – Step 6 of 8 Dialog Box



21 Specify the type and formatting of subtotal calculations. For the Workorder by Labor Cost report, select to have the sum of the actual labor cost calculated in a two-decimal format.

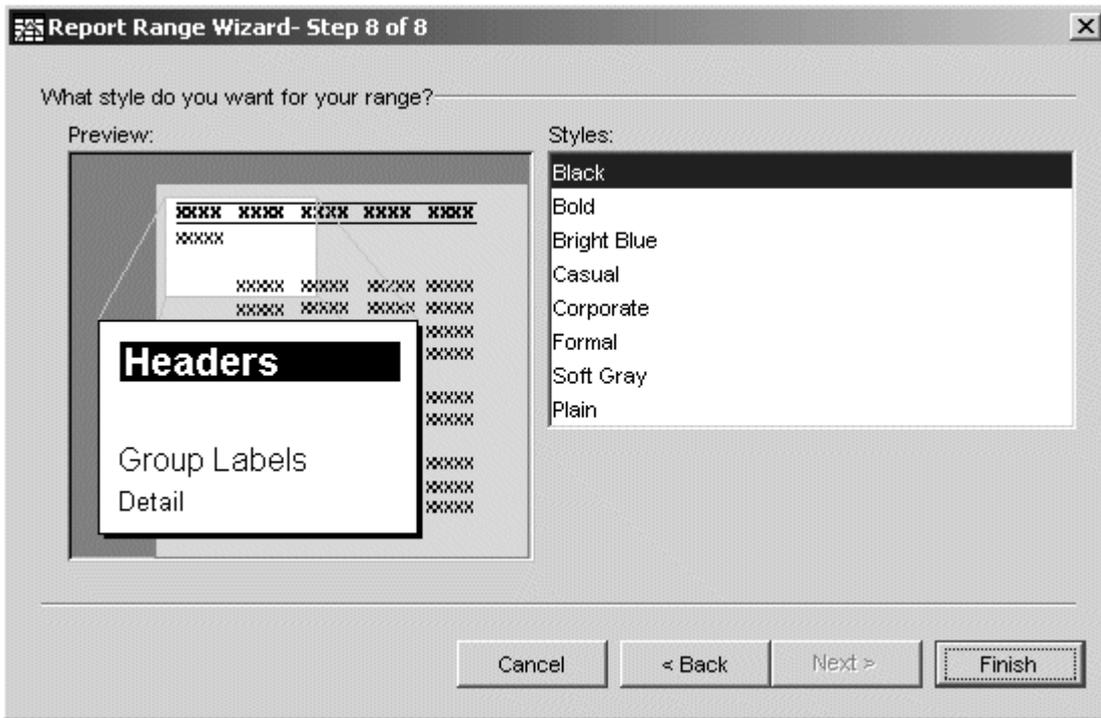
22 Click **Next** to open the Step 7 of 8 dialog box.

Report Range Wizard – Step 7 of 8 Dialog Box



- 23 Choose from several predefined report layouts. Accept the default for the Workorder by Labor Cost Report by clicking **Next** to open the Step 8 of 8 dialog box.

Report Range Wizard – Step 8 of 8 Dialog Box



- 24 Use the Step 8 of 8 dialog box to define the style and color for the report. Accept the default for the Workorder by Labor Cost Report.

25 Click **Finish** to view the report.

e.Spreadsheet Designer with Actual Labor Cost by Work Order Number Report

e.Spreadsheet Designer - Book3

File Edit View Insert Format Tools Data Window Help

Toggle Spreadsheet/Design view

Spreadsheet

.00 \$ % 1/2

	A	B	C	D	E	F
1	SITEID	LOCATION	WONUM	STATUS	ASSETNUM	ACTLABCOST
2	BEDFORD					
3		BLK2000				
4			4050	WAPPR		0
5						0.00
6						
7		BOILER				
8			1003-10	APPR		0
9			1003-40	APPR		0
10			1003-30	APPR		0
11			6007	CLOSE		125.5
12			2008	CLOSE		50
13			2009	WAPPR		0
14			5009	WAPPR		0
15			1003	APPR		0
16			5007	CLOSE		25.25
17			1003-20	CLOSE		100
18			6009	WAPPR		0
19			6008	WAPPR		0
20			5008	WAPPR		0
21			2007	WAPPR		0
22						300.75
23						
24		BPM3100				
25			1019-60	COMP	13140	0
26			3011-40	WSCH	13141	0
27			3006-80	WSCH	13150	0
28			5006	WAPPR	13143	0
29			31305	CLOSE	13180	94.76
30			2005	CLOSE	13145	50.2
31			3011-30	WSCH	13141	0
32						144.96

26 To view the report in Spreadsheet mode, click the Toggle Spreadsheet/Design View icon.

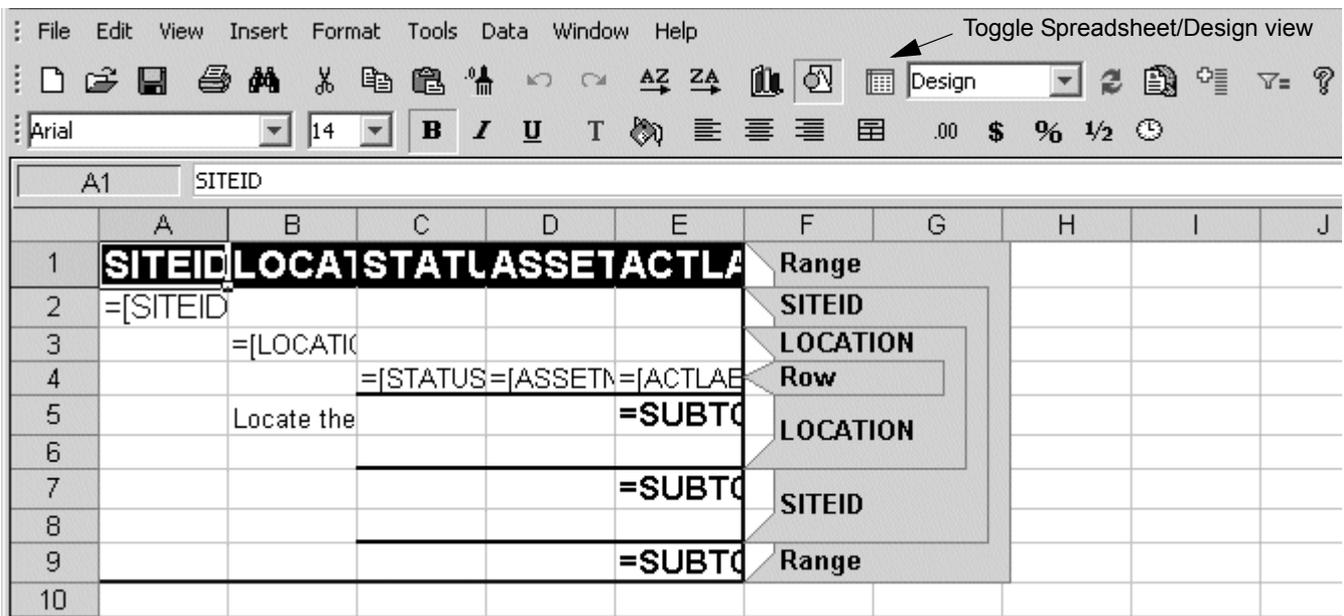
Modifying the SQL Query

You can modify the original query in Maximo eSpreadsheet Designer by adding groupings, additional sort orders and filters, and adding other tables. This section describes how to open those tabs that let you change the SQL Query.

To modify the SQL Query, complete the following steps:

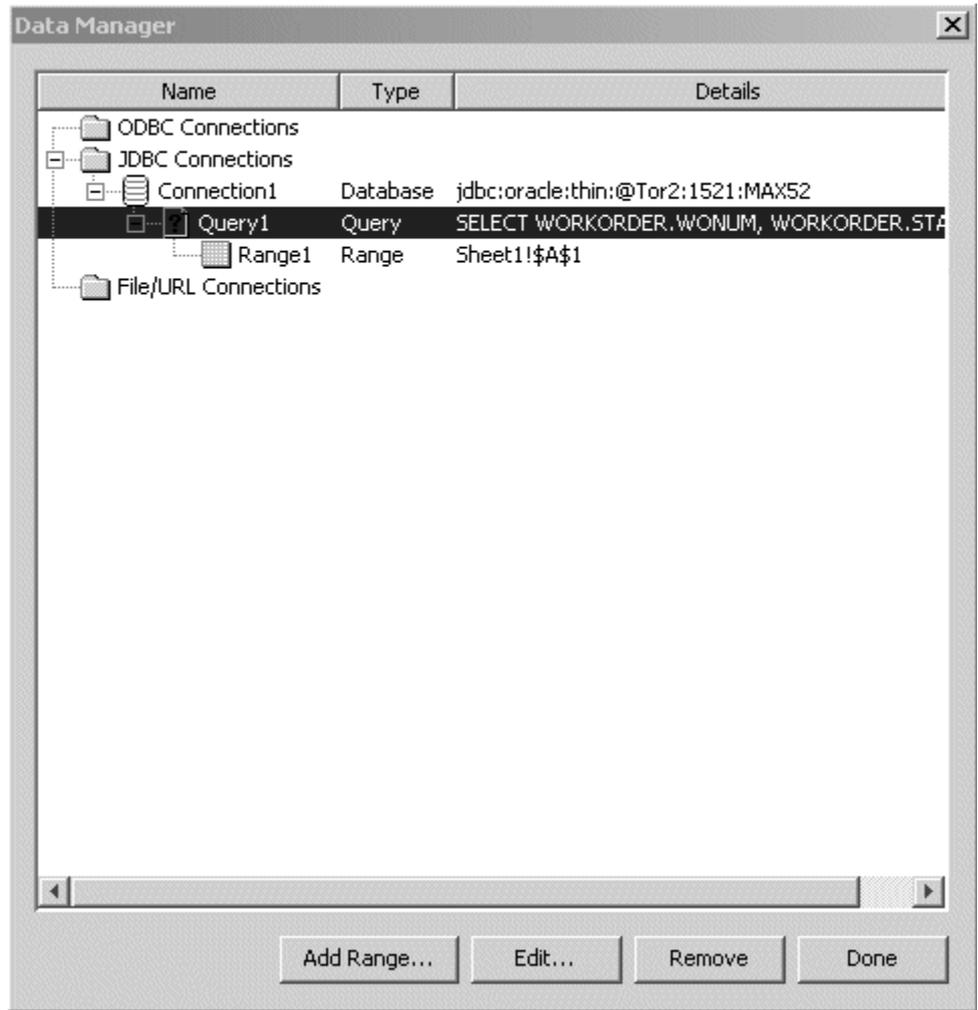
- 1 Open a spreadsheet in Maximo eSpreadsheet Designer.
- 2 Click the Toggle Spreadsheet/Design View icon to change the spreadsheet to Design mode.

e.Spreadsheet Designer in Design Mode View



3 To open the Data Manager dialog box, select **Data>Data Manager** .

Data Manager Dialog Box



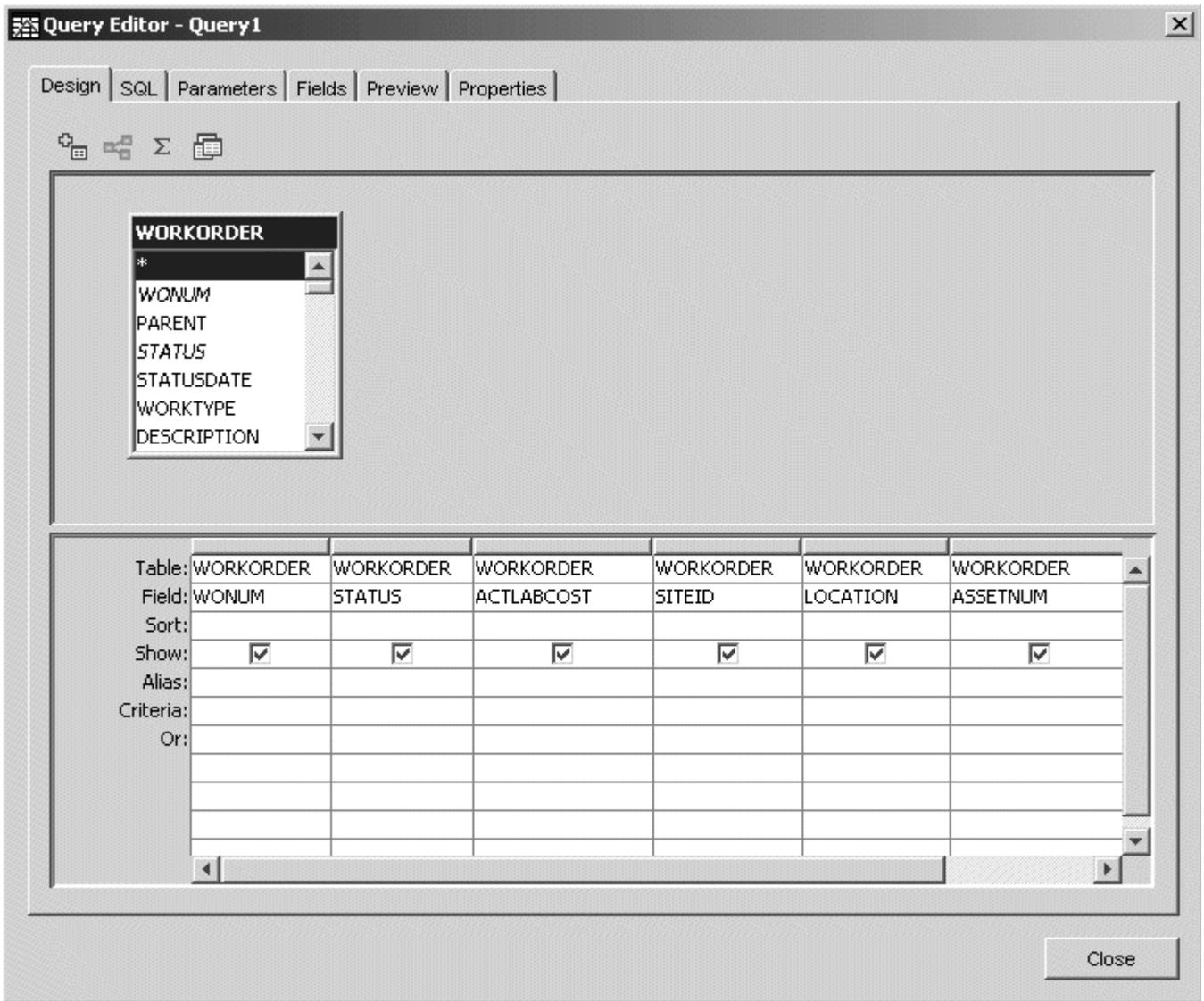
4 Select Query1. Click **Edit** to open the Query Editor pane.

The following table describes the tabs in the Query Editor.

Query Editor Tabs Table

Tab	Purpose
Design	Select tables and views.
Fields	Change column and field types.
Parameters	Work with report parameters.
Preview	Preview the results of the query.
Properties	Set name and schema properties for the query.
SQL	Enter or edit the SQL statement.

Query Editor (Design Tab)



Linking Related Tables through Joins

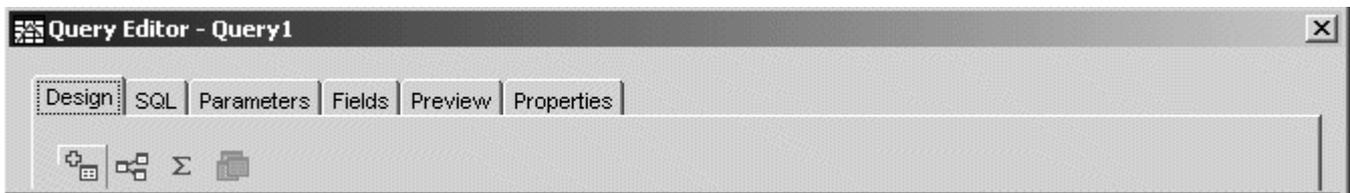
Maximo eSpreadsheet Designer links related tables through joins. This section describes how to create a join.

A join is an SQL query operation that combines two tables and returns them in a result set based on the values in the join fields.

You continue with the Work Order by Labor Cost Report you created in the previous section. The join you create will be from the **Location** field in the WORKORDER table to the **Location** field in the LOCATIONS table.

- 1 On the Query Editor dialog box, click the Display Show Tables dialog box to Add a Table to the Query icon.

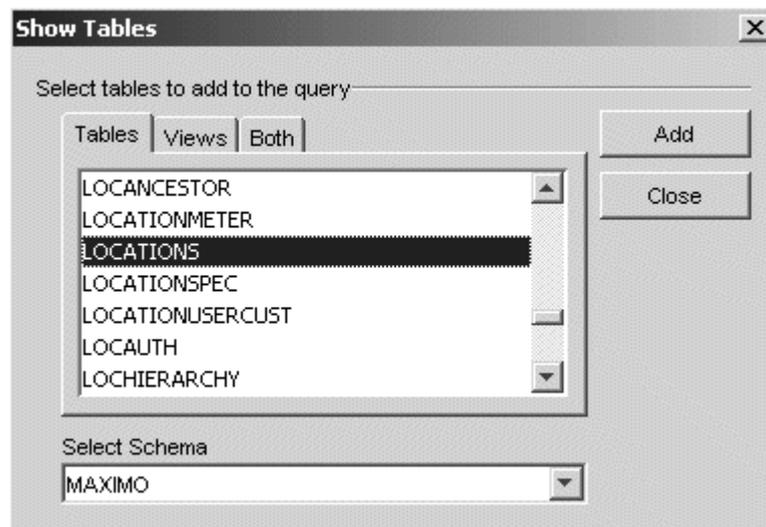
Query Editor Dialog Box (Design Tab)



Display show tables dialog box to add a table to the query

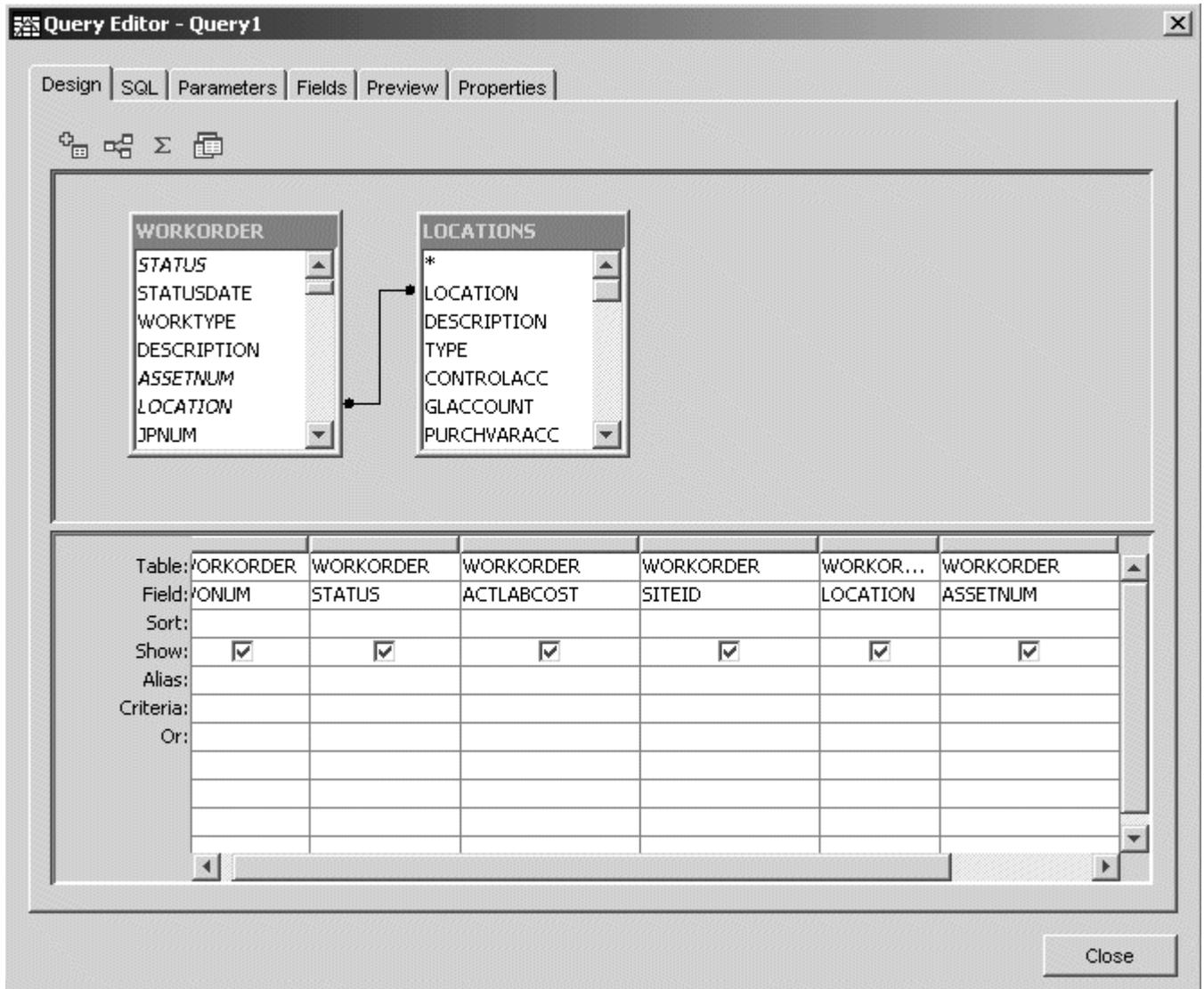
The Show Tables dialog box opens with the Tables tab.

Show Tables Dialog Box (Tables Tab) with LOCATIONS Selected



- 2 Highlight the LOCATIONS table. Click **Add**, and then click **Close**. The LOCATIONS table opens, with the WORKORDER table from the previous section, in the QUERY EDITOR dialog box.

Query Editor Dialog Box with Joined Tables



- 3 To join the tables, highlight a field in one table and drag it to the same field in another table. For example, use LOCATION to join the WORKORDER and LOCATIONS tables.

You can make additional joins either from the same tables or add other tables as necessary.

- 4 To view the details of the join, double-click the connecting line to open the Join Properties dialog box.

NOTE You must select the correct type of database join to ensure your report returns the correct data. If you have any questions about your join, contact your database or system administrator.

Join Properties Dialog Box

Join Properties

Left table name: WORKORDER Right table name: LOCATIONS

Left column name: LOCATION Right column name: LOCATION

1: Only include rows where the joined fields from both tables are equal.

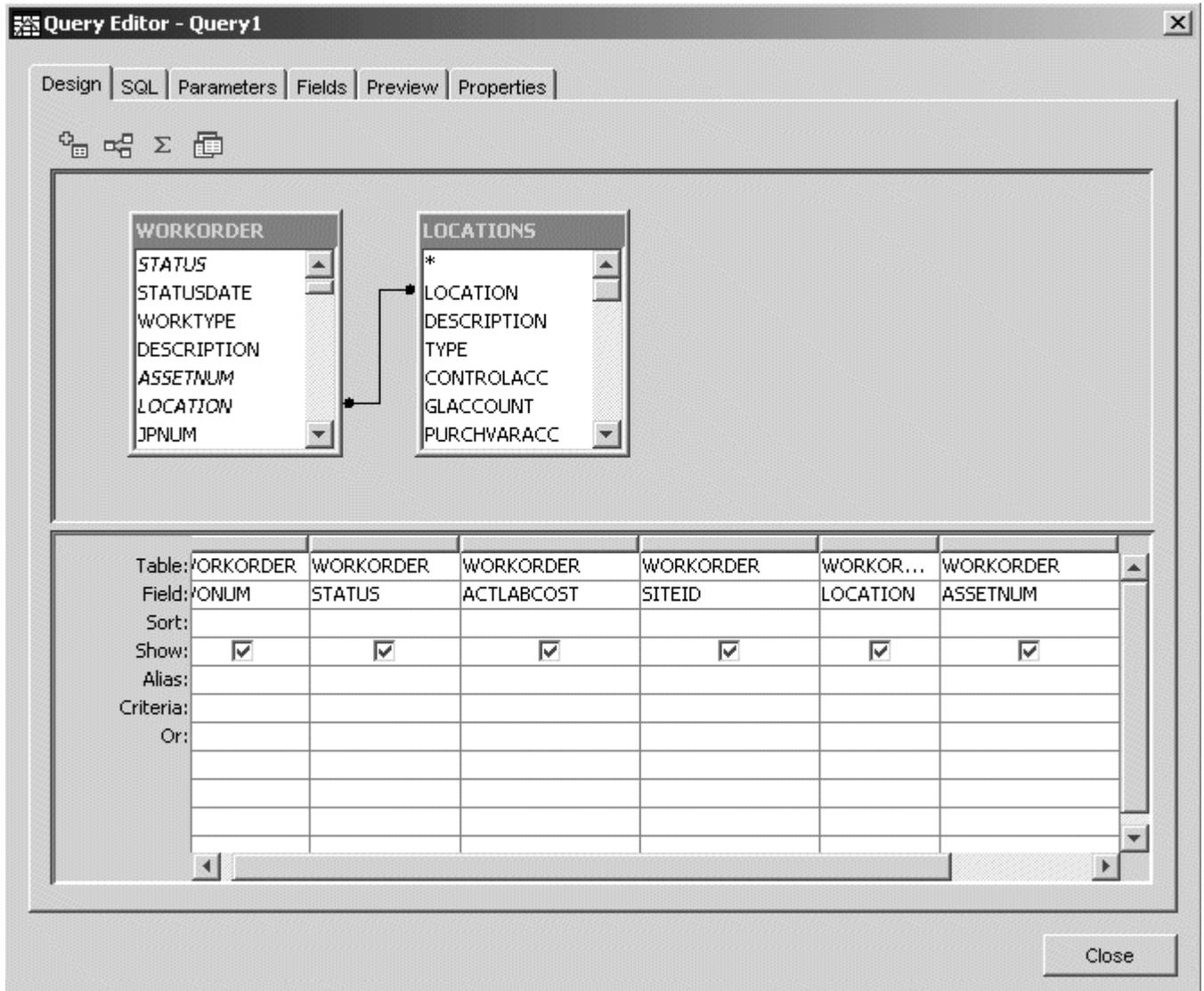
2: Include ALL records from the left table and only those records from the right table where the joined fields are equal.

3: Include ALL records from the right table and only those records from the left table where the joined fields are equal.

New... OK Cancel

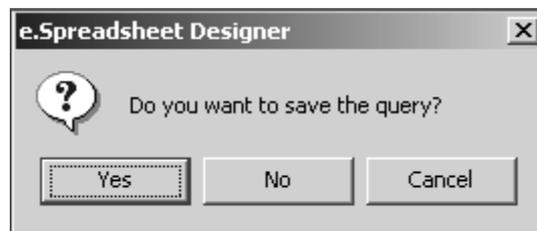
5 To return to the Query Editor dialog box, click **OK**.

Query Editor Dialog Box with Joined Tables



6 Click **Close** to open the eSpreadsheet Designer dialog box.

e.Spreadsheet Designer Dialog Box



7 Click **Yes** to save the query. You have linked two related query tables together through a join.

Modifying the Report

You can change the appearance of a report by formatting cells and using conditional formatting.

Format Actions

Use the format actions available in the toolbar to format your report to your individual needs.

Conditional Formats

Conditional Formatting enables you to assign conditions, colors, and text attributes to a cell. For this example, you will continue with the Work Order by Labor Cost Report you created previously in this chapter.

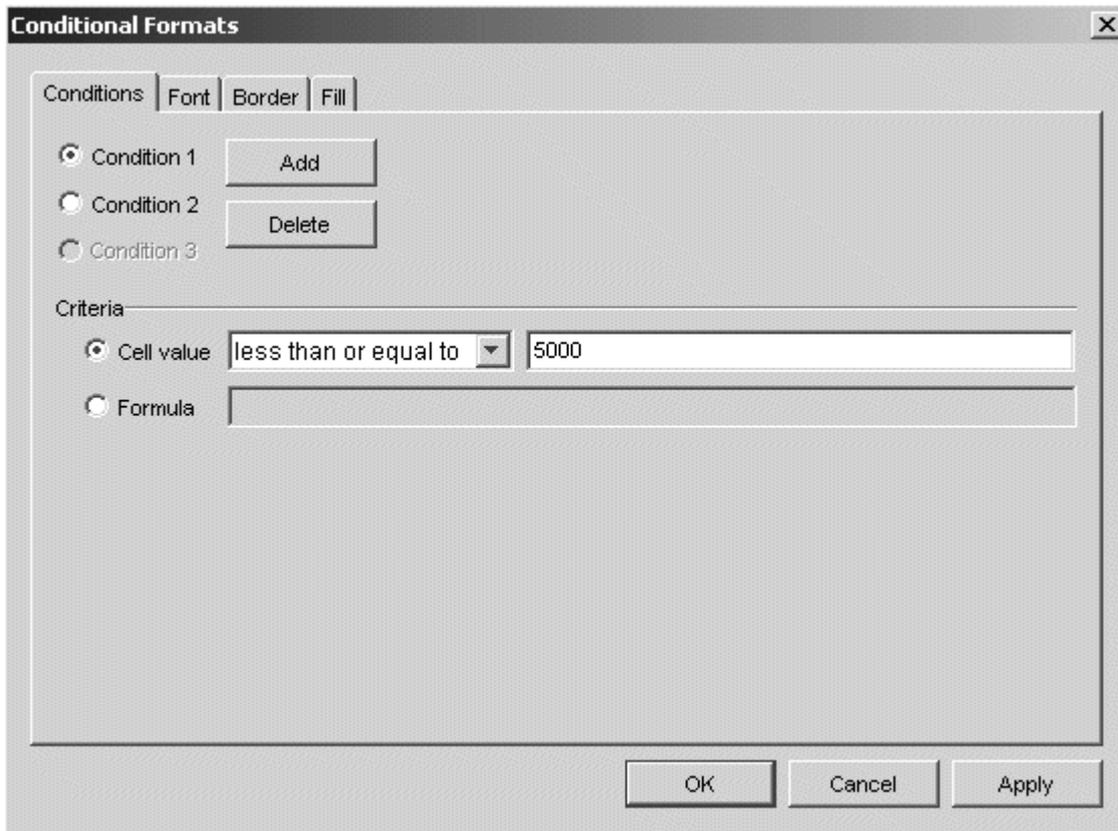
- 1 In Maximo eSpreadsheet Designer, in design view, open the Work Order by Labor Cost Report.
- 2 Highlight the ACTLABCOST column.

Work Order by Labor Cost Report in Design View with ACTLABCOST highlighted

	A	B	C	D	E	F	G	H	I	J	K
1	WONUM	STATUS	LOCATION	SITEID	ASSETNUM	ACTLABCOST	Range				
2	=[WONUM]	=[STATUS]	=[LOCATION]	=[SITEID]	=[ASSETNUM]	=[ACTLABCOST]	Row				
3						=SUBTOTAL(9,[@Rang	Range				

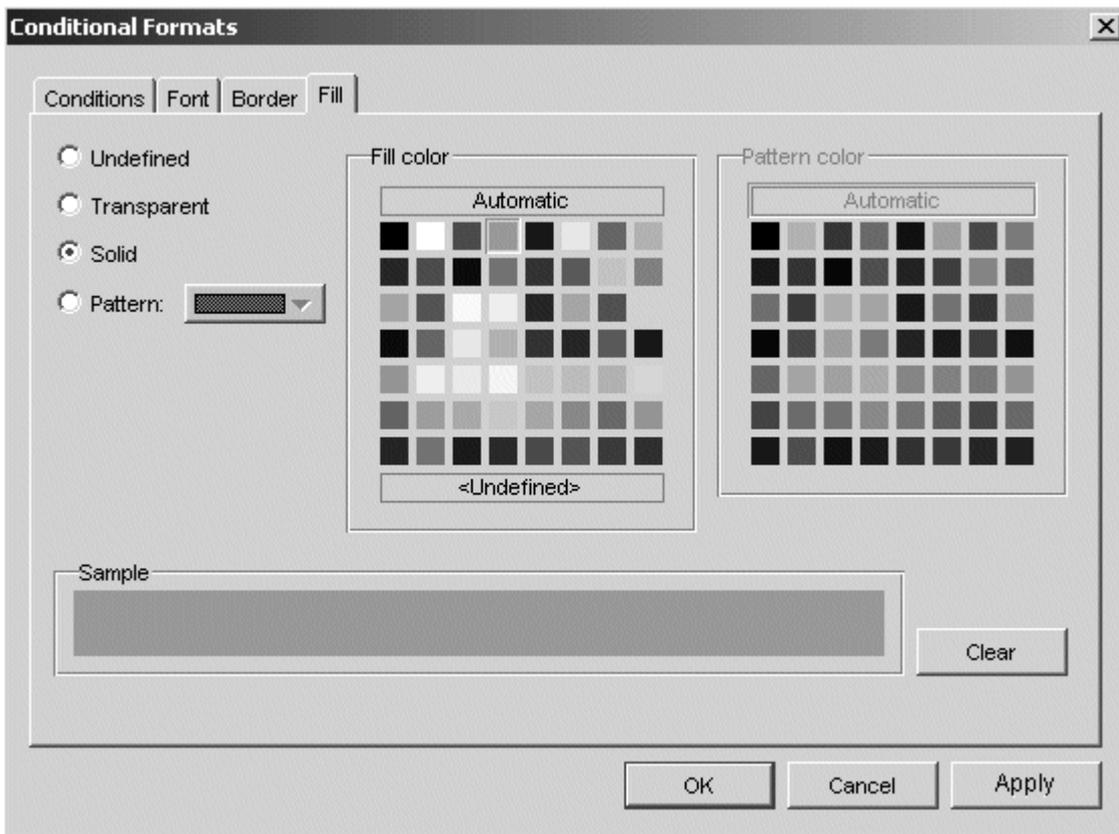
3 Select **Format>Conditional** to open the Conditional Formats dialog box.

Conditional Formats Dialog Box (Conditions Tab)



- 4 In the Conditions tab, click **Add** to enable the values in the Criteria section of this dialog box.
- 5 Complete the following actions in order:
 - a Select **Cell Value**.
 - b From the **Cell Value** drop-down list, select **less than or equal to**.
 - c Type 5000.
 - d Click **Apply** to accept these changes.
- 6 Select the Fill tab.

Conditional Formats Dialog Box (Fill Tab)



- 7 Select **Solid** and select a fill color for Actual Labor Costs that meets the condition you specified in Step 5.
- 8 Click **Apply** to set this Fill condition.
- 9 Click **OK** to close the dialog box.

You have assigned a fill color.

Creating a Parameter

Parameters let you pass data into a spreadsheet report. The information you supply to the parameters lets you customize the published report so you can control the data selection, processing, and/or formatting.

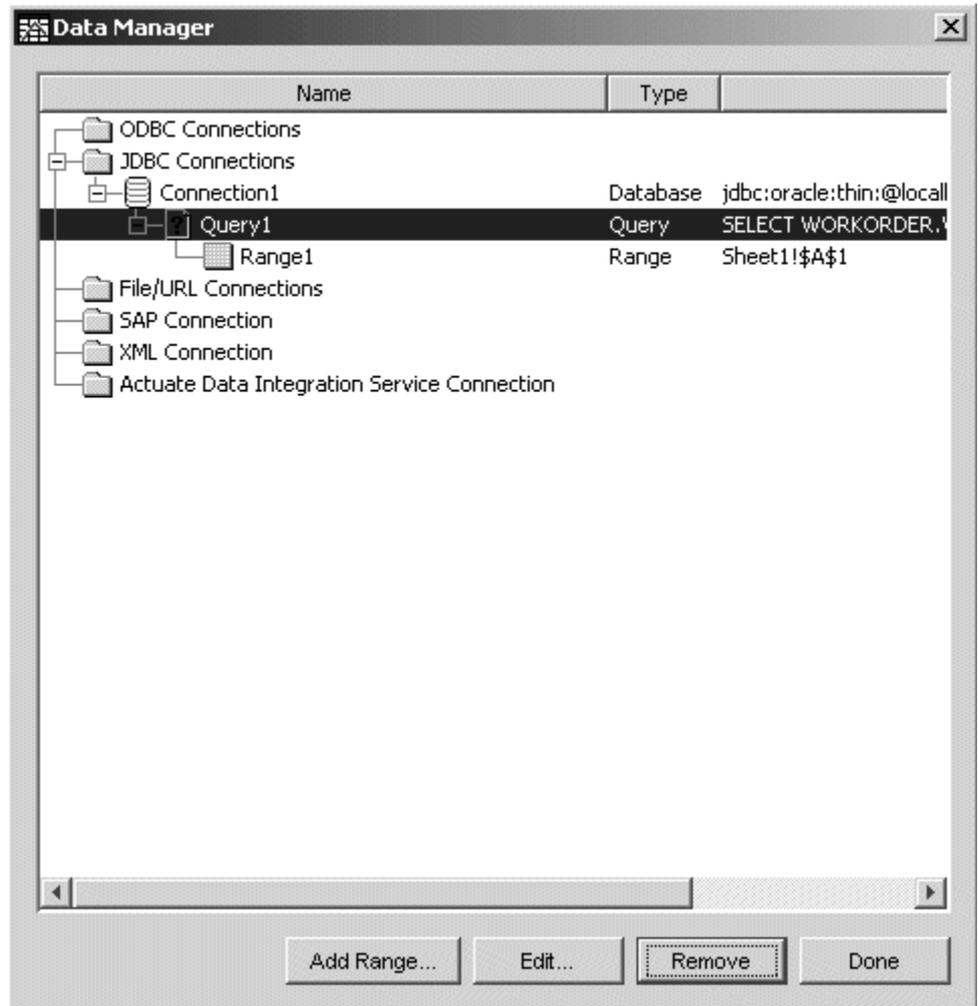
There are two types of parameters:

- ▼ Ad hoc Parameters – can be omitted when you run the report
- ▼ Static Parameters – must be entered when you run the report

To add the static parameter SITE to the SITEID column of a spreadsheet report, complete the following steps:

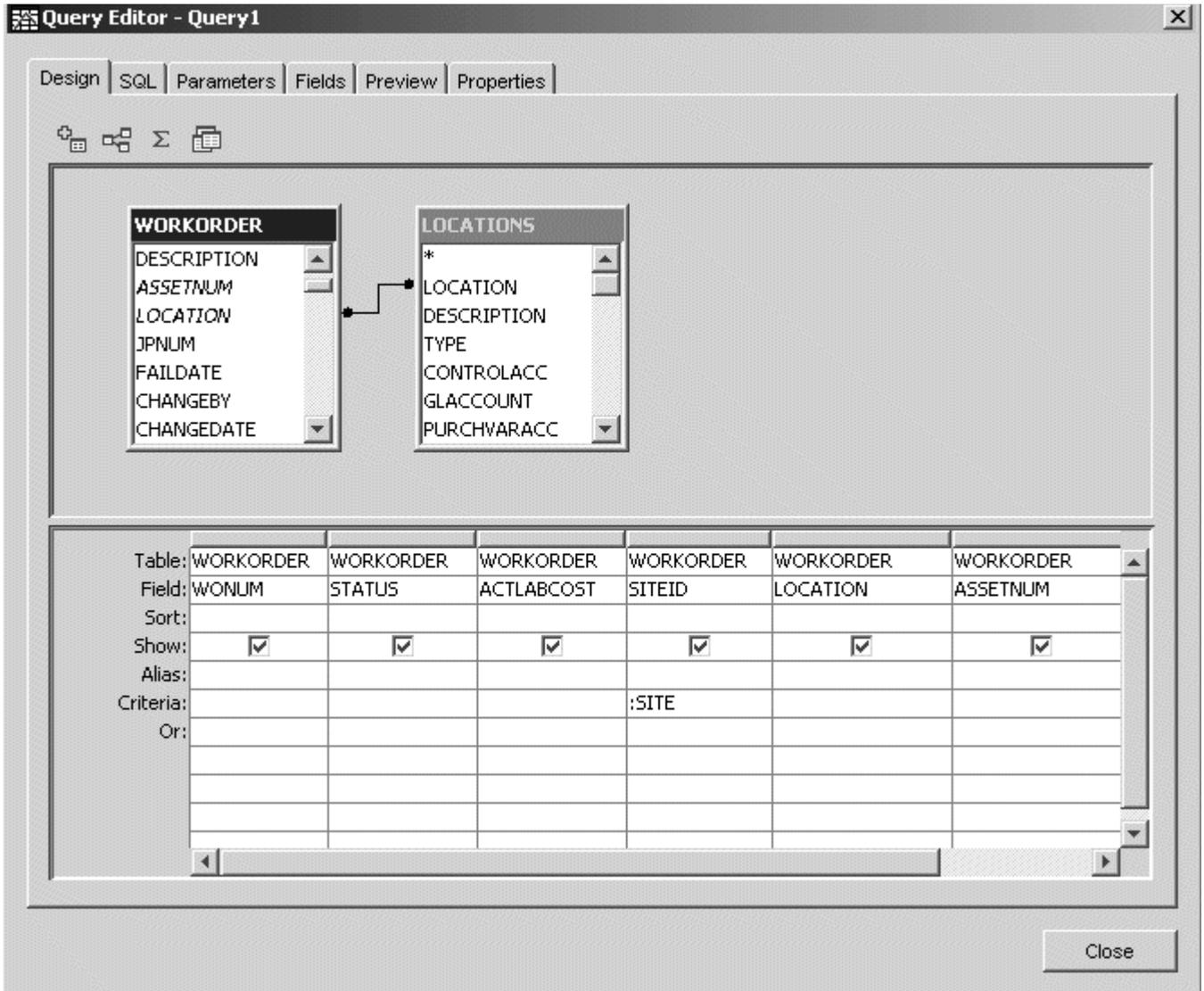
- 1 In Maximo eSpreadsheet Designer, select **Data>Data Manager** to open the Data Manager dialog box.

Data Manager Dialog Box



2 Highlight Query1. Click **Edit** to open the Query Editor dialog box.

Query Editor Dialog Box (Design Tab) with Static Parameter indicated



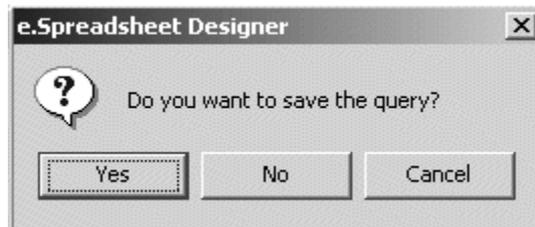
3 Locate the field you want to use as a parameter. In the Criteria row, enter one of the following types of parameters where *<parameter>* is the text to appear to the end user:

- ▼ *?:<parameter>* for an ad hoc parameter that defaults the corresponding where clause to TRUE if no parameter is entered
- ▼ *!:<parameter>* for an ad hoc parameter that defaults the corresponding where clause to FALSE if no parameter is entered
- ▼ *: <parameter>* for a static parameter

In the figure shown, you enter the static parameter SITE in the criteria row of the SITEID column. When end users run the report, Maximo eSpreadsheet Designer will prompt them with the word SITE. End users must enter a site to for the system to generate the report.

4 Click **Close** to close the Query Editor Dialog Box. The e.Spreadsheet Designer dialog box opens.

e.Spreadsheet Designer Dialog Box



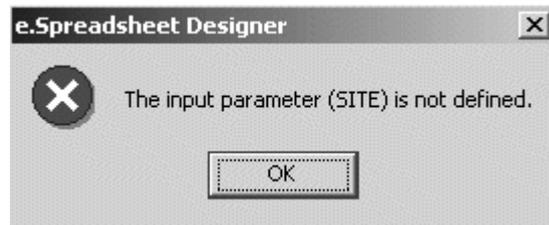
5 Click **Yes** to save the query.

If you receive an error message that the parameter is not defined, follow the instructions in the next section of this chapter.

Defining a Parameter

When you add a parameter to a report, as described in the previous section “Creating a Parameter,” that parameter must be defined. If the parameter is not yet defined, Maximo eSpreadsheet Designer displays an error message.

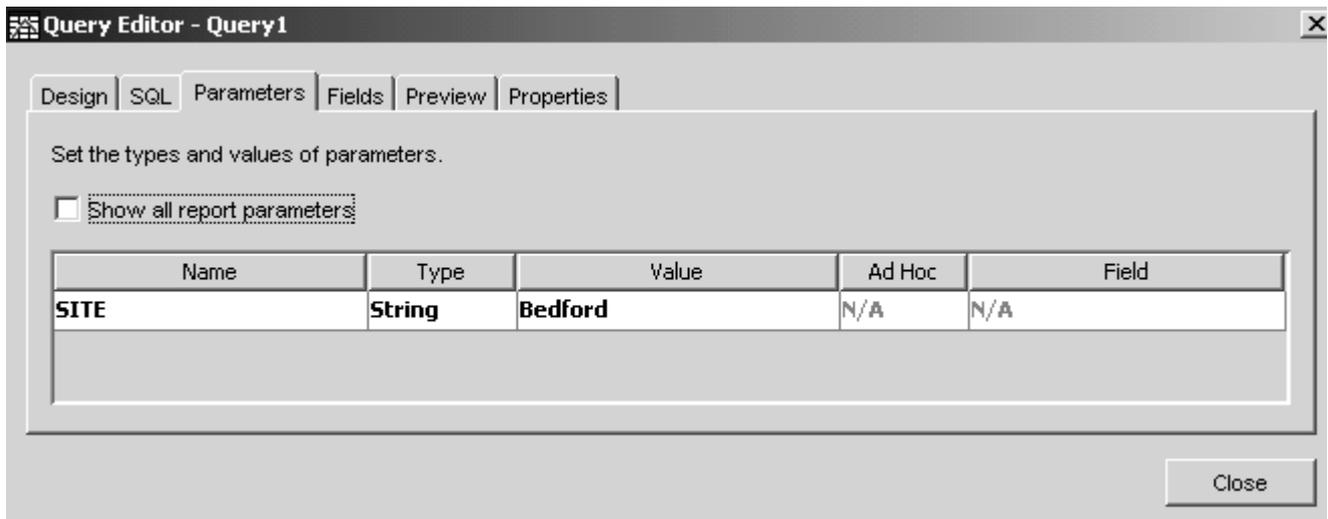
e.Spreadsheet Designer Dialog Box



To define a parameter, complete the following steps:

- 1 In the Maximo eSpreadsheet Designer dialog box, click **OK** to open the Parameters tab in the Query Editor.

Query Editor Dialog Box (Parameters Tab)



- 2 Enter a valid value in the Parameters tab for the undefined parameter. For example, enter Bedford as a valid site.
- 3 Click **Close** to return to the Design Tab and save the query.
- 4 Click **Yes** to save the query.

You have defined a parameter.

Running the Report Locally (as a Test)

After you create a report, you should run it locally to test it before posting it on the iServer for all users. To run a report locally, complete the following steps:

- 1 In Maximo eSpreadsheet Designer, click the Run Report icon. The Run Report page opens.

Run Report Page

Name	Value
System Parameters	
SITE	Bedford

Show this dialog when running a report

OK Cancel

- 2 The system prompts you for any parameters you assigned. Enter a parameter value.
- 3 Click **OK** to run the report.

Finding Information on Additional Topics

Refer to the *Designing Spreadsheet Reports using Actuate e.Spreadsheet Designer* manual from Actuate Corporation for information about these additional topics:

- ▼ Defined Names
- ▼ Graphics
- ▼ Multiple Queries
- ▼ Pivot Ranges
- ▼ Virtual Defined Names

Finding Information on Advanced Topics

Refer to the *Programming Spreadsheet Reports using e.Spreadsheet Technology* from Actuate Corporation for information about these advanced topics:

- ▼ Callback Classes
- ▼ XSL Stylesheets

Using Maximo Query in e.Report Designer Professional

5

Overview

Maximo Query enables business users to develop customized reports. Business users can select fields and then specify sorting, filtering, grouping, and formatting to meet their needs.

You create queries using information objects. To develop an information object, you must have installed e.Report Designer Professional on your local computer.

This chapter explains how to perform the following tasks:

- ▼ create queries from information objects
- ▼ create an information object using the query text editor
- ▼ set up global vars parameters
- ▼ post to an iServer Encyclopedia

This chapter also contains the following tips on Creating Queries:

- ▼ add parameters
- ▼ modify display names with the same label
- ▼ rename labels (by remaining columns) in the Textual Query Editor
- ▼ change column names for end users

Creating Queries from Information Objects

Report Developers and business users use e.Report Designer Professional to create information object design (.rod) files. The .rod files specify the content of a finished query in a (.dov) file. Users specify information they want to view and how that information should appear. Multiple users can use the same information object (.rod) file to create multiple unique information object (.dov) files.

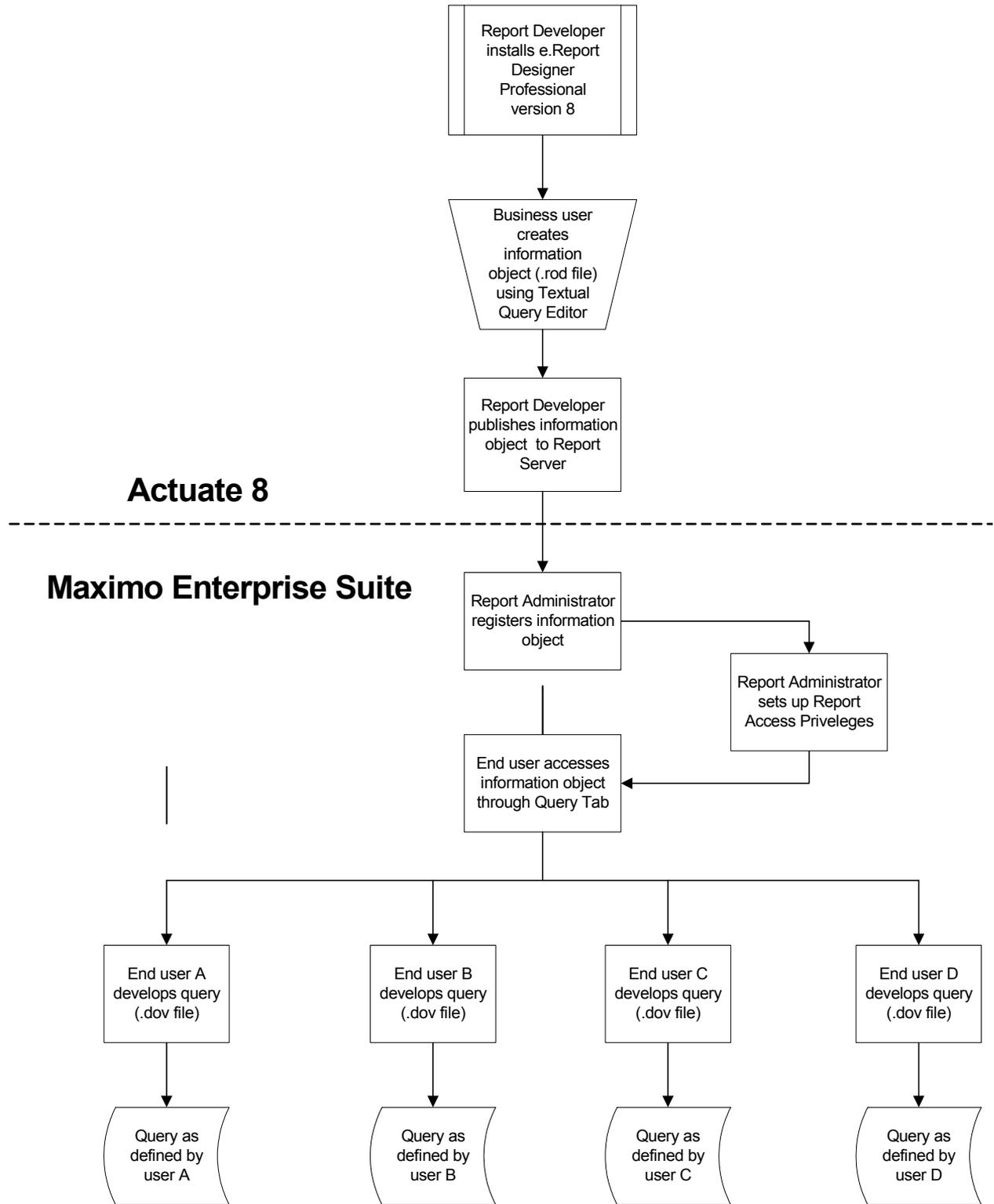
For more information on Actuate file types, see Chapter 7, “Loading and Configuring e.Report Designer Professional.”

Maximo Query Creation Process

The query process begins when the Report Developer installs e.Report Designer Professional. The business user then creates an information object so the Report Developer can publish it to the report server. The Report Administrator registers and sets up access privileges in the Report Administration Application. The end user runs the query in Maximo Enterprise Suite.

The following flowchart further illustrates this process:

Maximo Query Creation Process Flowchart



The following section describes how you can create an information object (query) using the MRO Information Object Template. Information objects allow you to specify which rows to retrieve from your data source. For this example, the information object you will create is the Open PM Work Order Query.

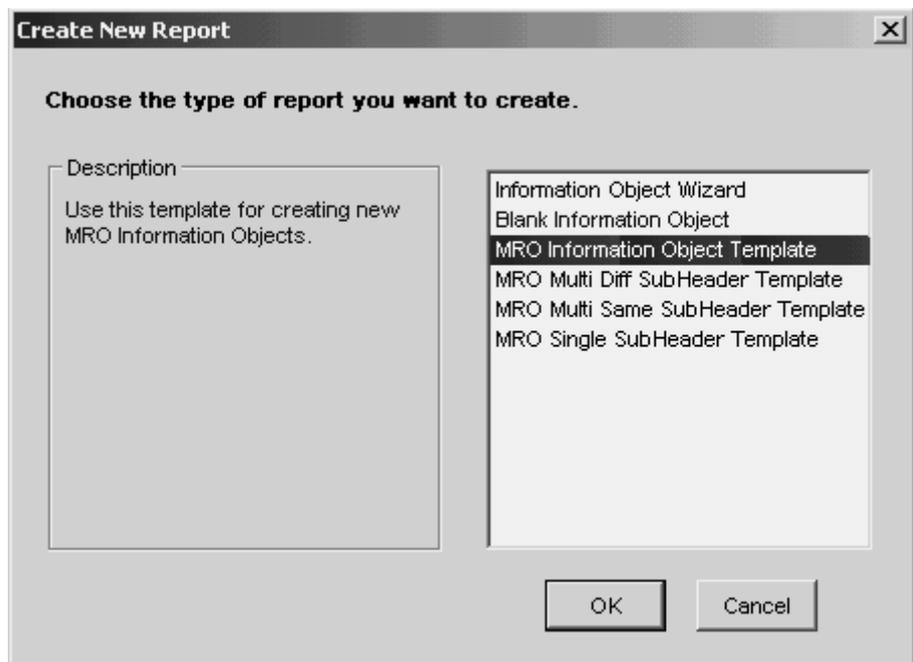
NOTE You must have a database connection in order to create an information object.

Creating an Information Object using the Textual Query Editor

To create an information object using the MRO Information Object Template, complete the following steps.

- 1 Open e.Report Designer Professional and select **File>New** to open the Create New Report Dialog Box.

Create New Report Dialog Box



- 2 Select MRO Information Object Template and click **OK** to open the template.

If you cannot see . . .

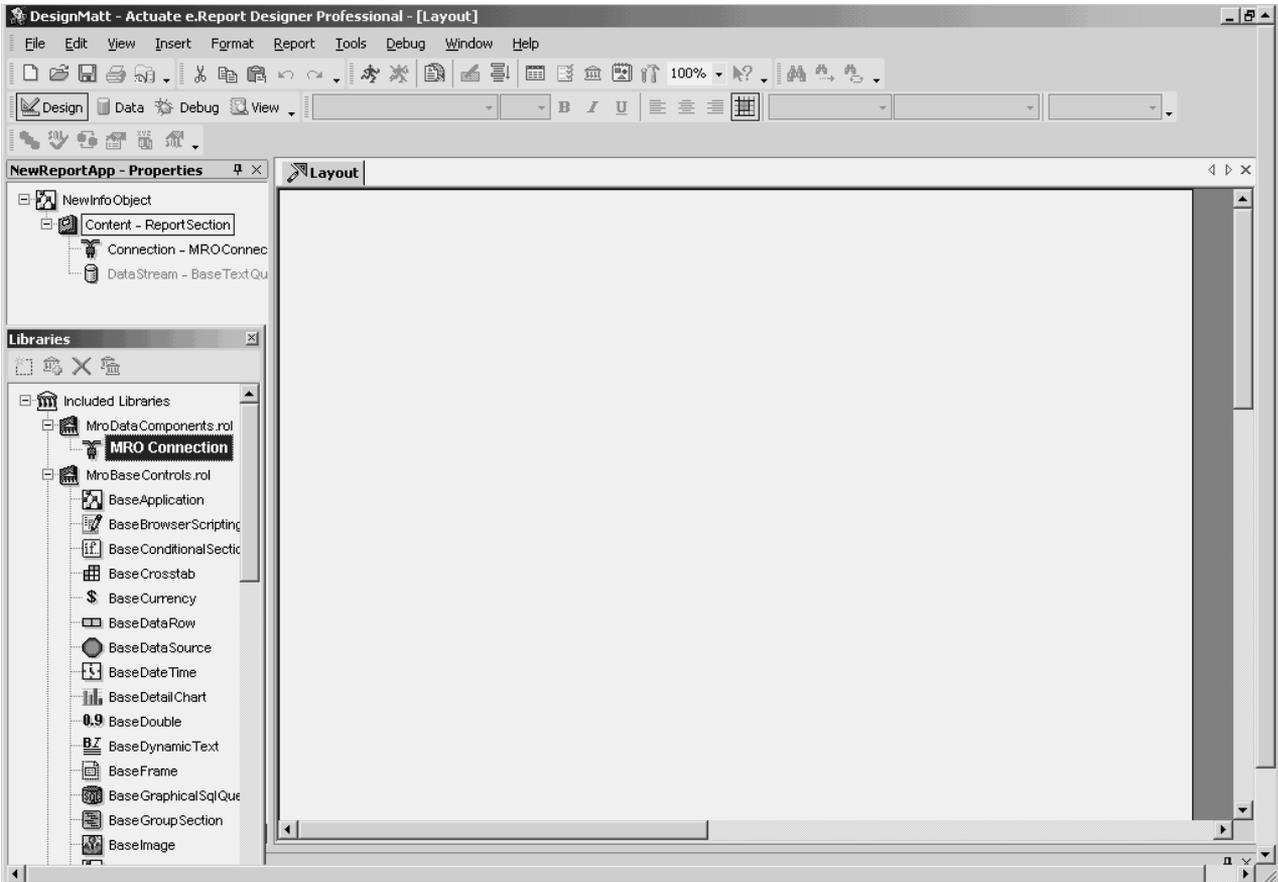
then select . . .

the Report Structure,
Libraries,

View>Report Structure.
View>Libraries.

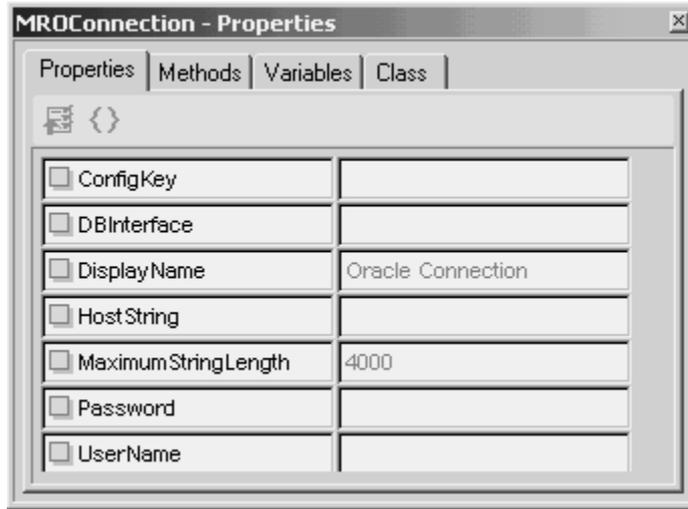
e.Report Designer Professional opens to the Design view.

Actuate e.Report Designer Professional Dialog Box with MRO Connection selected



- To open the MRO Connection – Properties dialog box, double-click MROConnection in the Libraries panel.

MROConnection – Properties Dialog Box (Properties Tab) for Oracle Database



Maximo bases the fields on the Properties tab on the properties in the MAXIMO.PROPERTIES file.

MROConnection – Properties Dialog Box (Properties Tab) for SQL Server Database



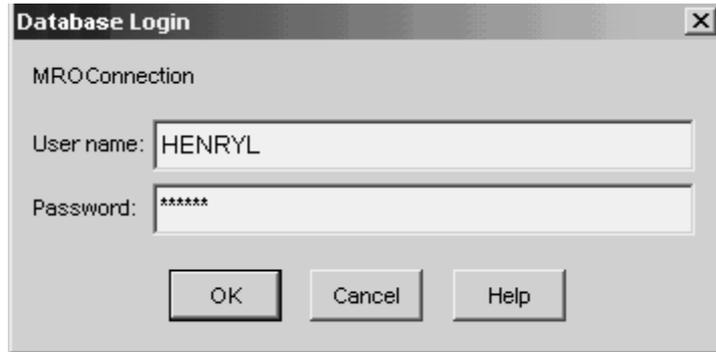
Depending on whether you are running Maximo against an Oracle or SQL Server database, enter the following information:

Field	MAXIMO.PROPERTY	Description
Host String (Oracle, only)	mxe.report.actuate. db.connectstring	Enter the connection string that Actuate will use to connect to the Maximo database. You must define the connection string on the machine where you are running the iServer.
DataSource (SQL Server, only)	mxe.report.actuate. db.connectstring	Enter the Data Source Name (DSN) that Actuate will use to connect to the Maximo database. You must define the DSN on the machine where you are running the iServer.
Password	mxe.db.password	Enter the password for the user name of the database schema owner.
UserName	mxe.db.user	Enter the database user that the server uses to attach to the database server.

4 To close this dialog box, click **X** in its upper-right corner.

- 5 Open the Database Login dialog box by clicking the **Data** icon.

Database Login Dialog Box

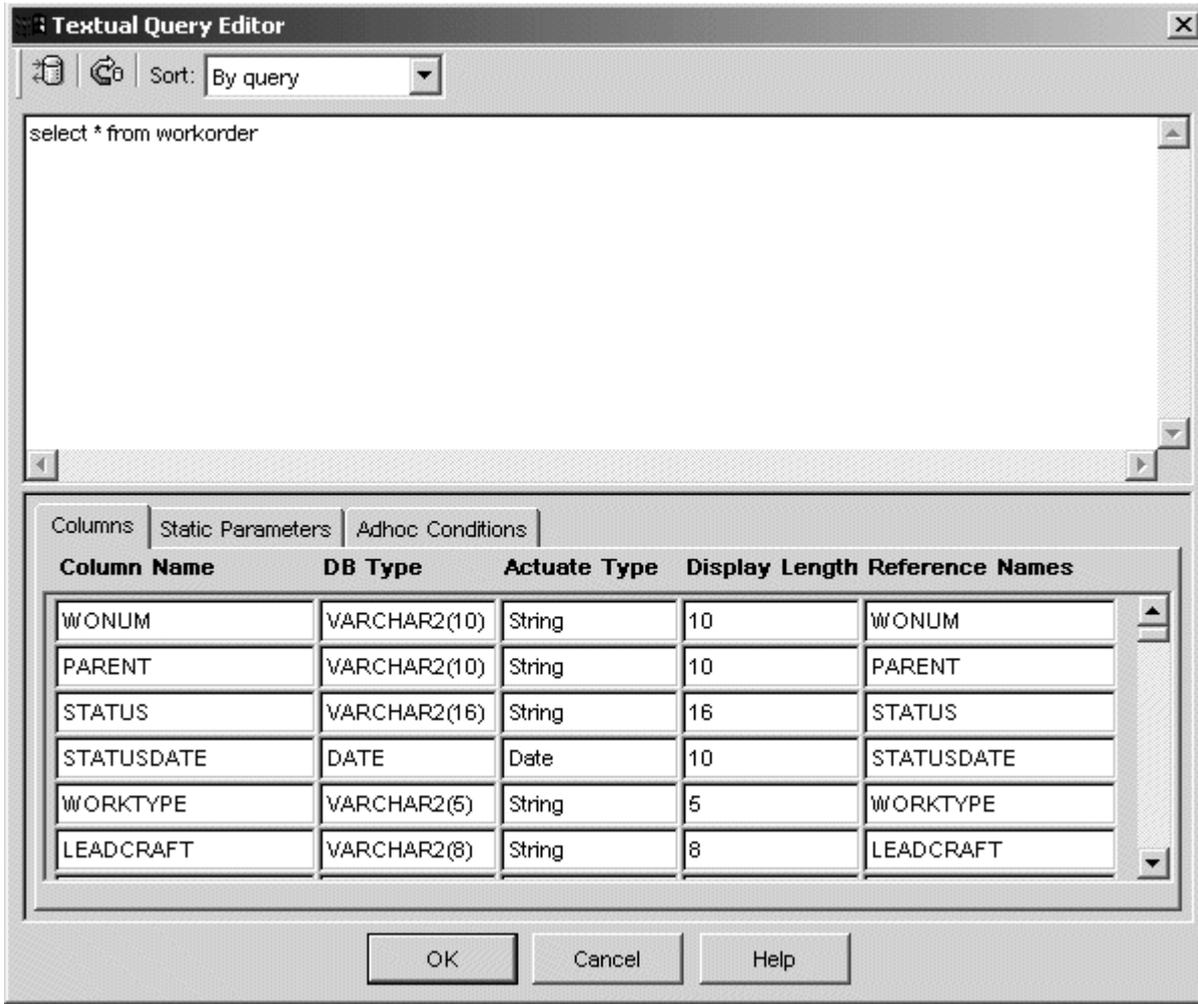


NOTE The remaining steps and dialog boxes in this procedure are specific to an Oracle database.

- 6 Enter your Oracle database user name and password.

7 To open the Textual Query Editor dialog box, click **OK**.

Textual Query Editor Dialog Box with Describe Query and Clear Query icons indicated



8 Test your database connection by typing an SQL statement. For example, type the following statement exactly as shown with no ending punctuation:

```
select * from workorder
```

9 To view the results, click the Describe Query icon.

NOTE If you later decide to change the width of any column, you must use the **Display Length** field on the Textual Query Editor.

10 To clear the Textual Query Editor dialog box so you can continue with Step 11, click the Clear Query icon.

- 11 To view overdue work orders, type the following SQL statement on the Textual Query Editor dialog box:

```
SELECT WORKORDER.WONUM, WORKORDER.DESCRPTION, WORKORDER.ASSETNUM,
WORKORDER.LOCATION, WORKORDER.SUPERVISOR, WORKORDER.JPNUM,
WORKORDER.WOPRIORITY, WORKORDER.ESTDUR, WORKORDER.TARGSTARTDATE,
WORKORDER.TARGCOMPDATE, WORKORDER.SITEID
```

```
FROM MAXIMO.WORKORDER WHERE WORKORDER.WORKTYPE <> 'PM'
```

```
AND WORKORDER.STATUS NOT IN ('CLOSE', 'COMP', 'CAN')
```

```
AND WORKORDER.TARGCOMPDATE<SYSDATE
```

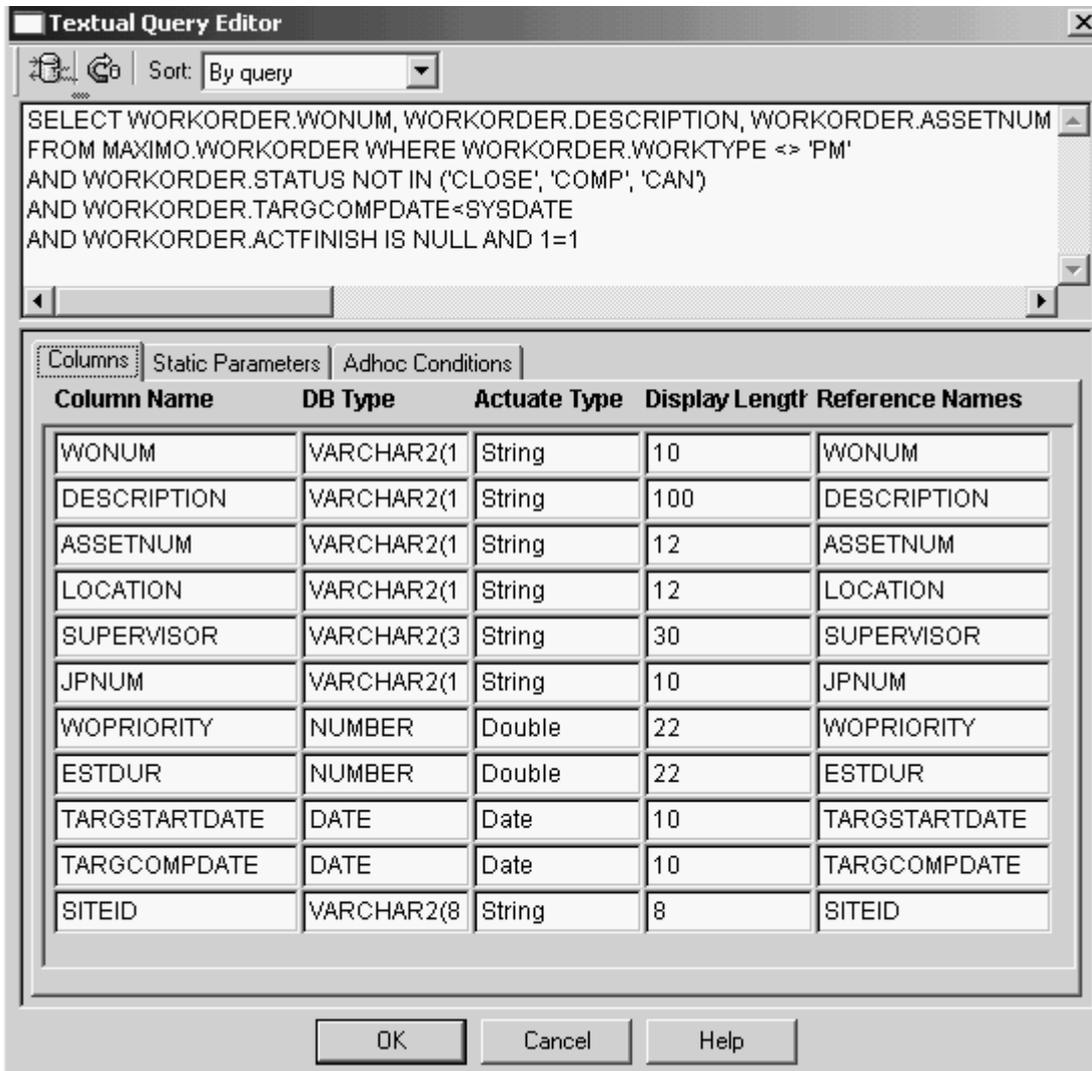
```
AND WORKORDER.ACTFINISH IS NULL AND 1=1
```

NOTE You must add the text **AND 1=1** to the query text in the Textual Query Editor if either of the following conditions is true:

- ▼ Your query has a bound parameter.
- ▼ Your query does not have any parameters.

- 12 To save the query, click the Describe Query icon, then click **OK**.

Textual Query Editor Dialog Box



Setting up Global Vars Parameters

Before you can run the query, you must set up the Global Vars parameters for yourself or the report developer who will run it.

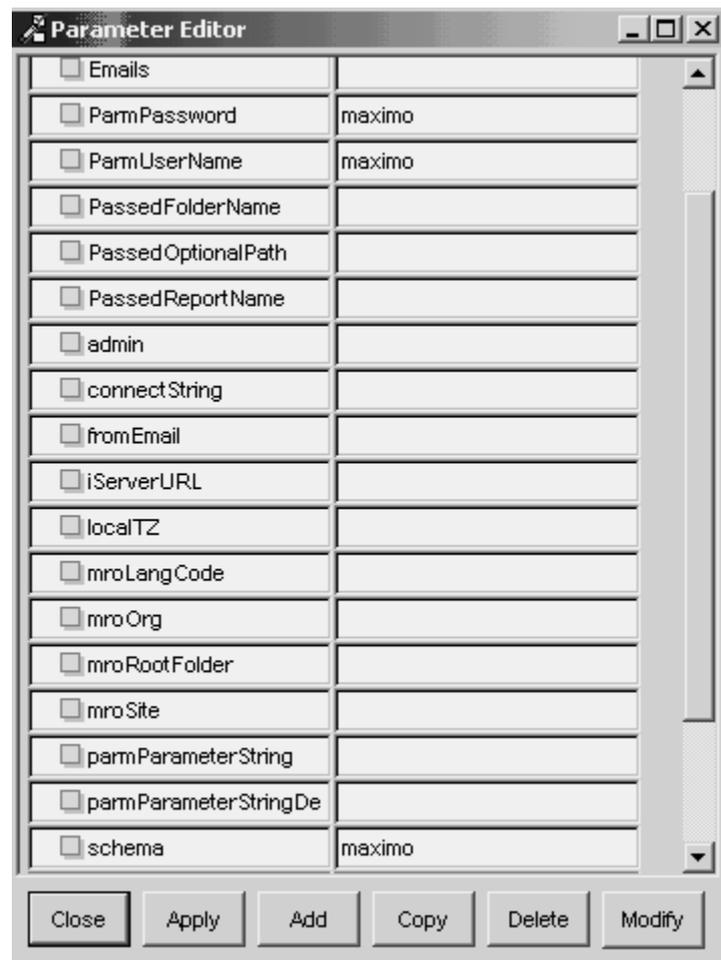
- 1 Using the query you created in the previous section, open e.Report Designer Professional and select **Tools>Parameters** to open the Parameter Editor Dialog Box.

Parameter Editor Dialog Box



- 2 Click **Global Vars** to open the Global Vars parameters fields.

Parameter Editor Dialog Box



3 Complete the following fields:

Field	Description
ParmPassword	Enter your user password. If you are providing access to a report developer, enter the report developer's password.
ParmUserName	Enter your user password. If you are providing access to a report developer, enter the report developer's user name.
ConnectionString	Enter the Actuate database connect string.
Schema	Enter the database schema owner. The default is maximo.

NOTE For information about setting up security for your report developer, see "Providing Security Access to your Report Developers," on page 6-32.

4 To accept the changes, click **Apply**. To close the dialog box and return to the Design view, click **Close**.

5 Run the query by clicking the Run icon.

The Open PM Work Order Query that you defined on page 5-9 opens in a new page.

Open PM Work Order Query

<i>My Query</i>										
ASSETNUM	DESCRIPTION	ESTDUR	JPNUM	LEADC	LOCATION	SITEID	SUPER	TARGCO	TARGST	WONUM
12300	Check for Plumbing Problem	5	JP1000	ME1	BOILER	BEDFO	MILLER	12/31/199	12/31/199	1003
11450	Electric Cart Tune-Up	1	JP12300	ME1	SHIPPING	BEDFO	MILLER	12/31/199	12/31/199	1005
11450	Feedwater Pump Service	20	JP11430	EL1	BR450	BEDFO	MILLER	1/3/1999	1/1/1999	1006
13141	Packaging Mach. Elevator & Drainpan	3	JP1314A	ME1	BPM3100	BEDFO	MILLER	1/1/1999	1/1/1999	1007
11230	Repair Damaged Conduit Feeding	24			BR230	BEDFO	MILLER	1/1/1999	12/31/199	1008
12600	12 Month Service on Shipping Dept #1	4	JP13140	ME1	SHIPPING	BEDFO	MILLER	12/31/199	12/31/199	1001
13145	Check-out Leaking	1.5		PF1	BPM3100	BEDFO		1/1/2002	1/1/2002	6005
11450	Rebuild Feedwater Pump	20	JP11430	EL1	BR450	BEDFO	MILLER	1/5/1999	1/1/1999	1002
13143	Check-out Alignment of Steel Support	1.5		PF1	BPM3100	BEDFO		1/3/2002	1/1/2002	6006
	Air Filter - Check-out	1.5		ME2	BOILER	BEDFO		1/5/2002	1/2/2002	6007
	Fire Door Cable Broken	1.5		ME2	BOILER	BEDFO		1/5/2002	1/2/2002	6008
	Ventilator in Boiler Room Making Noise -	1.5		ME1	BOILER	BEDFO		12/23/200	12/18/200	6009
11300	Relocate Guard Rails Around	10		ME1	BR300	BEDFO	MILLER	12/31/199	12/31/199	1000
11230	Generator Overhaul	7	JP11210	ME1	BR230	BEDFO	MILLER	12/31/199	12/31/199	1004
11230	Generator Overhaul	4	JP11210	ME1	BR230	BEDFO		4/28/2002	4/22/2002	1020
	Vents Blowing Warm Air	2		ME2	CONF200	BEDFO		1/7/2000	1/5/2000	6016
11300	11300 prob work-see miller	3	JP3004	ME1	BR300	BEDFO	MILLER	12/18/200	12/17/200	31755
13120	13120 problem	2		ME1	BPM3100	BEDFO	CONNNE	10/26/200	10/25/200	30056
11430	11430 prob work	2		ME1	BR430	BEDFO	MILLER	11/25/200	11/24/200	31150
L11300	prob work	3	JP3004	ME1	L300	LARED	SANCH	2/21/2002	2/20/2002	L31755
11200	11200 prob work	2		ME1	BR200	BEDFO	CONNNE	11/27/200	11/26/200	31250
13110	13110 problem	2		ME1	BPM3100	BEDFO	CONNNE	10/28/200	10/27/200	30157
12710	12710 prob work-check w/boyd on	3	JP3004	EL1	SHIPPING	BEDFO	BOYD	11/29/200	11/28/200	31555
13140	13140 prob work-check w/connelly on	3	JP1314R	EL1	BPM3100	BEDFO	CONNNE	12/12/200	12/11/200	31655
T-L12700	ROLL FLOW PROBLEM	2		ME1	TUMBLE	TEXAS	BIRD	1/22/2002	1/21/2002	T52013
13180	see connelly - 13180 prob work	2		PF1	BPM3100	BEDFO	CONNNE	11/24/200	11/24/200	31350
L13110	WASH LINE OVERFLOW	2		PF1	L3100	LARED	SANCH	3/2/2002	3/1/2002	L1076
T-B11430	NEED HELP ASAP IN LOWVOL	4		ME1	MOLD	TEXAS	WAYNE	1/20/2002	1/20/2002	T53014
L12600	SEALER JAMMED	1.41666666666667		ME2	SHIPPING	LARED	SANCH	3/5/2002	3/4/2002	L1069
T-L12510	problem	3		EL1	CLEAN	TEXAS	BIRD	12/28/200	12/27/200	T68977

Adding Parameters

Parameters filter output on a query so that users see only the information they want. In this section, you query only for Location parameter BR230 and only for Site parameter Bedford.

You can add unbound parameters that meet either of the following criteria:

- ▼ The parameter is not in the main table of the application.

or

- ▼ The parameter has no relationship to the main table.

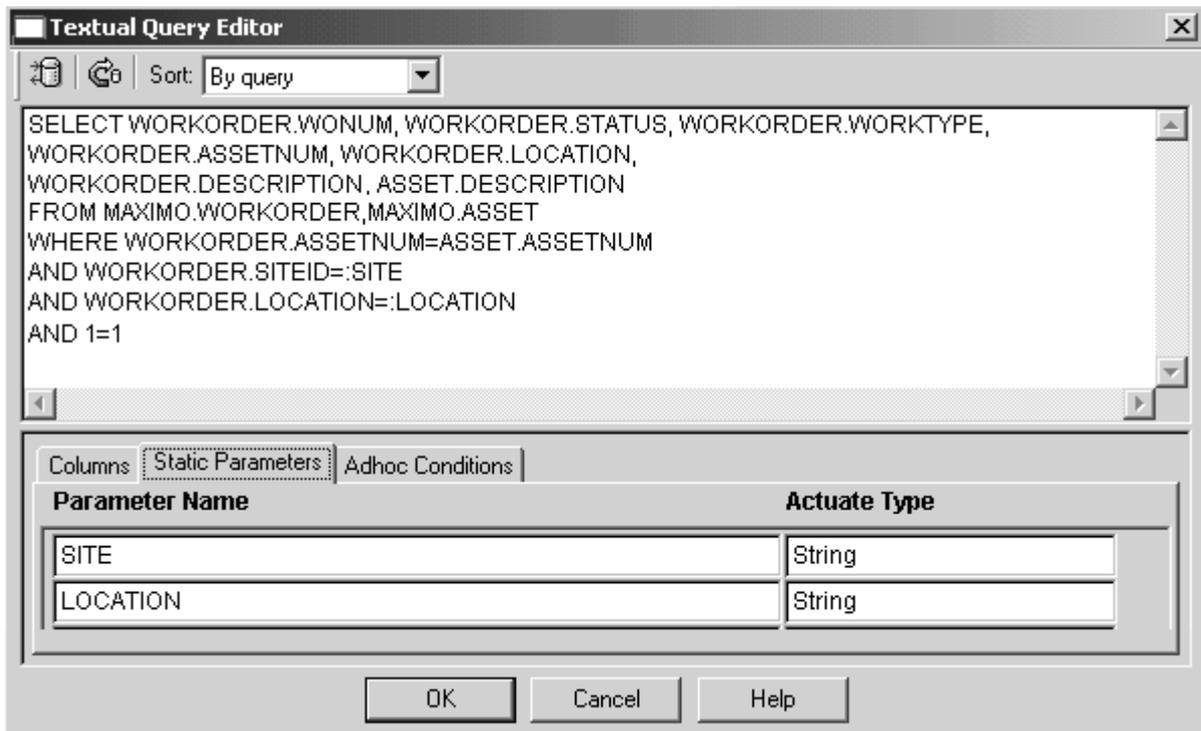
For more information about bound and unbound parameters, see “Providing Security Access to your Report Developers” on page 6-32.

To add a parameter, complete the following steps:

- 1 In e.Report Designer Professional, click the **Data** icon to open the Textual Query Editor dialog box.
- 2 Add your parameters to the end of the query SQL statement. In the figure shown, Location and Site are the added parameters.

A colon indicates that the line is a parameter. The text after the colon is what users see when prompted to enter a parameter. In this example, the system prompts users to enter site and location parameters.

Textual Query Editor (Static Parameters Subtab)

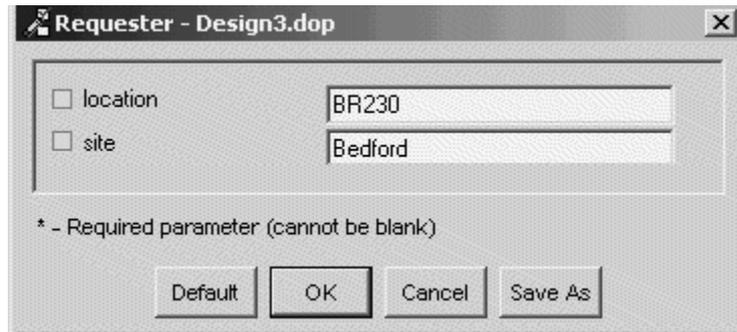


- Click **OK**. The system saves the information you entered and returns to Design view.

NOTE You can modify saved parameters. For example, you can set parameter default values, mark the parameter as required, or hide the parameter so users do not see it.

- To run the query, click the Run icon. The Requester dialog box opens.

Requester Dialog Box



- Enter values for the requested parameters.
- Click **OK**. The query opens, filtered according to the new parameters.

To use other parameters, repeat steps 2 – 4.

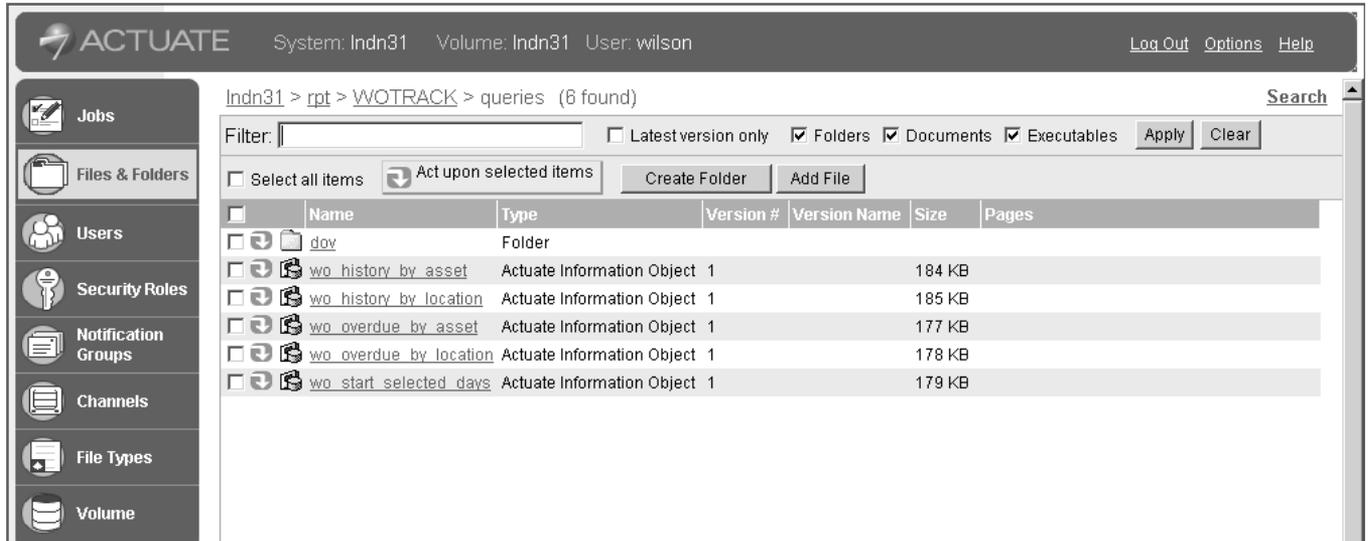
Query with Parameter-Defined Information

<i>My Query</i>				
ASSETDESCRIPTION	ASSETNU	LOCATION	STATUS	WODESCRIPTION
Emergency Generator	11230	BR230	WSCH	Clean entire unit.
Emergency Generator	11230	BR230	WSCH	Remove and clean air induction filters.
Emergency Generator	11230	BR230	WSCH	Check coolant level.
Emergency Generator	11230	BR230	WSCH	Check battery charge rate of each charger, record.
Emergency Generator	11230	BR230	WSCH	Check battery posts, cables for tightness.
Emergency Generator	11230	BR230	WSCH	Place control switch on each control board to off.
Emergency Generator	11230	BR230	WSCH	Remove generator panels from rear of generator.
Emergency Generator	11230	BR230	WSCH	Check rear bearing for lube plugs.
Emergency Generator	11230	BR230	WSCH	Grease fan drive bearing.
Emergency Generator	11230	BR230	WSCH	Review generator test logs.
Emergency Generator	11230	BR230	WSCH	Check heat exchangers.
Emergency Generator	11230	BR230	WSCH	Check battery voltage and water level.
Emergency Generator	11230	BR230	WSCH	Take battery hydrometer readings.
Emergency Generator	11230	BR230	WSCH	Check V-belts, deflection 9/16 to 13/16 in..
Emergency Generator	11230	BR230	WSCH	Check all hose connections for tightness.
Emergency Generator	11230	BR230	WSCH	Generator Overhaul
Emergency Generator	11230	BR230	WAPPR	Repair damaged conduit on south side of generator
Emergency Generator	11230	BR230	WAPPR	Disconnect power to generator
Emergency Generator	11230	BR230	WAPPR	Repair Damaged Conduit Feeding Generator
Emergency Generator	11230	BR230	INPRG	Check coolant level.
Emergency Generator	11230	BR230	INPRG	Grease fan drive bearing.
Emergency Generator	11230	BR230	INPRG	Check battery voltage and water level.
Emergency Generator	11230	BR230	INPRG	Check battery posts, cables for tightness.
Emergency Generator	11230	BR230	INPRG	Check battery charge rate of each charger, record.
Emergency Generator	11230	BR230	INPRG	Check all hose connections for tightness.
Emergency Generator	11230	BR230	INPRG	Review generator test logs.
Emergency Generator	11230	BR230	INPRG	Generator Overhaul
Emergency Generator	11230	BR230	INPRG	Take battery hydrometer readings.
Emergency Generator	11230	BR230	INPRG	Check heat exchangers.
Emergency Generator	11230	BR230	INPRG	Place control switch on each control board to off.
Emergency Generator	11230	BR230	INPRG	Check V-belts, deflection 9/16 to 13/16 in..
Emergency Generator	11230	BR230	INPRG	Clean entire unit.
Emergency Generator	11230	BR230	INPRG	Remove and clean air induction filters.
Emergency Generator	11230	BR230	INPRG	Remove generator panels from rear of generator.

Posting to an iServer Encyclopedia

To enable information objects to open on the Queries tab, post them to the Queries subfolder in the appropriate application where business users can access them.

Actuate Encyclopedia Queries Folder (Files & Folders Selected)



Running a Query

For information about running a query, see Chapter 3, “Using Maximo Reports.”

Creating Queries – Tips

The following sections can help you create Queries:

- ▼ adding additional fields
- ▼ modifying display names with the same label
- ▼ renaming labels (by renaming columns) in the textual query editor
- ▼ changing column names for end users

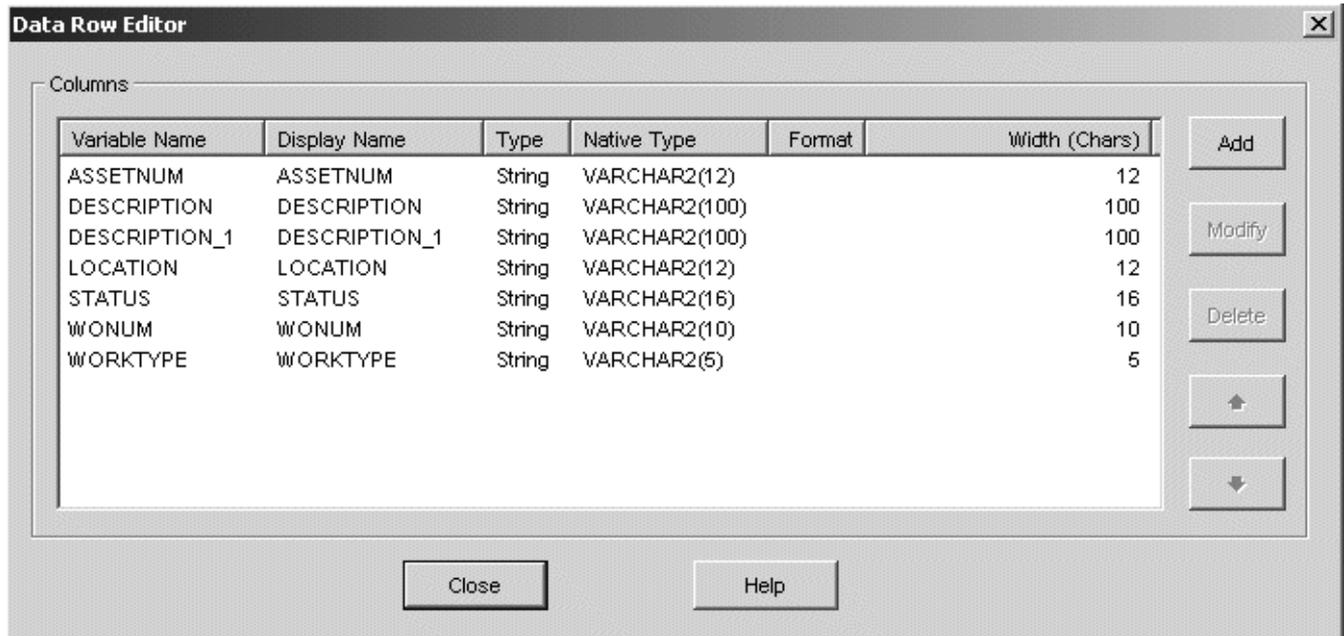
Adding Additional Fields

When you create queries, you should determine the fields end users might want to see and add them. When end users customize the query, they can use the Content tab to select those fields. If you do not make a field available, end users cannot select it.

Modifying Display Names with the Same Label

If you enter multiple fields with the same field name in the Textual Query Editor, the editor appends a number to the description in the Data Row Editor, as shown in the following example:

Data Row Editor Dialog Box with Display Names indicated



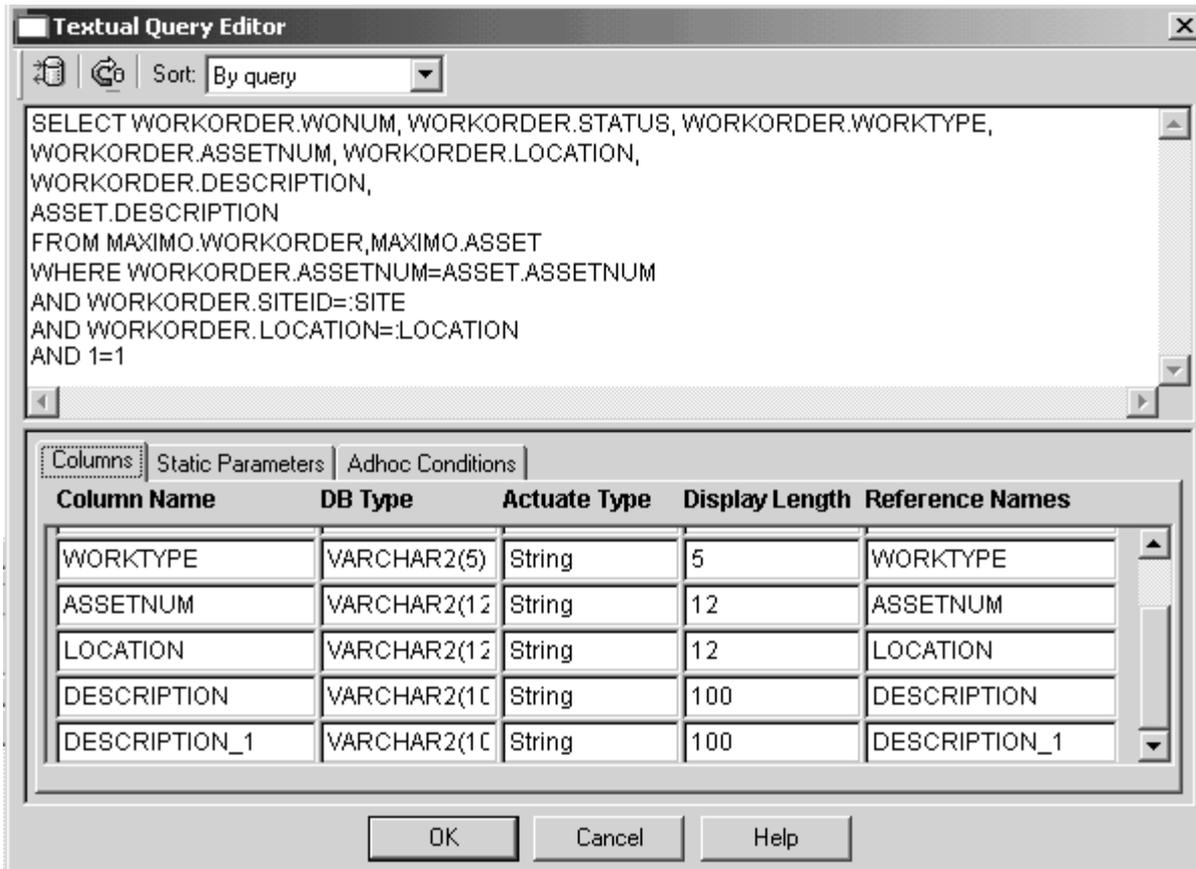
The next section shows how you can change the Display Name to more easily distinguish between two similar entries

Renaming Labels (by Renaming Columns) in the Textual Query Editor

You can rename labels with similar names so they are easier to identify. In this section, you will use the Textual Query Editor to rename columns (and their corresponding labels) for both the Work Order and Asset tables.

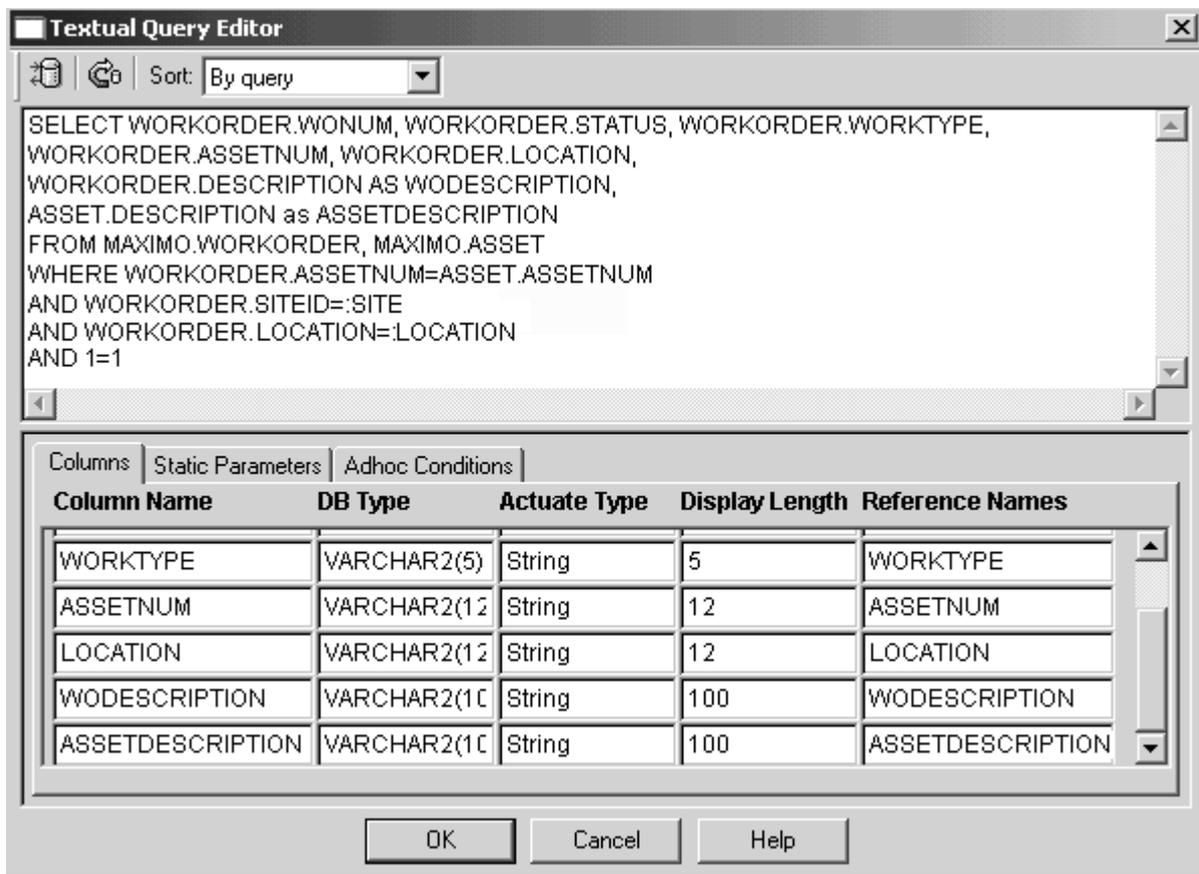
- 1 In e.Report Designer Professional, click the **Data** icon to open the Textual Query Editor.

Textual Query Editor with Description Labels



- 2 Open an SQL statement containing duplicate field names. In this example, the duplicate fields are:
 - ▼ WORKORDER.DESCRPTION
 - ▼ ASSET.DESCRPTION
- 3 In the top half of the Textual Query Editor, create aliases for each line.
 - ▼ Rewrite WORKORDER.DESCRPTION as WODESCRIPTION.
 - ▼ Rewrite ASSET.DESCRPTION as ASSETDESCRIPTION.
- 4 Click the Describe Query icon to display updated column names.

Textual Query Editor with Aliases (Columns Subtab)



- 5 Click **OK** to accept these changes and return to Design view.

Changing Column Names for End Users

The following section explains how to modify a column heading so that the heading is more descriptive for your business needs. In this example, you will change the ASSTNUM display name to ASSET NUMBER.

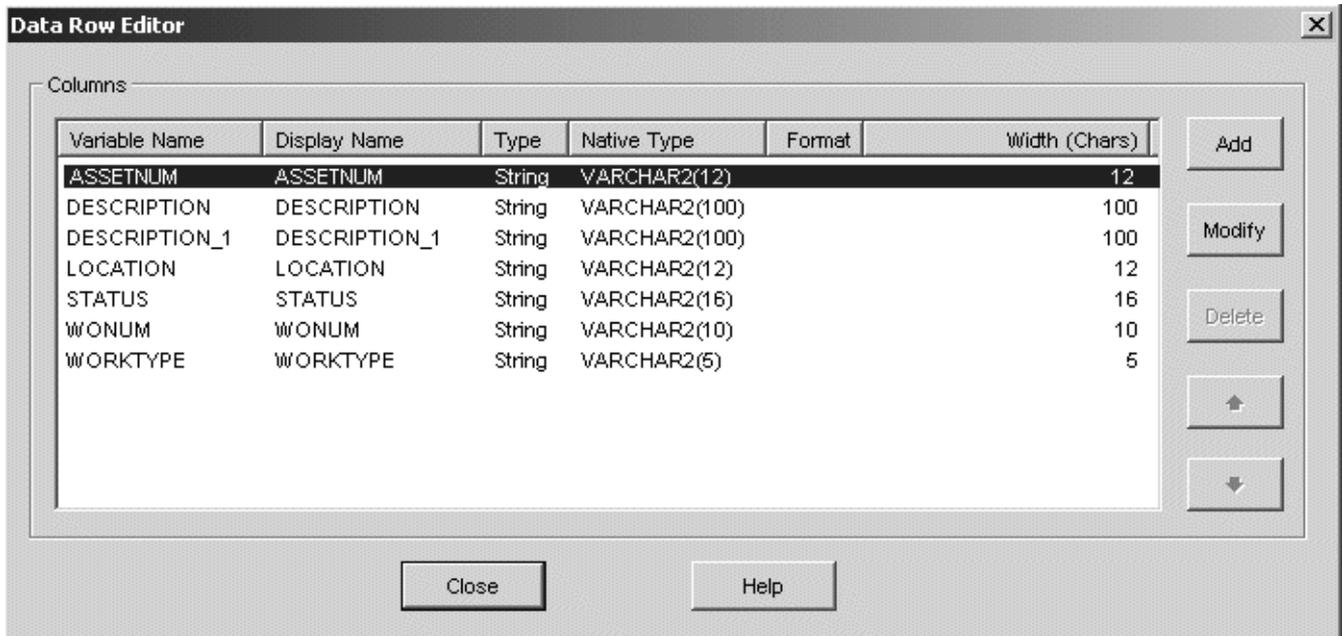
NOTE This procedure only explains how to modify the columns. For more information about this dialog box, click **Help**.

To use the Column Editor Dialog Box to change the column heading, complete the following steps:

- 1 In e.Report Designer Professional, open the query you worked with in the previous section.
- 2 Click the Data Row Editor icon to open the Data Row Editor dialog box.
- 3 Click the Assetnum variable name.

TIP Do not use the Column Editor Dialog Box to change the width of a field. The field will revert to the default value each time you click the Describe Query icon on the Textual Query Editor. To change the length of a field, use the **Display Length** field on the Textual Query Editor.

Data Row Editor Dialog Box



- To open the Column Editor dialog box, click **Modify**.

Column Editor Dialog Box

- Type your changes to the fields that appear. Change the Display name for ASSETNUM to display ASSET NUMBER.
- Click **OK** to save your change and return to the Data Row Editor dialog box.
- Click **Close** to see the query in Design View.
- Run the query to view the new heading.

Query with ESTDUR (HRS) Heading

My Query

ASSET NUMBER	DESCRIPTI	ESTDUR	JPNUM	LEADCRAFT	LOCATION	SITEID	SUPER	TARGCO	TARGST	WONUM	WOPRI
11230	Repair	24			BR230	BEDFORD	MILLER	1/1/1999	12/31/199	1008	7
11230	Generator	7	JP11210	ME1	BR230	BEDFORD	MILLER	12/31/199	12/31/199	1004	1
11230	Generator	4	JP11210	ME1	BR230	BEDFORD		4/28/2002	4/22/2002	1020	2

Administering Reports

6

Report Administration lets report administrators or report developers complete the following actions. These actions are described in detail in this chapter:

- ▼ access the Report Administration module
- ▼ register (add) a new Maximo report to the Maximo database
- ▼ attach documents
- ▼ use the detail check box for detail reports
- ▼ create a button on the Maximo toolbar
- ▼ create toolbar buttons in the Purchase Order application
- ▼ generate and preview a request page
- ▼ change report titles and field labels in the labels tab
- ▼ rename report columns
- ▼ define report types
- ▼ work with parameters
- ▼ run Current/Selected/All reports
- ▼ define and run Parameter-based reports
- ▼ delete a report
- ▼ provide security access to your report developers
- ▼ store parameter-based reports in multiple Maximo applications
- ▼ run parameters based reports

This chapter also contains a section with tips for the Report Administrator. The tips described include the following items:

- ▼ determining your parameter's attribute name
- ▼ storing Maximo reports in multiple Maximo applications
- ▼ understanding the two different types of parameters (bound and unbound)

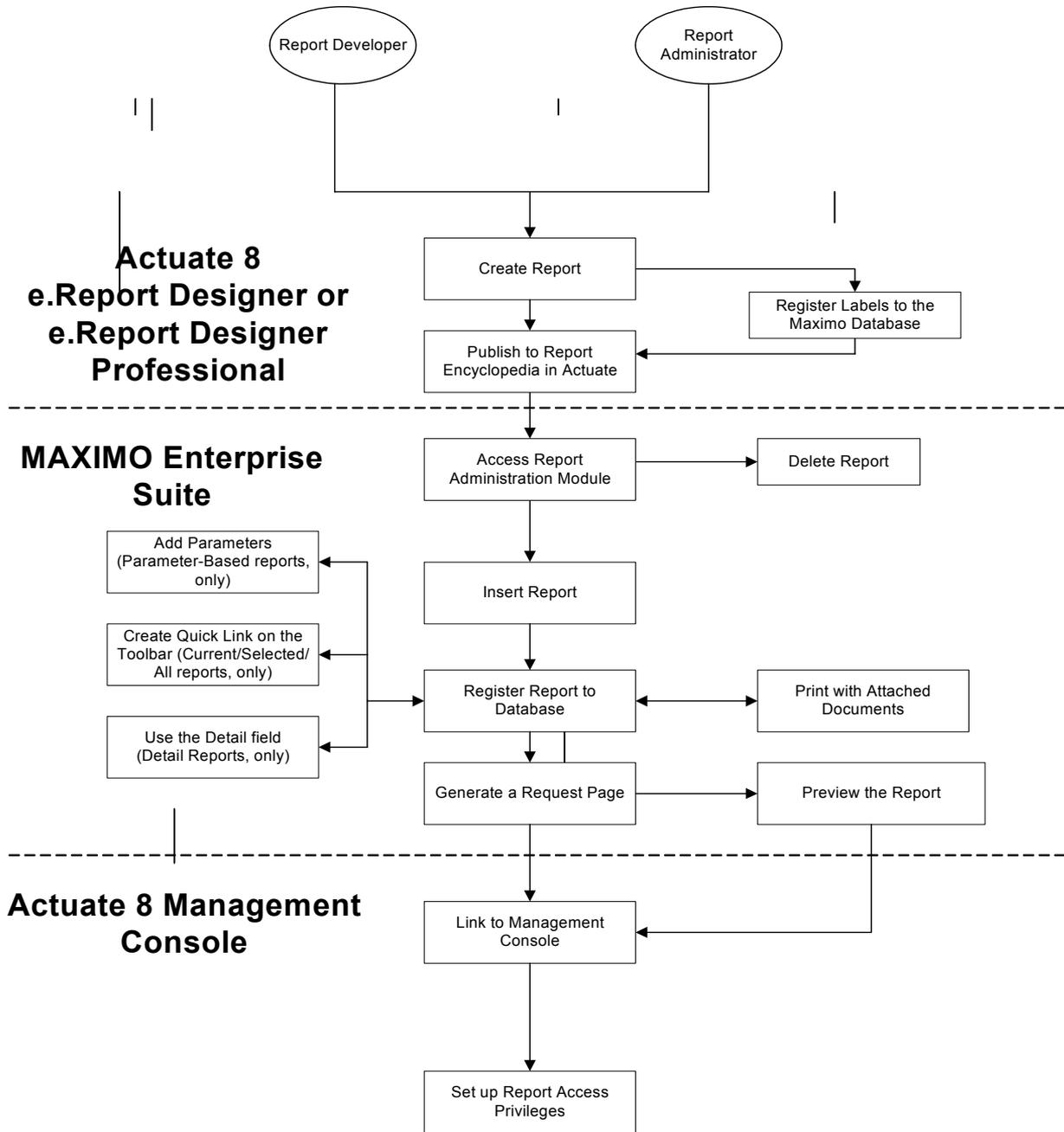
MAXDEMO User Names

In the MAXDEMO database shipped to you with MXES, MRO Software provides the following users with access to the Report Administration application:

- ▼ HENRYL (as a member of the REPORTADMIN group)
- ▼ WILSON (as a member of the MAXADMIN group)

Tracking Report Administration Actions Flowchart

The following flowchart shows the different actions that the report developer or report administrator performs.



Accessing the Report Administration Module

Access the Report Administration Module, as shown in either of the following ways from, the Go To menu:

- ▼ Select **Administration>Report Administration**.

Accessing Report Administration from Administration in the Go To Menu

The screenshot shows the Maximo Start Center interface. The 'Go To' menu is open, displaying a list of modules. The 'Administration' module is selected, and its sub-menu is visible, with 'Report Administration' highlighted. The main content area shows a 'Bulletin Board' with two items: 'East Stairwell Painting' and 'Email server upgrade ADVISORY'. Below that is a 'Result Set' table with one record.

Record #	Description	Due Date
6	TASK 4	9/23/04

- ▼ Select **Reporting>Report Administration**.

Accessing Report Administration from Reporting in the Go To Menu

The screenshot shows the Maximo Start Center interface. The 'Go To' menu is open, displaying a list of modules. The 'Reporting' module is selected, and its sub-menu is visible, with 'Report Administration' highlighted. The main content area shows a 'Bulletin Board' with two items: 'East Stairwell Painting' and 'Email server upgrade ADVISORY'. Below that is a 'Result Set' table with one record.

Record #	Description	Due Date
6	TASK 4	9/23/04

Registering (Adding) a New Maximo Report to the Maximo Database

This section describes how you register (add) a new report to the Maximo database.

NOTE You must add all customized reports to the database in order to access them.

To register a new Maximo report to the Maximo database, complete the following steps:

- 1 On the Maximo toolbar, open the Report Administration module.
- 2 Click the New Report icon. The Report tab appears with empty fields.

The screenshot shows the 'Report Administration' window in Maximo. At the top, there is a navigation bar with 'Bullets: (2)', 'Go To', 'List Reports', 'Start Center', 'Profile', 'Sign Out', and 'Help'. Below this is a search bar with 'Find:' and a 'Select Action' dropdown. The main area is divided into 'Report File Name *' (with two input fields) and 'Report Details'. The 'Report Details' section contains several fields: 'Report Run Type *' (set to 'REPORT'), 'Application *', 'Report Folder *', 'No Request Page?' (checkbox), 'Detail?' (checkbox), 'Attach Documents?' (checkbox), 'Toolbar Location *' (set to 'NONE'), 'Toolbar Image *' (set to 'NONE'), and 'Toolbar Sequence'. There are also buttons for 'Generate XML on the Report Tab' and 'Preview'. At the bottom, there is a 'Report Lookups' table with columns: 'Parameter Name', 'Attribute Name', 'Sequence', 'Override Label', and 'Required?'. The table currently shows '...No rows to display...' and a 'New Row' button.

3 Enter or accept the default values in the following fields:

▼ **Report File Name** (and Report Description) –

You must enter the file name of the report executable EXACTLY as it was created in e.Report Designer Professional or eSpreadsheets.

Enter the report description in the field next to it. The report description appears to the end user when that user runs the report.

The file name you enter must have one of the following suffixes:

- .rox for reports
- .dox for queries
- .vtf for eSpreadsheets

CAUTION Maximo does NOT verify this report file name and this field has no Select Value icon.

▼ **Report Run Type** – You must accept Report as the default or enter Query or eSpreadsheets.

The Report Run Type you select determines the tab that appears. Maximo places reports and eSpreadsheets on the Reports tab. It places queries on the Queries tab.

▼ **Application** – You must enter the Maximo application that business users and end users will use to open this report. To open a dialog box containing available application names, click the Select Value icon.

The application name you select determines the following information:

- the attribute names of any report parameters
- the application where the business user or end user can find the report

NOTE Multiple application names and reports can correspond to the same report executable (.rox) file, as shown in the following table:

Multiple Applications with same Report Executable Table

Application Name	Report Name	Report Executable
Activity	Activity Details Report	woprint_act.rox
Change	Change Details Report	woprint_act.rox
Quickrep	Quick Reporting Detail Report	woprint_act.rox
Release	Release Details Report	woprint_act.rox
Wotrack	Work Order Details Report	woprint_act.rox

▼ **Report Folder** – The folder where Maximo stores the Actuate Executable file (.rox for reports, .dox for queries, .vtf for spreadsheets) in the report Encyclopedia. You either must accept the default or enter another Encyclopedia folder where you want to store the report.

The **Report Folder** field defaults to the value you entered in the **Application** field.

Registering (Adding) a New Maximo Report to the Maximo Database

- 4 Click the Save Report icon or press Ctrl + Alt + S to save the report.

Report Tab with Completed Fields for Work Order Details Report

The screenshot displays the 'Report Administration' web application interface. At the top, there is a navigation bar with 'Bulletins: (2)', 'Go To', 'Reports', 'Start Center', 'Profile', 'Sign Out', and 'Help'. Below this is a search bar with 'Find:' and a 'Select Action' dropdown. The main content area is divided into several sections:

- Report File Name:** A text field containing 'wotrack_act.rox' and a label field containing 'Activity List'.
- Report Details:** A section with various configuration options:
 - Report Run Type:** A dropdown menu set to 'REPORT'.
 - Application:** A dropdown menu set to 'ACTIVITY'.
 - Report Folder:** A text field containing 'WOTRACK'.
 - No Request Page?:** An unchecked checkbox.
 - Detail?:** An unchecked checkbox.
 - Attach Documents?:** An unchecked checkbox.
 - Toolbar Location:** A dropdown menu set to 'ALL'.
 - Toolbar Image:** A text field containing 'nav_icon_overview.gif'.
 - Toolbar Sequence:** A text field containing '2'.
- Buttons:** 'Generate XML on the Report Tab' and 'Preview' buttons are located at the bottom right of the 'Report Details' section.
- Report Lookups:** A table header with columns: 'Parameter Name', 'Attribute Name', 'Sequence', 'Override Label', 'Required?', and 'Hidden?'. Below the header, it says '...No rows to display...'. A 'New Row' button is located at the bottom right of this section.

Attaching Documents

You can use the Attached Document feature in Maximo to attach Word documents, PDF files, Web page URLs, diagrams, pictures, and other types of documents to individual Maximo reports.

NOTE End users must set their ActiveX controls and plug-ins in Internet Explorer in order to activate this feature. For more information about this process, see “Using the Reporting Toolbar,” on page 3-15.

To attach documents to a report, complete the following steps:

- 1 In Maximo, complete the fields as described in the preceding section, “Registering (Adding) a New Maximo Report to the Maximo Database.”
- 2 Select the **Attach documents?** check box to print the report with the attached documents from that application.

If you select the **Attach Documents?** check box and no documents exist, Maximo will print only the report.

If you select the **Attach Documents?** check box, the selected report ALWAYS will print with attached documents until you clear the check box.

- 3 To save the changes, click the Save Report icon.
- 4 To apply the changes, click **Generate XML on the Report Tab**.

You have enabled attached documents to run with this report.

Report Tab with Attach Documents? Field indicated

The screenshot shows the Maximo Report Administration interface. The top navigation bar includes "Report Administration", "Bulletins: (2)", "Go To", "Reports", "Start Center", "Profile", "Sign Out", and "Help". Below the navigation bar is a search and action area with a "Find:" field and a "Select Action" dropdown. The main content area is divided into tabs: "List", "Report", and "Labels". The "Report" tab is active, showing the configuration for a report named "Purchase Order Details".

The configuration fields are as follows:

- Report File Name:** poprint_act.rox
- Report Run Type:** REPORT
- Application:** PO
- Report Folder:** PO
- No Request Page?:**
- Detail?:**
- Attach Documents?:**
- Toolbar Location:** MAIN
- Toolbar Image:** nav_icon_detreport.gif
- Toolbar Sequence:** 1

Buttons at the bottom right include "Generate XML on the Report Tab" and "Preview".

Below the configuration fields is a "Report Lookups" table with columns: Parameter Name, Attribute Name, Sequence, Override Label, Required?, and Hidden?. The table currently shows "...No rows to display...". A "New Row" button is located at the bottom right of the table.

Using the Detail Check Box for Detail Reports

The **Detail?** check box prevents your business users and end users from using system resources to run a detail report against a large number of records. Since detail reports can be very specific and complex for each record, MRO Software gives you a **Detail?** check box that limits users to running detail reports against a maximum of 200 records.

Examples of detail reports are the Purchase Order Details Report and the Work Order Details Report. MRO Software selects the **Detail?** check box as the system default.

For a list of all Detail Reports, see the “Listing Overview and Detail Reports by Application,” on page 2-2.

If you must run the report against more than 200 records, select the **Detail?** check box to remove the checkmark, generate the request page, then preview and run the report.

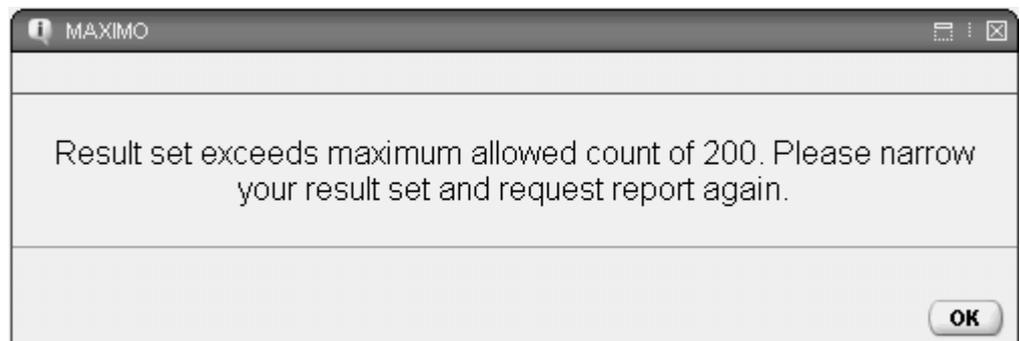
After running the report, be sure to click the **Detail?** check box to prevent users from running the report against more than 200 records.

Report Tab with Detail? Field indicated

The screenshot shows the 'Report Administration' window. At the top, there are navigation links: 'Bullets: (2)', 'Go To', 'Reports', 'Start Center', 'Profile', 'Sign Out', and 'Help'. Below this is a search bar with 'Find:' and a 'Select Action' dropdown. The main area is divided into 'List', 'Report', and 'Labels' tabs. The 'Report' tab is active, showing the configuration for a report named 'Purchase Order Details' with file name 'poprint_act.rox'. The 'Report Details' section includes fields for 'Report Run Type' (REPORT), 'Application' (PO), and 'Report Folder' (PO). There are also checkboxes for 'No Request Page?' (unchecked), 'Detail?' (checked), and 'Attach Documents?' (unchecked). Other fields include 'Toolbar Location' (MAIN), 'Toolbar Image' (nav_icon_detreport.gif), and 'Toolbar Sequence' (1). At the bottom of this section are buttons for 'Generate XML on the Report Tab' and 'Preview'. Below the configuration is a 'Report Lookups' table with columns: 'Parameter Name', 'Attribute Name', 'Sequence', 'Override Label', 'Required?', and 'Hidden?'. The table is currently empty, showing '...No rows to display...'. A 'New Row' button is at the bottom right.

NOTE If you attempt to run a detail report against more than 200 records without clearing the **Detail?** check box, you receive the following error message:

Maximo Dialog Box



Creating a Button on the Maximo Toolbar

Follow these instructions to create a toolbar button on the Maximo toolbar. A toolbar button allows the end user one-click access to selected reports within an application.

For more information about the Maximo toolbar, refer to the Maximo Enterprise Suite *User's Guide*.

To create a button on the Maximo toolbar, complete the following steps:

- 1 In the Maximo Report Administration application, open the list of reports and select one.

NOTE You can create a toolbar button for only Current/Selected/All reports (those reports without parameters).

- 2 Complete the following fields.

- ▼ **Toolbar Location** – Select the tabs where you want the toolbar button to appear for the report.

If you select . . .	the icon . . .
All	appears on all application tabs.
List	appears on List tab, only.
Main	appears on all application tabs, except the List tab.
None	does not appear on any tabs. This is the default value.

- ▼ **Toolbar Image** – Select an image for the toolbar button.

If you select . . .	the toolbar button . . .
nav_icon_detreport.gif	appears as a detail report icon image.
nav_icon_overview.gif	appears as an overview report icon image.
None	does not appear. This is the default value.

- ▼ **Toolbar Sequence** – Enter the sequence of this icon in relation to other toolbar buttons. All toolbar buttons you create will appear at the end of the Maximo toolbar. For example, enter 1 for the toolbar button to appear as the first reporting icon on the toolbar.

NOTE You **MUST** enter values in all three fields (**Toolbar Location**, **Toolbar Image**, and **Toolbar Sequence**) to create a toolbar button on the Maximo toolbar.

- 3 Click the Save Report icon. You have created a button on the Maximo toolbar.

Report Administration (Report Tab)

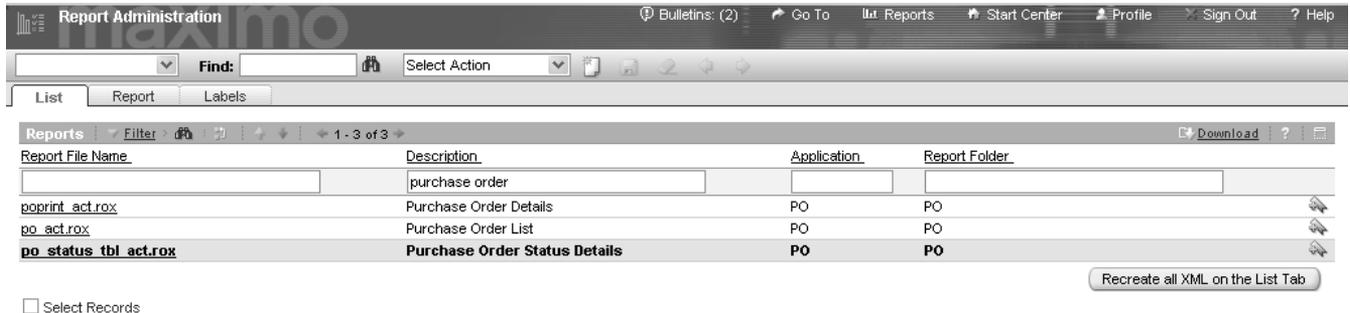
The screenshot shows the 'Report Administration' interface in Maximo. At the top, there is a navigation bar with 'Bulletins: (2)', 'Go To', 'Reports', 'Start Center', 'Profile', 'Sign Out', and 'Help'. Below this is a search bar with 'Find:' and a 'Select Action' dropdown. The main content area is divided into sections: 'Report File Name' with fields for 'poprint_act.rox' and 'Purchase Order Details'; 'Report Details' with fields for 'Report Run Type' (REPORT), 'Application' (PO), 'Report Folder' (PO), 'No Request Page?' (checkbox), 'Detail?' (checked checkbox), 'Attach Documents?' (checkbox), 'Toolbar Location' (NONE), 'Toolbar Image' (NONE), and 'Toolbar Sequence' (1). There are buttons for 'Generate XML on the Report Tab' and 'Preview'. At the bottom, there is a 'Report Lookups' table with columns: 'Parameter Name', 'Attribute Name', 'Sequence', 'Override Label', 'Required?', and 'Hidden?'. The table currently shows '...No rows to display...' and a 'New Row' button.

Creating a Toolbar Button in the Purchase Orders Application

In the following example from the Purchase Orders application, you create buttons on the Maximo toolbar for the Purchase Order Status Details Report.

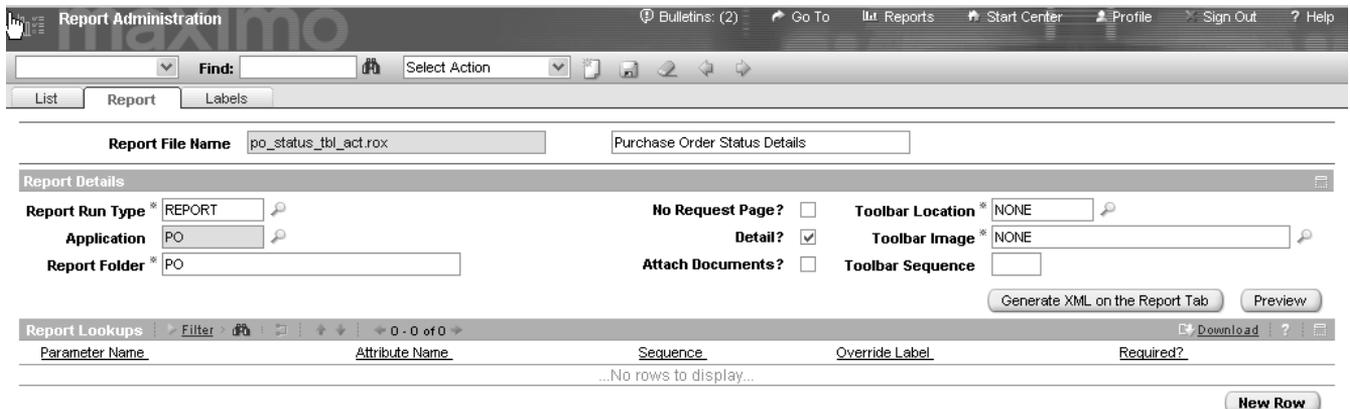
- 1 In the Maximo Report Administration application, filter the list of reports to show only those for the Purchase Order application.

Report Administration (List Tab with Purchase Order Reports)



- 2 Select the Purchase Order Status Details Report. The Report tab appears.

Report Administration (Report Tab with Purchase Order Status Detail Report selected)



- 3 Beneath the Report Details heading, complete the following fields:
 - ▼ **Toolbar Location** – Select All.
 - ▼ **Toolbar Image** – Select nav_icon_overview.gif.
 - ▼ **Toolbar Sequence** – Enter 3.

Report Administration (Report Tab with Toolbar Field Information for Purchase Order Status Detail Report)

The screenshot shows the 'Report Administration' window in Maximo. The 'Report File Name' is 'po_status_tbl_act.rox' and the report title is 'Purchase Order Status Details'. Under 'Report Details', the 'Report Run Type' is 'REPORT', 'Application' is 'PO', and 'Report Folder' is 'PO'. The 'No Request Page?' checkbox is unchecked, 'Detail?' is checked, and 'Attach Documents?' is unchecked. The 'Toolbar Location' is 'ALL', 'Toolbar Image' is 'nav_icon_overview.gif', and 'Toolbar Sequence' is '3'. There are buttons for 'Generate XML on the Report Tab' and 'Preview'. Below the details is a 'Report Lookups' table with columns: Parameter Name, Attribute Name, Sequence, Override Label, and Required?. The table is currently empty, showing '...No rows to display...'. A 'New Row' button is at the bottom right.

- 4 To save the changes, click the Save Report icon.
- 5 To apply the changes, click **Generate XML on the Report Tab**.
- 6 Open the Purchase Orders application and select any of the four tabs (PO, PO Lines, Ship To/Bill To, Terms and Conditions).

You now have three buttons enabled on the Maximo toolbar. MRO Software enabled the first two icons for the Purchase Order List and Purchase Order Details report, respectively. In this section, you enabled the third icon for the Purchase Order Status Details report.

Purchase Orders Application (PO Tab) with PO Details, PO List, and PO Status Details Icons Enabled

The screenshot shows the 'Purchase Orders' application window in Maximo. The 'PO' tab is selected in the toolbar. The toolbar also shows 'PO Lines', 'Ship To / Bill To', and 'Terms and Conditions' tabs. The main content area is currently blank.

Generating and Previewing a Request Page

You can use the Report Administration application to generate and preview the request page. The Report Administration application lets you specify which parameters, if any, the end user sees on the request page. Parameters let end users run reports based on specific information that they enter just before running the report.

In this section, you will generate and preview a request page for the Purchase Order Status Details report that you worked on in the previous section.

NOTE To remove the request page from a report, select the **No Request Page?** check box. For example, you might want to remove a request page to prevent users from running database update reports.

To return a request page to a report, clear the **No Request Page?** check box.

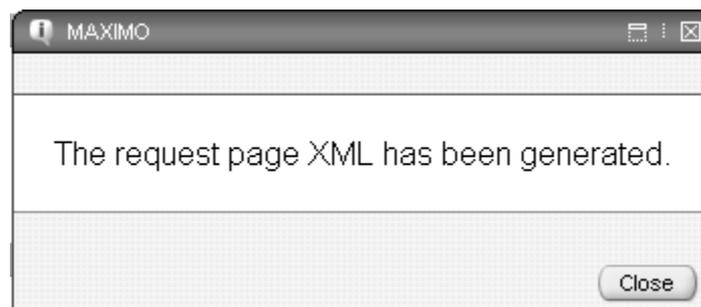
To generate and preview a request page, complete the following steps:

- 1 Open a report in Maximo. For example, open the Purchase Order Status Details report that you worked on in the previous section.

Report Administration (Report Tab) with Purchase Order Status Details Report

- 2 On the Report tab, click **Generate XML on the Report Tab** to create the report's request page. When Maximo finishes, the following message box appears:

Maximo Message Dialog Box

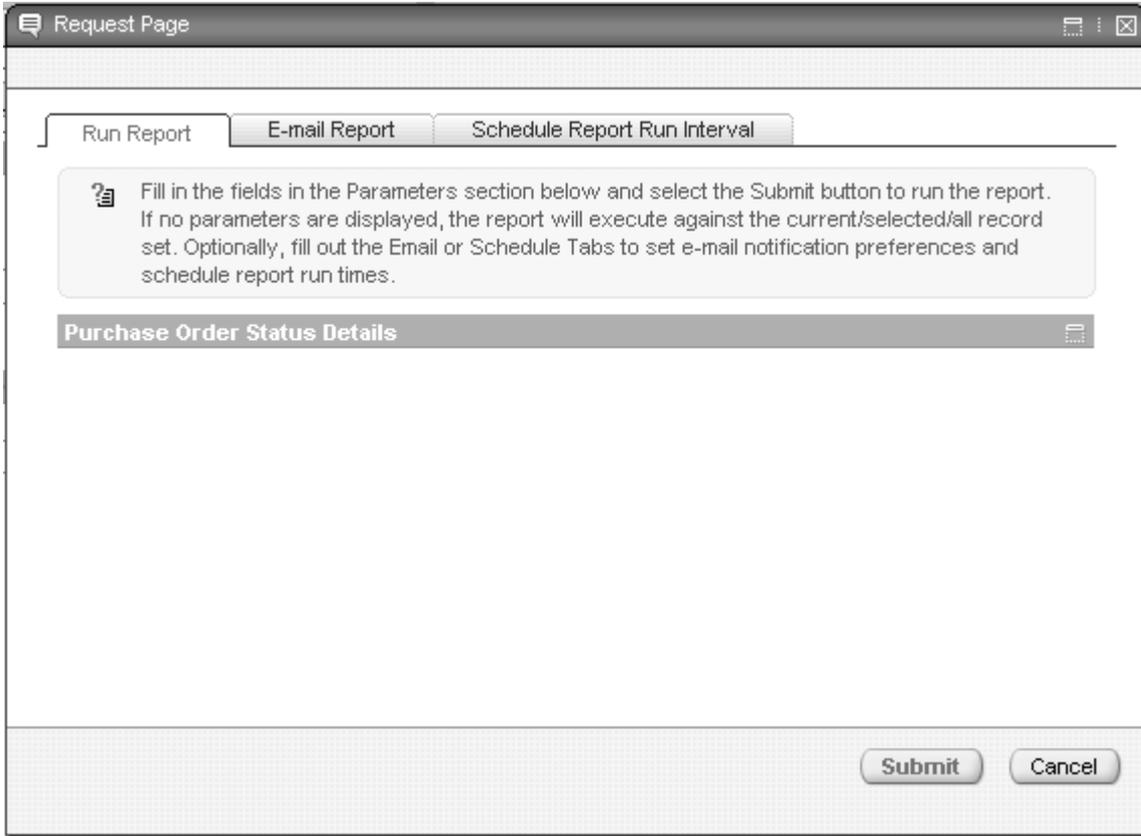


You have generated the request page.

3 Click **Close** to close the message dialog box.

4 Click **Preview** to verify that you generated the Request Page.

Request Page for the Purchase Order Status Details report



The screenshot shows a web application window titled "Request Page". At the top, there are three tabs: "Run Report", "E-mail Report", and "Schedule Report Run Interval". Below the tabs is a help box with a question mark icon and the text: "Fill in the fields in the Parameters section below and select the Submit button to run the report. If no parameters are displayed, the report will execute against the current/selected/all record set. Optionally, fill out the Email or Schedule Tabs to set e-mail notification preferences and schedule report run times." Below the help box is a section header "Purchase Order Status Details" with a list icon to its right. At the bottom right of the window are two buttons: "Submit" and "Cancel".

Changing Report Titles and Field Labels in the Labels Tab

The Labels tab lets you change report titles and field labels in your report. After you (or your report developer) publish a report through the Management Console, you can use the Labels tab to customize how titles and fields appear.

Renaming Report Columns

The following section explains how to rename a column. For example, you might change a column name (Asset) to be more descriptive (Asset Number).

To rename the Asset column on the Summary of Asset Failures Location Report to Asset Number, complete the following steps:

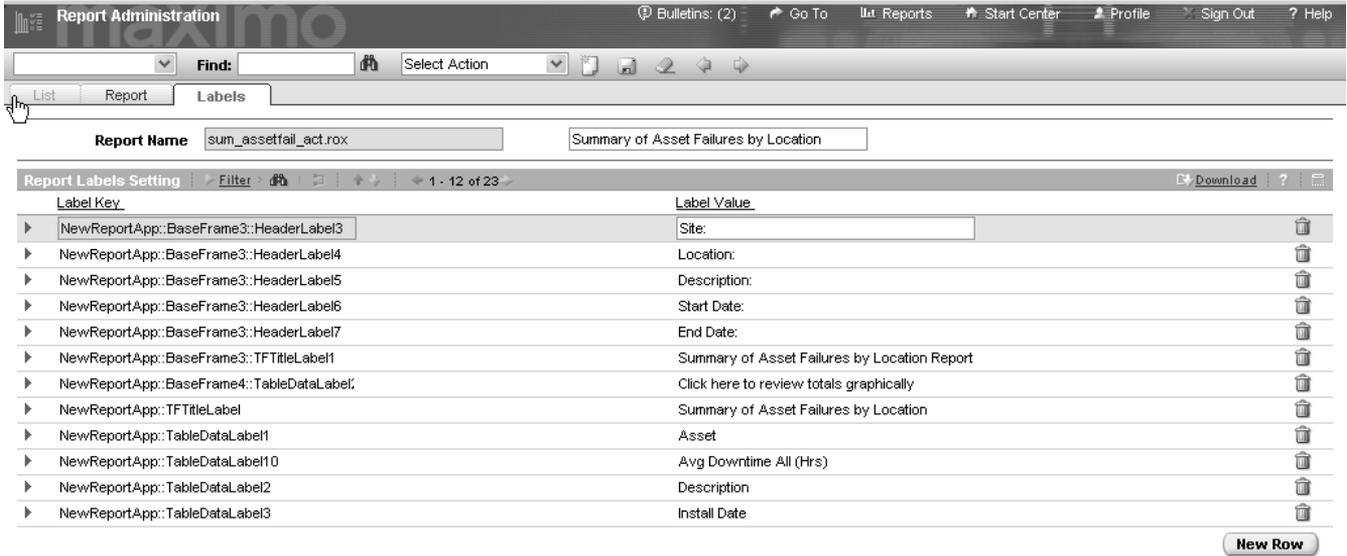
- 1 In the Maximo Report Administration application, select a report from the list of reports.

Report Administration (List Tab)

Label Key	Label Value
NewReportApp::BaseFrame3::HeaderLabel3	Site:
NewReportApp::BaseFrame3::HeaderLabel4	Location:
NewReportApp::BaseFrame3::HeaderLabel5	Description:
NewReportApp::BaseFrame3::HeaderLabel6	Start Date:
NewReportApp::BaseFrame3::HeaderLabel7	End Date:
NewReportApp::BaseFrame3::TFTitleLabel1	Summary of Asset Failures by Location Report
NewReportApp::BaseFrame4::TableDataLabel1	Click here to review totals graphically
NewReportApp::TFTitleLabel	Summary of Asset Failures by Location
NewReportApp::TableDataLabel1	Asset
NewReportApp::TableDataLabel10	Avg Downtime All (Hrs)
NewReportApp::TableDataLabel2	Description
NewReportApp::TableDataLabel3	Install Date

2 Click the Labels tab to open up the label values for this report.

Report Administration (Labels Tab) with Summary of Asset Failures by Location Report Selected

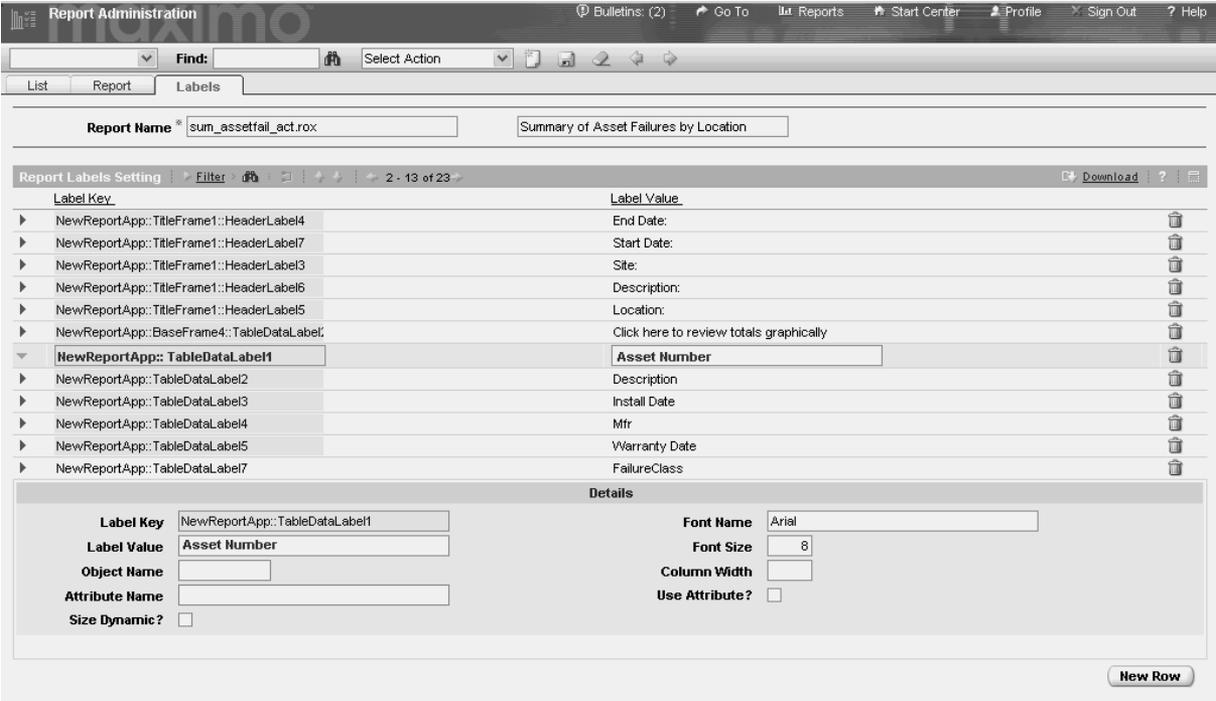


3 Select the Asset Label row to open the Details section of this page for the Asset label.

4 Complete the fields in the following table:

Field	Description
Label Value	The new name for the field you want to rename. For this example, change Asset to Asset Number
Font Name	The font type for that label. MRO Software recommends that you use only the following fonts: <ul style="list-style-type: none"> ▼ Arial ▼ Arial Unicode MS ▼ Batang ▼ Courier New ▼ MS Gothic ▼ MS Mincho ▼ Symbol ▼ Times New Roman
Font Size	The point size of the font.
Custom Width (queries, only)	The width of the label column on the query report.

Report Administration (Labels Tab) with Label Selected in Summary of Asset Failures by Location Report



5 Click Save Report to save the new name to the Label Value column.

- 6 After the end user runs the report from the browser, the new value in the **Label Value** field appears in the report.

Summary of Asset Failures by Location Report with updated Asset Number Heading indicated

Reporting Close Report

Page: 1 of 1

Summary of Asset Failures by Location

Location: BR400
 Description: Main Boiler- 50,000 Lb/Hr
 Site: BEDFORD
 Start Date: 1/1/1999
 End Date: 1/1/2005

Asset Number	Description	Mfr	Install Date	Warranty Date	Failure Class	# of Failures	MTBF (Days)	Avg Downtime During Failures(Hrs)	Avg Downtime All (Hrs)
11400	Boiler- 50,000 Lb/Hr/ Gas Fired/ Water Tube	BWV	5/31/1994	11/29/1999	BOILERS	4	416.77	1.28	1.28

[Click here to review totals graphically](#)

NOTE MRO Software provides you with a custom Application Programming Interface (API) that requires you to provide an Oracle or SQL Server database user with READ-only access to the following tables:

- ▼ L_REPORTLABEL
- ▼ MAXVARS
- ▼ REPORTLABEL

For more information about how to grant database access to a user, see “Providing Security Access to your Report Developers,” on page 6-32.

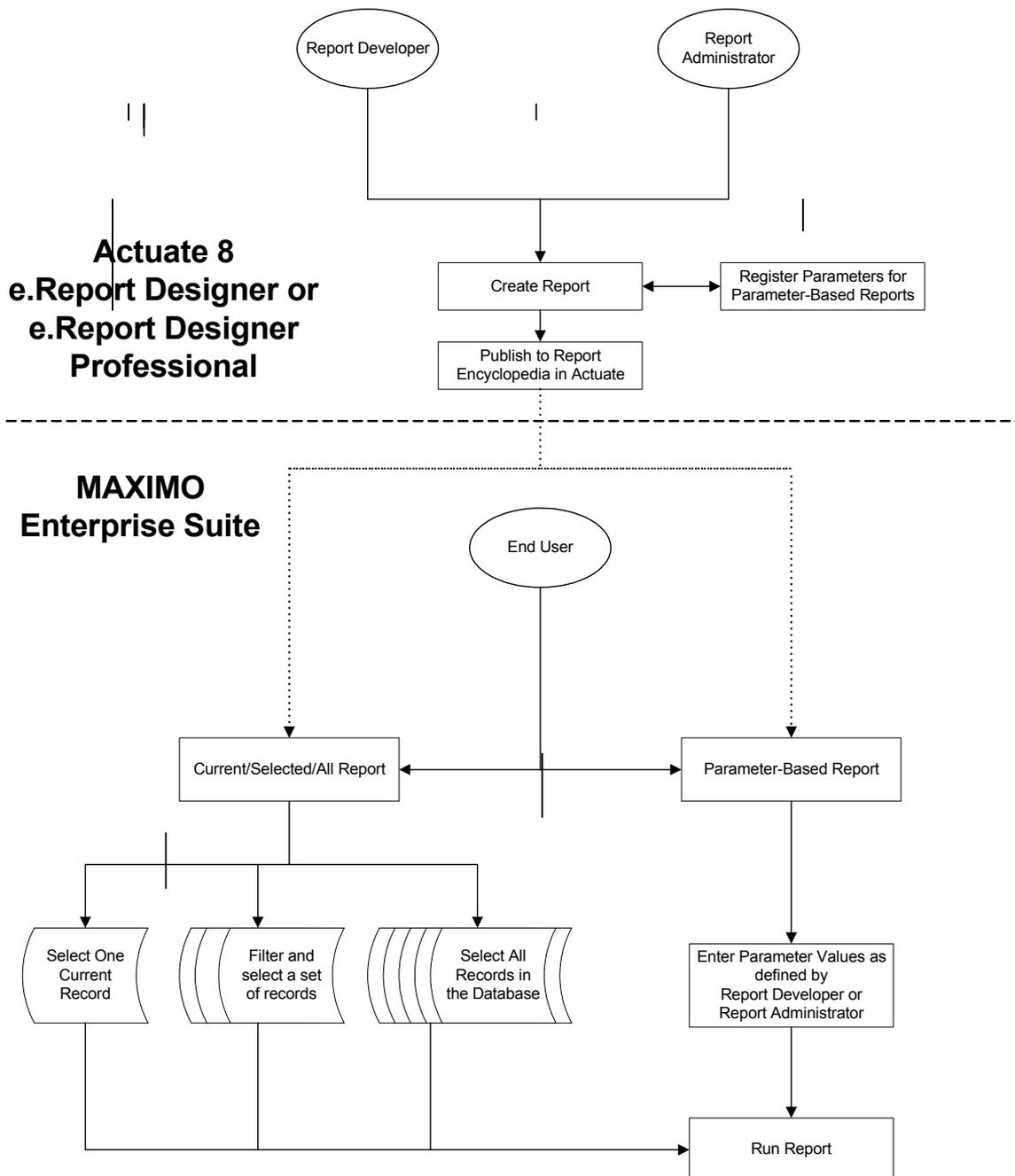
WARNING If you delete this database user with READ-only access, you cannot use the Labels feature for Maximo queries.

Defining Report Types

This section defines the two types of reports you can run in Maximo:

- ▼ Current/Selected/All – reports without parameters that the end user runs by selecting either the current record, selected records, or all records
- ▼ Parameter-Based – reports containing parameters that the end user runs against parameter values defined by the report administrator or report developer

The following flowchart shows the report process as described in this section.



Working with Parameters

The following table describes how the actions of the Report Administrator (who registers reports) affect the end user (who generates those reports).

Reports with Parameters Information Table

Number of parameters in Report	How you register report	What end user generates the report against
one or more parameters	with parameters in the Report Administration application	the parameter(s) that the Report Administrator defined for this Parameter-Based report.
no parameters	without parameters in the Report Administration application	one or more records that user selects for this Current/Selected/All report.

Running Current/Selected/All Reports

You run a Current/Selected/All report by querying the record set in a specific application. When you run the report, Maximo passes the where clause to the report in Actuate to execute it.

You can run a Current/Selected/All Report in one of three ways:

- ▼ Current Record
- ▼ Selected Records
- ▼ All Records

The following sections depict scenarios illustrating each way.

Current Record

You open one record and run a report based on only that record, as in the following example:

- 1 Open the Work Order Tracking application
- 2 Select work order 5009.

Work Order Tracking Application (Work Order Tab) with Work Order Record Selected

The screenshot displays the Maximo Work Order Tracking application interface. The top navigation bar includes 'List', 'Work Order', 'Plans', 'Related Records', 'Actuals', 'Safety Plan', 'Log', and 'Failure Reporting'. The main content area is divided into several sections:

- Work Order Details:** Work Order: 5009, Location: BOILER, Asset: [empty], Parent WO: [empty], Classification: [empty]. Description: Ventilator in Boiler Room Making Noise - Check. Site: BEDFORD, Work Type: CM, GL Account: 6210-300-???. Attachments: [empty], Status: WVAPPR, Status Date: 12/31/98 12:55 PM. Inherit Status Changes? [checked], Accepts Charges? [checked], Is Task? [unchecked].
- Job Details:** Job Plan: [empty], PM: [empty], Safety Plan: [empty], Contract: [empty]. Asset Up? [unchecked], Warranties Exist?? [unchecked], SLA Applied? [unchecked], Charge to Store? [unchecked], Failure Class: [empty], Problem Code: [empty]. Asset.Location Priority: 1, Priority: 5, Priority Justification: [empty], Risk: [empty].
- Scheduling Information:** Target Start: 1/1/99 9:00 AM, Target Finish: [empty], Scheduled Start: [empty], Scheduled Finish: [empty]. Actual Start: [empty], Actual Finish: [empty], Duration*: 1:30, Time Remaining: [empty]. Originating Record: [empty], Originating Record Class: [empty], Has Follow-up Work?: [unchecked], Interruptible?: [unchecked].
- Responsibility:** Reported By: MAXIMO, Reported Date: 12/31/98 9:00 AM, On Behalf Of: [empty], Work Phone: x1150. Supervisor: BOYD, Lead: [empty], Work Group: [empty], Vendor: [empty]. Owner: [empty], Owner Group: [empty], Service: [empty], Service Group: [empty].

3 Run the Work Order Details Report for work order 5009.

Work Order Details Report for Work Order 5009

Work Order Details // 5009 - Ventilator in Boiler Room Making Noise - Check-out									
WO: 5009	Sched Start:	Sched Finish:							
Site: BEDFORD	Target Start: 1/1/1999 9:00:00 AM	Target Finish:							
Status: WAPPR	Actual Start:	Actual Finish:							
Parent:	Report Date: 12/31/1998 9:00:00 AM	Reported By: WINSTON							
Work Type: CM	Priority: 5	GL Account: 6210-300-???							
Vendor:	Contract:								
Classification:	Failure Class:	Problem Code:							
Lead:	Supervisor: BOYD	Person Group:							
Owner:	Owner Group:								
Service:	Service Group:								
Job Plan:	Asset:	Location: BOILER	Boiler Room						
Planned Labor									
Task ID	Craft	Skill Level	Labor	Vendor	Contract	Qty	Hours	Rate	Line Cost
	ELECT	FIRSTCLASS				1	01:00	\$22.00	\$22.00
	MECH	FIRSTCLASS				1	02:00	\$25.00	\$50.00
Total Planned Labor:									\$72.00

Selected Records

You filter the entire list of records and run a report based upon those selected, as in the following example:

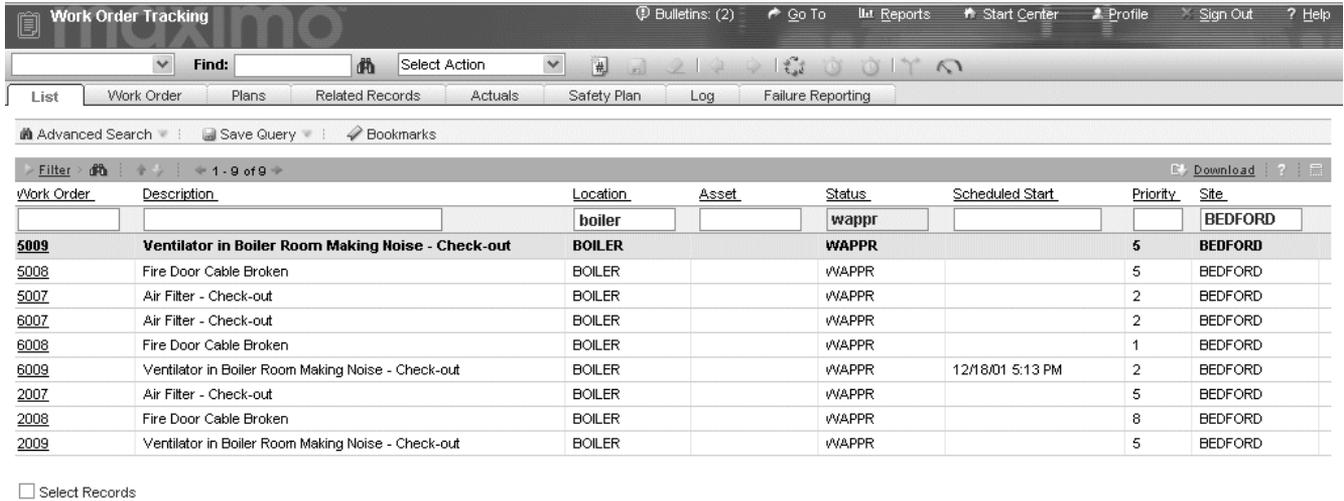
- 1 Open the Work Order Tracking application.
- 2 Select the List tab.
- 3 Select a method to limit work orders:
 - ▼ If you want to limit work orders through the header row, go to step 4.
 - ▼ If you want to limit work orders through the **Select Records** check box, go to step 6.
- 4 In the header row, enter the following values:

Column	Value
Location	Boiler
Status	WAPPR
Site	Bedford

5 Click **Enter** to open this list of selected records.

Go to step 9.

Work Order Tracking Application (List Tab) with Filtered Values



6 Check the **Select Records** check box to open a column of check boxes, one corresponding to each record in the list.

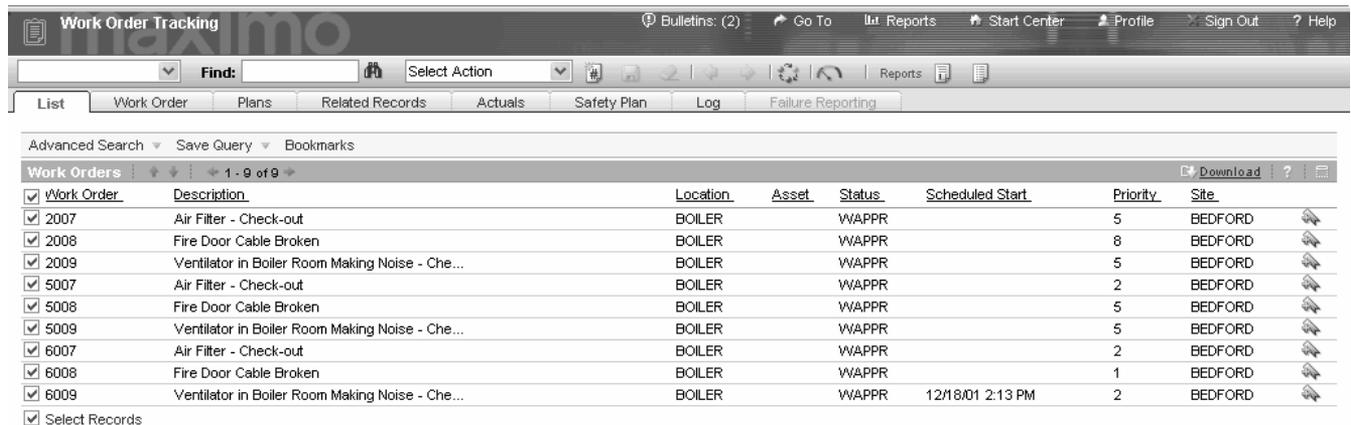
NOTE If the list contains more than 200 records, Maximo displays a dialog box that you must further limit the results.

7 Place a checkmark next to those records you want to include in the report. For example, use header rows to limit the list to the following values:

Column	Value
Location	Boiler
Status	WAPPR
Site	Bedford

8 Select those records for which you want to run a report.

Work Order Tracking Application (List Tab) with Selected Records Checked



9 Run the Work Order List Report for the selected records.

Work Order List Report for Selected Records

Reporting Close Report

Page: 1 of 1

Work Order List

Site: BEDFORD

Work Order	Description	Type	Status	Priority	Lead	Location	Asset	Job Plan	Parent WO	Scheduled Start	Scheduled Finish
2007	Air Filter - Check-out	CM	WAPPR	5		BOILER					
2008	Fire Door Cable Broken	CM	WAPPR	8		BOILER					
2009	Ventilator in Boiler Room Making Noise - Check-out	CM	WAPPR	5		BOILER					
5007	Air Filter - Check-out	CM	WAPPR	2		BOILER					
5008	Fire Door Cable Broken	CM	WAPPR	5		BOILER					
5009	Ventilator in Boiler Room Making Noise - Check-out	CM	WAPPR	5		BOILER					
6007	Air Filter - Check-out	EM	WAPPR	2		BOILER					
6008	Fire Door Cable Broken	EM	WAPPR	1		BOILER					
6009	Ventilator in Boiler Room Making Noise - Check-out	EM	WAPPR	2		BOILER				12/18/2001	12/23/2001

Records Selected: 9

All Records

You run a report against the Maximo database for all records in a specific application. For example, you run a report against all work order tracking records in the database.

Work Order Tracking Application (List Tab) with All Records Selected

The screenshot shows the Maximo Work Order Tracking application interface. The top navigation bar includes "Work Order Tracking", "Bulletins: (2)", "Go To", "Reports", "Start Center", "Profile", "Sign Out", and "Help". Below the navigation bar is a search and filter area with a "Find:" field, a "Select Action" dropdown, and various icons. The main content area displays a table of work order records. The table has columns for Work Order, Description, Location, Asset, Status, Scheduled Start, Priority, and Site. The first record is highlighted in bold, indicating it is selected. Below the table, there is a checkbox labeled "Select Records" which is checked.

Work Order	Description	Location	Asset	Status	Scheduled Start	Priority	Site
1000	Relocate Guard Rails Around Compressor	BR300	11300	WAPPR		2	BEDFORD
5009	Ventilator in Boiler Room Making Noise - Check-out	BOILER		WAPPR		5	BEDFORD
5008	Fire Door Cable Broken	BOILER		WAPPR		5	BEDFORD
5006	Check-out Alignment of Steel Support Bracket	BPM3100	13143	WAPPR		2	BEDFORD
5007	Air Filter - Check-out	BOILER		WAPPR		2	BEDFORD
5005	Check-out Leaking	BPM3100	13145	WAPPR		4	BEDFORD
5004	Feeder Jammed	BPM3100	13110	WAPPR		5	BEDFORD
5003	Scale Calibration on Dock Mis-reading	SHIPPING		WAPPR		1	BEDFORD
5002	Stop Guard on Shipping Dock	SHIPPING		WAPPR		1	BEDFORD
5001	Ventilation Fan - Check-out Noise	SHIPPING		WAPPR		3	BEDFORD
5000	Window Broken in Shipping Dept.	SHIPPING		WAPPR		2	BEDFORD
5014	Crane Quarterly Inspection and Certification	SHIPPING	12210	WAPPR		4	BEDFORD
5015	Forklift #1 Quarterly Inspection and Certification	SHIPPING	12100	WAPPR		3	BEDFORD
5012	Compressor Quarterly Inspection and Certification	BR300	11300	WAPPR		4	BEDFORD
5011	HVAC Quarterly Inspections & Certification	BR200	11200	WAPPR		3	BEDFORD
1007	Packaging Mach. Elevator & Drainpan Inspection	BPM3100	13141	APPR		8	BEDFORD
1008	Repair Damaged Conduit Feeding Generator	BR230	11230	WAPPR		7	BEDFORD
1001	12 Month Service on Shipping Dept #1 Conveyor	SHIPPING	12600	INPRG		5	BEDFORD
6010	12 Month Service on Shipping Dept #2 Conveyor	SHIPPING	12700	WAPPR	1/23/02 8:04 AM	2	BEDFORD
2002	Stop Guard on Shipping Dock	SHIPPING		WAPPR		3	BEDFORD

Select Records

The Work Order List report appears for all records.

Work Order List Report for All Records

Reporting Close Report											
Page: 1 of 12											
Work Order List											
Site: BEDFORD											
Work Order	Description	Type	Status	Priority	Lead	Location	Asset	Job Plan	Parent WO	Scheduled Start	Scheduled Finish
1000	Relocate Guard Rails Around Compressor	CM	WAPPR	2		BR300	11300				
1001	12 Month Service on Shipping Dept #1 Conveyor	CM	INPRG	5		SHIPPING	12600	JP13140			
1002	Rebuild Feedwater Pump	CM	APPR	9		BR450	11450	JP11430			
1003	Check for Plumbing Problem	CM	APPR	5		BOILER		JP1000			
1004	Generator Overhaul	CM	INPRG	1		BR230	11230	JP11210			
1005	Electric Cart Tune-Up	CM	APPR	7		SHIPPING	12300	JP12300			
1006	Feedwater Pump Service	CM	APPR	7		BR450	11450	JP11430			
1007	Packaging Mach. Elevator & Drainpan Inspection	CM	APPR	8		BPM3100	13141	JP1314A			
1008	Repair Damaged Conduit Feeding Generator	CM	WAPPR	7		BR230	11230				
1009	12 Month Service on Shipping Dept #2 Conveyor	PM	INPRG	8		SHIPPING	12700	JP13140			
1013	Inspect and Repair Pump as Required	CM	APPR	5		REPAIR	11470				
1018	Paint Guard Rail Around #1 Fan	CM	WAPPR	4		BR210	11210				
1019	Conveyor Overhaul- Pkg. Dept.	PM	COMP	8		BPM3100	13140	JP1314A			
1020	Generator Overhaul	EM	WSCH	2		BR230	11230	JP11210		4/22/2002	4/28/2002
1021	Conveyor Overhaul- Conveyor #2	PM	WSCH	8		SHIPPING	12700	JP1314A			
1022	Electric Cart Tune-Up	PM	WSCH	3		SHIPPING	12300	JP12300			
1023	Conveyor Overhaul- Conveyor #1	PM	WSCH	8		SHIPPING	12600	JP1314A			
1024	Condensate Return Pump Quarterly Service	PM	WSCH	9		BR430	11430	JP11430A			
1025	Conveyor Overhaul- Pkg. Dept.	PM	WSCH	8		BPM3100	13140	JP1314A			
1026	HVAC Quarterly Inspections & Certification	PM	WSCH	9		BR200	11200	INS11200			
1027	Compressor Quarterly Inspection and Certification	PM	WSCH	9		BR300	11300	INS11300			
1028	Burner Quarterly Inspection and Certification	PM	WSCH	9		BR460	11460	INS11460			
1029	Crane Quarterly Inspection and Certification	PM	WSCH	7		SHIPPING	12210	INS12200			
1030	Forklift #1 Quarterly Inspection and Certification	PM	WSCH	7		SHIPPING	12100	INS12100			

Defining and Running Parameter-Based Reports

This section describes how a report administrator can define a Parameter-Based report so that the end user can run it. After the administrator registers parameters, the end user can use that parameter to have Maximo filter information and generate only the information that the end user needs.

As you define this report, you will want to refer to “Running Parameter-Based Reports – Tips for the Report Administrator,” on page 6-40.

- 1 In the Maximo Report Administration application, open a Parameter-Based report. For this example, open a Summary of Asset Failures by Location Report as an example of a Parameter-Based report.
- 2 To display the details fields, click **New Row**.

Report Administration Application (Report Tab) with Summary of Asset Failures by Location Report Selected

The screenshot displays the Maximo Report Administration application interface. The top navigation bar includes 'Report Administration', 'Bulletins: (2)', 'Go To', 'List Reports', 'Start Center', 'Profile', 'Sign Out', and 'Help'. Below the navigation bar, there are tabs for 'List', 'Report', and 'Labels'. The main content area is titled 'Report Administration' and shows the configuration for the 'Summary of Asset Failures by Location' report.

Report File Name:

Report Details

Report Run Type: **No Request Page?** **Toolbar Location:**

Application: **Detail?** **Toolbar Image:**

Report Folder: **Attach Documents?** **Toolbar Sequence:**

Report Lookups (1 - 5 of 5)

Parameter Name	Attribute Name	Sequence	Override Label	Required?	Hidden?
location	LOCATION	1	Location	<input checked="" type="checkbox"/>	<input type="checkbox"/>
mroSite	SITEID	2	Site	<input checked="" type="checkbox"/>	<input type="checkbox"/>
startDate	ALLWO.FAILDATE	3	Start Date	<input checked="" type="checkbox"/>	<input type="checkbox"/>
endDate	ALLWO.FAILDATE	4	End Date	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>

Details

Parameter Name:
Attribute Name:
Lookup Name:
Operator:
Multi-lookup enabled?

Display Sequence:
Override Label:
Default Value:
Required?

3 Complete the fields that appear beneath the Details heading.

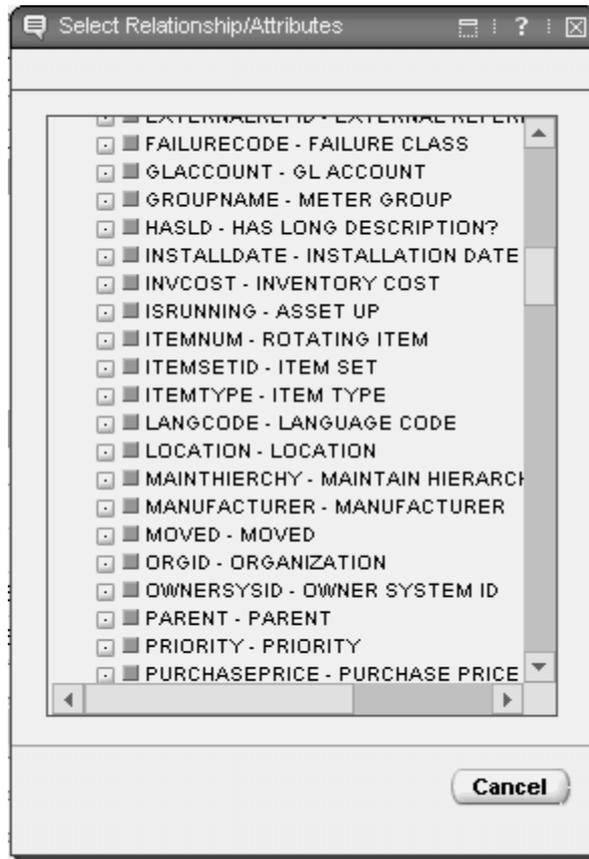
The Tips section at the end of this chapter contains the following information to help you in completing these fields:

- “Defining Bound and Unbound Parameters,” on page 6-41
- “Determining your Parameter’s Attribute Name,” on page 6-43
- “Storing Parameter-Based Reports in Multiple Maximo Applications,” on page 6-45

- ▼ **Parameter Name** – Enter the exact name of the parameter you defined in e.Report Designer Professional.
- ▼ **Attribute Name** – Enter an attribute name or click the Detail Menu icon to select a name from a list of all attributes for the Maximo application you selected. Available attributes correspond to the column tables for that application.

NOTE Do not use the **Attribute Name** field if you are adding an Unbound Parameter.

Special Relationship/Attribute Dialog Box (for Attribute Name field)



- ▼ **Lookup Name** – If you select an attribute name with an existing Maximo lookup, this field defaults to that lookup value. Or, you can click the Select Value icon to select from a list of all lookups.

- ▼ **Operator** – Use this field to select a mathematical operator for the new parameter. For example, when adding a START DATE parameter:
 - Select “>=” to run a report with start dates later (greater) than or equal to the date you enter when you run the report.
 - Select “<=” to run a report with start dates earlier (less) than or equal to the date you enter when you run the report.
- ▼ **Multi-lookup Enabled?** – If you select this check box, the end user can enter or select multiple entries for a parameter field. For example, if this check box is selected, the end user can enter or select Bedford, McLean, and Nashua as valid sites instead of only one site.
- ▼ **Display Sequence** – The order in which the new parameter appears on the request page. For example, if the parameter is to appear after four existing parameters, enter **5** in this field.
- ▼ **Override Label** – The name of the parameter as it will appear on the page to the end user.
- ▼ **Default Value** – The default value, if any, that will appear to the end user. For example, if you are creating a LABOR parameter, you can enter **ACTIVE** as the default value.

NOTE

If you use Default Values for your parameter, you cannot use the **Operator** field that appears on this screen.

- ▼ **Required?** – select this check box if the end user running this report needs this parameter.

4 To continue adding parameters, click **New Row**. The new parameter appears with the other Report Lookups.

5 To save the report, click the Save Report icon.

6 To apply the changes, click **Generate XML on the Report Tab**.

You have added a parameter to the report.

Deleting a Report

When you delete a report, you remove it permanently from the Maximo database. Among reasons for deleting a report would be if it offers you a report you no longer use or a view of report data that you no longer use.

The following section contains instructions for deleting the Summary of Asset Failures by Location Report. To delete the report, complete the following steps:

- 1 Open the Maximo Report Administration application to display the List tab.

Report Administration Application (List Tab)

The screenshot shows the Maximo Report Administration application interface. At the top, there is a navigation bar with 'Report Administration' and 'Maximo' logos, along with utility links like 'Bullets: (2)', 'Go To', 'List Reports', 'Start Center', 'Profile', 'Sign Out', and 'Help'. Below this is a search bar with 'Find:' and a 'Select Action' dropdown. The main content area is titled 'Reports' and shows a table with columns for 'Report File Name', 'Description', 'Application', and 'Report Folder'. The table lists various reports, including 'asset_costrollup_update_act.rox', 'sum_assetfail_act.rox', 'drillasset_fail_tbl_act.rox', etc. At the bottom left, there is a checkbox for 'Select Records' and a button for 'Recreate all XML on the List Tab'.

Report File Name	Description	Application	Report Folder
asset_costrollup_update_act.rox	Asset Cost Rollup Database Update	ASSET	ASSET
sum_assetfail_act.rox	Summary of Asset Failures by Location	ASSET	ASSET
drillasset_fail_tbl_act.rox	Drilldown into Asset's Failures	ASSET	ASSET
top10_asset_repost_tbl_act.rox	Top Maintenance Costs by Assets	ASSET	ASSET
asset_measurehist_act.rox	Asset Measurement History	ASSET	ASSET
detailasset_fail_tbl_act.rox	Details of an Asset's Failures	ASSET	ASSET
mtbf.dox	MTBF and MTTR Query	ASSET	ASSET
assetmove_history.rox	Asset Move History	ASSET	ASSET
asset_costrollup_act.rox	Asset Cost Rollup	ASSET	ASSET
asset_availability_act.rox	Asset Availability	ASSET	ASSET
class_struct_act.rox	Classification Details	ASSETCAT	ASSETCAT
class_hierarchy_act.rox	Classification Hierarchy	ASSETCAT	ASSETCAT
work_assign_tbl_craft_act.rox	Work Order Assignments by Craft	WORKMAN	ASSGNMGR
work_assign_tbl_wo_act.rox	Work Order Assignments by Work Order	WORKMAN	ASSGNMGR
mrprint_act.rox	Material Requisition Detail	BUYER	BUYER
chrtacct_act.rox	Chart of Accounts	CHRTACCT	CHRTACCT
vendor_contacts_act.rox	Vendor Contacts	COMPANY	COMPANY
cond_act.rox	Condition Monitoring	COND	COND
eSig_trans_act.rox	Electronic Security Transactions	CONFIGUR	CONFIGUR
listtbl_act.rox	Maximo Database Tables	CONFIGUR	CONFIGUR

- To select the report that you want to delete, click that report. The report opens in the Report Tab.

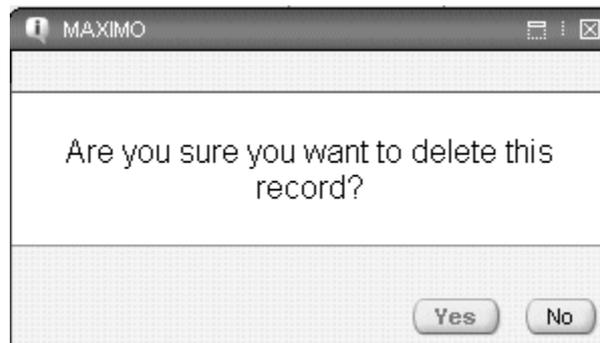
Report Administration Application (Report Tab) with Delete Report Selected from Select Action Menu

The screenshot shows the Maximo Report Administration interface. The 'Select Action' menu is open, with 'Delete Report' highlighted. The report title is 'Summary of Asset Failures by Location'. The 'Report Details' section includes fields for 'Report Run Type' (REPORT), 'Application' (ASSET), and 'Report Folder' (ASSET). There are also checkboxes for 'No Request Page?', 'Detail?', and 'Attach Documents?' (checked). The 'Report Lookups' table is visible below.

Parameter Name	Attribute Name	Sequence	Override Label	Required?	Hidden?
location	LOCATION	1	Location	<input checked="" type="checkbox"/>	<input type="checkbox"/>
mroSite	SITEID	2	Site	<input checked="" type="checkbox"/>	<input type="checkbox"/>
startDate	ALLWO.FAILDATE	3	Start Date	<input checked="" type="checkbox"/>	<input type="checkbox"/>
endDate	ALLWO.FAILDATE	4	End Date	<input checked="" type="checkbox"/>	<input type="checkbox"/>
item number	ITEMNUM	5	Item Number	<input checked="" type="checkbox"/>	<input type="checkbox"/>

- From the Select Action Menu, select **Delete Report**. Maximo opens a dialog box asking you to confirm the deletion.
- To delete the record, click **Yes**.

Maximo Confirm Deletion Dialog Box



Providing Security Access to your Report Developers

As the Report Administrator, you have a unique database sign in to your Maximo database. End users have a unique sign in to Maximo, but not to the Oracle or SQL Server database.

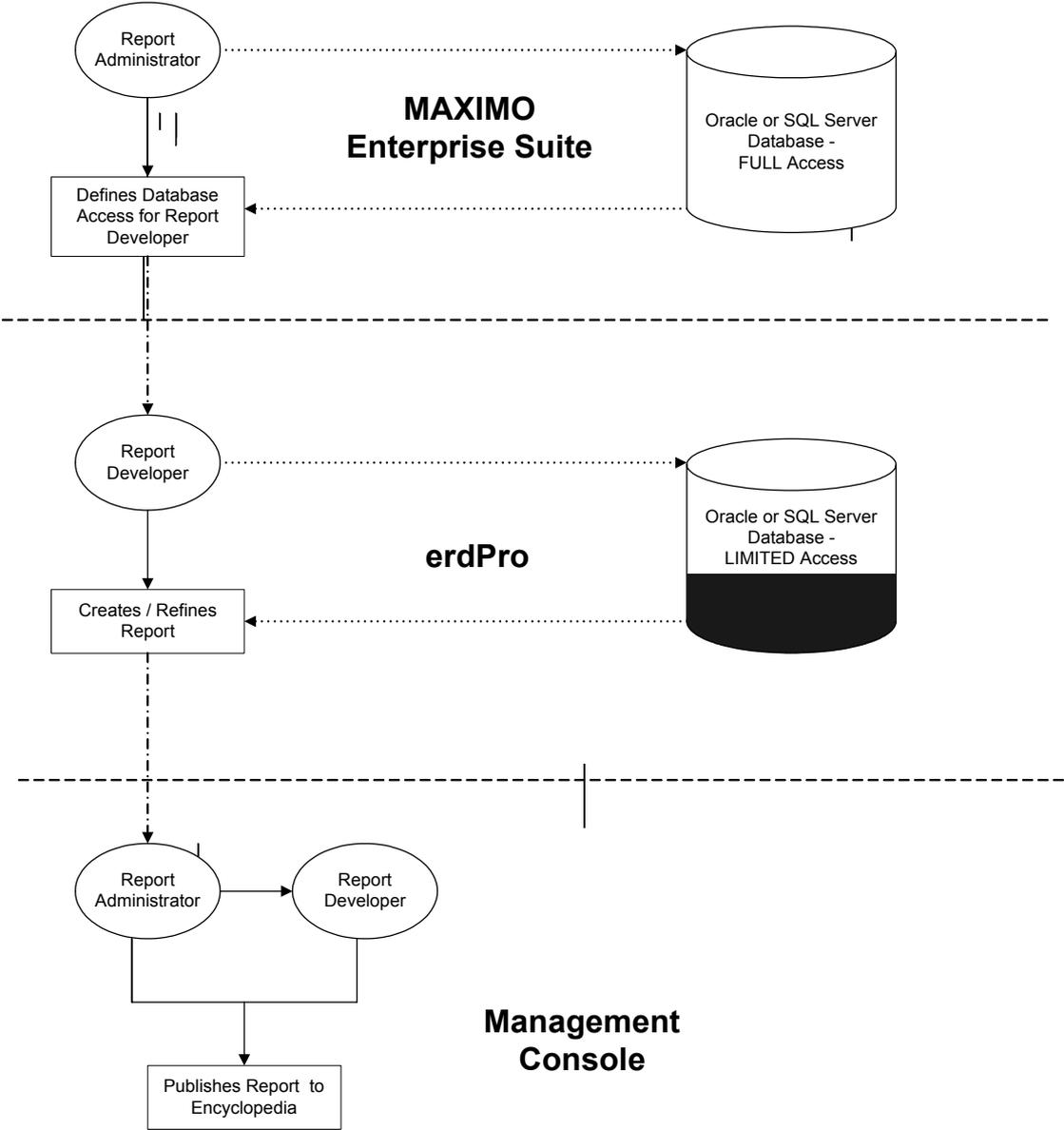
Unlike your end users, your report developer needs Maximo database access to develop reports in e.Report Designer Professional. This section describes how to let your report developers have access to the database(s) that they need in order to develop reports.

This section describes the following tasks:

- ▼ As the Report Administrator, you provide READ access to the ASSET object for Report Developer HENRYL in Maximo (steps 1 – 6).
- ▼ As the Report Developer HENRYL, you create and refine a report in e.Report Designer Professional (steps 7 – 10).
- ▼ As the Report Administrator or Report Developer HENRYL, you publish the report to the Management Console (step 11).

The following diagram further illustrates this process:

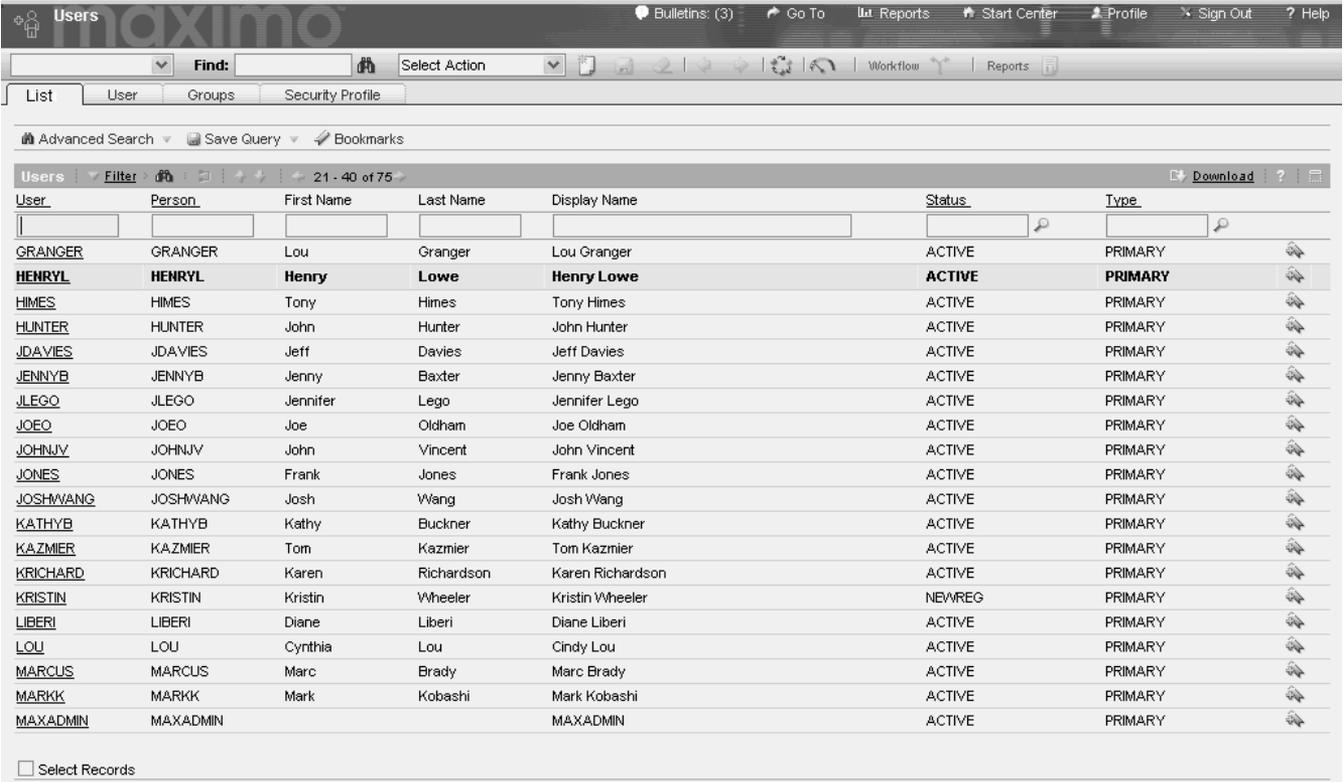
Provide Security Access to your Report Developer – Illustration of Steps



To provide security access to your Report Developer HENRYL, complete the following steps:

- 1 In Maximo, select **Security>Users** to open the Users application.

Users Application (List Tab)



User	Person	First Name	Last Name	Display Name	Status	Type
GRANGER	GRANGER	Lou	Granger	Lou Granger	ACTIVE	PRIMARY
HENRYL	HENRYL	Henry	Lowe	Henry Lowe	ACTIVE	PRIMARY
HIMES	HIMES	Tony	Himes	Tony Himes	ACTIVE	PRIMARY
HUNTER	HUNTER	John	Hunter	John Hunter	ACTIVE	PRIMARY
JDAVIES	JDAVIES	Jeff	Davies	Jeff Davies	ACTIVE	PRIMARY
JENNYB	JENNYB	Jenny	Baxter	Jenny Baxter	ACTIVE	PRIMARY
JLEGO	JLEGO	Jennifer	Lego	Jennifer Lego	ACTIVE	PRIMARY
JOEO	JOEO	Joe	Oldham	Joe Oldham	ACTIVE	PRIMARY
JOHNJV	JOHNJV	John	Vincent	John Vincent	ACTIVE	PRIMARY
JONES	JONES	Frank	Jones	Frank Jones	ACTIVE	PRIMARY
JOSHWANG	JOSHWANG	Josh	Wang	Josh Wang	ACTIVE	PRIMARY
KATHYB	KATHYB	Kathy	Buckner	Kathy Buckner	ACTIVE	PRIMARY
KAZMIER	KAZMIER	Tom	Kazmier	Tom Kazmier	ACTIVE	PRIMARY
KRICHARD	KRICHARD	Karen	Richardson	Karen Richardson	ACTIVE	PRIMARY
KRISTIN	KRISTIN	Kristin	Wheeler	Kristin Wheeler	NEWREG	PRIMARY
LIBERI	LIBERI	Diane	Liberi	Diane Liberi	ACTIVE	PRIMARY
LOU	LOU	Cynthia	Lou	Cindy Lou	ACTIVE	PRIMARY
MARCUS	MARCUS	Marc	Brady	Marc Brady	ACTIVE	PRIMARY
MARKK	MARKK	Mark	Kobashi	Mark Kobashi	ACTIVE	PRIMARY
MAXADMIN	MAXADMIN			MAXADMIN	ACTIVE	PRIMARY

- 2 In the Users Application, select the Report Developer for whom you want to provide database access. In the following example, you have selected HENRYL who is one of the Report Developers in your organization.

- 3 Click the Users tab and from the Select Action menu, select **Database Access** to open the Database Access dialog box.

Database Access Dialog Box

User HENRYL Henry Lowe

Database User Information

Database User ID HENRYL

Database Password *****

Confirm Password *****

Drop Database User

Object Name	Entity Name	Read?	Insert?	Update?	Delete?
...No rows to display...					

New Row

OK Cancel

- 4 In the Database Access dialog box, complete the following fields.

NOTE Your Report Developer will use the user ID and password you enter here (through the Database Login page in e.Report Designer Professional) to access the Oracle or SQL Server database.

- ▼ **Database User ID** – Provide the Report Developer with an Oracle or SQL Server database user ID. You can use the Maximo ID (HENRYL) for the Database User ID or you can enter another name for this developer.
- ▼ **Database Password** – Provide the Report Developer with an Oracle or SQL Server database password. You can use the Maximo password for the database password or you can enter another password for this developer.
- ▼ **Confirm Password** – To confirm the database password that you entered, type the password again.

- 5 Click **New Row** to open a table row that lets you define specific database access for your report developer. Complete the following fields:

NOTE Your report developer will use the object name that you enter here (through the Textual Query Editor in e.Report Designer Professional) to create a report using the Oracle or SQL Server database.

- ▼ **Object Name** – Type an Object Name or click the Detail Menu arrow to select an object name from a list. The object name you enter will be the default from the **Entity Name** field. In the following example, you have selected Asset as the Object Name.
- ▼ **Read?, Insert?, Update?, Delete?** – Select the check box corresponding to the level(s) of access you want to provide for the Report Developers.

For this example, you assign Report Developer HENRYL only READ access.

Database Access Dialog Box with Open Table Row

The screenshot shows the 'Database Access' dialog box. At the top, the 'User' field is set to 'HENRYL' and the full name 'Henry Lowe' is displayed. Below this is the 'Database User Information' section with fields for 'Database User ID' (HENRYL), 'Database Password' (masked with asterisks), and 'Confirm Password' (masked with asterisks). A 'Drop Database User' button is located to the right. The 'Tables' section shows a table with one row for 'ASSET'. The 'Details' section below the table shows the configuration for the selected row: 'Object Name *' is 'ASSET', 'Entity Name' is 'ASSET', 'Read?' is checked, 'Insert?' is unchecked, 'Update?' is unchecked, and 'Delete?' is unchecked. At the bottom right, there are 'OK' and 'Cancel' buttons.

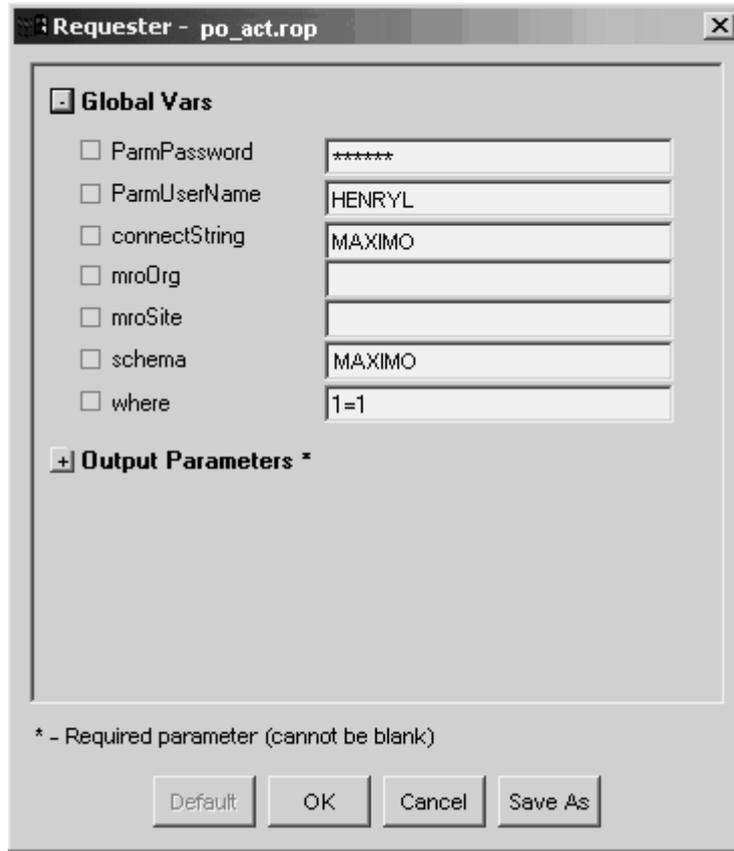
Object Name	Entity Name	Read?	Insert?	Update?	Delete?
ASSET	ASSET	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- To define the database access for Report Developer HENRYL, click **OK**.

HENRYL now has his own database login that he will use to run reports. HENRYL can develop the report in e.Report Designer Professional until he is satisfied with it.

- 7 Report Developer HENRYL runs the report in e.Report Designer Professional. Maximo opens the Requester dialog box.

Requester Dialog Box



- 8 To run the report, Report Developer HENRYL clicks **OK**. When HENRYL is satisfied with the report, he can continue to step 9.
- 9 Before compiling and publishing the report, report developer HENRYL must delete all information contained in the following fields:
 - ▼ ParmPassword
 - ▼ ParmUserName
 - ▼ connectString
 - ▼ schema

When an end user runs the report in Maximo, the system must pass the information in these fields to the report. This information can be passed only if these fields are blank.

- 10** Report Developer HENRYL compiles the report in e.Report Designer Professional.

Requester Dialog Box

Requester - po_act.rop

Global Vars

ParmPassword

ParmUserName

connectString

mroOrg

mroSite

schema

where 1=1

Output Parameters *

* - Required parameter (cannot be blank)

Default OK Cancel Save As

- 11** As the Report Administrator or Report Developer HENRYL, you must publish the report through Management Console.

If you want Report Developer HENRYL to use the one-click publish feature in e.Report Designer Professional, you must give that developer access to the Management Console. See “Adding a Server Profile,” on page 7-11, for additional information.

If you do not want your report developer to publish the report, do not provide any access to the Management Console. In this case, the developer must send you the report’s .rox file (or .dox file for a query) so that you can publish it to the Management Console.

Running Parameter-Based Reports – Tips for the Report Administrator

The following section contains important tips that you might want to refer to as you run a Parameter-based report. These tips are divided into the following sections:

- ▼ Defining Bound and Unbound Parameters
- ▼ Determining your Parameter's Attribute Name
- ▼ Storing Parameter-Based Reports in Multiple Maximo Applications

Defining Bound and Unbound Parameters

You can use parameters to specify the information to appear on Parameter-Based reports. Maximo has two types of parameters:

- ▼ Bound
- ▼ Unbound

Bound Parameters

Bound parameters have fields, or relationships, in the Maximo database. For example, in the Summary of Asset Failures by Location Report, all four parameters (location, mroSite, startDate, and endDate) exist in the database. Maximo provides lookup information.

Some bound parameters might not contain lookup information. For these parameters, you must enter the correct parameter information.

NOTE The .rod file for a report in e.Report Designer Professional includes bound parameters.

Report Administration (Report Tab) with Summary of Asset Failures by Location Report

Report Administration

Find: [] Select Action []

List Report Labels

Report File Name * [sum_assetfail_act.rox] Summary of Asset Failures by Location

Report Details

Report Run Type * [REPORT] No Request Page? Toolbar Location * [NONE]

Application * [ASSET] Detail? Toolbar Image * [NONE]

Report Folder * [ASSET] Attach Documents? Toolbar Sequence []

Generate XML on the Report Tab Preview

Report Lookups 1 - 4 of 4

Parameter Name	Attribute Name	Sequence	Override Label	Required?	Hidden?
location	LOCATION	1	Location	<input checked="" type="checkbox"/>	<input type="checkbox"/>
mroSite	SITEID	2	Site	<input checked="" type="checkbox"/>	<input type="checkbox"/>
startDate	ALLWO.FAILDATE	3	Start Date	<input checked="" type="checkbox"/>	<input type="checkbox"/>
endDate	ALLWO.FAILDATE	4	End Date	<input checked="" type="checkbox"/>	<input type="checkbox"/>

New Row

Unbound Parameters

Unbound parameters do not exist in the Maximo database. For example, in the Inventory EOQ Analysis Report, two parameters (Carrying Cost % and Ordering Cost) have no equivalent fields or relationships in the Maximo database.

Unbound parameters, except for the Date parameter, do not contain lookup information. The user must type in the correct parameter information.

For an example of an unbound Date parameter, see the Commodity Analysis Report.

NOTE Maximo does not pass unbound parameters through the where clause. They **MUST BE** included in the report's .ROD file. The report developer must add the unbound parameter manually for the report to execute properly.

Report Administration (Report Tab) with Inventory EOQ Analysis Report

The screenshot shows the 'Report Administration' window for the 'Inventory EOQ Analysis' report. The 'Report File Name' is 'inventory_eoq_tbl_act.rox'. The 'Report Details' section includes fields for 'Report Run Type' (REPORT), 'Application' (INVENTOR), and 'Report Folder' (INVENTOR). There are also checkboxes for 'No Request Page?', 'Detail?', and 'Attach Documents?'. The 'Toolbar Location' and 'Toolbar Image' are set to 'NONE'. There are buttons for 'Generate XML on the Report Tab' and 'Preview'.

The 'Report Lookups' table is as follows:

Parameter Name	Attribute Name	Sequence	Override Label	Required?	Hidden?
storeroom	LOCATION	1	Storeroom	<input checked="" type="checkbox"/>	<input type="checkbox"/>
cryCost		2	Carrying Cost %	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ordCost		3	Ordering Cost	<input checked="" type="checkbox"/>	<input type="checkbox"/>

A 'New Row' button is located at the bottom right of the table.

Determining your Parameter's Attribute Name

When you add a parameter to a report, one way that you can define the parameter further is through the **Attribute Name** field. This section is meant to assist you in determining a parameter's attribute name.

To determine an attribute name, complete the following steps:

- 1 Determine if the main table of your Maximo application is the same as the main table that your report uses. If unable to determine this, continue to step 2.
- 2 Determine the relationship that exists between the parameter you are adding and the Maximo application. If unable to determine this relationship, continue to step 3.
- 3 Determine that no direct relationship exists between the parameter you are adding and the Maximo application where the report resides.

Determine if the main table of your Maximo application is the same as the main table that your report uses

To determine if the main table of your Maximo application is the same as the main table that your report uses (the parameter exists in the main table of that application), run an SQL statement on the report application using a database query tool.

For example, if you are adding a Location parameter to the Summary of Asset Failures Report, you could run a statement such as:

```
Select * from maxapps where app = 'ASSET';
```

where

ASSET is the application where that report is located.

After you execute this statement, the result indicates that the main table is Asset. Since the location parameter exists in the main table of the Asset application, you should enter Location in the **Attribute Name** field.

If the main table of your application is the same table that your report is using, enter that table name in the **Attribute Name** field.

If the main table of your application is not the same table that your report is using, continue to the section.

Determine the relationship that exists between the parameter you are adding and the Maximo application

To determine if the relationship that exists between the parameter you are adding and the Maximo application, run an SQL statement on the relationship (the MAXRELATIONSHIP) using a database query tool.

For example, if you are adding the Start Date parameter to the Summary of Asset Failures Report, you could run a statement such as:

```
Select * from maxrelationship where parent = 'ASSET' and child = 'WORKORDER';
```

where

ASSET (the parent) is the main table application where the report exists.

WORKORDER (the child) is the table name of the field where the Start Date parameter resides.

After you execute this statement, you can evaluate the where clauses of the available relationships and determine the relationship that best meets the needs of the report. In this case, the relationship is ALLWO and you should enter ALLWO.FAILDATE in the **Attribute Name** field for this parameter.

If you cannot determine the relationship between the parameter you are entering and the Maximo application, continue to the next step.

Determine that no direct relationship exists between the parameter you are adding and the Maximo application where the report resides

If there is no way to specify the MAXRELATIONSHIP that exists between the parameter and the application, you must add the parameter as an Unbound parameter and leave the Attribute Name field blank.

For more database information, refer to the database configuration chapter in the Maximo Enterprise Suite *System Administrator's Guide*.

Storing Parameter-Based Reports in Multiple Maximo Applications

All standard Maximo reports belong to an application. For example, the Open Work Orders and PM Report is located in the Work Order Tracking Application.

CAUTION If you want to move this report to another application, you must check that all its attributes, for both required and non-required parameters, appear in that application.

For example, if you receive a request to store the Open Work Orders and PM reports in the Preventive Maintenance application, you must verify that ASSET, LOCATION, and SITE are all attributes in the Preventive Maintenance application. You can verify the attributes in any application by using the following SQL statement:

```
select attributename from maxattribute where objectname = 'application name'
```

where

application name is Preventive Maintenance

You can store the Open Work Orders and PM reports in the Preventive Maintenance application as all three attributes are common to both the Work Order Tracking application and the Preventive Maintenance application.

Report Administration (Report Tab) with Open Work Orders and PM Report (all parameters in PM)

The screenshot shows the Maximo Report Administration interface. The top navigation bar includes "Report Administration", "Bulletins: (2)", "Go To", "List Reports", "Start Center", "Profile", "Sign Out", and "Help". Below the navigation bar, there are tabs for "List", "Report", and "Labels". The "Report" tab is active, showing the "Report File Name" field with the value "open_wo_pm_act.rox" and the report name "Open Work Orders and PM".

The "Report Details" section contains the following fields:

- Report Run Type: REPORT
- Application: PM
- Report Folder: WOTRACK
- No Request Page?:
- Detail?:
- Attach Documents?:
- Toolbar Location: NONE
- Toolbar Image: NONE
- Toolbar Sequence: (empty)

Buttons for "Generate XML on the Report Tab" and "Preview" are visible.

The "Report Lookups" section shows a table with the following data:

Parameter Name	Attribute Name	Sequence	Override Label	Required?	Hidden?
asset	WORKORDER.ASSETNUM	1	Asset	<input type="checkbox"/>	<input type="checkbox"/>
location	WORKORDER.LOCATION	2	Location	<input type="checkbox"/>	<input type="checkbox"/>
mroSite	WORKORDER.SITEID	3	Site	<input checked="" type="checkbox"/>	<input type="checkbox"/>

An arrow points to the "mroSite" row with the text: "All parameters also exist in Preventive Maintenance application." A "New Row" button is located at the bottom right of the table.

If this report contained a parameter with an application name that was in Work Order Tracking, but not available in Preventive Maintenance (PM), such as SERIALNUM, you would receive an invalid binding error message because Maximo has no link from SERIALNUM in Work Order Tracking to SERIALNUM in the PM application (as this attribute does not exist in PM).

Report Administration (Report Tab) with Open Work Orders and PM Report (Serial Number not in PM)

The screenshot shows the Maximo Report Administration interface. At the top, the report name is 'Open Work Orders and PM' and the file name is 'open_wo_pm_act.rox'. The 'Report Details' section shows the report run type is 'REPORT', the application is 'PM', and the report folder is 'WOTRACK'. Below this is a table of 'Report Lookups' with columns for Parameter Name, Attribute Name, Sequence, Override Label, Required?, and Hidden?. The table lists four lookups: 'asset' (WORKORDER.ASSETNUM), 'location' (WORKORDER.LOCATION), 'mroSite' (WORKORDER.SITED), and 'Serial Number' (SERIALNUM). The 'Serial Number' lookup is selected, and its details are shown below, including 'Display Sequence' (4), 'Override Label' (Serial Number), and 'Required?' (unchecked). A text box below the table states 'Parameter that does not exist in the Preventive Maintenance application.'

Parameter Name	Attribute Name	Sequence	Override Label	Required?	Hidden?
asset	WORKORDER.ASSETNUM	1	Asset	<input type="checkbox"/>	<input type="checkbox"/>
location	WORKORDER.LOCATION	2	Location	<input type="checkbox"/>	<input type="checkbox"/>
mroSite	WORKORDER.SITED	3	Site	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Serial Number	SERIALNUM	4	Serial Number	<input type="checkbox"/>	<input type="checkbox"/>

To resolve this issue, you can create a MAXRELATIONSHIP or an unbound parameter. For more information, refer to the database configuration chapter in the Maximo Enterprise Suite *System Administrator's Guide*.

Loading and Configuring e.Report Designer Professional

7

Overview

This chapter is for the Report Developer using e.Report Designer Professional who wants the following information:

- ▼ the different types of Actuate files
- ▼ how to load and customize e.Report Designer Professional
- ▼ how to add a server profile

Describing Actuate Files

The following table provides a quick reference to common Actuate file types. The sections following the table describe these file types in more detail.

File Type	Name	Description
.bas	Basic Source Files	Actuate Basic code associated with a specific report design.
.doi	Information Object Instance	Finished queries the end user sees in Internet Explorer.
.dov	Information Object Files	User's saved query.
.dox	Data Object Executable	Executable for an information object.
.rod	Report Object Design or Information Object Design File	Components specifying the format and content of a finished report or information object.
.roi	Report Document File	Instance or results of the report executable, that opens to the user in the browser
.rol	Library File	File containing components that can be used in one or more report designs to provide consistent behavior and performance.
.rox	Report Executable	Executable for a report.

Basic Source (.bas) Files

Basic source (.bas) files contain Actuate Basic code associated with a specific report design. Report developers create a basic source file in e.Report Designer Professional by compiling a report's object design (.rod) file.

An example of a basic source file is the FrontEndFunctions.bas, which is in your Config folder. The FrontEndFunctions.bas file contains the following items:

- ▼ details for where clause
- ▼ parameter information
- ▼ security
- ▼ system-generated ID numbers for each finished report

Information Object Instance (.doi) Files

Data object instance files contain the output of a query. End users or business users use Maximo Query to create data object instance files.

Information Object (.dov) Files

Information object files are saved queries. The .dov file contains an end user's customized information on fields, sorting, and grouping that forms a unique saved query.

Data Object Executable (.dox) Files

The data object executable files contain instructions for generating and viewing an information object. The .dox file is stored in the Encyclopedia.

An information object executable is the .dox file that contains a customizable query. The information object allows the end user or business user to form their unique query.

Report/Information Object Design (.rod) Files

Report/Information Object Design files contain components specifying the format and content of a finished query or report. Report Developers can open and edit an .rod file only on a desktop machine. End users do not need access to design files to run, view, or print queries or reports.

Use e.Report Designer Professional to create queries or report designs.

Depending on the type of output (query or report), design (.rod) files contain the following components:

- ▼ information object executable (.dox) files (Queries)
- ▼ information object instance (.doi) files (Queries)
- ▼ executable (.rox) files (Reports)
- ▼ library (.rol) files (Reports)
- ▼ report document (.roi) files (Reports)

Report Document (.roi) Files

Report document files are the finished reports end users create and view in the report browser page. Executable (.rox) files produce (.roi) files. End users view reports on the Web in DHTML format.

You can access report document (.roi) files in the view reports section of the report page.

Library (.rol) Files

Library files contain reusable report components. Different report design files include library files.

CAUTION Do NOT change your library files unless you are an advanced Maximo reports user. If you change a library file without knowing the full implications, you can cause multiple reports to fail when you recompile them.

Library files are extremely useful when many reports use the same component multiple times. An example of a frequently used component is the database connection.

Typically, multiple reports use the same database connection. Once in the library, the Report Developer can save time by defining the database connection and including it in multiple reports. Report developers use e.Report Designer Professional to create reports using these Maximo libraries.

MRO Software has developed Maximo-specific libraries for Maximo report generation. These libraries contain Maximo business logic and Maximo's look and feel. When report developers create new reports in e.Report Designer Professional using Maximo templates, Maximo libraries are included in the templates. Also, all reports delivered to you "out of the box" use Maximo libraries.

You can access the following Maximo libraries in e.Report Designer Professional:

Library Name	Description
MroBaseControls.rol	the base Maximo controls that MRO Software uses to customize Actuate
MroControls.rol	all subclasses that constitute the MroBaseControls library
MroDataComponents.rol	a library tailored to your Oracle or SQL Server database operating system
MroReportFrames.rol	the pre-defined library components that support the Maximo templates
MroReportPages.rol	a library that defines the page orientation (landscape or portrait), margins, headers, footers, and other setup information

NOTE For more information about library files, refer to "Overview of Maximo Enterprise Suite (MXES) Report Libraries," (Document Identification Number M04764) on the Support online Web site's Knowledge Base.

Executable (.rox) Files

Report Developers compile design (.rod) files to generate executable (.rox) files. Executable files generate report documents with current data when end users run them.

.Rox files reside in the Encyclopedia. Report developers use e.Report Designer Professional or e.Report Designer to compile report executable files.

Loading and Customizing e.Report Designer Professional

MRO Software provides you with the Actuate Reporting Release 8 e.Report Designer Professional CD. Insert the CD into your CD-ROM drive. Locate the Source folder which contains the following subfolders:

- ▼ Custom folder – Be sure to work only within the Custom folder. To change a report, use the .ROD file from the Custom folder.
- ▼ Default folder – This folder is your backup.

CAUTION Do not modify the default folder. That folder is intended as a backup of the original source code.

Load e.Report Designer components in the order in which they appear. The following three sections describe how to load these components:

- 1 Customizing your Actuate Template Files, on page 7-5
- 2 Pointing to Maximo Configuration Files, on page 7-5
- 3 Pointing to Maximo Palette Files, on page 7-9

Customizing your Actuate Template Files

MRO Software provides you with template files specifically for use with Maximo. To customize your templates, run ERDPRO.REG from the Actuate Reporting Release 8 e.Report Designer Professional CD.

ERDPRO.REG updates your registry with these customized Maximo templates. The update varies depending on your Windows operating system.

Pointing to Maximo Configuration Files

MRO Software provides you with customized template and library configuration files for use with Maximo. You must configure e.Report Designer Professional to point to these files.

CAUTION Before you can complete this task, you must complete the section, “Customizing your Actuate Template Files,” on page 7-5.

To configure e.Report Designer Professional to point to Maximo configuration files, complete the following steps:

- 1 In the erdPro folder, click SETUP.EXE and complete the online installation instructions to install e.Report Designer Professional.
- 2 Go to the location where you installed e.Report Designer Professional and click ERDPRO.EXE to launch the application.

NOTE If you selected the default destination folder, launch the application from the following location:

C:\Program Files\Actuate 8\erDPro

The Welcome to Actuate e.Report Designer Professional dialog box appears.

Welcome to Actuate e.Report Designer Professional Dialog Box



- 3 To close the dialog box, click **Cancel**.

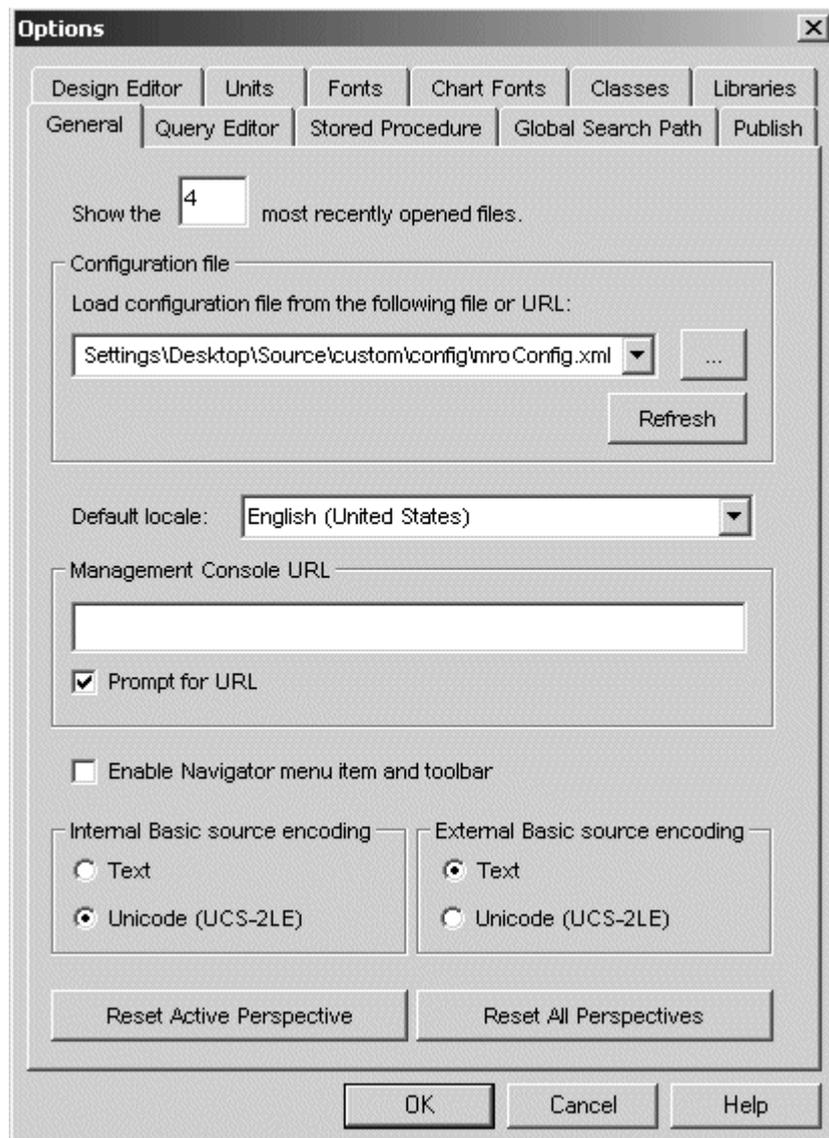
- 4 From the e.Report Designer Professional toolbar, select **Tools>Options** to open the Options dialog box.
- 5 Click the General tab.

Under Configuration file, select the mroConfig.xml file stored in your source\custom\config folder. From **Load configuration file from the following file or URL**, you can type the path and file name manually or click the Detail icon to locate the file.

Since the default setting for the source\custom\config folder is Read only, to modify files in this folder you must clear the check from this Property setting and apply that change to all subfolders.

CAUTION Be sure to point to the source\custom\config folder. Do not point to the source\default\config folder as that folder serves as a backup for your original config folder.

Options Dialog Box (General tab)



6 Click **Refresh**. The following dialog box opens.

Actuate e.Report Designer Professional Dialog Box



7 Click **OK** to clear the dialog box.

8 To accept your changes, click **OK**.

You have pointed e.Report Designer Professional to Maximo's template and library configuration files.

Pointing to Maximo Palette Files

The palette file determines how your report will look when you drag components from your field list and toolbox. MRO Software provides you with a palette file that you should use to replace the standard Actuate palette file.

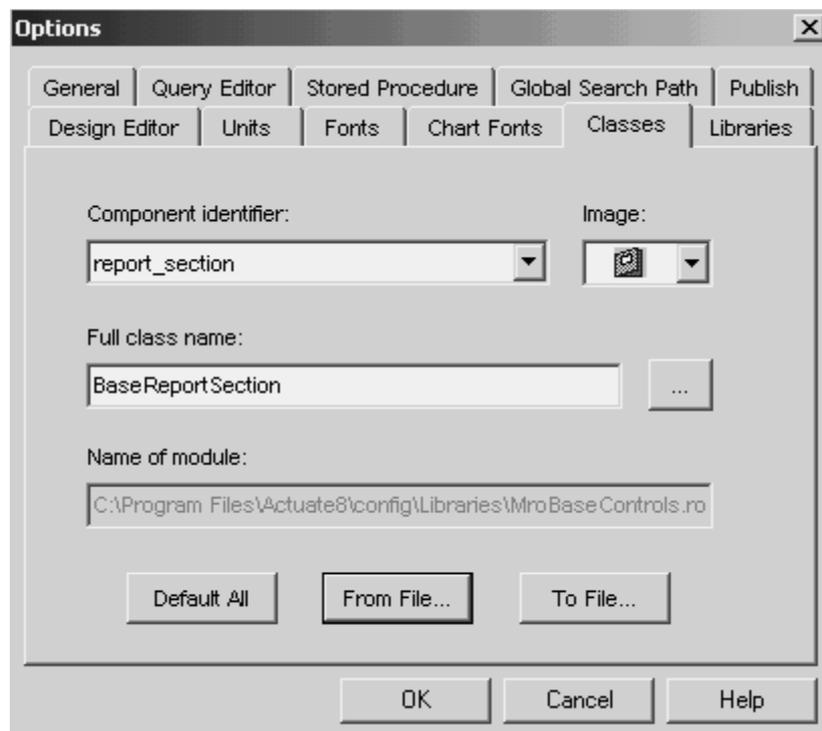
CAUTION Before you can complete this task, you must complete the following sections:

- ▼ “Customizing your Actuate Template Files,” on page 7-5
- ▼ “Pointing to Maximo Configuration Files,” on page 7-5

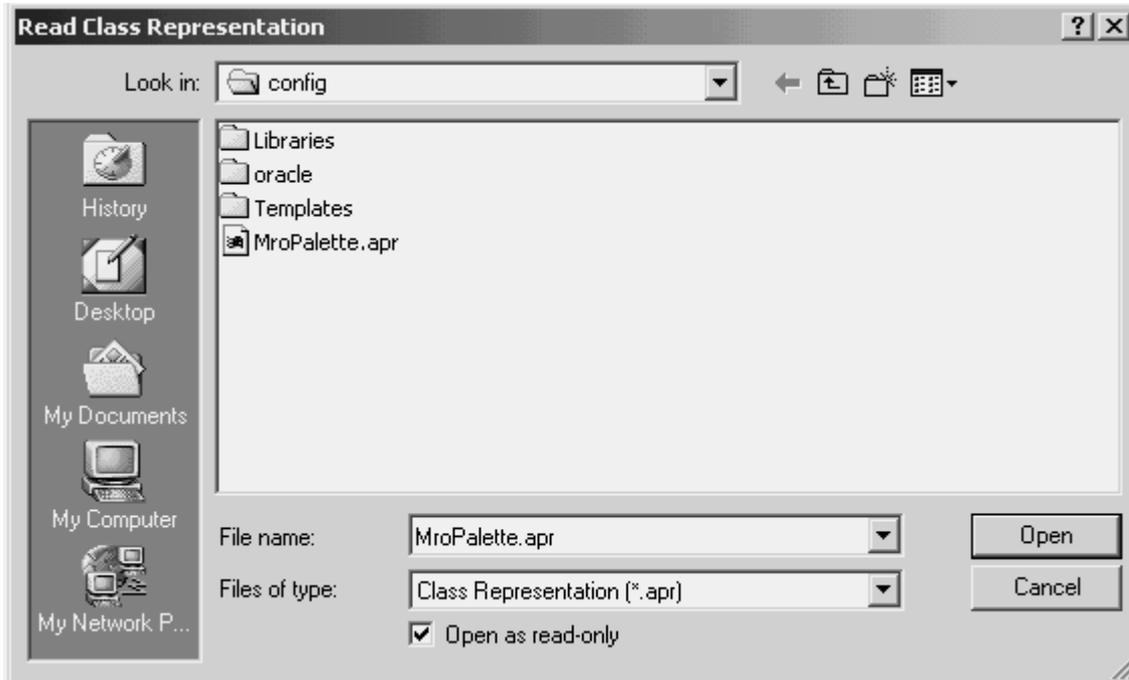
To copy the MRO Software palette file, complete the following steps:

- 1 In e.Report Designer Professional, select **Tools>Options** to open the Options dialog box.
- 2 Select the Classes tab.

Options Dialog Box (Classes Tab)



- 3 Click **From File** to open the Read Class Representation dialog box.



- 4 In the Look in drop-down list, locate your config folder and open it.
- 5 Select MroPalette.apr. This is the MRO Software palette file.
- 6 Click **Open** to return to the Options dialog box.
- 7 Click **OK**. You have replaced the standard Actuate Palette file with the Maximo Palette file.

Adding a Server Profile

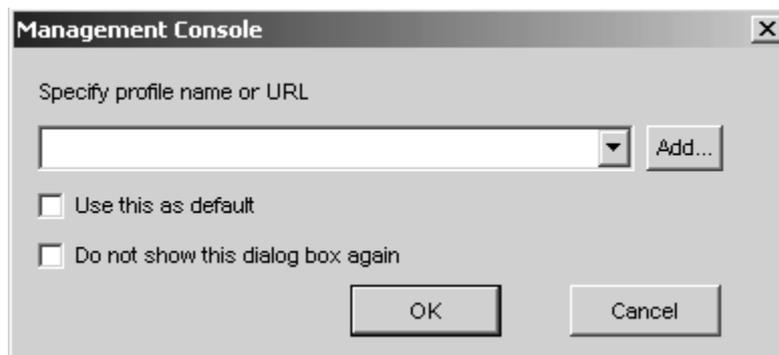
You might want to set up a profile name in order to add reports to the Encyclopedia through e.Report Designer Professional. If you are a report developer and want to add reports to the Encyclopedia quickly, you should set up a profile.

You can use either e.Report Designer Professional or e.Report Designer to set up a profile name. After you create a server profile, you can select it directly from the Management Console drop-down list.

To add a server profile, complete the following steps:

- 1 In e.Report Designer Professional and e.Report Designer select **File>Management Console** to open the Management Console dialog box.

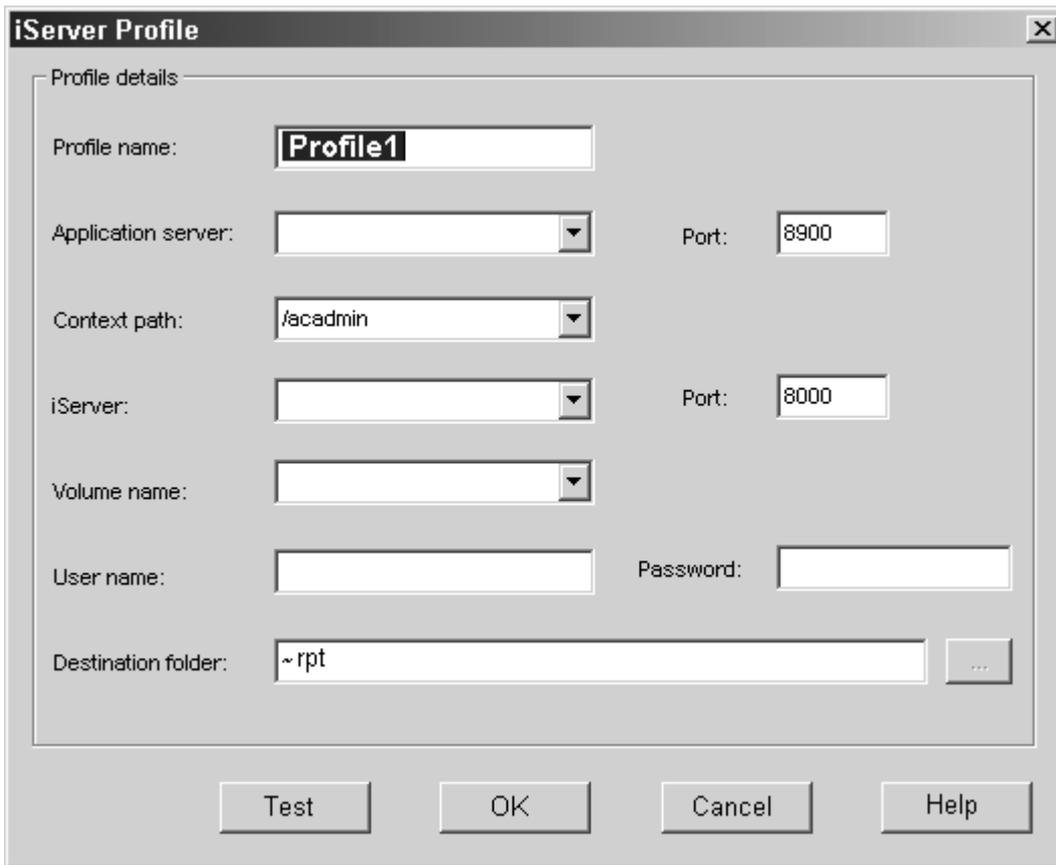
Management Console Dialog Box



- 2 Create a profile as described in Steps 3 – 6 or enter a URL. If you enter a URL, go to Step 6.

- 3 Click **Add** to open the **iServer Profile** dialog box.

iServer Profile Dialog Box



The image shows a dialog box titled "iServer Profile" with a close button (X) in the top right corner. The dialog is divided into a "Profile details" section and a bottom control area. The "Profile details" section contains the following fields:

- Profile name:
- Application server: (dropdown arrow)
- Port:
- Context path: (dropdown arrow)
- iServer: (dropdown arrow)
- Port:
- Volume name: (dropdown arrow)
- User name:
- Password:
- Destination folder: (with a browse button "...")

At the bottom of the dialog, there are four buttons: "Test", "OK", "Cancel", and "Help".

- 4 Complete the following fields to add a Server Profile:

Field Name	Description
Profile name	Descriptive name for the server profile
Application server and Port	Machine name and port number for the application server
Context path	Part of the Actuate Management Console URL that specifies the volume administration path, such as <i>/acadmin</i>
Iserver and Port	Machine name and port number for the iServer
Volume name	Name of the Encyclopedia
User name	User name for logging into the Encyclopedia
Password	Password for logging into the Encyclopedia
Destination Folder	Folder for uploading the report executable (.rox) file or information object (.dox) file

- 5 Click **Test** to verify the Actuate iServer connection using the values you entered. If the connection succeeds, a confirmation message appears. If the connection fails, an error message appears. You must correct the error.
- 6 Click **OK** to add the Data Server Profile. The Profile Name or URL will appear in the drop down list on the Management Console dropdown box.

Compiling and Running Reports in e.Report Designer Professional

8

Overview

This chapter describes how to use e.Report Design Professional to perform the following tasks:

- ▼ open, select, and compile a report
- ▼ run a report

Reports shipped with Maximo are compiled and stored in their applicable folders in the Encyclopedia. If the report developer creates or modifies a report in e.Report Designer Professional, that report must be compiled or recompiled in e.Report Designer Professional.

When you compile a report, e.Report Designer Professional translates an Actuate Basic source file and a report object design (.rod) into a report object executable (.rox) file. Compiling a report consists of several sets of steps, as detailed in the following sections.

Selecting a Report

To select a report, open e.Report Designer Professional and complete the following steps:

- 1 Go to the Start menu and choose **Programs>Actuate 8>Actuate e.Report Designer Professional**. The Welcome dialog box appears.

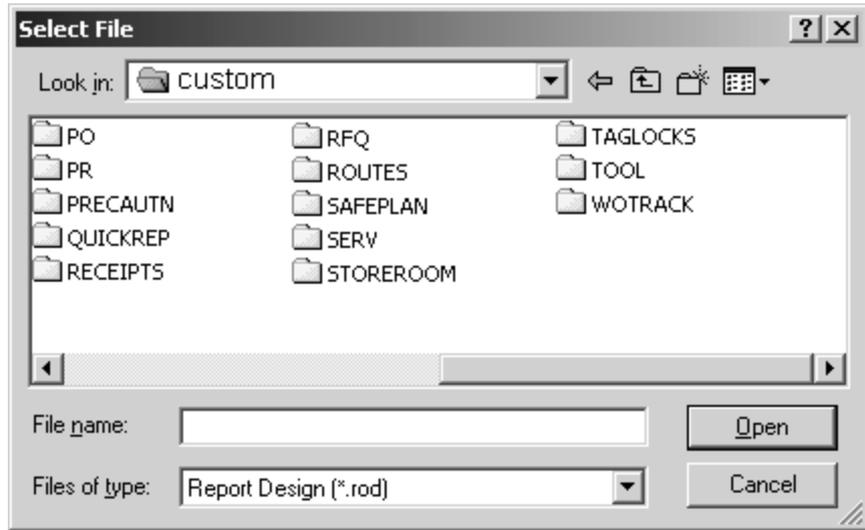
Welcome to Actuate e.Report Designer Professional Dialog Box



- From the Welcome dialog box, choose **Open an Existing Report** and click **More Files** to open the Custom folder.

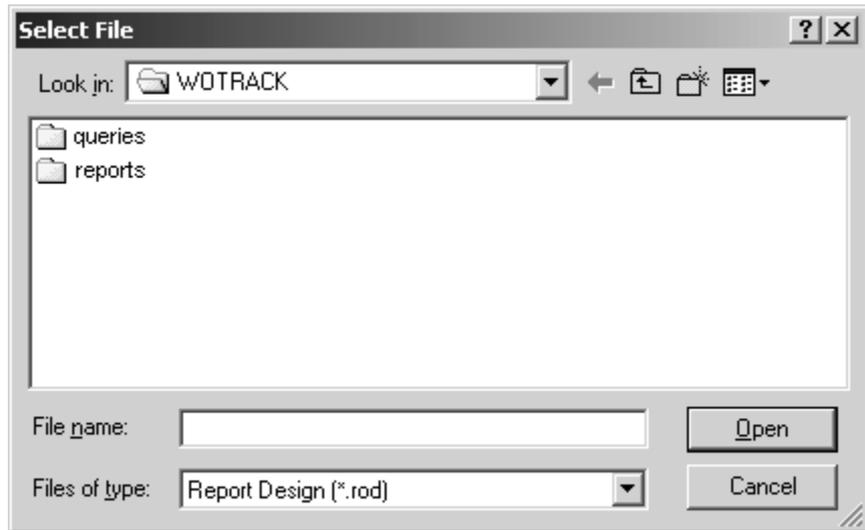
CAUTION MRO Software also provides you with a Default folder as a backup to your original Custom folder. Do NOT change any information in your Default folder. The Default folder is a permanent copy of your Custom folder that you always can refer to for your original source code.

Select File Dialog Box



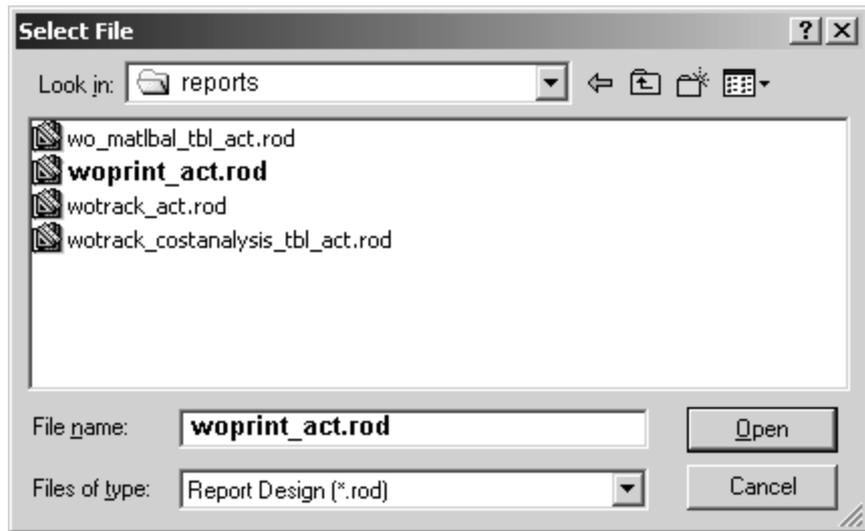
- Select an application folder.
- Click the application folder to bring up two subfolders:
 - ▼ queries – contains all of your query source files
 - ▼ report – contains all of your report source files

Select File Dialog Box



- 5 Open the reports folder. It contains the report files (Woprint_act, for example).

Select File Dialog Box with Report Page selected



If you change a report file, you then must compile it in order for the changes to take effect.

For information about compiling a report, see the following section.

Compiling a Report

You must compile a report file in order to save any changes you have made. To compile a report, complete the following steps:

- 1 In e.Report Designer Professional, open the Report File you selected in the preceding section (woprint_act.rod).
- 2 To run the report, click the Run icon.
- 3 From the Report menu, choose Build or press Shift-F8 to open an Actuate Output dialog box.
- 4 The status bar in the lower part of the left side of the page tells you when the compiling finishes.

- ▼ If the compile succeeds, you will see the text:

```
compiling . . .done
```

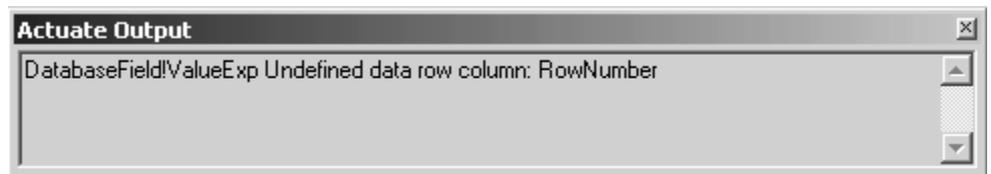
You have compiled the report. Do not go to step 5 or step 6.

- ▼ If the compile fails, you will see the text:

```
compile failed
```

- 5 To see the error message, select **View>Output Window** to open the Actuate Output dialog box. Double-click the error to go to its location in the report.

Actuate Output Dialog Box with Error Message



- 6 Fix any errors until you can successfully compile the report.

Adding Compiled Reports and Queries to the Encyclopedia

The following table provides the different file extensions Actuate creates, depending on whether you compiled a report or query file.

When you compile a . . .	Actuate produces a compiled version executable
report object design (.rod) file	(.rox) file
query (information object) design (.rod) file	(.dox) file

You can move the executable file to the correct reports folder in the Encyclopedia. For detailed instructions about compiling reports, see “Adding Compiled Reports to the Encyclopedia” on page 11-4.

Running a Report From e.Report Designer Professional

For testing purposes, you sometimes might want a report developer to run a report locally from e.Report Designer Professional instead of from the Maximo Reports application.

The following sections describe how to run locally two types of reports:

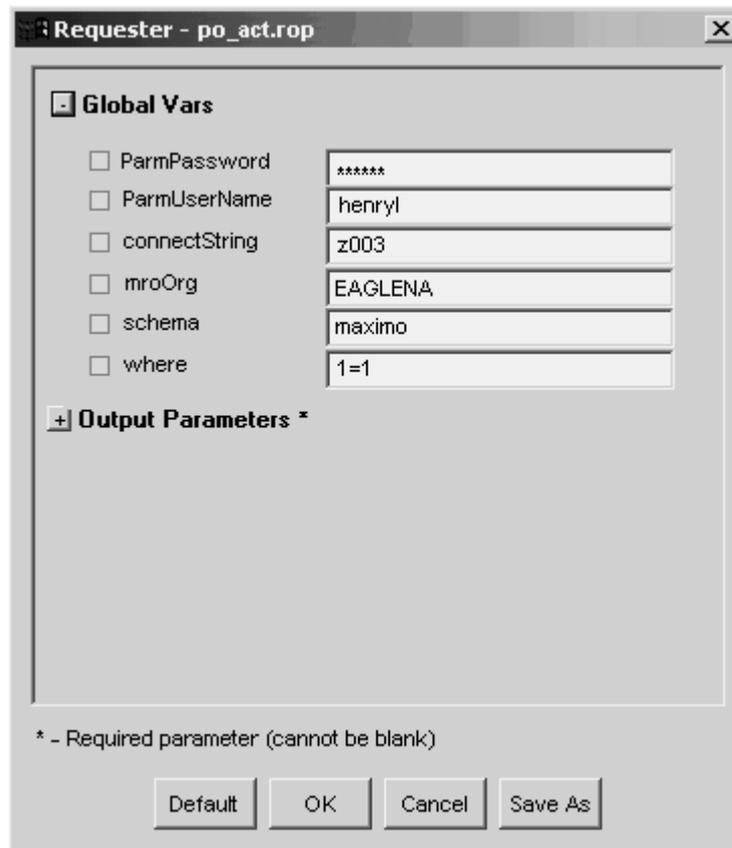
- ▼ Current/Selected/All reports (see page 8-7)
- ▼ Parameter-Based reports (see page 8-9)

Running a Current/Selected/All Report from e.Report Designer Professional

The following section describes how to locally run a Current/Selected /All report from e.Report Designer Professional. To run the report, you must either enter new values or accept default values for all Global Vars parameters.

- 1 Open e.Report Designer Professional and select a Current/Selected/All report (for example, the Purchase Order List report).
- 2 Click the Run icon to open the Requester dialog box.

Requester Dialog Box for Purchase Order List Report



The screenshot shows a dialog box titled "Requester - po_act.rop". It has a "Global Vars" section with a minus sign icon. Below this section are several parameters, each with a checkbox and a text input field. The parameters and their values are:

Parameter	Value
<input type="checkbox"/> ParmPassword	*****
<input type="checkbox"/> ParmUserName	henryl
<input type="checkbox"/> connectString	z003
<input type="checkbox"/> mroOrg	EAGLENA
<input type="checkbox"/> schema	maximo
<input type="checkbox"/> where	1=1

Below the Global Vars section is a plus sign icon followed by "Output Parameters *". At the bottom of the dialog box, there is a note: "* - Required parameter (cannot be blank)". Below the note are four buttons: "Default", "OK", "Cancel", and "Save As".

3 Complete the following **Global Vars** fields or verify that default values appear:

Field	Description
ParmPassword	The password for the report developer for whom you created database access on page 6-36.
ParmUserName	The report developer user name for whom you created database access on page 6-36.
ConnectionString	The Actuate database connect string. You can find the connect string in the mxe.report.actuate.db.connectstring property in the MAXIMO.PROPERTIES file.
mroOrg	The organization name against which you are running reports.
schema (Oracle)	For an Oracle database, the database schema owner. You can find the schema owner in the mxe.db.schemaowner property in the MAXIMO.PROPERTIES file. The default is maximo.
schema (SQL Server)	For a SQL Server database, leave this field blank.
where	You must enter 1=1 since you are running a Current/Selected/All report.

4 Click **OK**. The Actuate Output Box opens. Close it to see the report.

Running a Parameter-Based Report from e.Report Designer Professional

The following section describes how to locally run a Parameter-Based report from e.Report Designer Professional. As with the Current/Selected/All report, you must enter new values or accept default values for all Global Vars parameters. For a parameter-based report, you must also enter information for all Output parameters that appear. Output parameters vary from report to report.

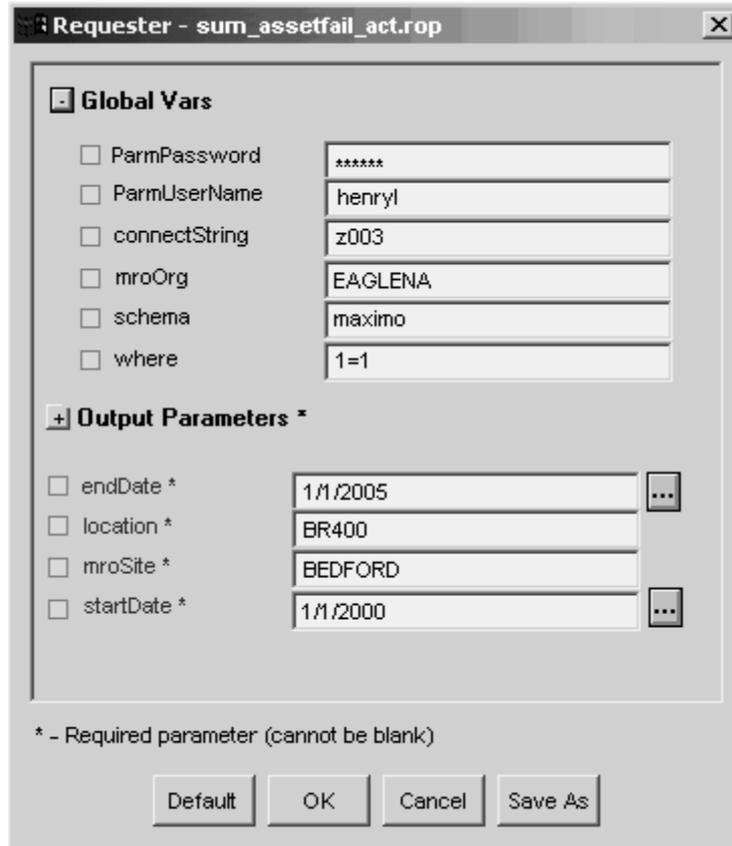
- 1 Open e.Report Designer Professional and select a Parameter-Based report (for example, the Summary of Asset Failures by Location report) with bound parameters.
- 2 To open the Requester dialog box, click the Run icon.
- 3 Complete the following **Global Vars** fields or verify that default values appear:

Field	Description
ParmPassword	The password for the report developer for whom you created database access on page 6-36.
ParmUserName	The report developer user name for whom you created database access on page 6-36.
ConnectionString	The Actuate database connect string. You can find the connect string in the mxe.report.actuate.db.connectstring property in the MAXIMO.PROPERTIES file.
mroOrg	The organization name against which you are running reports.
schema (Oracle)	For an Oracle database, the database schema owner. You can find the schema owner in the mxe.db.schemaowner property in the MAXIMO.PROPERTIES file. The default is maximo.
schema (SQL Server)	For a SQL Server database, leave this field blank.
where	You must enter 1=1 since this report contains bound parameters,. If this report contained only unbound parameters, you would leave this field empty.

4 You must enter information for all Output Parameters in order to run the report. For the Summary of Asset Failures report, the Output parameters are:

- ▼ endDate
- ▼ location
- ▼ mroSite
- ▼ startDate

Requester Dialog Box for Summary of Asset Failures by Location Report



5 Click **OK**. The Actuate Output Box opens. Close it to see the report.

Using Advanced Features in e.Report Designer Professional

9

Overview

This chapter describes the following advanced features in e.Report Designer Professional:

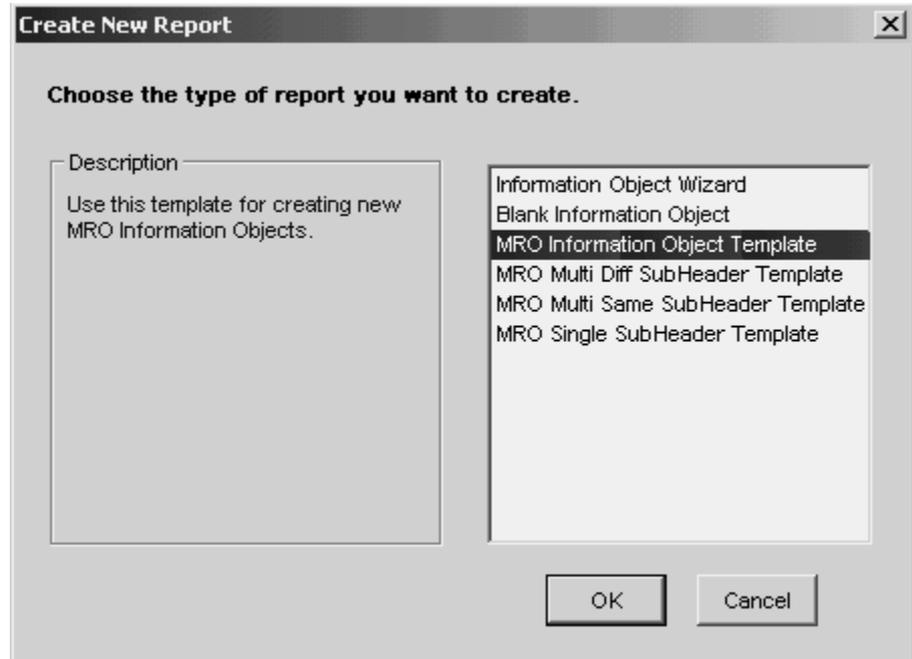
- ▼ using Maximo templates
- ▼ creating your first report
- ▼ changing report titles and field labels in the labels tab
- ▼ working with your SQL statement in Maximo
- ▼ creating a hyperlink from one report to another
- ▼ adding unbound parameters to a report

Using Maximo Templates

Maximo has the following templates to help you format your report or query:

- ▼ MRO Diff(erent) Subheaders Template
- ▼ MRO Mult(iple) Same Subheader Template
- ▼ MRO Single Subheader Template

You can access these templates when you opt to create a new report.

Create New Report Dialog Box

This section can help you decide which template you should select by describing the different types of queries, showing the appearance of the default template, and showing a sample report using each type of template.

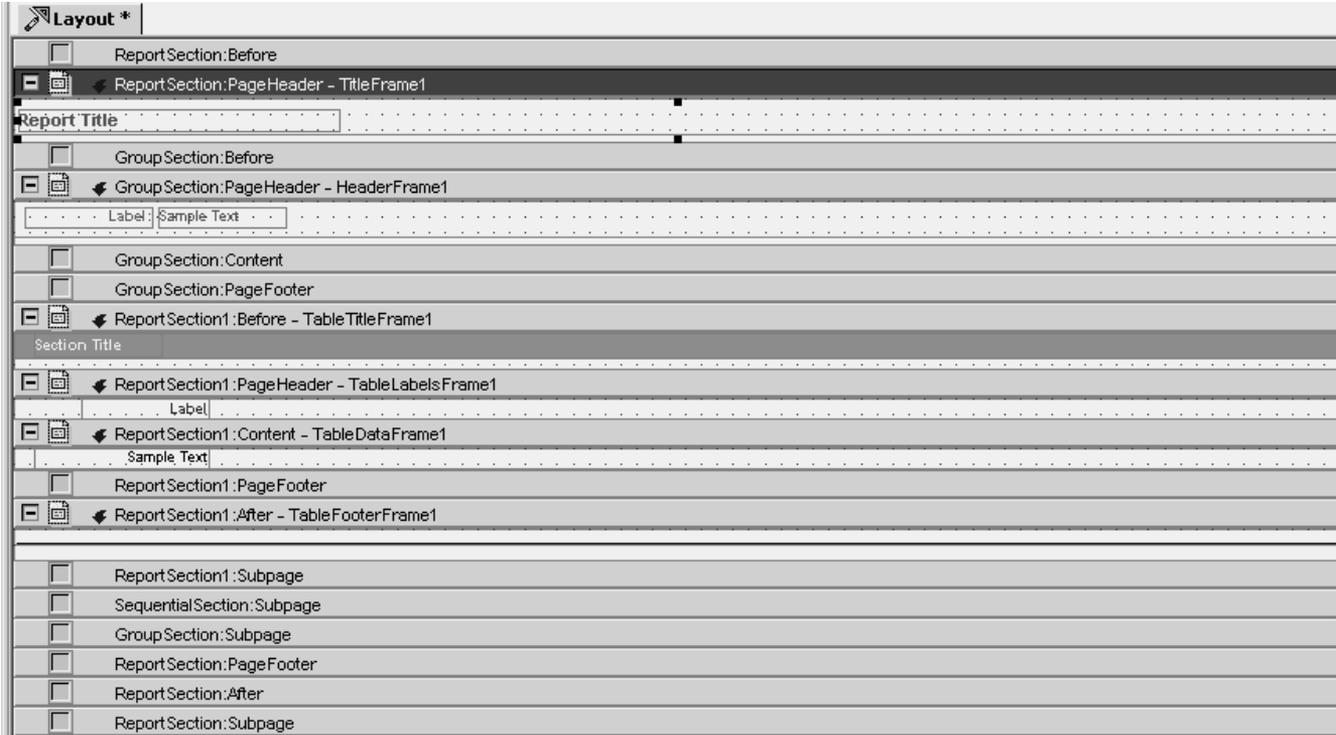
The following table summarizes this template information:

	Multi Diff Subheader	Multi Same Subheader	Single Subheader
Number of Subheaders	Multiple	Multiple	One
Subheader Information	Different from subheader to subheader	Same for each subheader	One subheader
Examples	Open Work Orders and PM Report	Item Availability Report	Inventory Balance Report
	PO Status Details Report	Work Order Pick Report	Summary of Asset Failures by Location Report

Using the MRO Multiple Different Subheader Template

You use the MRO Multiple Different Subheaders template to create reports that contain multiple, different subheader information. You use this template for complex reports.

MRO Multiple Different SubHeader Template



Maximo reports that use this template include the Purchase Order Status Details Report (shown below) and the Open Work Orders and PM Report.

Reporting Application with Purchase Orders Status Details Report

Date	Status	Modified By	Memo
4/25/2000 1:39:00	APPR	LIBERI	
4/25/2000 1:38:00	APPR	LIBERI	
4/25/2000 1:38:00	WAPPR	LIBERI	
4/25/2000 1:36:00	WAPPR	LIBERI	

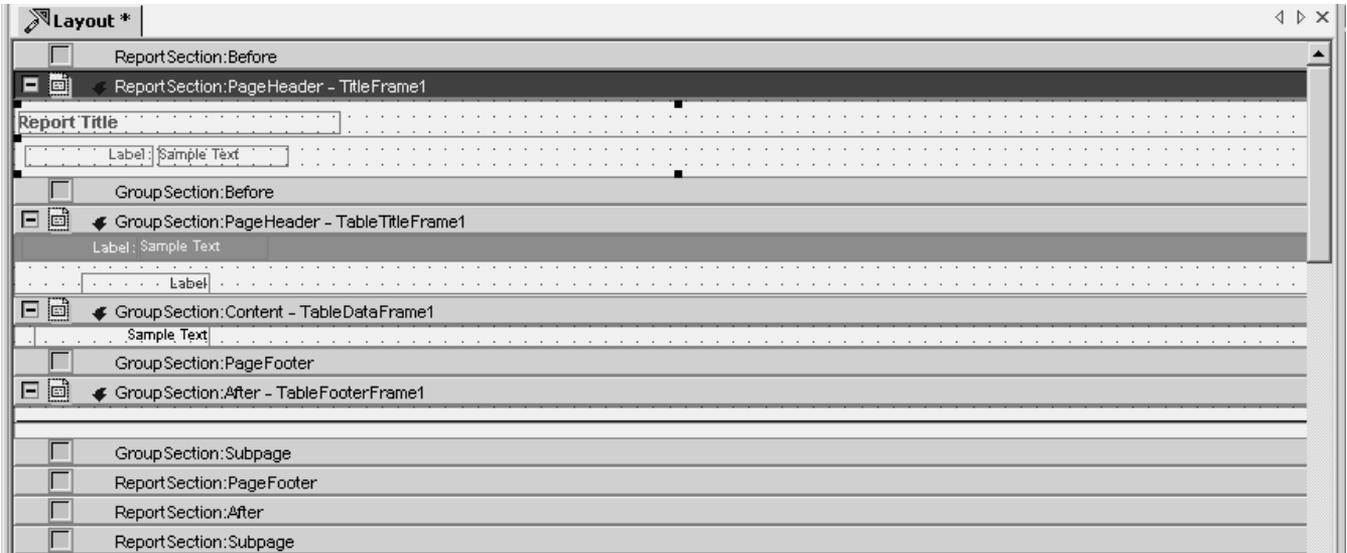
Date	Status	PO Line	Line Type	Item	Commodity Group	Commodity Code	Received Qty	Rejected Qty	Unit
4/25/2000 1:43:33	RECEIPT	1	ITEM	4-2100			500	0	EACH
4/25/2000 1:43:33	RECEIPT	2	ITEM	0-0031			2	0	
4/25/2000 1:43:33	RECEIPT	3	ITEM	Z-LG1			24	0	

Date	Status	PO Line	Line Type	Item	Description	Commodity Group	Commodity Code	Received Qty	Rejected Qty

Using the MRO Multiple Same Subheader Template

You use the MRO Multiple Same Subheader Template to create reports that contain multiple subheaders of the same information.

MRO Multiple Same SubHeader Template



Maximo reports that use this template include the Item Availability Report (shown below) and the Work Order Pick Report.

Reporting Application with Item Availability Report

Reporting Application with Item Availability Report

Page: 5 of 9

Organization: EAGLENA

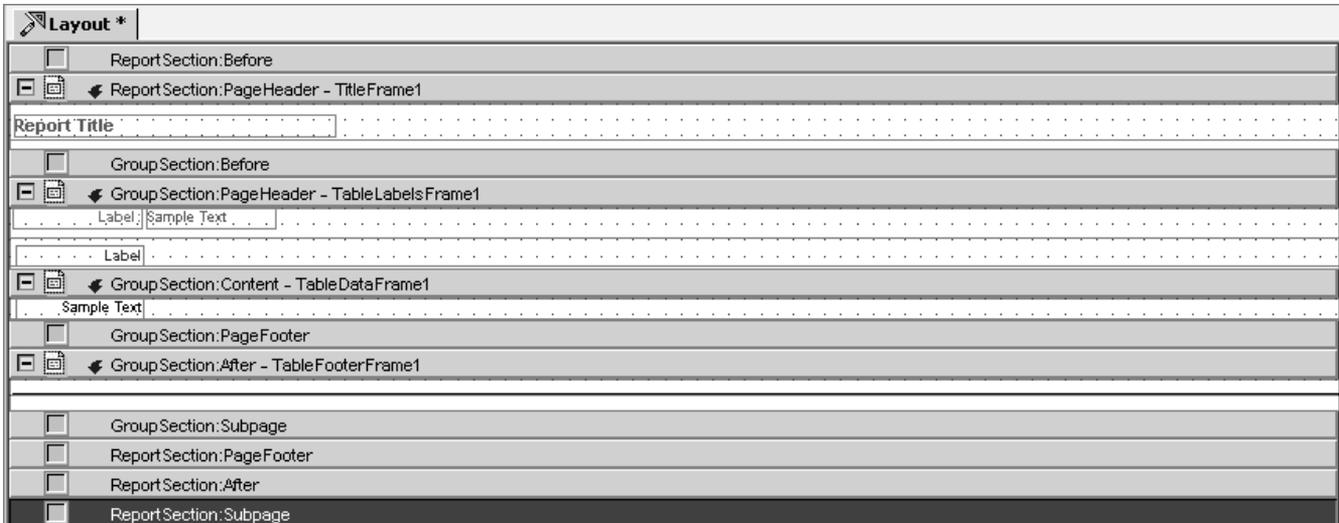
This report displays item availability across multi sites by storerooms. The quantity available is equal to the current balance minus the quantity reserved. Items with 0 current balances are not listed on this report.

Site	Storeroom	Bin	Condition Code	Lot	Exp Date	Current Balance	Qty Avbl	Qty Res'vd	Standard Cost	Average Cost
BEDFORD	CENTRAL	B-8-9				35			2.50	2.5
Item :43992 Description: Tire, Forklift- TR-70 Issue Unit: EACH										
BEDFORD	PKG	C-4-1				6			170.00	170
BEDFORD	CENTRAL	B-2-6				6			170.00	170
Item :52-130 Description: Connector, Pipe- 1 In Male Issue Unit: EACH										
BEDFORD	CENTRAL	A-9-6				12			2.50	2.5
Item :53-143 Description: V-Belt- 1/2 In, 30 In Circumference Issue Unit: EACH										
BEDFORD	PKG	A-4-2				4			35.00	35
Item :560-00 Description: Tubing, Copper-1 In ID X .030 In Wall Issue Unit: FEET										
BEDFORD	PKG	C-4-1				32			2.05	1.49
BEDFORD	CENTRAL	A-9-2				607			2.05	1.49
BEDFORD	GARAGE	B-3-5				12			2.05	1.49
BEDFORD	MACHSHOP	B-3-5				31			2.05	1.49

Using the MRO Single Subheader Template

You use the MRO Single Subheader Template to create reports that contain a single subheader. You use this template for simpler reports.

MRO Single SubHeader Template



Maximo reports that use this template include the Inventory Balance Report (shown below) and the Summary of Asset Failures by Location Report.

Reporting Application with Inventory Balance Report

Item	Description	Issue Unit	Condition Code	Current Balance	Qty Avbl	Qty Res'vd	Cost	Ext'd Cost	Last Issue Date	Last Receipt Date
XMP-3000	Gasket- B330	EACH		13	13	0	1.10	14.30		
XMP-3200	Gasket- AA268A	EACH		12	12	0	0.89	10.68		
XMP-3400	Seal- AA519, 1 In Dia	EACH		6	6	0	2.25	13.50		
XMP-3500	Cylinder, Hydraulic- AA267	EACH		3	3	0	25.50	76.50	10/26/2001	12/04/2000
XMP-4000	Seal, Shaft- AF517A	EACH		6	6	0	11.10	66.60	10/26/2001	12/30/2000
XMP-4200	Fan, Cooling- B340, 3 In Dia	EACH		4	4	0	18.00	72.00		
XMP-7000	Rotor And Shaft- AVV508, 3 In Dia	EACH		3	3	0	36.50	109.50	11/26/2001	05/18/2001
XMP-9500	Gasket- AR46	EACH		8	5	3	0.60	4.80	05/14/2000	05/14/2000

Creating your First Report

This section shows you how to create your first report. The report you create will be the Open Workorders grouped by Site, but you can use these same general steps when creating any report.

Complete the following sections in order:

- 1 Selecting a Template
- 2 Connecting to the Database
- 3 Writing a SQL Statement
- 4 Creating a Report Title
- 5 Creating a Page Header and Text
- 6 Creating Report Column Headings
- 7 Creating Report Column Headings using Dynamic Text Controls
- 8 Creating Content Fields

Selecting a Template

In this section, you begin creating a report by using the MRO Single Subheader template described on page 9-5. To select the template, complete the following steps:

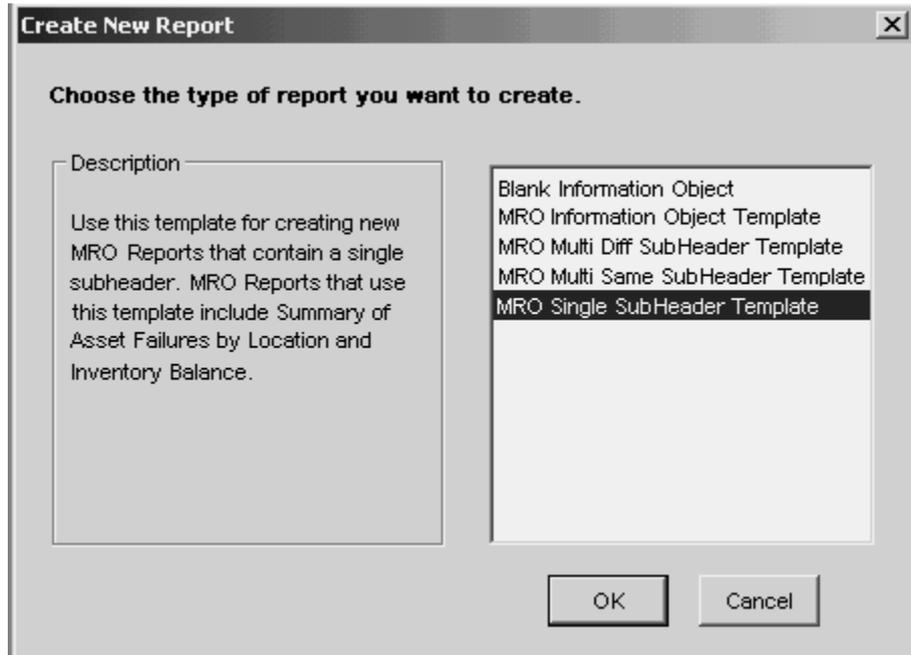
- 1 Open Actuate e.Report Designer Professional and select **File>New**. The Welcome to Actuate e.Report Designer Professional dialog box opens.

Welcome to Actuate e.Report Designer Professional Dialog Box



- 2 Click **OK** to open the Create New Report dialog box. A list of templates appears.

Create New Report Dialog Box

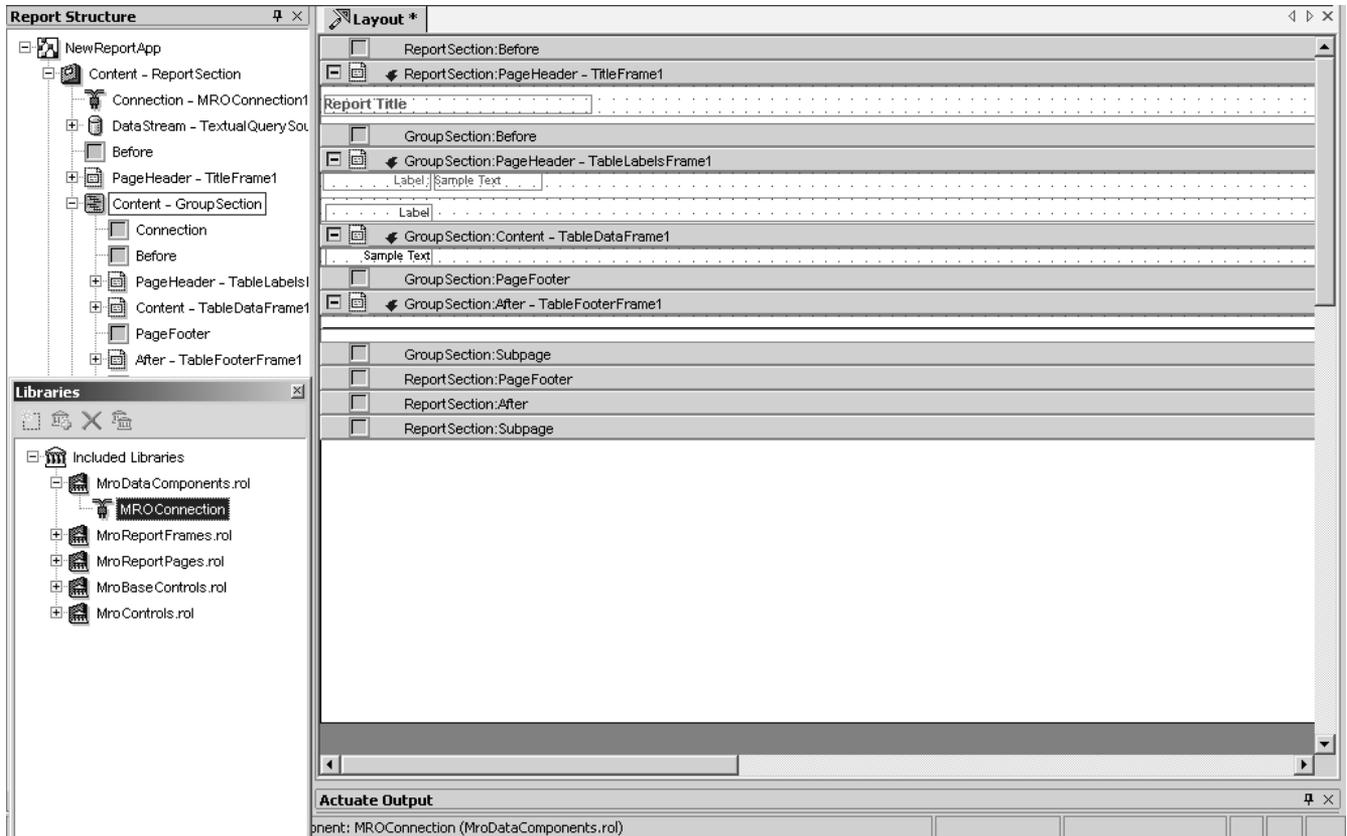


If you do not have these templates loaded, then your configuration is not set up properly. For more information, see Chapter 7, “Loading and Configuring e.Report Designer Professional.”

- 3 Since you are creating a report that contains one subheader with multiple rows of data, select MRO Single Subheader Template and click **OK**.

A report template page opens with a blank report template as well as an Actuate Output dialogue box.

e.Report Designer Professional Report Template



- 4 If the Report Structure is not visible along the left side of the template, select **View> Report Structure** to open it.

If the Report Library is not visible along the left side of the template, select **View>Libraries** to open it.

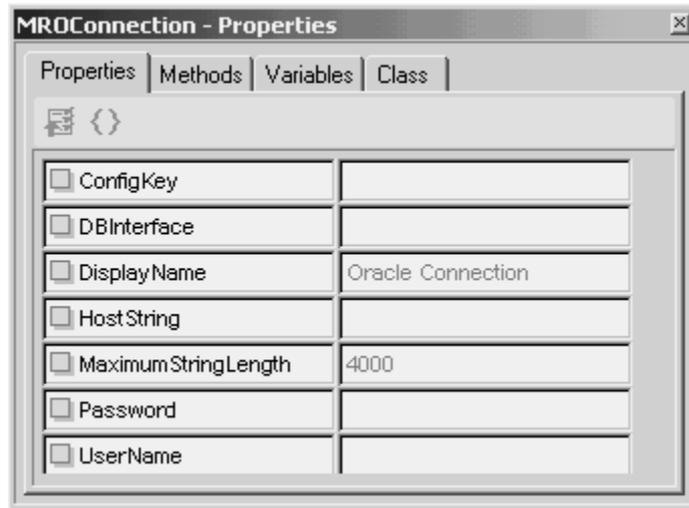
You have selected the MRO Single Subheader template for your report.

Connecting to the Database

In the following section, you use e.Report Designer Professional to connect the the MRO Single Subheader template to a database.

- 1 In the Libraries pane, open MroDataComponents.rol, then double-click MROConnection to open the MROConnection – Properties dialog box.

MROConnection - Properties Dialog Box (Properties Tab) for Oracle

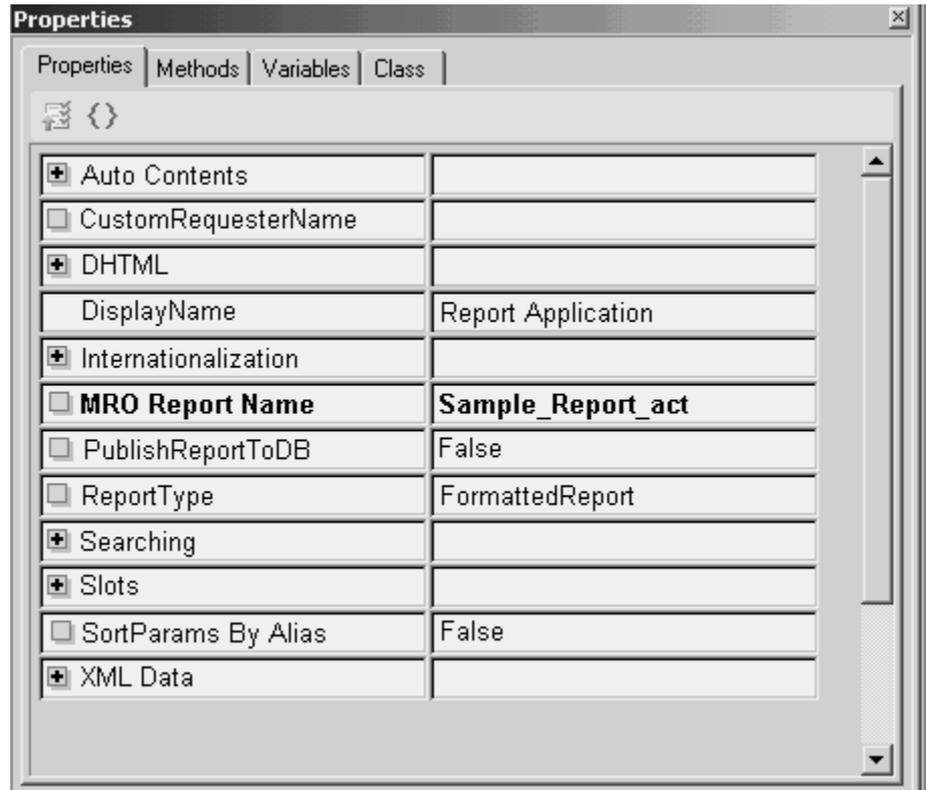


- 2 Complete the following fields in this dialog box.
 - ▼ **HostString** (Oracle, only) – Enter the connection string that points to the Maximo database. You must define the connection string on the machine where you are running e.Report Designer Professional.
 - ▼ **DataSource** (SQL Server, only) – Enter the Data Source Name (DSN) that points to the Maximo database. You must define the DSN on the machine where you are running e.Report Designer Professional.
 - ▼ **Password** – Enter the password for the database schema owner user name.
 - ▼ **UserName** – Enter the database user that the server uses to attach to the database server.
- 3 To save and close the dialog box, click **X**. e.Report Designer Professional reappears in Design view.

NOTE The remaining steps and dialog boxes in this section are specific to an Oracle database.

- To open the Properties dialog box, right-click NewReportApp and select Properties.

Properties Dialog Box



- In the **MRO Report Name** field, enter the file name of the report (do **not** include the file extension). This file name is required for the report labels to publish correctly to the database.

For more information on using Field labels in Maximo, see page 6-15.

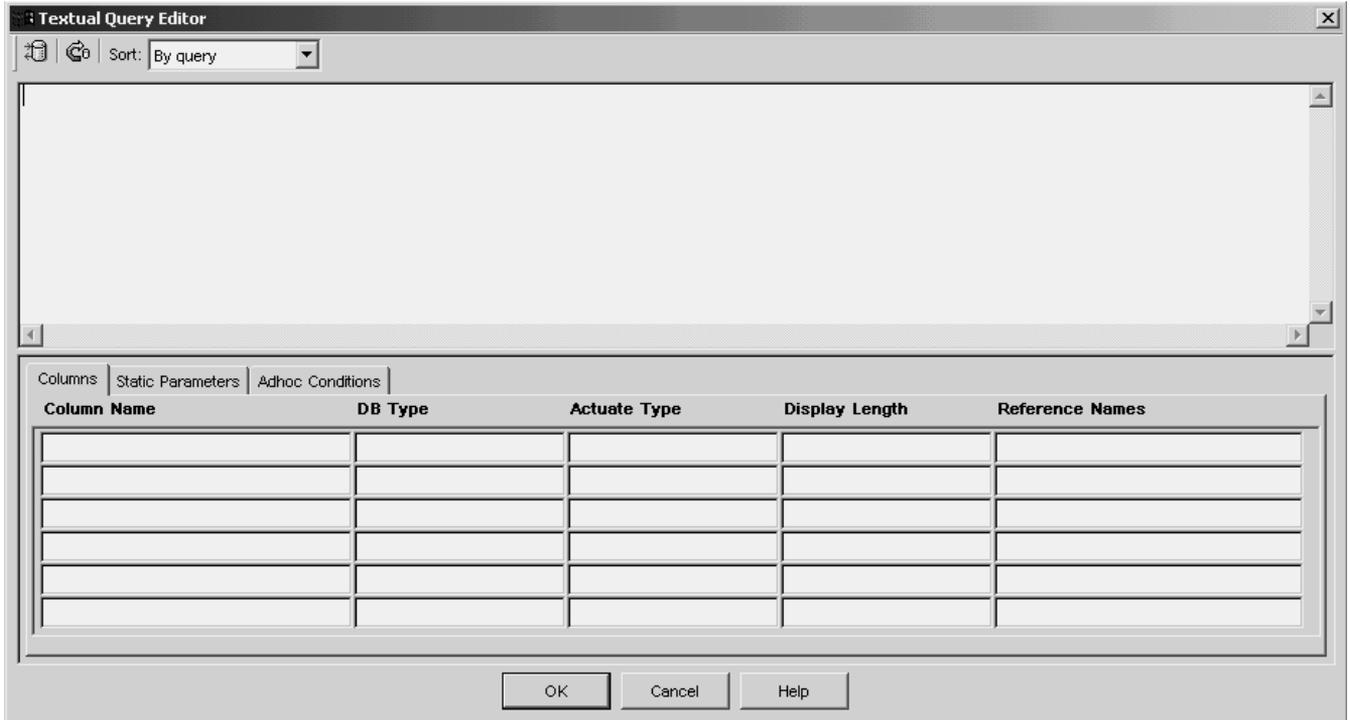
- To save and close the dialog box, click **X**. e.Report Designer Professional reappears in Design view.

Writing a SQL Statement

In the following section, you write an SQL statement to create an Open Work Orders (grouped by site) report. This report will run against the database you connected to in the previous section.

- 1 Click the **Data** icon in e.Report Designer Professional to open the Textual Query Editor dialog box.

Textual Query Editor Dialog Box



- Enter the following SQL statement in the empty dialog box exactly as shown:

```
SELECT WORKORDER.WONUM, WORKORDER.DESCRPTION, WORKORDER.WORKTYPE,
WORKORDER.STATUS,WORKORDER.WOPRIORITY, WORKORDER.LOCATION,
WORKORDER.ASSETNUM, WORKORDER.SUPERVISOR, WORKORDER.SCHEDSTART,
WORKORDER.SCHEDFINISH, WORKORDER.SITEID
```

```
FROM MAXIMO.WORKORDER
```

```
WHERE WORKORDER.WOCLASS = 'WORKORDER'
```

```
AND WORKORDER.STATUS NOT IN ('CLOSE', 'COMP', 'CAN')
```

```
AND 1=1
```

CAUTION Do NOT include a semicolon (;) at the end of your SQL statement.

NOTE You must add the text **AND 1=1** to the query text in the Textual Query Editor if either of the following conditions is true:

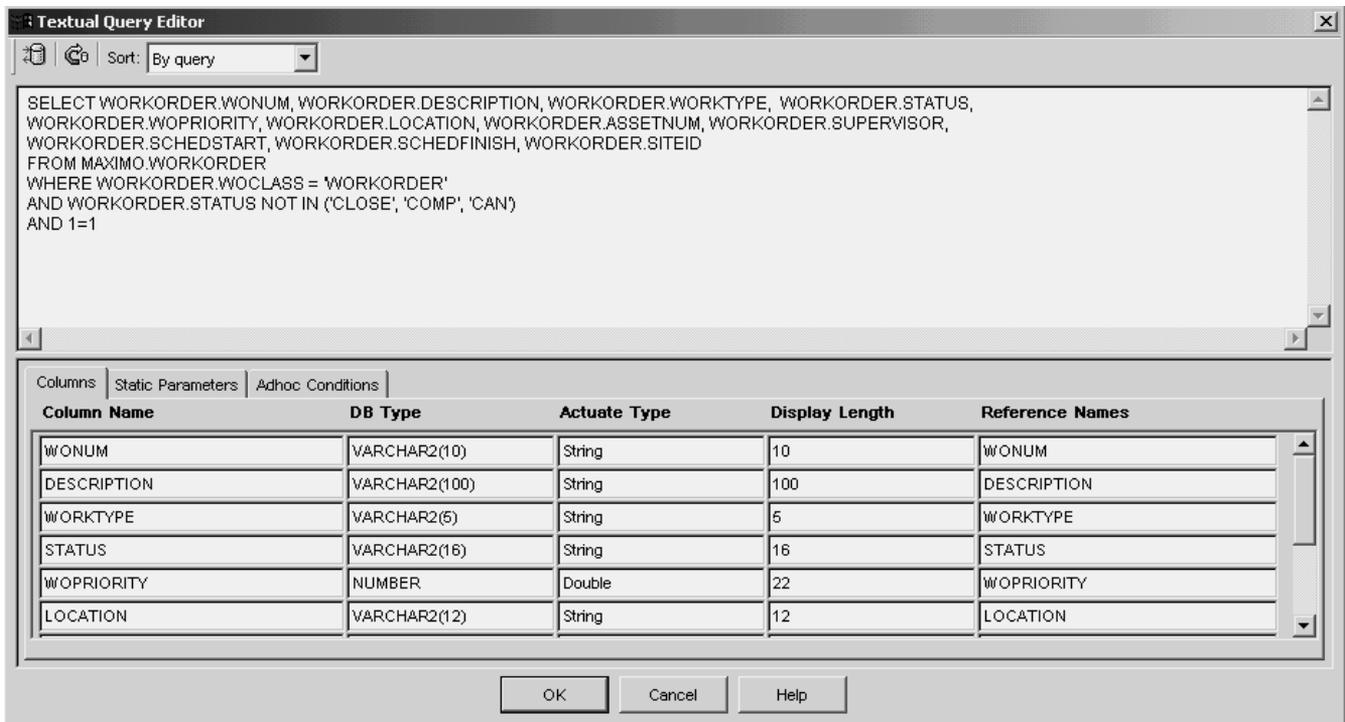
- ▼ Your query has a bound parameter.

or

- ▼ Your query does not have any parameters.

- Click the Describe Query icon on the Textual Query Editor dialog box to populate the fields in the Columns tab.

Textual Query Editor Dialog Box



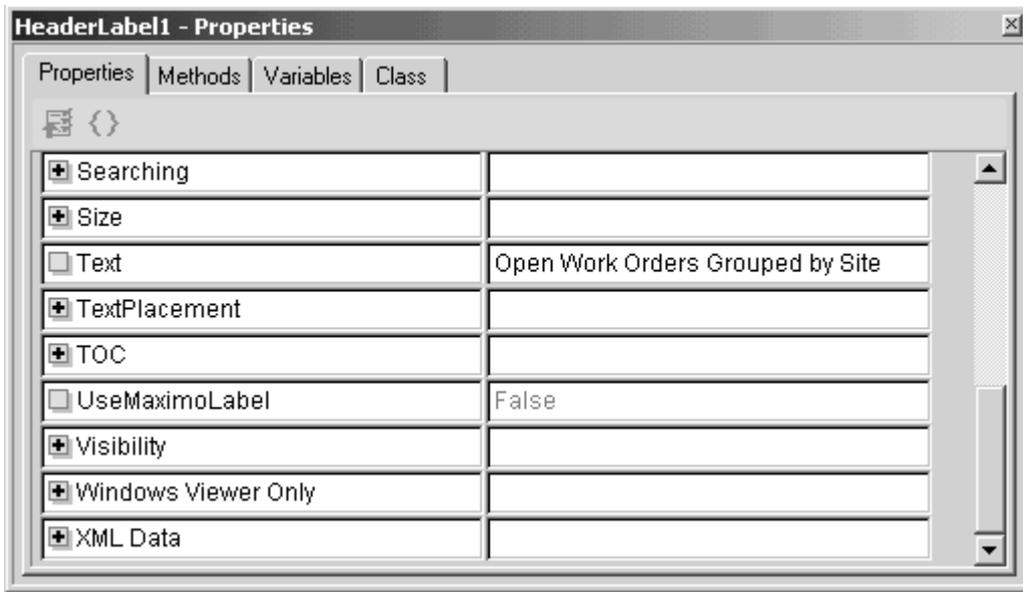
- To close the Textual Query Editor dialog box and return to Design view, click **OK**. Note that the **Field** column populates with the column names from the SQL statement that you ran in step 2.

Creating a Report Title

Use the steps in this section to change the default title text. The new title will be, “Open Work Orders Report.”

- 1 In the Open Work Orders Report you are creating, click the ReportSection:Page Header – TitleFrame1 section of the template and right-click the Report Title.
- 2 To open the Properties dialog box, select **Properties**.

MROConnection - Properties Dialog Box (Properties Tab)



- 3 In the **Text** field, type the following text:

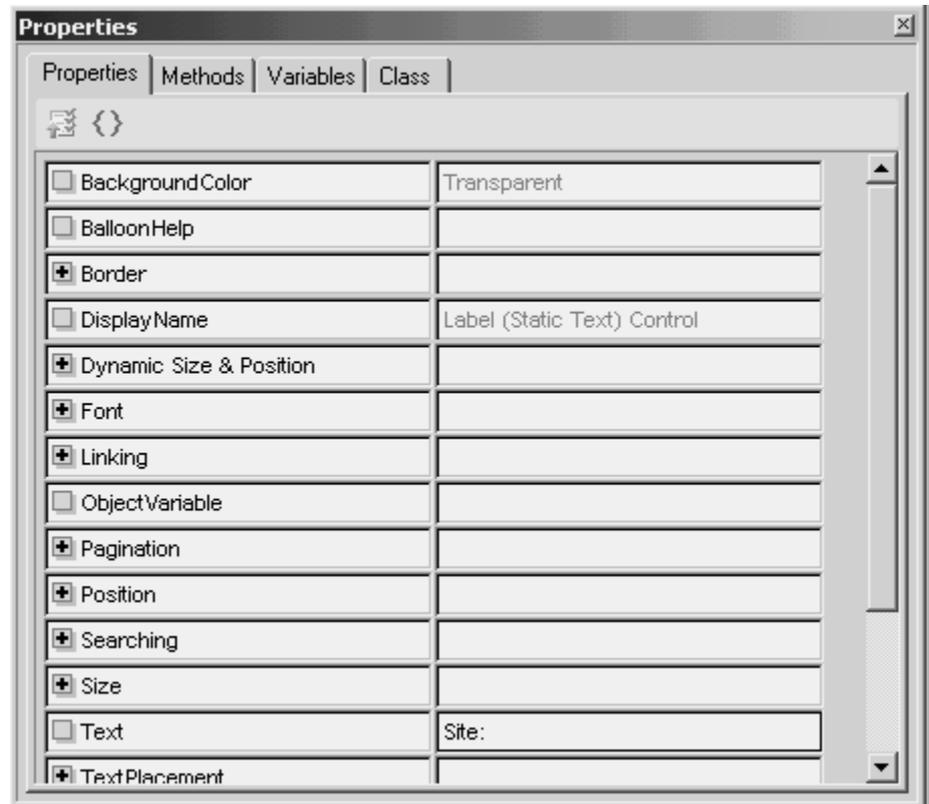
Open Work Orders Grouped by Site
 - 4 To accept your change and return to the Report Template, click **X**.
- You have created a report title.

Creating a Page Header and Text

Use the steps in this section to create a page header and text for that header for your Open Work Orders report.

- 1 In the Open Work Orders Report you are creating, click the Group Section: Page Header - TableLabelsFrame1 section of the template.
- 2 To open the Properties dialog box, right-click the **Label** field and select **Properties**.

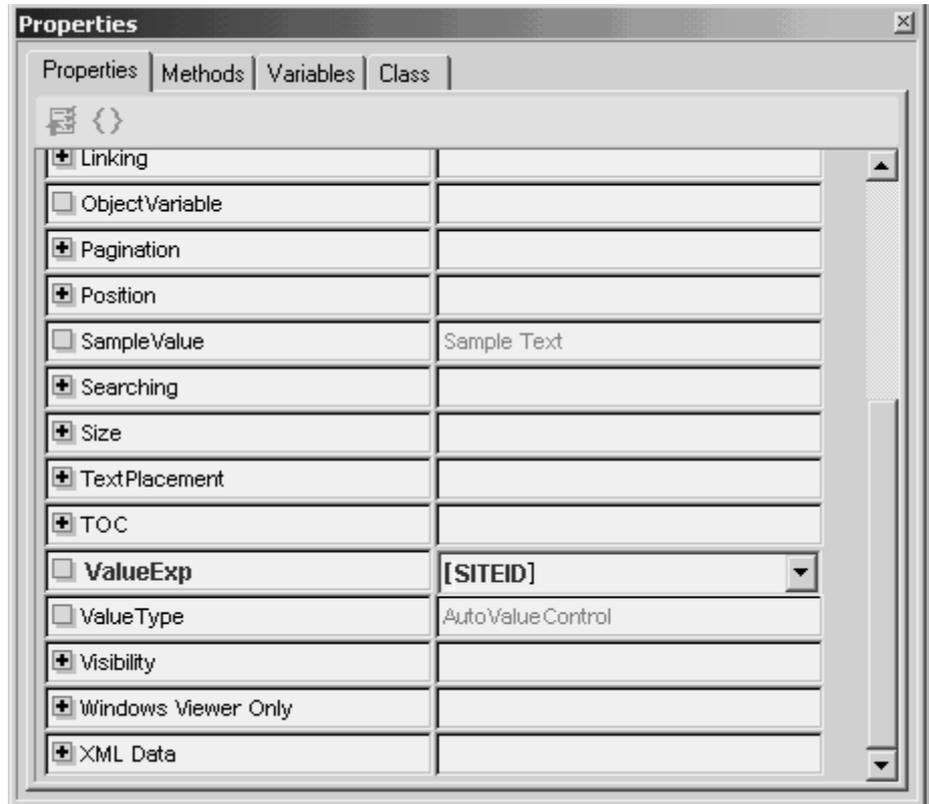
Properties Dialog Box (Properties Tab)



- 3 In the **Text** field, type the following text:
Site:
- 4 To accept the changes and close the dialog box, click **X**. e.Report Designer Professional reappears in Design view.

- 5 Right-click the Sample Text field in this same section of the template (Group Section: Page Header - TableLabelsFrame1) and select **Properties** to open the Properties tab.

Properties Dialog Box (Properties Tab)



- 6 Scroll down to **ValueExp** and click it so that the drop-down button appears.
- 7 Select SITEID so it appears in the field for ValueExp.
- 8 To accept the changes and close the dialog box, click **X**. e.Report Designer Professional reappears in Design view.

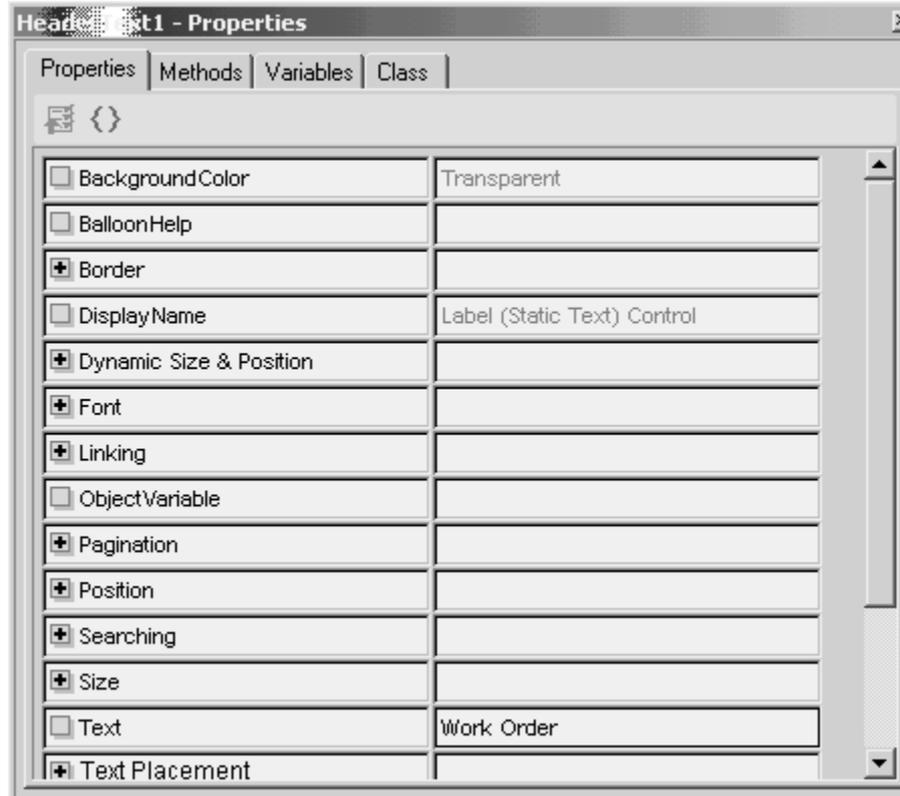
You have created a page header and text for that header.

Creating Report Column Headings

Continuing the report you used in the previous section, use these steps to create column headings and column text for your report.

- 1 Click the GroupSection: Content – TableLabelsFrame1 section of the report.
- 2 Select the Label field, right-click, and select Properties. The Properties dialog box opens.

Properties Dialog Box (Properties Tab)



- 3 In the **Text** property field, delete the existing entry and type Work Order.
- 4 To save and close the dialog box, click **X**. e.Report Designer Professional reappears in Design view.
- 5 Create seven additional fields in this report section by copying the **Work Order** field and replacing the **Text** property with a new field name. Create the following fields:
 - ▼ Description
 - ▼ Type
 - ▼ Status
 - ▼ Priority
 - ▼ Location
 - ▼ Asset
 - ▼ Supervisor

- 6 Space the fields out according to the label description. For example, provide the greatest amount of space to the Description field.

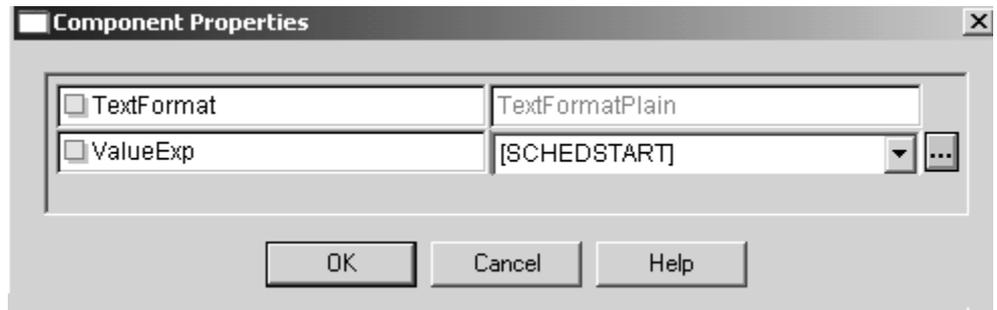
Creating Report Column Headings using Dynamic Text Controls

With the report from the previous section, use dynamic text controls to create the following fields:

- ▼ Scheduled Start
- ▼ Scheduled Finish

- 1 In e.Report Designer Professional, selecting **Insert>Dynamic Text Control** and place the control to the right of the existing fields.
- 2 When the Component Properties dialog box opens, open the **ValueEXP** property and select [SCHEDSTART] from the drop-down list.
- 3 To save, click **OK**.

Component Properties Dialog Box



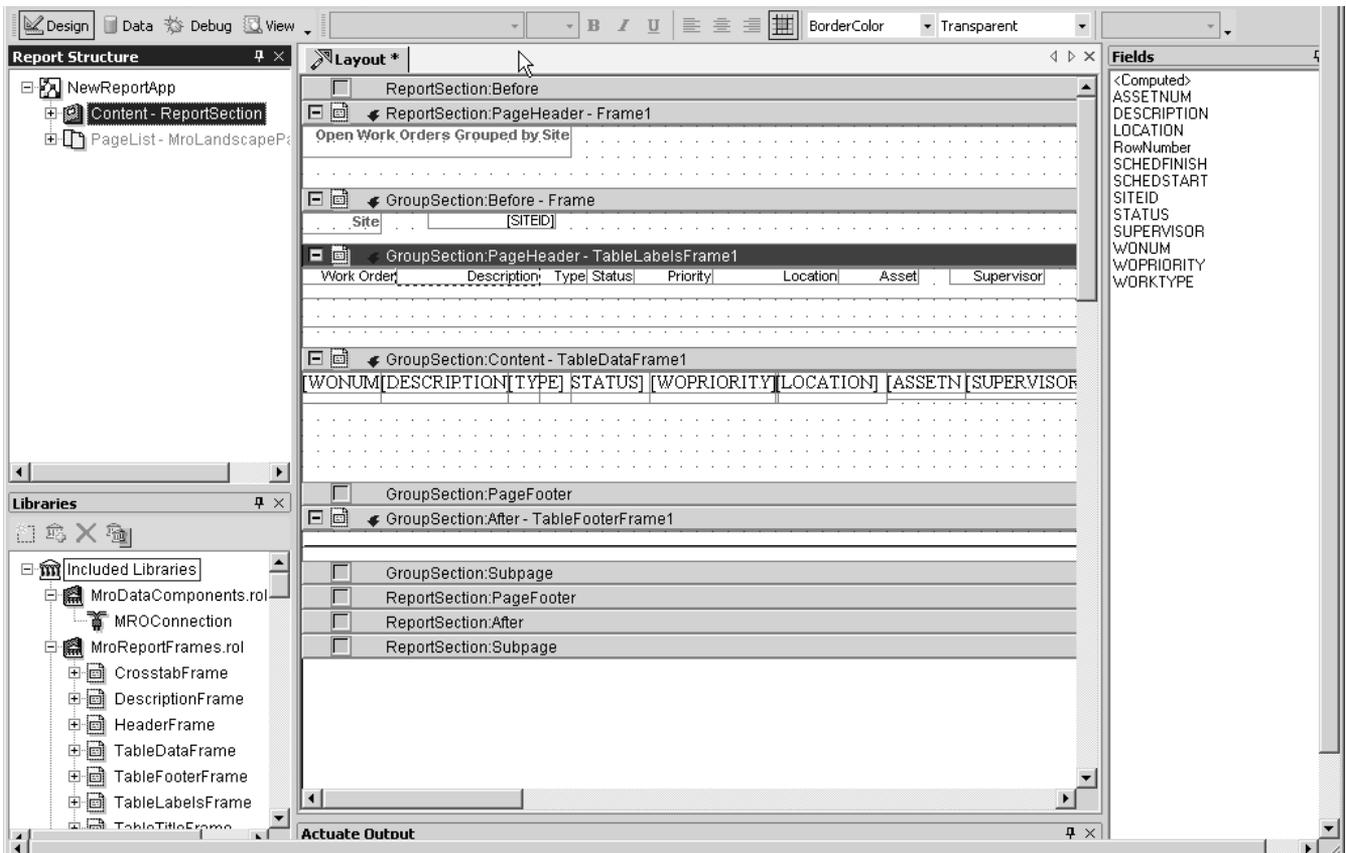
- 4 Repeat steps 1 – 3 for the Scheduled Finish [SCHEDFINISH] label. When you have completed this section, you can then create corresponding headers in the content section of the template.

Creating Content Fields

For each field in the GroupSection:PageHeader – TableLabelsFrame1 section of your template, create a comparable field in the GroupSection:Content – TableDataFrame1 by clicking on a field in the **Fields** column and dragging it into the Content frame underneath the appropriate heading.

Save the report you created.

e.Report Designer Professional Report Template with Group Section Selected

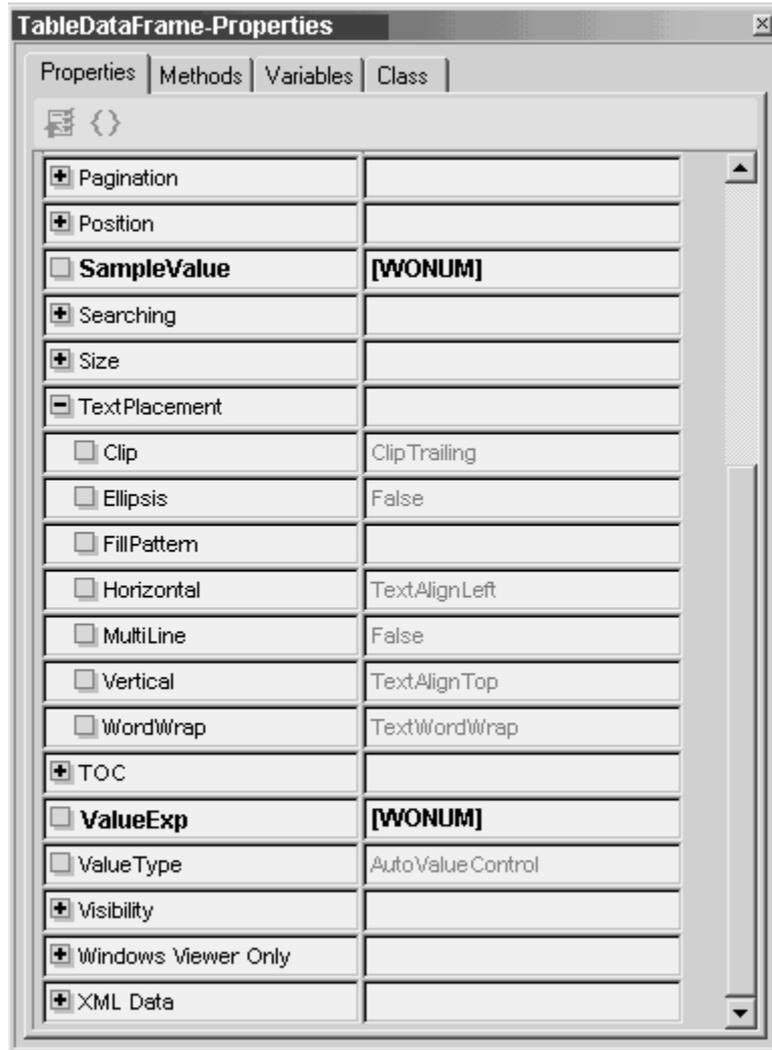


Tip for Adding Descriptive Headings in Group Section:Content

To add descriptive headings to the **Group Section:Content** frame, complete the following steps:

- 1 In e.Report Designer Professional, double-click a field in Group Section: Content to open its Properties dialog box.

TableDataFrame-Properties Dialog Box (Properties Tab)



- 2 Copy the **ValueExp** property (the database tablename). In the following example, the **ValueExp** properties is [WONUM].
- 3 Paste the **ValueExp** property ([WONUM]) into the **SampleValue** property field. **SampleValue** is the placeholder for this data.

Changing Report Titles and Field Labels using the Maximo Labels Tab

In Maximo's Report Administration application, the Labels tab lets you change report titles and field labels in your report. After you (or your report administrator) publish a report through Management Console, you can use the Labels tab to customize how titles and fields appear.

This feature populates your database with report label information. To activate this feature for your new or customized report, you or your report developer must complete the following actions in order:

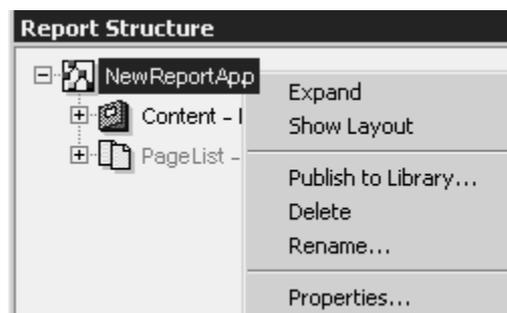
- ▼ Set the **PublishReportToDB** property to true. When you set this property to true, e.Report Designer Professional allows you to publish report labels and titles to the REPORTLABEL table in the Maximo database.
- ▼ Run the report. You must run (compile) the report to populate labels in the Maximo database.
- ▼ Reset the **PublishReportToDb** property to false (the default setting). If you do not reset this property, a report that you have previously customized may change each time that an end user generates it.

Activating the Maximo Labels Tab

To activate the Maximo labels tab, complete the following steps:

- 1 In e.Report Designer Professional, open your report.
- 2 In the Report Structure pane, right-click `NewReportApp` and select Properties. The Properties dialog box opens.

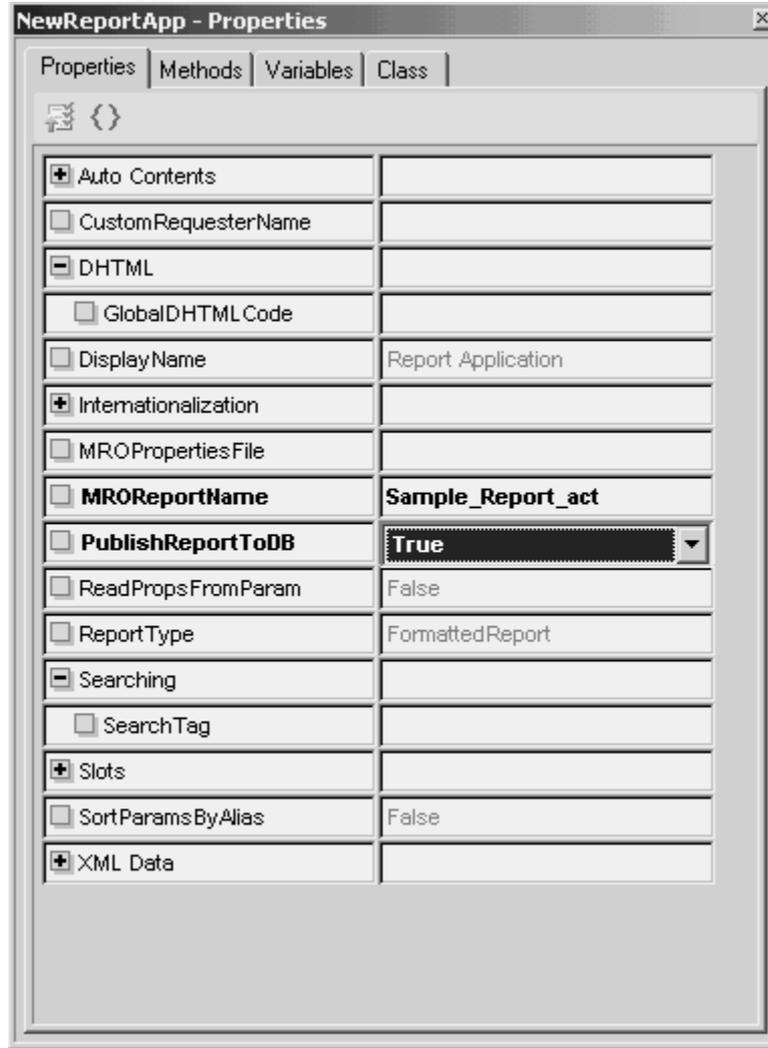
Report Structure Pane



3 Complete the following fields:

- ▼ **MROReportName** – Enter the MRO Report Name.
- ▼ **PublishReportToDB** – Change property from False to True.

NewReportApp - Properties Dialog Box (Properties Tab)



4 To save and close the dialog box, click **X**. e.Report Designer Professional reappears in Design view.

5 Run the report.

For more information on using Field labels in Maximo, see page 6-15.

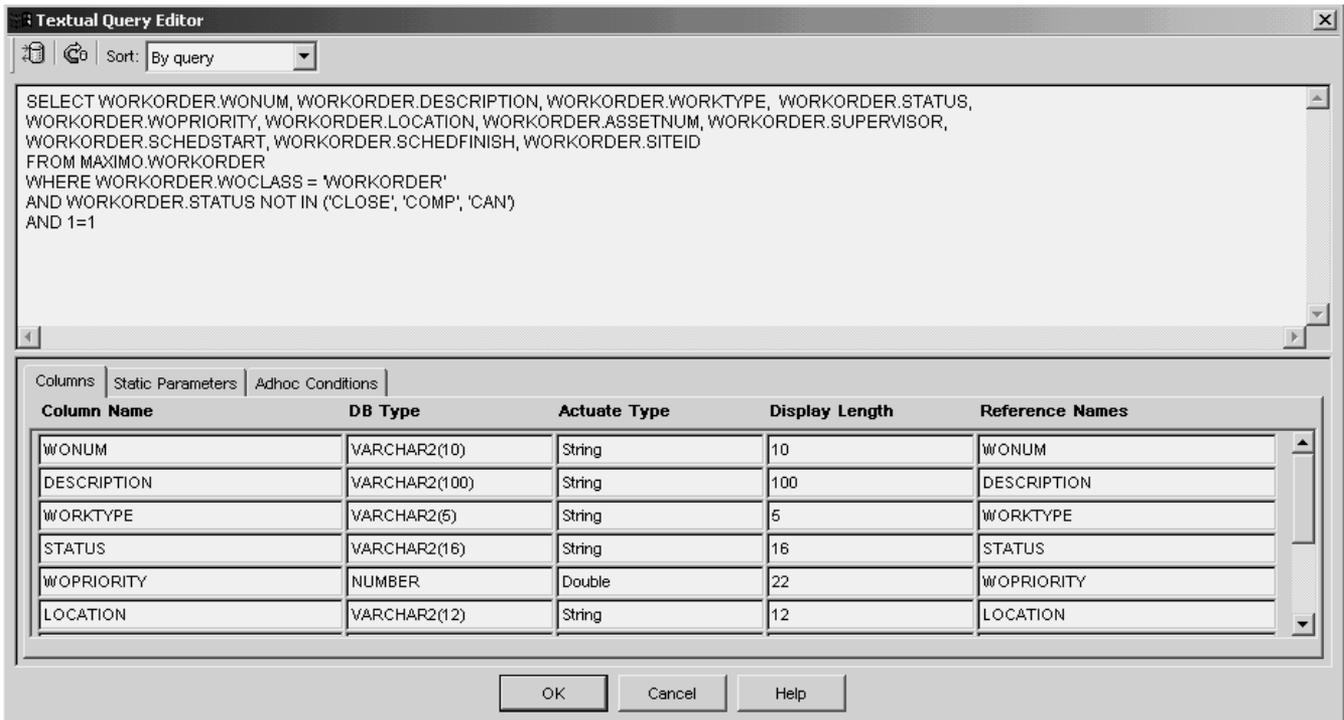
6 Set the **PublishReportDB** property back to False (the default setting).

Working with your SQL SELECT Statement in Maximo

As you work with your SQL SELECT statement, you might need to add certain Maximo-specific conditions in order to achieve the correct results:

- ▼ You must specify the database schema name each time you reference a database table. For example, the FROM clause (as shown in the following figure) specifies *MAXIMO*.WORKORDER where *MAXIMO* is your database schema name.
- ▼ You must add the statement *AND I=I* (as shown below) to any SQL SELECT statement if you are creating any of the following types of reports:
 - a Current/Selected/All type report
 - a report that has a Bound parameter

Textual Query Editor Dialog Box



Creating a Hyperlink from One Report to Another

This section describes how to create a hyperlink from a summarized list report to a detailed report. In this example, you will create a hyperlink from a job plan on a Work Order List Report to a Job Plan Details Report (a Current/ Selected/All Report). To create the hyperlink, you must modify the reports to be linked.

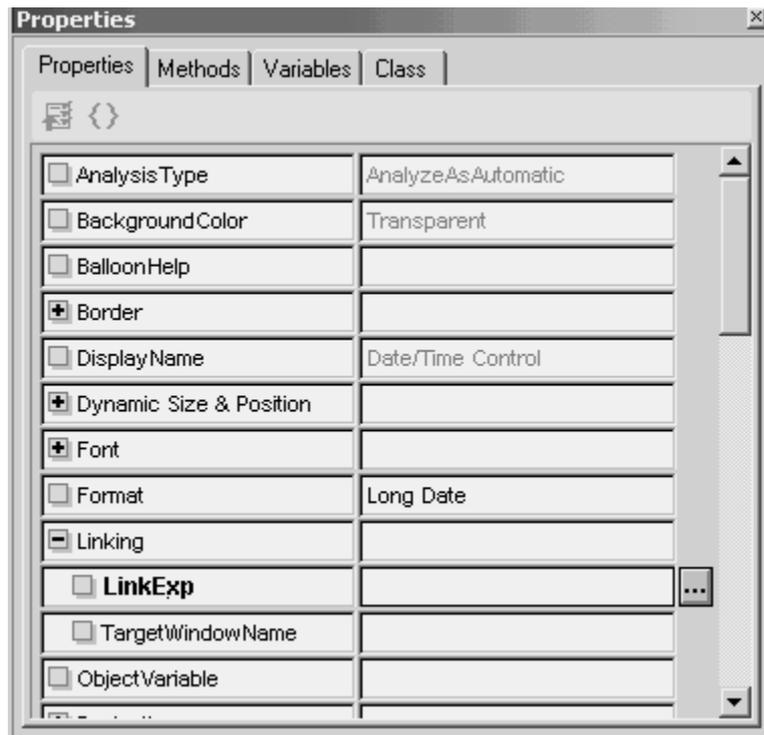
The detailed report returns data specific to the field from which the report was called. For example, when you select a job plan number from a Work Order List Report, the new report is limited to data relevant to the job plan selected.

For information on adding hyperlinks to localized reports, see “Setting up Hyperlinks,” on page 13-7.

As the first part of creating a hyperlink between the WORKORDER.JPNUM field in a Work Order List Report to a Job Plan Details Report, complete the following steps:

- 1 In e.Report Designer Professional, click the WORKORDER.JPNUM Control field. Double-click this field to open the Properties dialog box.

Properties Dialog Box (Properties Tab) for WORKORDER.JPNUM



- 2 Select **Linking>LinkExp** and click the Detail icon to open the Hyperlink Builder dialog box.

Hyperlink Builder Dialog Box



- 3 Paste the following link in the **Url** field:

```
mroRootFolder & "/jobplan/reports/jobplan_print_act.rox?  
LinkedRep=True&jpnum=" & DataValue & ";site=" & [SITEID] &  
";ParmPassword=" & ParmPassword & ";ParmUserName=" & ParmUserName &  
";mroSite=" & mroSite & ";mroOrg=" & mroOrg & ";mroRootFolder=" & mroRootFolder  
& ";schema=" & schema & ";connectString=" & connectString & ";localTZ=" & localTZ  
& ";mroLangCode=" & mroLangCode & ";mroDbType=" & mroDbType
```

Note the bolded sections of this code:

"/jobplan/reports/jobplan_print_act.rox? – This section of code links to a report, located in the reports section of the jobplan folder, called jobplan_print_act.rox.

LinkedRep=True – This required parameter indicates to Maximo that you are accessing the Job Plan Details Report via the Work Order List Report, as opposed to a Maximo application. You define this parameter in the next section.

&jpnum=" & DataValue & ";site=" & [SITEID] – To link to the correct jobplan, you must pass both values that constitute a unique key for that jobplan (JOBPLAN.JPNUM and JOBPLAN.SITEID).

To pass any other required values, refer to them by enclosing the corresponding data row variable in brackets as done with SITEID. In this example, the SITEID value for this workorder is referenced by [SITEID].

NOTE Do NOT use the mroSite variable if you are including SITEID as a key. Use the [SITEID] value from the current record.

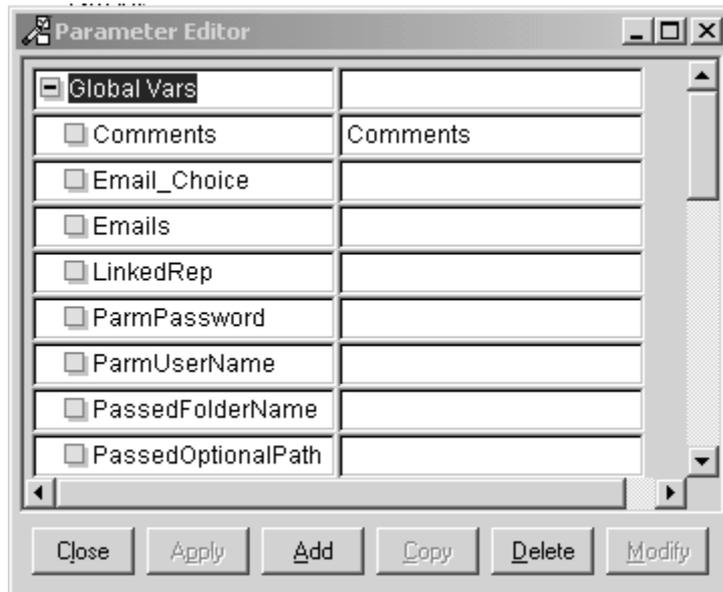
You have modified an existing report. In the following section, you change a detailed report to accept the hyperlink.

Changing a Detailed Report to Accept the Hyperlink

After modifying the Work Order List Report, you now must change the Job Plan Details Report to complete the hyperlink. To change a detailed report, complete the following steps.

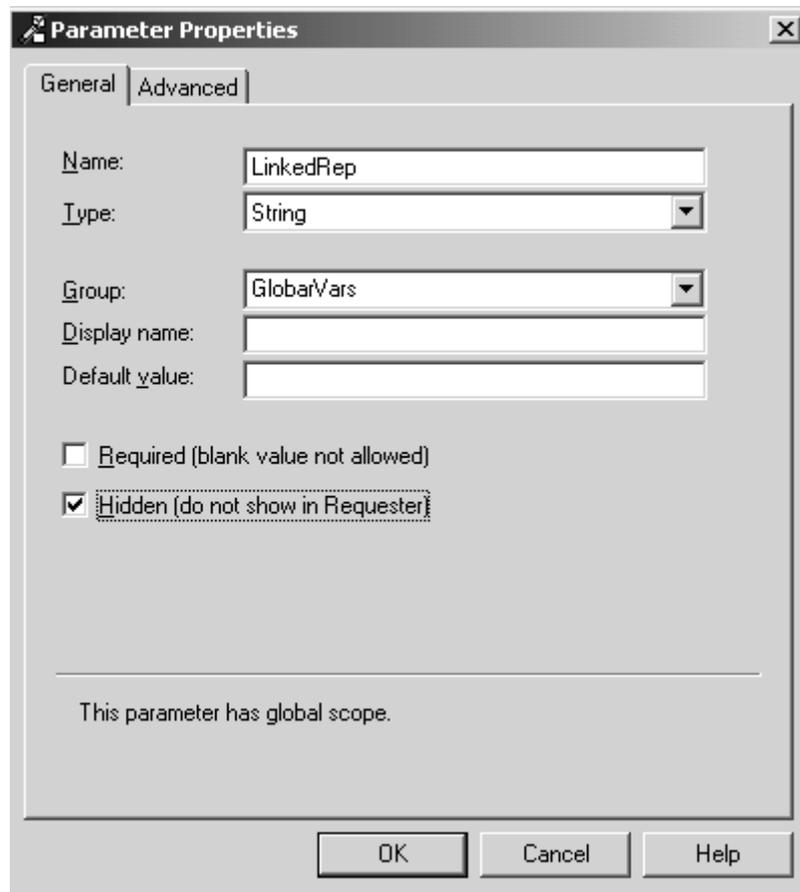
- 1 In e.Report Designer Professional, close any reports you currently have open. Save any changes you have made.
- 2 Open your Job Plan Details Report. Select **Tools>Parameters** to open the Parameter Editor dialog box.

Parameter Editor Dialog Box



- 3 Select GlobalVars. Click **Add** to open the Parameter Properties dialog box.
- 4 Complete the following fields and check box:
 - ▼ **Name** – Type LinkedRep.
 - ▼ **Type** – Select String from the drop-down list.
 - ▼ **Group** – Select Global Vars from the drop-down list.
 - ▼ **Hidden (do not show in Requester)** – Select this check box.
- 5 To create the LinkedRep parameter, click **OK**. The Parameter Editor dialog box reappears.
- 6 To create the Jpnum parameter, repeat steps 3 – 5 and type Jpnum in the **Name** field.
- 7 To create the Site parameter, repeat steps 3 – 5 and type the word Site in the **Name** field.

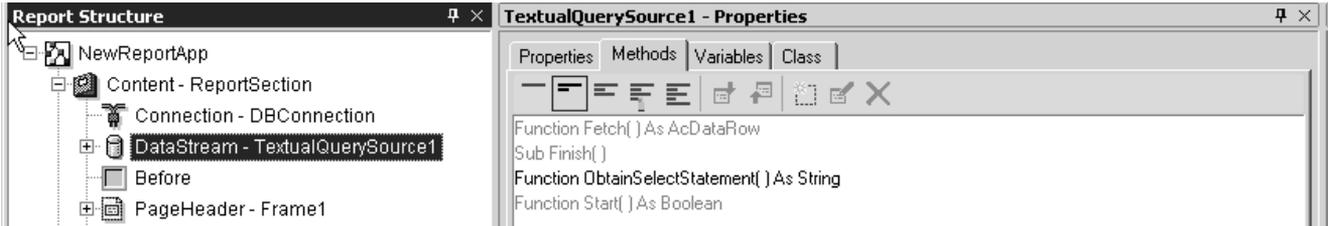
Parameter Properties Dialog Box (General Tab)



- 8 In the Report Structure section of your report, select **DataStream – TextualQuerySource1** and double-click to open the Properties dialog box.
- 9 Select the Methods tab and Double-click the following line:

Function ObtainSelectStatement() As String

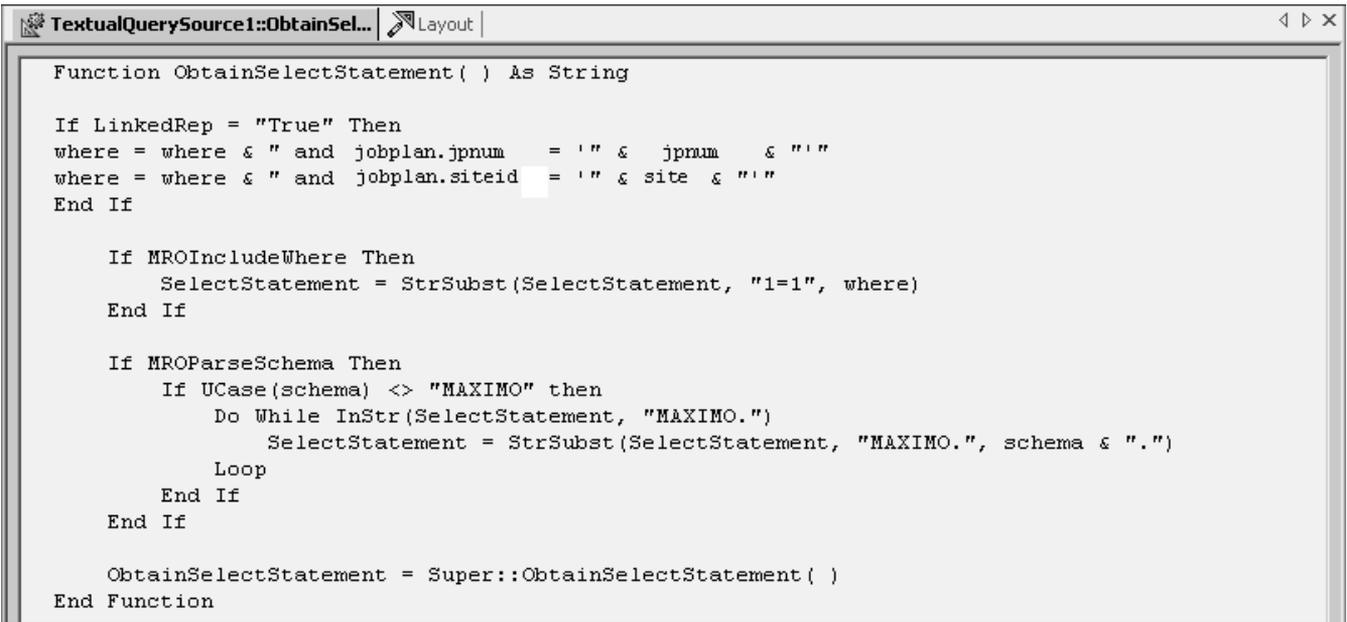
e.Report Designer Professional Report Template with BaseTextQuerySource - Properties Dialog Box (Methods Tab)



- 10 Add the following text immediately after the method declaration (preceding any existing code):

```
If LinkedRep = "True" Then
where = where & " and jobplan.jpnum = " & jpnum & "'
where = where & " and jobplan.siteid = " & site & "'
End If
```

Method Editor with text added



- 11 In the Report Structure, select a report element, other than DataStream - TextualQuerySource1. This step ensures that e.Report Designer Professional recognizes your changes to the Method Editor.
- 12 To save the new information, build the report.

NOTE When creating a link from one report to another, be sure to build both reports and place them in the appropriate folders using Management Console. Replace any existing versions of either report.

This chapter describes the following report administrative functions relating to working with Maximo:

- ▼ setting privileges
- ▼ setting privileges by role
- ▼ setting privileges by user
- ▼ using the jobs folder

Setting Privileges

In Maximo, privileges can be set by group. In Actuate, privileges can be set either of the following ways:

- ▼ by individual user level.
- ▼ by role level. Role level is equivalent to Maximo groups. For example, the Maximo group DEFLT corresponds to the Actuate role DEFLT.

Role level is a name for a set of privileges. You can use roles to ensure that the same privileges are granted to a group of users. Roles also help you to manage privilege sets as your environment changes. For example, as employees join or leave a group within your company, you can change the members of that group without having to change any individual security levels.

Refer to the following table to determine which method MRO Software recommends for setting privileges in your organization.

Setting Privileges Table

If the number of users in your organization is . . .	and Report Privileges are . . .	you should set report privileges by . . .
Few	unique to each user	user level
	same for all members	role level
Many	unique for many members	role level
	same for all members	role level

When your System Administrator uses Maximo to add a new user or group or delete an existing user or group, your Management Console is updated automatically through the RSSE (Report Server Security Extension) properties files.

Configuring Security

You can configure security for Actuate in one of the following ways:

- ▼ By Encyclopedia folder level. For example, you can set report privileges for the DEFLT group or for an individual user to all reports in the WOTRACK folder.
- ▼ By individual report level. For example, you can set report privileges for the DEFLT group or for a single user to only the Work Order Details Report in the WOTRACK folder.

NOTE In the MAXDEMO database that you receive with MXES, MRO Software provides user WILSON with all security privileges to all Maximo reports and folders.

Setting Privileges by Role

The following section describes how to set privileges by role. For more information about role-level security, see page 10-1.

In this example, you will set privileges for all Work Order Tracking reports and queries for the DEFLTGRP role. You will assign full access privileges to the DEFLTGRP.

NOTE In step 4, you can see how these same instructions can be used to assign individual user privileges to:

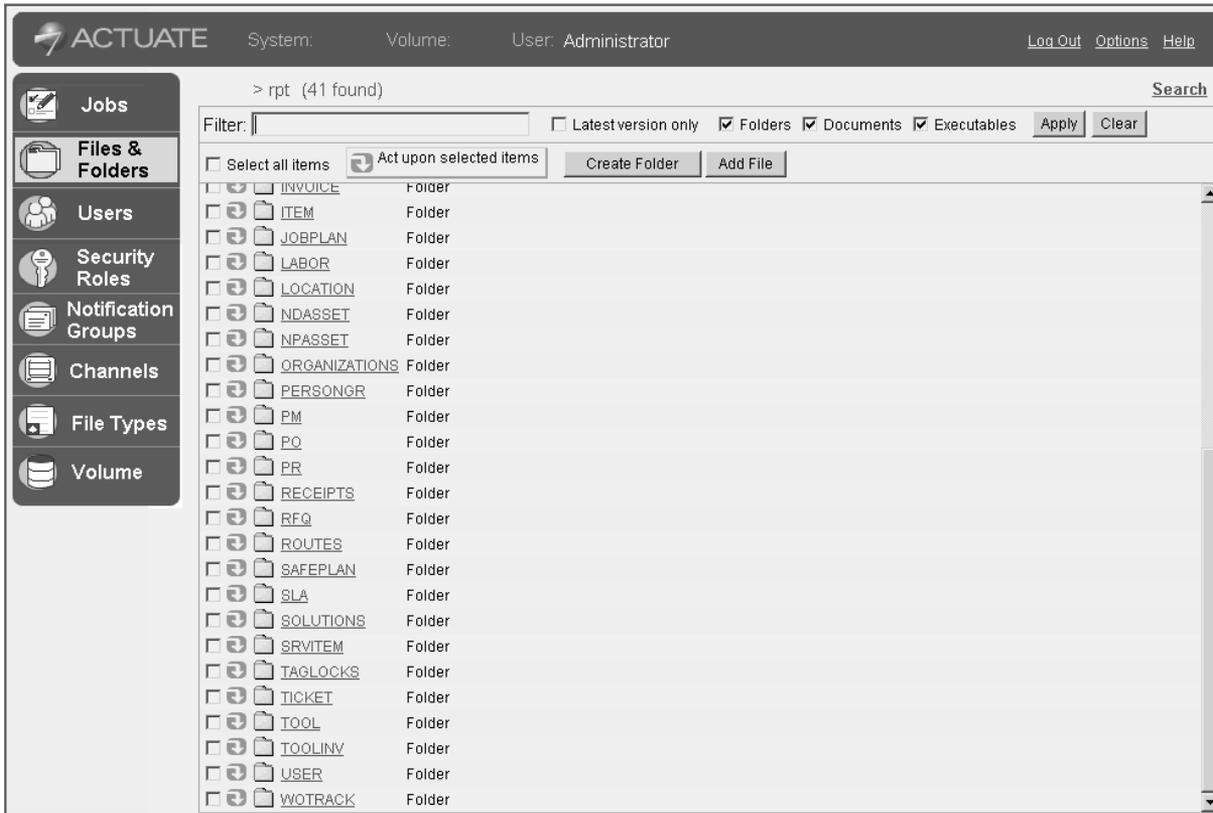
- ▼ all reports or all queries
- ▼ a report or query executable file
- ▼ a report or query document file

To set privileges by role, complete the following steps:

- 1** In Actuate, open Management Console,
- 2** Select **Files & Folders** from the Side Menu.

- 3 Click the RPT link to open a list of subfolders corresponding to all of your Maximo applications.

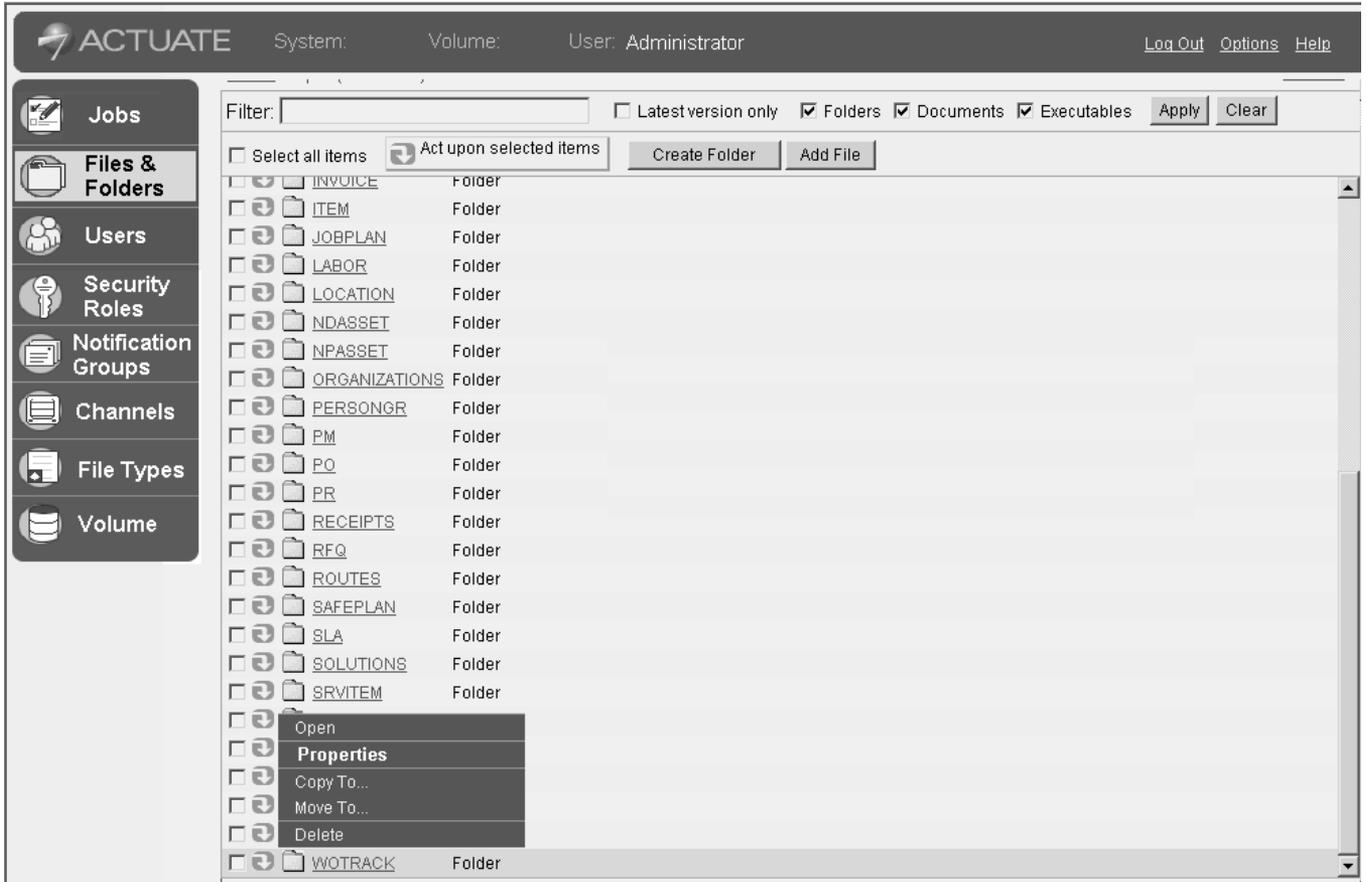
Management Console (Files & Folders) with RPT Folder Selected



4 Choose one of the following actions:

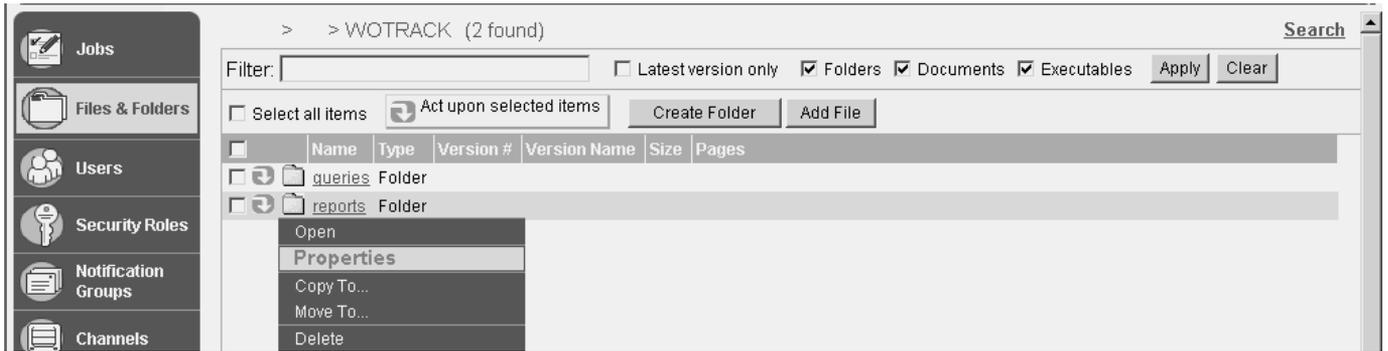
- ▼ If you want to assign privileges based on all reports and queries in the WOTRACK folder, click the arrow icon next to the WOTRACK folder and select Properties. Go to step 5.

Management Console (Files & Folders) with WOTRACK Folder Selected



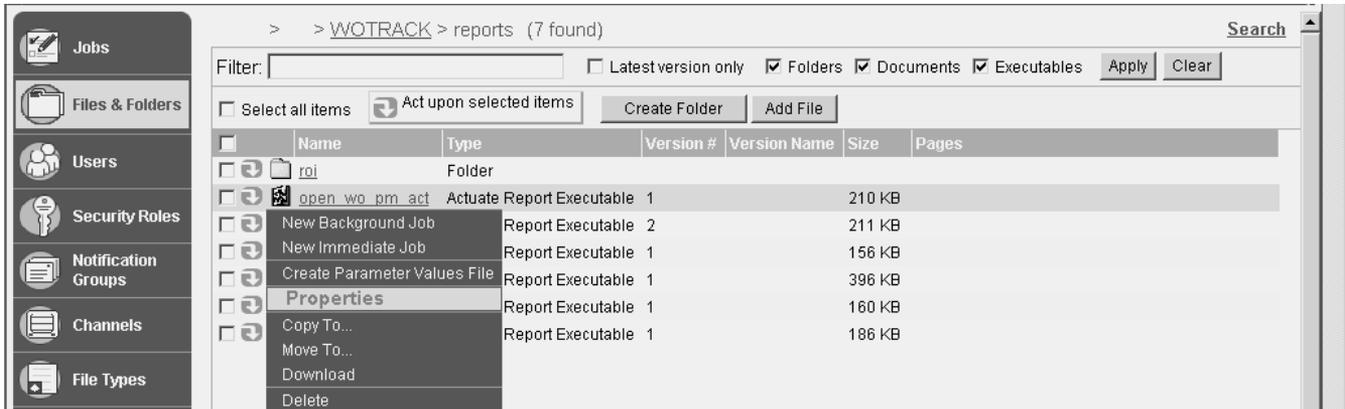
- ▼ If you want to assign role privileges to only reports or only queries:
 - a Select the WOTRACK folder.
 - b Click the arrow icon next to the REPORTS or QUERIES subfolder.
 - c Select Properties. Go to step 5.

Management Console (Files & Folders) with WOTRACK Selected



- ▼ If you want to assign role privileges to an individual report executable (.ROX) file or query executable (.DOX) file:
 - a Select the WOTRACK folder.
 - b Select the REPORTS or QUERIES subfolder.
 - c Click the arrow icon next to the report or query executable file.
 - d Select Properties. Go to Step 5.

Management Console (Files & Folders) with Reports File selected in WOTRACK



- ▼ If you want to assign role privileges to an individual report (.ROI) or query document (.DOI) file:
 - a Select the WOTRACK folder.
 - b Select the REPORTS or QUERIES subfolder.
 - c Select the ROI folder.
 - d Click the arrow icon next to the report or query document.
 - e Select Properties. Go to step 5.

Management Console (Files & Folders) with ROI file selected in WOTRACK> Reports

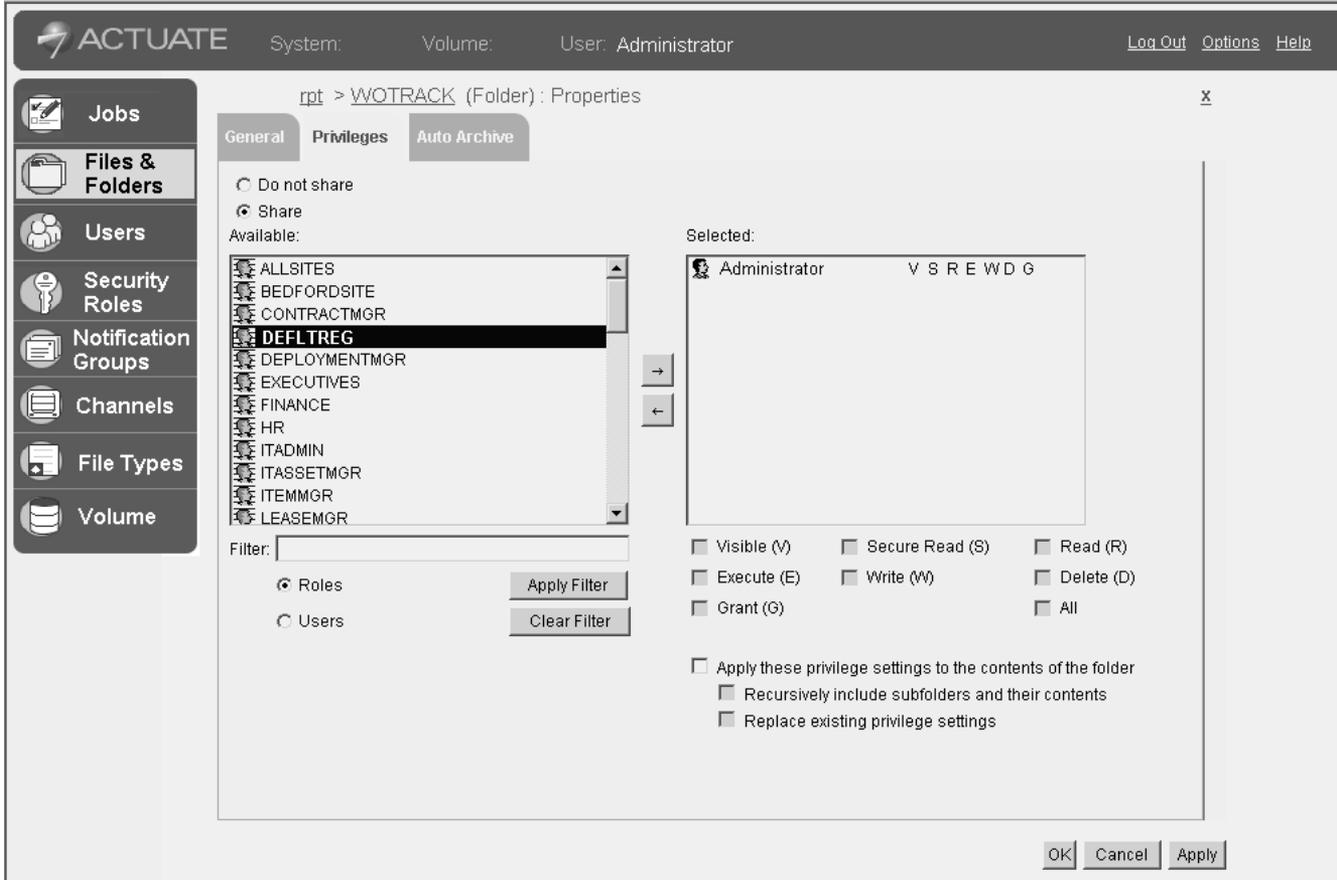
The screenshot shows the Management Console interface with the following details:

- Navigation path: > > WOTRACK > reports > roi (16 found)
- Filter: [Empty] Latest version only Folders Documents Executables
- Actions: Select all items Act upon selected items
- Table of files:

Name	Type	Version #	Version Name	Size	Pages
open wo pm act.1.38365.4949768518_92	Actuate Report Document	1		50.1 KB	2
Open	Actuate Report Document	1		50.1 KB	2
Print on Server	Actuate Report Document	1		50.2 KB	2
New Background Job	Actuate Report Document	1		50.1 KB	2
New Immediate Job	Actuate Report Document	1		50.1 KB	2
Properties					
Copy To...	Actuate Report Document	1		1.31 MB	118
Move To...	Actuate Report Document	1		673 KB	15
Download	Actuate Report Document	1		674 KB	15
Delete	Actuate Report Document	1		36.2 KB	1

- 5 Select the Privileges tab. Share is the default setting that lets you to share privileges with groups.
- 6 Select the **Roles** option to open a list of available roles to which you can assign privileges to items in the Encyclopedia.

Management Console (Files & Folders) with Privileges Tab selected in WOTRACK for DEFLTREG Role



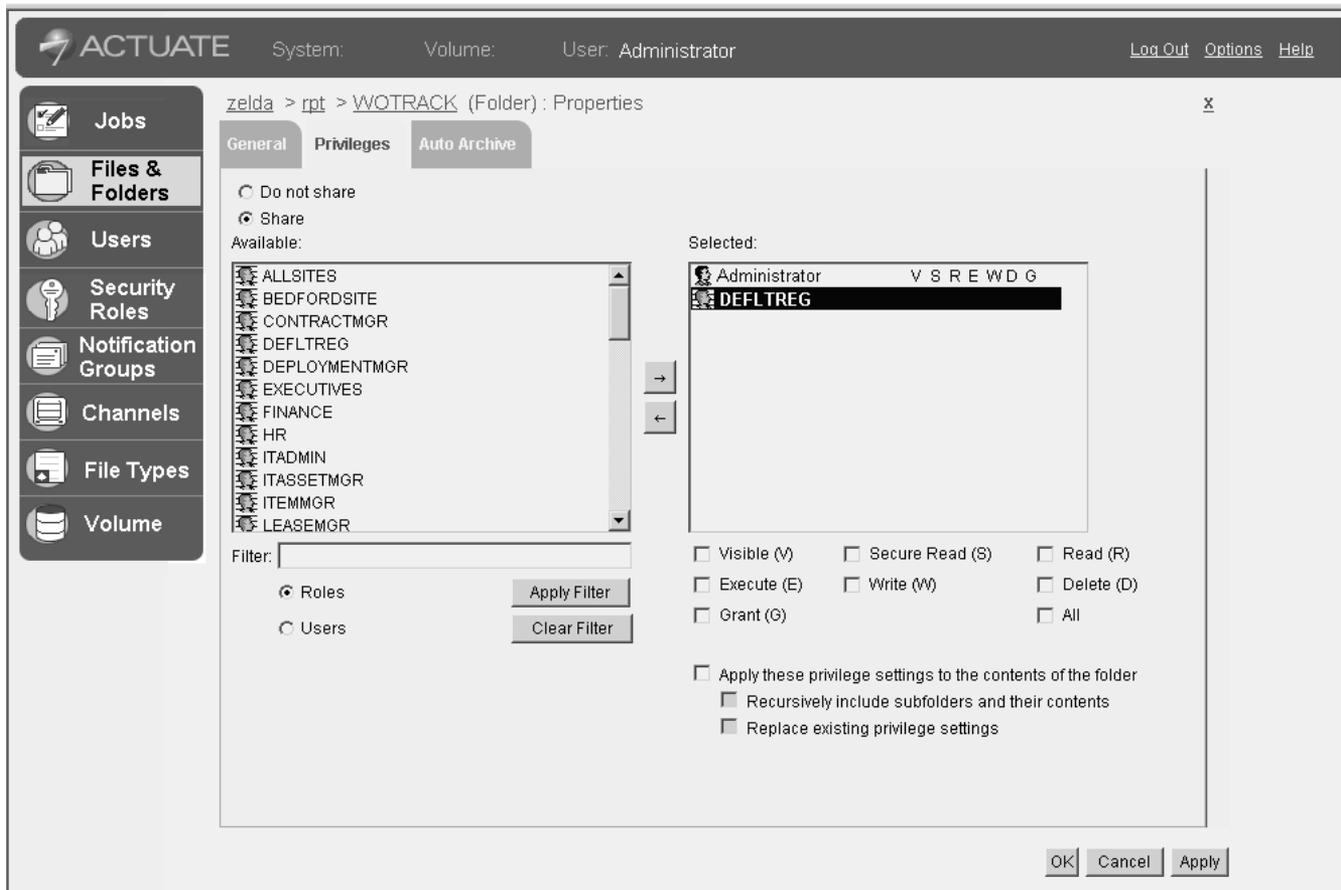
- 7 Select a role to which you want to assign privileges and click the Right Arrow to copy it to the Selected dialog box.

Note that the privilege settings are now available. The following table describes the access for each privilege.

Role Privileges Table

Privilege	Access
Visible	View items in the Encyclopedia.
Secure Read	Open, work with, and print, but not download, an item in the Encyclopedia
Read	Open, work with, and print an item in the Encyclopedia.
Execute	Run items from the Encyclopedia.
Write	Place an item in the Encyclopedia.
Delete	Remove items from the Encyclopedia.
Grant	Extend privileges to an item to other users. The user who develops an item and the administrator both have grant privileges for that item.
All	Places a checkmark in all privilege types listed.

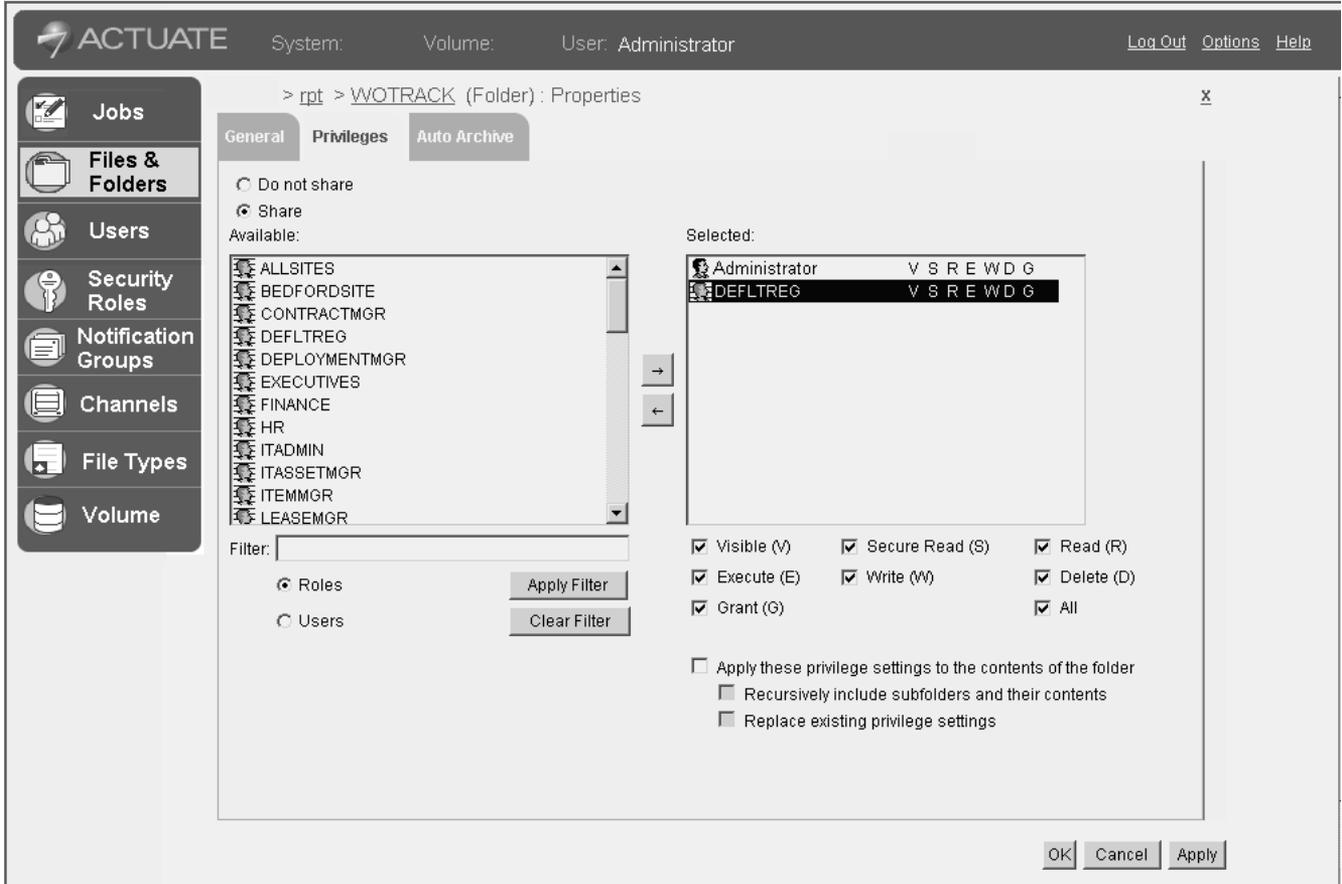
Management Console (Files & Folders) with Privileges Tab selected in WOTRACK for DEFLTREG Role



- 8 Select the check box(es) corresponding to the privileges you want to assign to the group you selected. If you want to assign all privileges, select the **All** checkbox.

The privileges you select will appear in the Selected dialog box.

Management Console (Files & Folders) with Privileges Tab selected in WOTRACK for DEFLTREG Role



- 9 Refer to the following table for checkboxes that allow you to set and replace folder and subfolder privileges:

If you want to . . .	then select the . . .
set privileges for items in the folder	Apply these privilege settings to the contents of the folder check box.
set privileges for all subfolders and files in the subfolders in the current folder	Recursively include subfolders and their contents check box.
replace privileges on the items in the folder	Replace existing privilege settings check box

- 10 Click **Apply** to save your changes and add roles for other groups.

- 11 If you are done working with role privileges, click **OK** to save your changes and return to the list of files and folders.

Setting Privileges by User

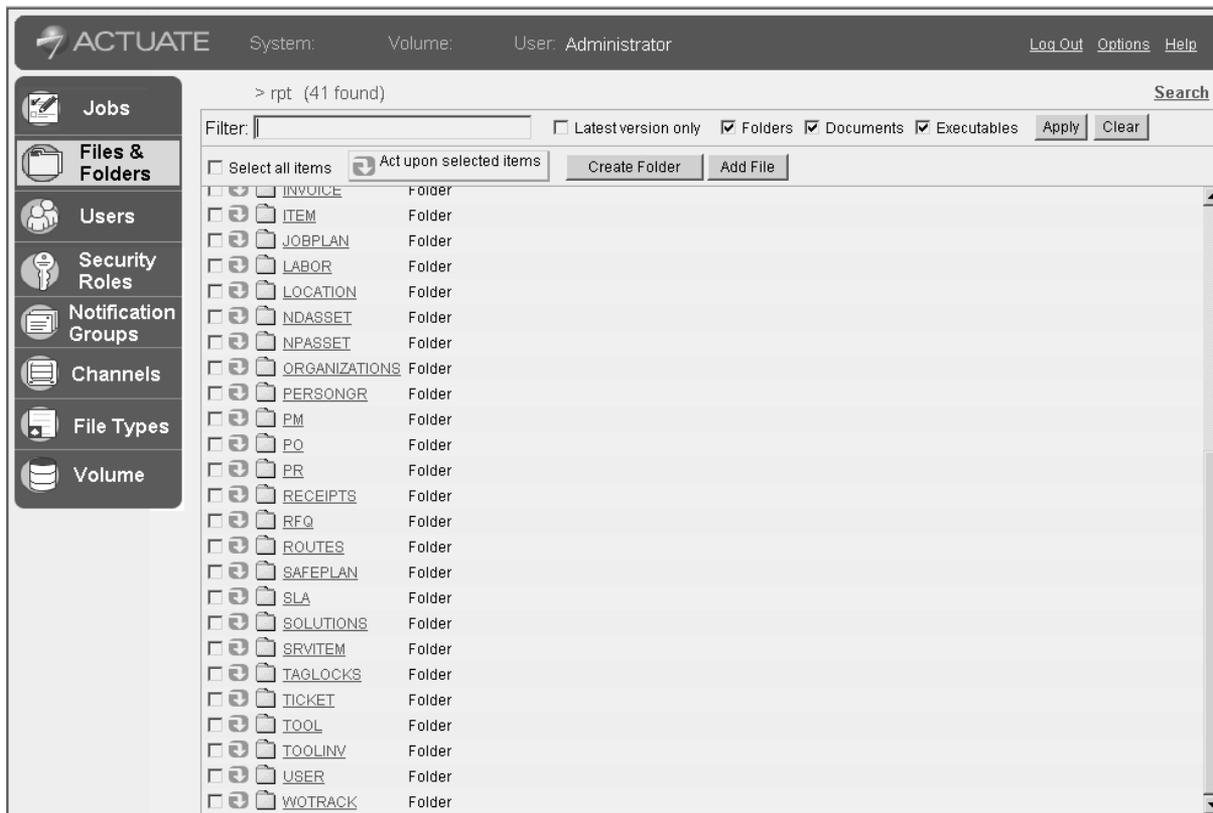
The following section describes how to set privileges by individual user. In this example, you will set privileges for all Work Order Tracking reports and queries for user Daley. You will assign Daley visible (V), secure read (S), and read privileges (R).

NOTE In step q, you can see how these same instructions can be used to assign individual user privileges to:

- ▼ all reports or all queries
- ▼ a report or query executable file
- ▼ a report or query document file

- 1 In Actuate, open Management Console,
- 2 Select **Files & Folders** from the Side Menu.
- 3 Click the RPT folder to open a list of subfolders corresponding to all of your Maximo application.

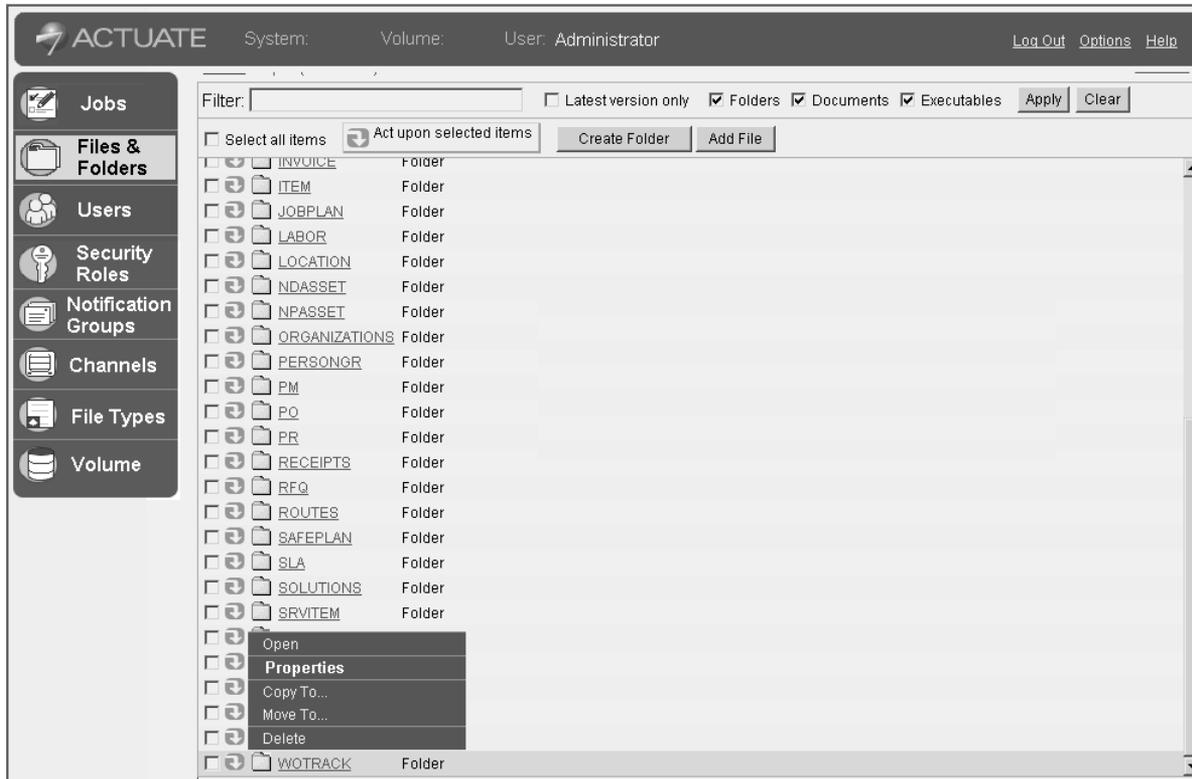
Management Console (Files & Folders) with RPT Folder selected



4 Choose one of the following actions:

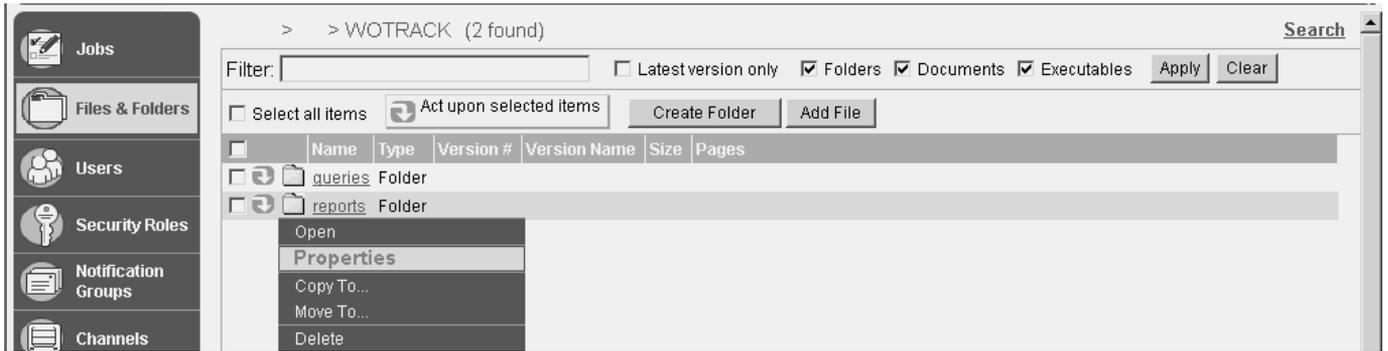
- ▼ If you want to assign privileges based on all reports and queries in the WOTRACK folder, click the arrow icon next to the WOTRACK folder and select Properties. Go to step 5.

Management Console (Files & Folders) with WOTRACK Folder selected



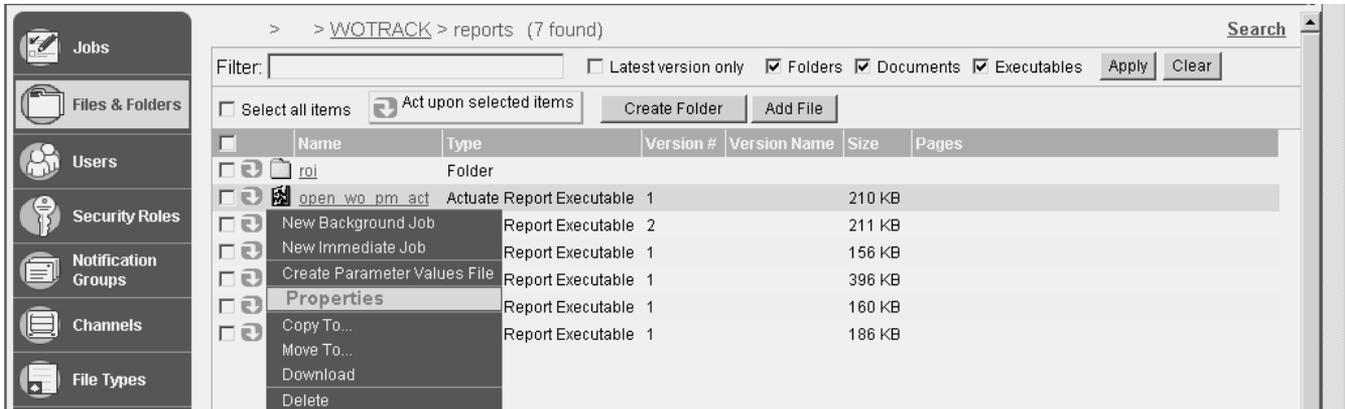
- ▼ If you want to assign role privileges to only reports or only queries:
 - a Select the WOTRACK folder.
 - b Click the arrow icon next to the REPORTS or QUERIES subfolder.
 - c Select Properties. Go to step 4.

Management Console (Files & Folders) with WOTRACK Folder selected



- ▼ If you want to assign role privileges to an individual report executable (.ROX) or query executable (.DOX) file:
 - a Select the WOTRACK folder.
 - b Select the REPORTS or QUERIES subfolder.
 - c Click the arrow icon next to the report or query executable file.
 - d Select Properties. Go to step 5.

Management Console (Files & Folders) with WOTRACK > Reports selected



- ▼ If you want to assign role privileges to an individual report executable (.ROI) or query document (.DOI) file:
 - a Select the WOTRACK folder.
 - b Select the REPORTS or QUERIES subfolder.
 - c Select the ROI folder.
 - d Click the arrow icon next to the report or query document.
 - e Select Properties. Go to step 5.

Management Console (Files & Folders) with WOTRACK > Reports > ROI selected

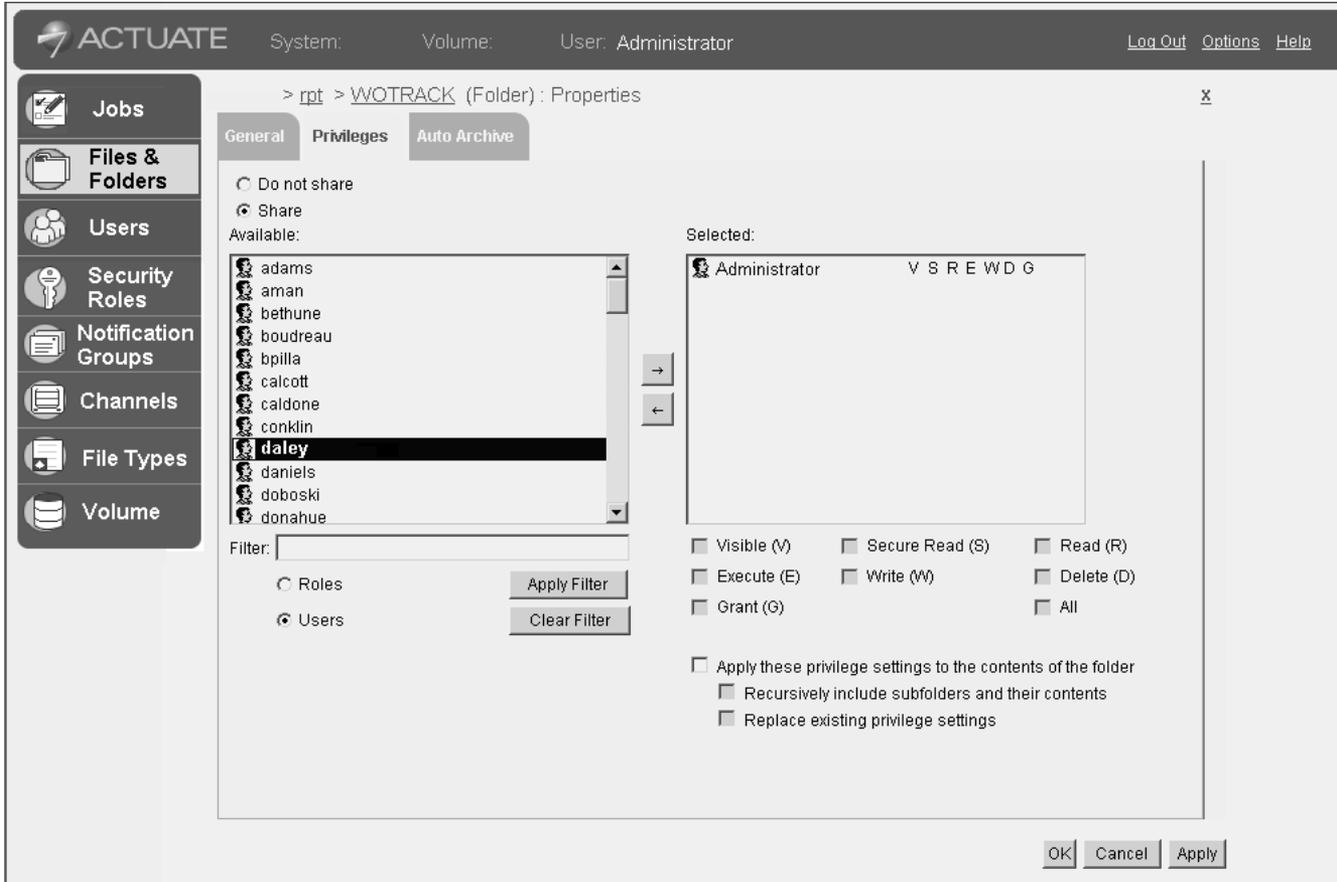
The screenshot shows the Management Console interface with the following details:

- Navigation Sidebar:** Jobs, Files & Folders, Users, Security Roles, Notification Groups, Channels, File Types.
- Path:** > > WOTRACK > reports > roi (16 found)
- Filter:** Latest version only (unchecked), Folders (checked), Documents (checked), Executables (checked). Buttons: Apply, Clear.
- Actions:** Select all items, Act upon selected items, Create Folder, Add File.
- File List:**

Name	Type	Version #	Version Name	Size	Pages
open wo pm act.1.38365.4949768518 92	Actuate Report Document	1		50.1 KB	2
Open	Actuate Report Document	1		50.1 KB	2
Print on Server	Actuate Report Document	1		50.2 KB	2
New Background Job	Actuate Report Document	1		50.1 KB	2
New Immediate Job	Actuate Report Document	1		50.1 KB	2
Properties	Actuate Report Document	1		50.1 KB	2
Copy To...	Actuate Report Document	1		1.31 MB	118
Move To...	Actuate Report Document	1		673 KB	15
Download	Actuate Report Document	1		674 KB	15
Delete	Actuate Report Document	1		36.2 KB	1

- 5 Select the Privileges tab. **Share** is the default setting that lets you share privileges with individual users.
- 6 Select the **Users** option to open a list of available users to which you can assign privileges.

Management Console (Files & Folders) with Privileges Tab selected in WOTRACK for User Daley



- 7 Refer to the following table for checkboxes that allow you to set and replace folder and subfolder privileges:

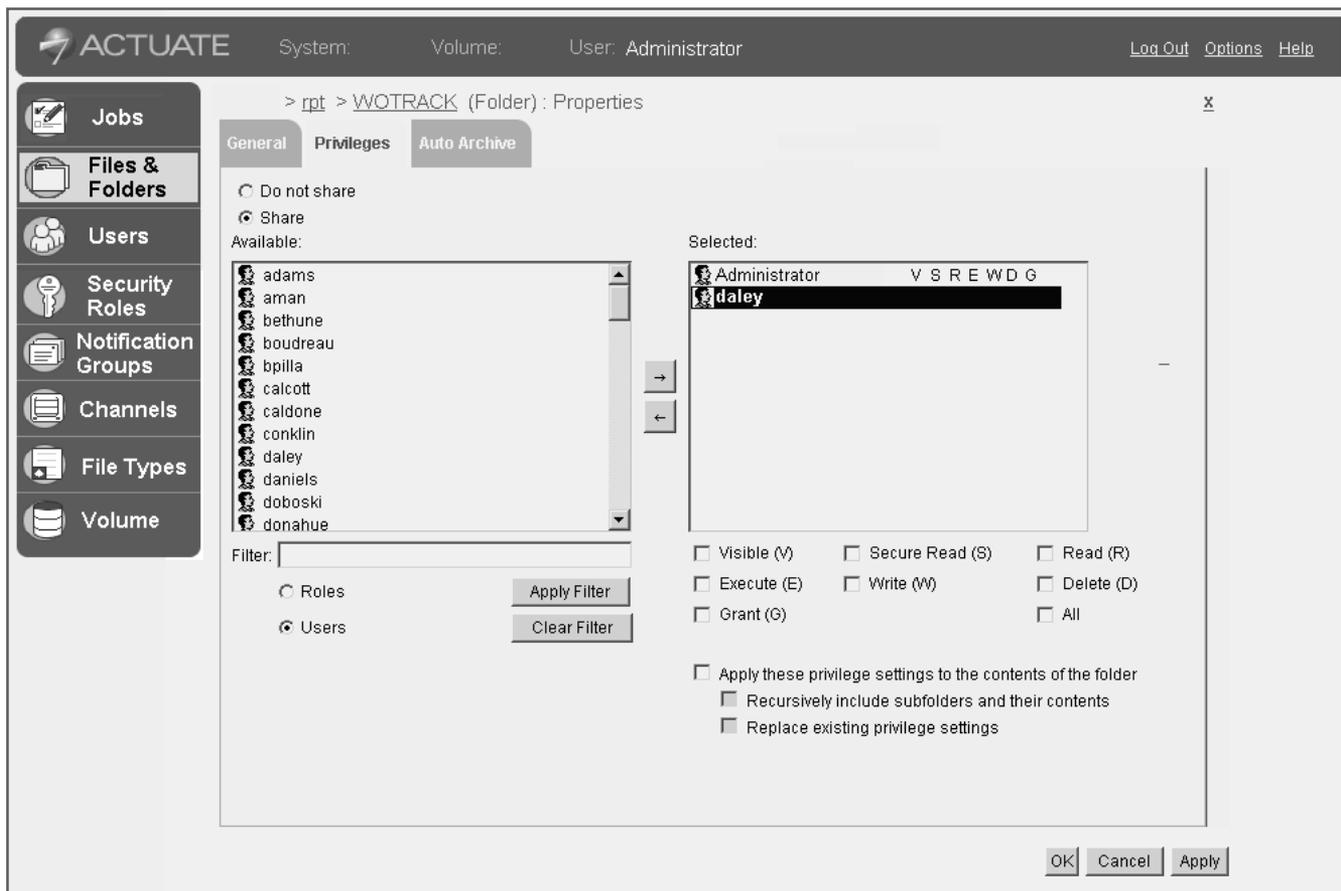
If you want to . . .	then select the . . .
set privileges for items in the folder	Apply these privilege settings to the contents of the folder check box.
set privileges for all subfolders and files in the subfolders in the current folder	Recursively include subfolders and their contents check box.
replace privileges on the items in the folder	Replace existing privilege settings check box

- 8 Select an individual to whom you want to assign privileges and click the Right Arrow to copy it to the Selected dialog box.

Note that the privilege settings are now available. You can select from the following:

Privilege	Access
Visible	View items in the Encyclopedia.
Secure Read	Open, work with, and print, but not download, an item in the Encyclopedia
Read	Open, work with, and print an item in the Encyclopedia.
Execute	Run items from the Encyclopedia.
Write	Place an item in the Encyclopedia.
Delete	Remove items from the Encyclopedia.
Grant	Extend privileges to an item to other users. The user who develops an item and the administrator both have grant privileges for that item.
All	Places a checkmark in all privilege types listed.

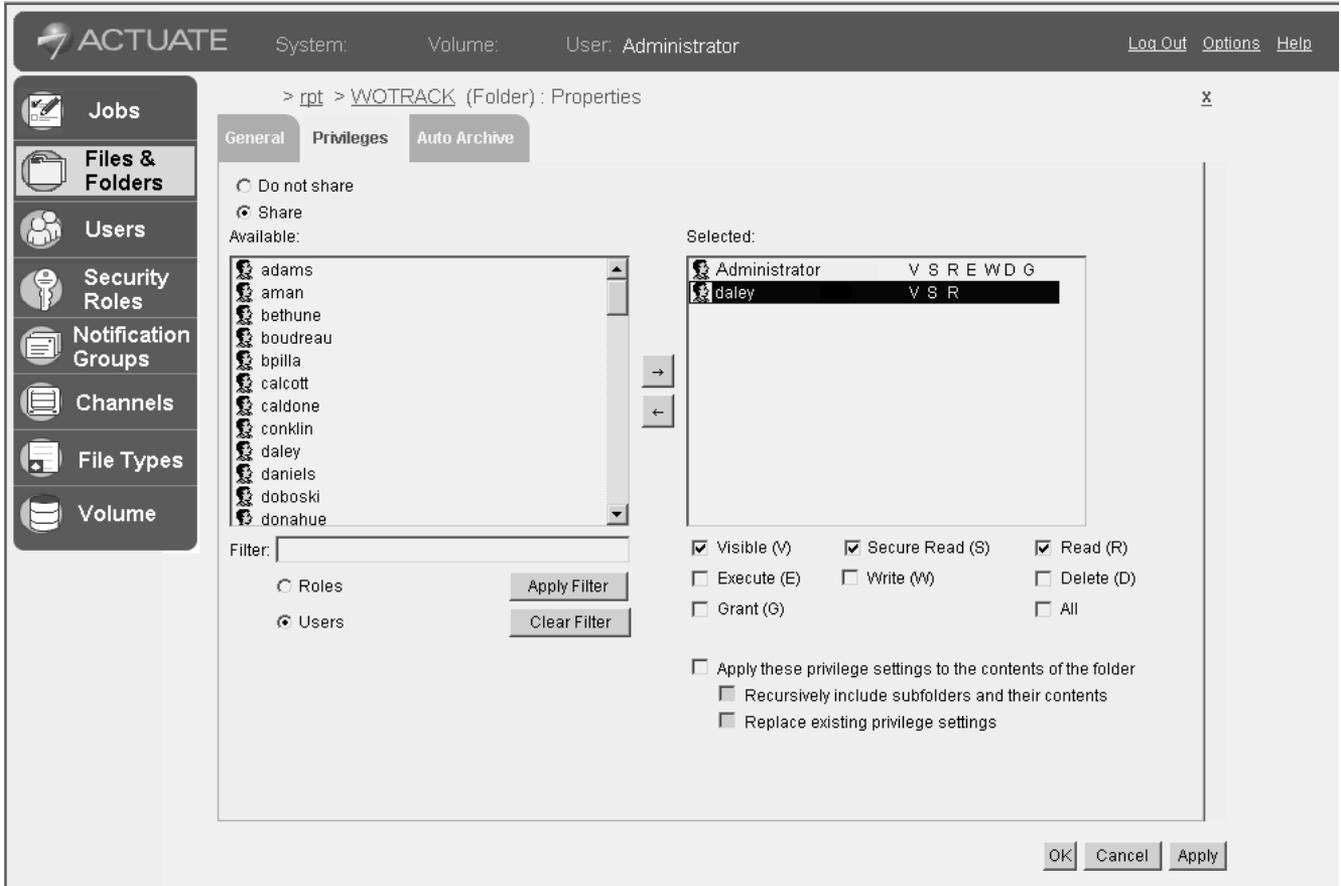
Management Console (Files & Folders) with Privileges Tab selected in WOTRACK for User Daley



- 9 Select the check box(es) for the privileges you want to assign to the Daley group. For example, If you want to assign **Visible**, **Secure**, and **Read** privileges, select those check boxes.

The privileges you select will appear in the Selected dialog box.

Management Console (Files & Folders) with Privileges Tab selected in WOTRACK for User Daley



- 10 Refer to the following table for checkboxes that allow you to set and replace folder and subfolder privileges:

If you want to . . .	then select the . . .
set privileges for items in the folder	Apply these privilege settings to the contents of the folder check box.
set privileges for all subfolders and files in the subfolders in the current folder	Recursively include subfolders and their contents check box.
replace privileges on the items in the folder	Replace existing privilege settings check box

- 11 Click **Apply** to save your changes and add roles for other users.

- 12 If you are done working with user privileges, click **OK** to save your changes and return to the list of files and folders.

Using the Jobs Folder

Use the Jobs selection form the side menu of the Encyclopedia to view the following types of jobs:

Category	Definition
Scheduled	Jobs to be processed at a later date and time.
Pending	Jobs in the process queue.
Running	Jobs now running.
Completed	Jobs completed.

To see jobs in the process queue, click **Jobs** and select the Scheduled tab.

Management Console (Jobs) with Scheduled Tab selected

The screenshot shows the Actuate Management Console interface. The top navigation bar includes the Actuate logo, system information (System: Indh31, Volume: Indh31, User: wilson), and links for Log Out, Options, and Help. A left-hand sidebar contains a menu with icons for Jobs, Files & Folders, Users, Security Roles, Notification Groups, Channels, File Types, and Volume. The main content area is titled "Job Schedules (22 found)" and features a search bar and tabs for Scheduled, Pending, Running, and Completed. Below the tabs is a filter input field with "Apply" and "Clear" buttons. A checkbox labeled "Select all schedules" and a radio button labeled "Act upon selected schedules" are also present. The main display is a table with the following data:

<input type="checkbox"/>	Job Name	Owner	Next Run	Priority
<input type="checkbox"/>	assetmove_history	wilson	Feb 10, 2006 9:45:00 AM	1000
<input type="checkbox"/>	assetmove_history	wilson	Feb 10, 2006 9:45:00 AM	1000
<input type="checkbox"/>	inventory_rop_tbl_act	wilson	Feb 10, 2006 9:45:00 AM	1000
<input type="checkbox"/>	inventory_eoq_tbl_act	wilson	Feb 10, 2006 9:45:00 AM	1000
<input type="checkbox"/>	asset_measurehist_act	wilson	Feb 10, 2006 9:45:00 AM	1000
<input type="checkbox"/>	inventory_balance_tbl_act	wilson	Feb 10, 2006 9:45:00 AM	1000
<input type="checkbox"/>	asset_costrollup_act	wilson	Feb 10, 2006 9:45:00 AM	1000
<input type="checkbox"/>	inventory_abc_tbl_act	wilson	Feb 10, 2006 9:45:00 AM	1000
<input type="checkbox"/>	asset_costrollup_act	wilson	Feb 10, 2006 9:45:00 AM	1000
<input type="checkbox"/>	invvcnt_act	wilson	Feb 10, 2006 9:45:00 AM	1000
<input type="checkbox"/>	asset_availability_act	wilson	Feb 10, 2006 9:45:00 AM	1000

To see jobs in the process queue, click **Jobs** and select the Pending tab.

Management Console (Jobs) with Pending Tab selected

ACTUATE System: Indh31 Volume: Indh31 User: wilson [Log Out](#) [Options](#) [Help](#)

Jobs - Pending (23 found) [Search](#)

Scheduled **Pending** Running Completed

Filter:

Act upon selected jobs

<input type="checkbox"/>	Job Name	Executable Name	Owner	Priority
<input type="checkbox"/>	sum_assetfail_act	sum_assetfail_act	wilson	1000
<input type="checkbox"/>	drillasset_fail_tbl_act	drillasset_fail_tbl_act	wilson	1000
<input type="checkbox"/>	detailasset_fail_tbl_act	detailasset_fail_tbl_act	wilson	1000
<input type="checkbox"/>	inventory_transactions_issues_returns_act	inventory_transactions_issues_returns_act	wilson	1000
<input type="checkbox"/>	assetmove_history	assetmove_history	wilson	1000
<input type="checkbox"/>	assetmove_history	assetmove_history	wilson	1000
<input type="checkbox"/>	inventory_rop_tbl_act	inventory_rop_tbl_act	wilson	1000
<input type="checkbox"/>	inventory_eoq_tbl_act	inventory_eoq_tbl_act	wilson	1000
<input type="checkbox"/>	asset_measurehist_act	asset_measurehist_act	wilson	1000
<input type="checkbox"/>	inventory_balance_tbl_act	inventory_balance_tbl_act	wilson	1000
<input type="checkbox"/>	asset_costrollup_act	asset_costrollup_act	wilson	1000
<input type="checkbox"/>	inventory_abc_tbl_act	inventory_abc_tbl_act	wilson	1000

To view reports now processing, click **Jobs** and select the Running tab.

Management Console (Jobs) with Running Tab selected

ACTUATE System: Indn31 Volume: Indn31 User: wilson [Log Out](#) [Options](#) [Help](#)

Jobs - Running (2 found) [Search](#)

Scheduled Pending **Running** Completed

Filter:

<input type="checkbox"/>	Job Name	Executable Name	Owner	Submitted	Started
<input type="checkbox"/>	asset_costrollup_act	asset_costrollup_act	wilson	Feb 10, 2006 9:45:00 AM	Feb 10, 2006 9:45:02 AM
<input type="checkbox"/>	asset_costrollup_act	asset_costrollup_act	wilson	Feb 10, 2006 9:45:00 AM	Feb 10, 2006 9:45:00 AM

To view reports that have already been run, click **Jobs** and select the Completed tab.

Management Console (Jobs) with Completed Tab selected

ACTUATE System: Indn31 Volume: Indn31 User: wilson [Log Out](#) [Options](#) [Help](#)

Jobs - Completed (53 found) [Search](#)

Scheduled Pending Running **Completed**

Filter: Succeeded Failed Cancelled Schedules

Select all jobs Act upon selected jobs

<input type="checkbox"/>	Job Name	Document Name	Owner	Finished	Document Pages
<input type="checkbox"/>	sum assetfail act	sum assetfail act.1.38758.4084	wilson	Feb 10, 2006 9:48:12 AM	
<input type="checkbox"/>	drillasset fail tbl act	drillasset fail tbl act.1.38758.40	wilson	Feb 10, 2006 9:48:11 AM	
<input type="checkbox"/>	detailasset fail tbl act	detailasset fail tbl act.1.38758.4	wilson	Feb 10, 2006 9:48:11 AM	
<input type="checkbox"/>	inventory transactions issues returns act	inventory transactions issues r	wilson	Feb 10, 2006 9:48:11 AM	7
<input type="checkbox"/>	assetmove history	assetmove history.1.38758.4084	wilson	Feb 10, 2006 9:48:10 AM	1
<input type="checkbox"/>	assetmove history	assetmove history.1.38758.4084	wilson	Feb 10, 2006 9:48:09 AM	1
<input type="checkbox"/>	inventory rop tbl act	inventory rop tbl act.1.38758.40	wilson	Feb 10, 2006 9:48:09 AM	4
<input type="checkbox"/>	inventory eqg tbl act	inventory eqg tbl act.1.38758.40	wilson	Feb 10, 2006 9:48:06 AM	3
<input type="checkbox"/>	asset measurehist act	asset measurehist act.1.38758	wilson	Feb 10, 2006 9:48:05 AM	4
<input type="checkbox"/>	inventory balance tbl act	inventory balance tbl act.1.3875	wilson	Feb 10, 2006 9:48:04 AM	3
<input type="checkbox"/>	asset costrollup act	asset costrollup act.1.38758.40	wilson	Feb 10, 2006 9:48:22 AM	2

Adding Reports to the Encyclopedia

11

Overview

This chapter describes how the report administrator can use Management Console to:

- ▼ add (register) reports to the Encyclopedia
- ▼ open the Encyclopedia

Defining Encyclopedia Components

In the Management Console, the Encyclopedia contains the reports used by Maximo, as well as several folders containing objects used for administration. The Encyclopedia opens with the following components:

- ▼ A banner across the top. The default setting for this banner is the Actuate logo.
- ▼ A left pane with a side menu. This menu contains category selections that let you work with reports.
- ▼ A right pane with the contents of the item selected in the left pane.

Encyclopedia Page (Files & Folders)

The screenshot shows the Actuate Management Console interface. At the top, there is a banner with the Actuate logo, system information (System: Volume: User: Administrator), and links for Log Out, Options, and Help. Below the banner, the main content area displays a list of folders under the heading '> rpt (40 found)'. The list includes columns for Name, Type, Version #, Version Name, Size, and Pages. The folders listed are: ASSET, ASSETCAT, ASSGNMGR, BUYER, CALENDR, CHRTACCT, COMMODITIES, COMPANY, COND, CONFIGUR, CONTRACTS, CONTWARTY, CRAFT, DPLDASSET, FAILURECOND, HAZARDS, INVENTOR, INVOICE, ITEM, JOBLAN, LABOR, and LOCATION. A left sidebar contains navigation options: Jobs, Files & Folders, Users, Security Roles, Notification Groups, Channels, File Types, and Volume. The Files & Folders option is currently selected.

Folder and Report Structure

Click the Files & Folders option to see a subfolder called Reports and a subfolder called Queries.

Encyclopedia Page (Files & Folders) with Inventory Folder selected

The screenshot shows the ACTUATE web interface. The top navigation bar includes the ACTUATE logo, system information (System, Volume, User: Administrator), and links for Log Out, Options, and Help. A left sidebar contains menu items: Jobs, Files & Folders (selected), Users, Security Roles, Notification Groups, Channels, File Types, and Volume. The main content area displays the breadcrumb path > rpt > INVENTOR (2 found) and a search bar. Below the search bar are filter options: Latest version only (unchecked), Folders (checked), Documents (checked), and Executables (checked). Action buttons for Select all items, Act upon selected items, Create Folder, and Add File are present. A table lists the following items:

	Name	Type	Version #	Version Name	Size	Pages
<input type="checkbox"/>	queries	Folder				
<input type="checkbox"/>	reports	Folder				

If you click the Queries subfolder, you see a list of available queries report and a dov folder containing any existing query documents.

Encyclopedia Page (Files & Folders) with Inventory > Reports Folder selected

ACTUATE System: Indn31 Volume: Indn31 User: wilson Log Out Options Help

Indn31 > rpt > INVENTOR > queries (4 found) Search

Filter: Latest version only Folders Documents Executables Apply Clear

Select all items Act upon selected items Create Folder Add File

<input type="checkbox"/>	Name	Type	Version #	Version Name	Size	Pages
<input type="checkbox"/>	dov	Folder				
<input type="checkbox"/>	expired_lots	Actuate Information Object	1		178 KB	
<input type="checkbox"/>	expiring_lots	Actuate Information Object	1		178 KB	
<input type="checkbox"/>	items_issued	Actuate Information Object	1		177 KB	

If you click the Reports subfolder, you see a list of report executables with extension “_act” and an roi folder containing any existing report documents.

Encyclopedia Page (Files & Folders) with Inventory > Reports Folder selected

ACTUATE System: Volume: User: Administrator Log Out Options Help

> rpt > INVENTOR > reports (17 found) Search

Filter: Latest version only Folders Documents Executables Apply Clear

Select all items Act upon selected items Create Folder Add File

<input type="checkbox"/>	Name	Type	Version #	Version Name	Size	Pages
<input type="checkbox"/>	roi	Folder				
<input type="checkbox"/>	invycnt_act	Actuate Report Executable	1		134 KB	
<input type="checkbox"/>	inventory_abc_tbl_act	Actuate Report Executable	1		152 KB	
<input type="checkbox"/>	inventory_abc_update_act	Actuate Report Executable	1		146 KB	
<input type="checkbox"/>	inventory_balance_tbl_act	Actuate Report Executable	1		165 KB	
<input type="checkbox"/>	inventory_eog_tbl_act	Actuate Report Executable	1		160 KB	
<input type="checkbox"/>	inventory_eog_update_act	Actuate Report Executable	1		158 KB	
<input type="checkbox"/>	inventory_rop_tbl_act	Actuate Report Executable	1		152 KB	
<input type="checkbox"/>	inventory_rop_update_act	Actuate Report Executable	1		146 KB	
<input type="checkbox"/>	inventory_transactions_act	Actuate Report Executable	1		143 KB	
<input type="checkbox"/>	inventory_transactions_adjustments_act	Actuate Report Executable	1		158 KB	
<input type="checkbox"/>	inventory_transactions_issues_returns_act	Actuate Report Executable	1		154 KB	
<input type="checkbox"/>	inventory_transactions_receipt_transfers_act	Actuate Report Executable	1		164 KB	
<input type="checkbox"/>	invpurch_act	Actuate Report Executable	1		132 KB	
<input type="checkbox"/>	item_availability_tbl_act	Actuate Report Executable	1		150 KB	
<input type="checkbox"/>	kit_act	Actuate Report Executable	1		139 KB	

Adding Compiled Reports to the Encyclopedia

After you create a report, as the Report Administrator you must complete both of the following actions in order for the end user to run the report:

- ▼ delete the existing executable from Management Console
- ▼ place the new report executable file into the Encyclopedia

Follow the instructions below to complete these tasks:

- 1 In Actuate, open Management Console.
- 2 Select **Files & Folders** from the Side Menu.
- 3 Go to the folder that contains the old version of the report executable (.ROX) file, if one exists.

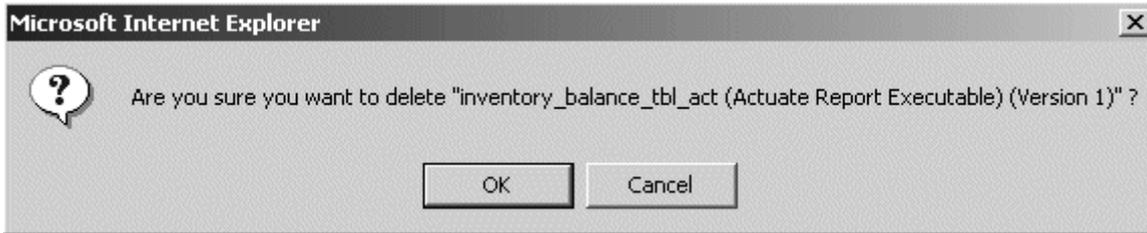
Encyclopedia Page (Files & Folders) with Actuate Report Executable File selected

The screenshot shows the ACTUATE Management Console interface. The top navigation bar includes the ACTUATE logo, system information (System: Volume: User: Administrator), and links for Log Out, Options, and Help. The left sidebar contains a menu with icons for Jobs, Files & Folders (selected), Users, Security Roles, Notification Groups, Channels, File Types, and Volume. The main content area displays a file explorer view for the path > rpt > INVENTOR > reports (18 found). A search bar is visible at the top right of the file list. Below the search bar, there are checkboxes for 'Select all items' and 'Act upon selected items', along with buttons for 'Create Folder' and 'Add File'. The file list table has columns for Name, Type, Version #, Version Name, Size, and Pages. A context menu is open over the 'report' file, showing options such as 'Delete', 'Copy To...', 'Move To...', 'Download', 'Properties', 'Create Parameter Values File', 'New Immediate Job', and 'New Background Job'.

Name	Type	Version #	Version Name	Size	Pages
roi	Folder				
invycnt_act	Actuate Report Executable	1		134 KB	
inventory_abc_tbl_act	Actuate Report Executable	1		152 KB	
inventory_abc_update_act	Actuate Report Executable	1		146 KB	
inventory_balance_tbl_act	Actuate Report Executable	1		165 KB	
New Background Job	Actuate Report Executable	1		160 KB	
New Immediate Job	Actuate Report Executable	1		158 KB	
Create Parameter Values File	Actuate Report Executable	1		152 KB	
Properties	Actuate Report Executable	1		146 KB	
Copy To...	Actuate Report Executable	1		143 KB	
Move To...	Actuate Report Executable	1		158 KB	
Download	Actuate Report Executable	1		154 KB	
Delete	Actuate Report Executable	1		164 KB	
inventory_transactions_receipt_transfers_act	Actuate Report Executable	1		164 KB	
invpurch_act	Actuate Report Executable	1		132 KB	
item_availability_tbl_act	Actuate Report Executable	1		155 KB	
kit_act	Actuate Report Executable	1		139 KB	
New Inventory Report	Actuate Report Executable	1		478 KB	
report	Actuate Report Document	1		1.42 KB	

- Place your cursor over the arrow icon to the left of the report (for example, `inventory_balance_tbl_act`). Click **Delete** to delete the existing report executable.

Microsoft Internet Explorer Dialog Box

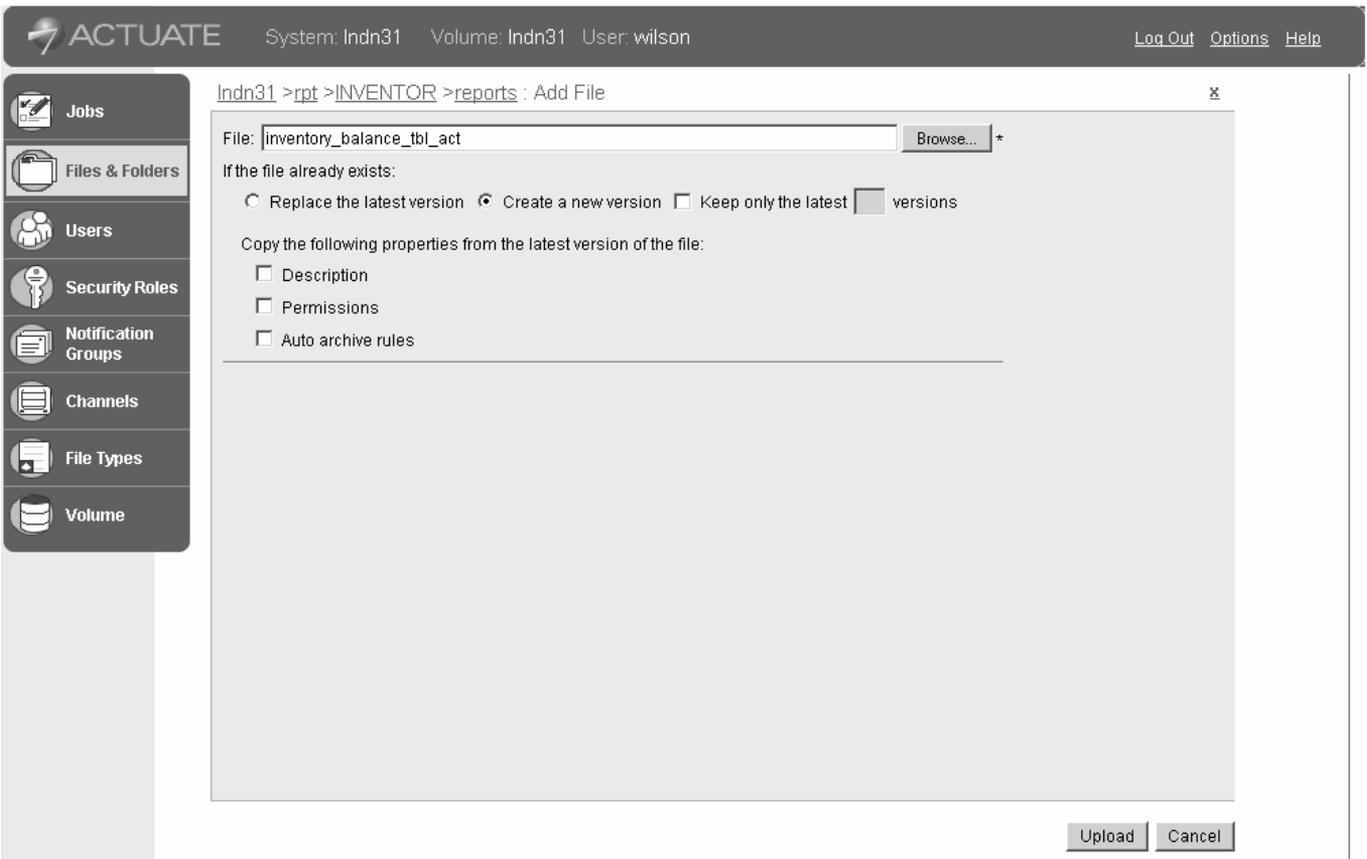


- To delete this file, click **OK** when prompted. The report executables reappear.

NOTE If you do not delete this report, multiple versions of the same report open in the Encyclopedia.

- The Report Executables reappear. Click **Add File**.

Encyclopedia Page (Files & Folders) with Inventory Balance Report selected



- 7 Type the name of the report in the **File** field; or click **Browse** to select it.
- 8 Click **Upload** to upload the file to the Encyclopedia. The General Tab appears.

General Tab (Files & Folders) with Inventory Balance Report

The screenshot shows the ACTUATE software interface. The top bar displays "System: Indn31 Volume: Indn31 User: wilson" and navigation links for "Log Out", "Options", and "Help". A left sidebar contains menu items: "Jobs", "Files & Folders", "Users", "Security Roles", "Notification Groups", "Channels", "File Types", and "Volume". The main window title is "Indn31 > rpt > INVENTOR > reports > inventory_balance_tbl_act ROX (Version 3) : Properties". The "General" tab is active, showing fields for "Name" (inventory_balance_tbl_act), "File type" (Actuate Report Executable (rox)), "Version Name", and "Description" (Inventory Balance Report). On the right, it shows "Version #: 1" and "Size: 26.5 KB". Below these fields, it lists "User: wilson" and "Created: Feb 10, 2006 2:56:19 PM". A section titled "If the name or type have been changed, and a file with the new name and type already exists:" contains three radio button options: "Replace the latest version", "Create a new version" (which is selected), and "Keep only the latest [] versions". At the bottom right, there are "OK", "Cancel", and "Apply" buttons.

- 9 If you want to save your changes and return to the list of Files & Folders, click **OK**.

If you want to save your changes and continue to display the General tab, click **Apply**.

When you save your changes, you add the new version of the report executable to the Encyclopedia.

Encyclopedia Page (Files & Folders) with New Inventory Report File listed

ACTUATE System: Volume: User: Administrator [Log Out](#) [Options](#) [Help](#)

> rpt > INVENTOR > reports (18 found) [Search](#)

Filter: Latest version only Folders Documents Executables

Select all items Act upon selected items

<input type="checkbox"/>	Name	Type	Version #	Version Name	Size	Pages
<input type="checkbox"/>	roi	Folder				
<input type="checkbox"/>	invcyent_act	Actuate Report Executable	1		134 KB	
<input type="checkbox"/>	inventory_abc_tbl_act	Actuate Report Executable	1		152 KB	
<input type="checkbox"/>	inventory_abc_update_act	Actuate Report Executable	1		146 KB	
<input type="checkbox"/>	inventory_balance_tbl_act	Actuate Report Executable	1		165 KB	
<input type="checkbox"/>	inventory_eoq_tbl_act	Actuate Report Executable	1		160 KB	
<input type="checkbox"/>	inventory_eoq_update_act	Actuate Report Executable	1		158 KB	
<input type="checkbox"/>	inventory_rop_tbl_act	Actuate Report Executable	1		152 KB	
<input type="checkbox"/>	inventory_rop_update_act	Actuate Report Executable	1		146 KB	
<input type="checkbox"/>	inventory_transactions_act	Actuate Report Executable	1		143 KB	
<input type="checkbox"/>	inventory_transactions_adjustments_act	Actuate Report Executable	1		158 KB	
<input type="checkbox"/>	inventory_transactions_issues_returns_act	Actuate Report Executable	1		154 KB	
<input type="checkbox"/>	inventory_transactions_receipt_transfers_act	Actuate Report Executable	1		164 KB	
<input type="checkbox"/>	invpurch_act	Actuate Report Executable	1		132 KB	
<input type="checkbox"/>	item_availability_tbl_act	Actuate Report Executable	1		155 KB	
<input type="checkbox"/>	kit_act	Actuate Report Executable	1		139 KB	
<input type="checkbox"/>	New Inventory Report	Actuate Report Executable	1		478 KB	

Maintaining a Report Server

12

Overview

This chapter describes the following tasks for the system administrator who will maintain the Report Server:

- ▼ Setting up Factories and Processors
- ▼ Increasing the maximum JVM Heap Size on the iServer
- ▼ Compiling Reports in Batch Format
- ▼ Clearing a Completed Notice
- ▼ Clearing Multiple Completed Notices
- ▼ Archiving reports

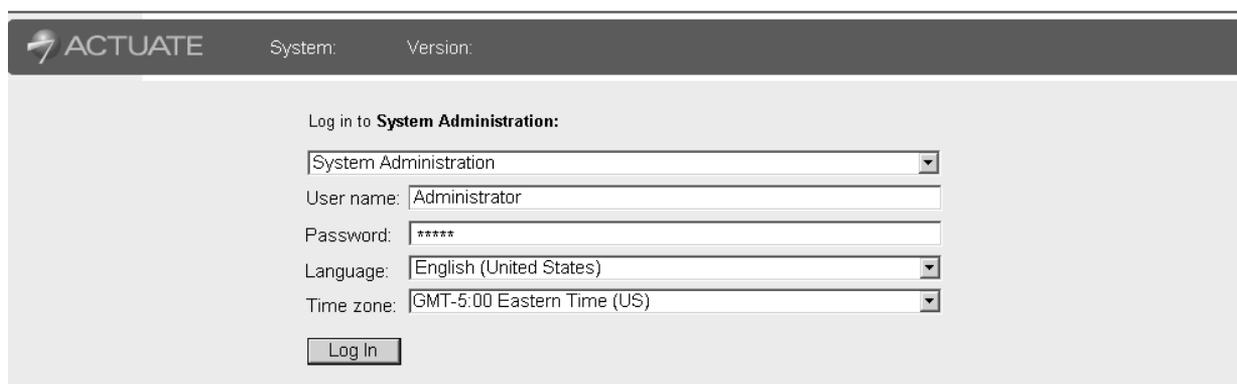
Setting Up Factories and Processors

The following section describes how the system administrator should set up your factories and processors. The factory follows instructions in the report executable (.rox) file to generate a report (.roi) file or information object (.doi) file. The factory process generates report output from a report executable file and notifies you when the reports are completed.

To set up your factories and processors, complete the following steps:

- 1 In Actuate, open Management Console.

Management Console Sign-in Dialog Box



ACTUATE System: Version:

Log in to **System Administration:**

System Administration

User name: Administrator

Password: *****

Language: English (United States)

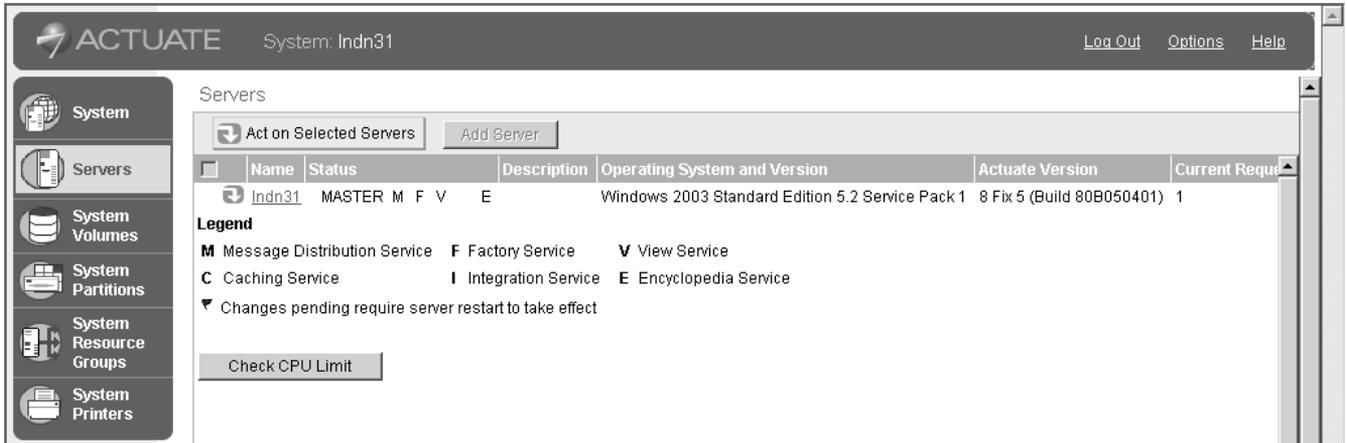
Time zone: GMT-5:00 Eastern Time (US)

Log In

- 2 Select System Administration from the **Log in to** drop-down list.
- 3 Click **Log in** to log in to management Console as the System Administrator. The Management Console appears.

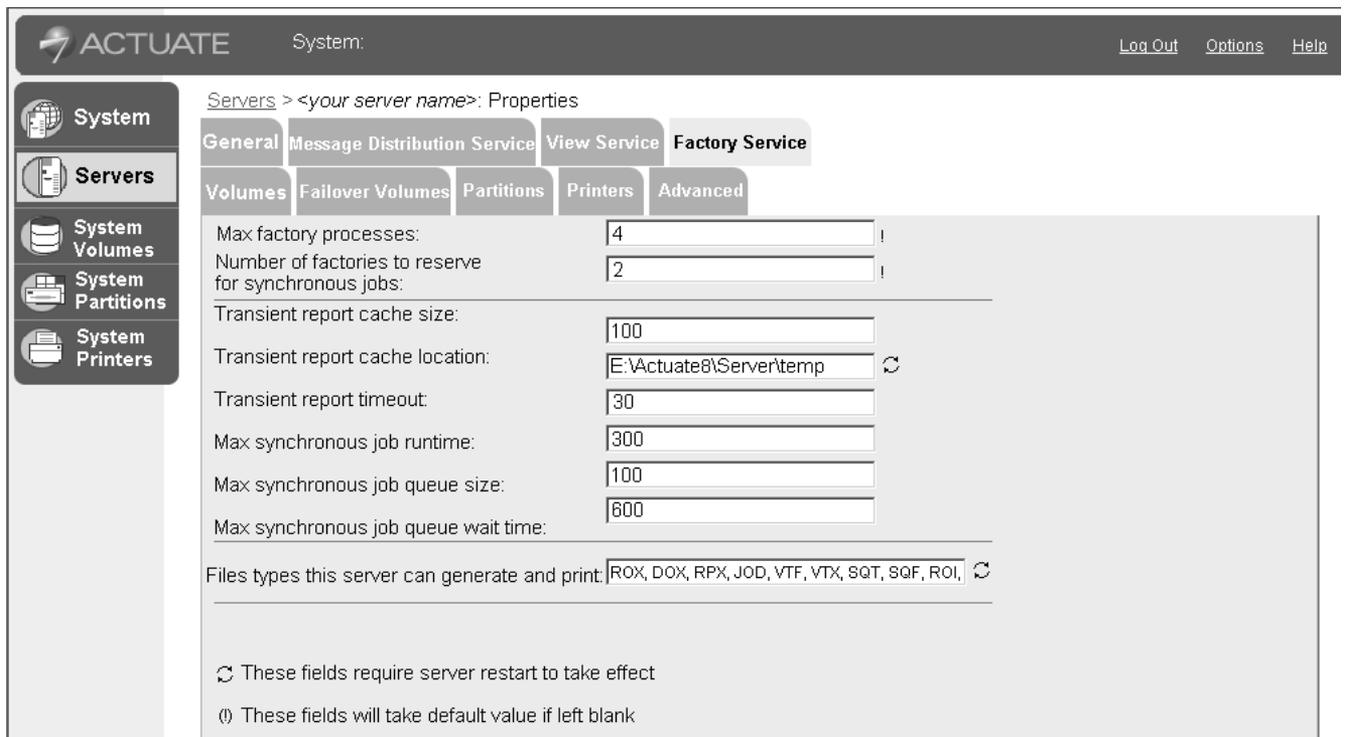
NOTE MRO Software recommends that you use the password you entered for the system administrator during the Actuate iServer installation.

Management Console (Servers)



- 4 Select the Servers option from the side menu. Actuate displays information about the server.
- 5 Click your server name or click the down arrow next to server name and select Properties to open the Properties Tabs.
- 6 Select the Factory Service tab.

Management Console (Servers) Factory Service Tab



- 7 Complete the following fields to set your Factory Service parameters. You might need to change the default values to enhance your company's system performance.

- **Max factory processes** – The maximum number of concurrent factory processes for both synchronous and asynchronous jobs. The default is 4.

NOTE Synchronous reports are progressive. The first report page opens immediately. The remaining pages open as they generate or as the user requests them.

Asynchronous jobs run as background reports. All scheduled reports are run as asynchronous jobs.

- **Number of factories to reserve for synchronous jobs** – The number of processes used for synchronous jobs. The default is 2.

NOTE To determine the number of processes for asynchronous jobs, you must subtract the **Number of factories to reserve for synchronous jobs** from the **Max factory processes**. For example, if you use the default values, the total number of factories for asynchronous jobs is 2 (4 factory processes minus 2 reserved for synchronous jobs).

MRO Software's e-mail feature is not compatible with transient reports. Therefore, do not modify the default settings in the following three transient-related fields:

Transient Reports

- **Transient report cache size** – the maximum size of cache used for temporary reports. You cannot set the maximum size to exceed the default value (100MB).
- **Transient report cache location** – the location of the temporary report cache.
- **Transient report timeout** – the maximum number of minutes before Maximo deletes from the cache those files used for the temporary report. The default is 30 minutes.

MRO Software's e-mail feature is not compatible with synchronous jobs. Therefore, do not modify the default settings in the following three synchronous fields.

Synchronous Jobs

- **Max synchronous job runtime** – the maximum time, in seconds, allowed to complete the progressive (synchronous) report generation. The default is 300 seconds. Actuate recommends a time of less than 900 seconds (15 minutes). If your report is not completed in the allotted time, it is cancelled.
- **Max synchronous job queue size** – the maximum number of progressive (synchronous) or temporary jobs allowed in the queue. The default is 100.
- **Max synchronous job queue wait time** – the maximum time, in seconds, a progressive (synchronous) or temporary job can stay in the queue. The default is 600 (10 minutes).
- **File types this server can generate and print** – The file types, separated by commas, which Actuate uses to generate and print reports.

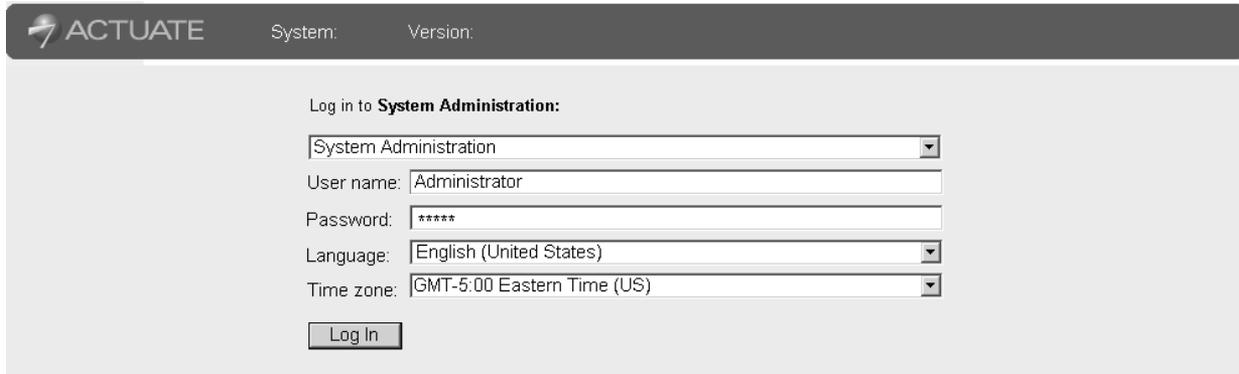
8 Click OK.

Increasing the JVM Maximum Heap Size on the iServer

You can increase your JVM (Java Virtual Machine) Heap Size on the iServer to improve Actuate performance for any reports that have charts. To increase your JVM Heap Size, complete the following steps:

- 1 In Actuate, open the **Management Console Sign-in** dialog box.

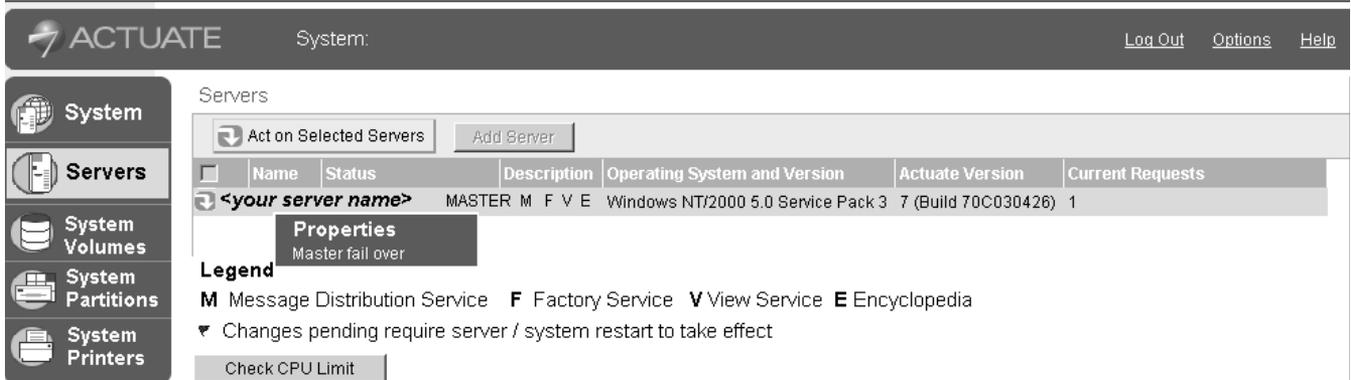
Management Console Sign-in Dialog Box



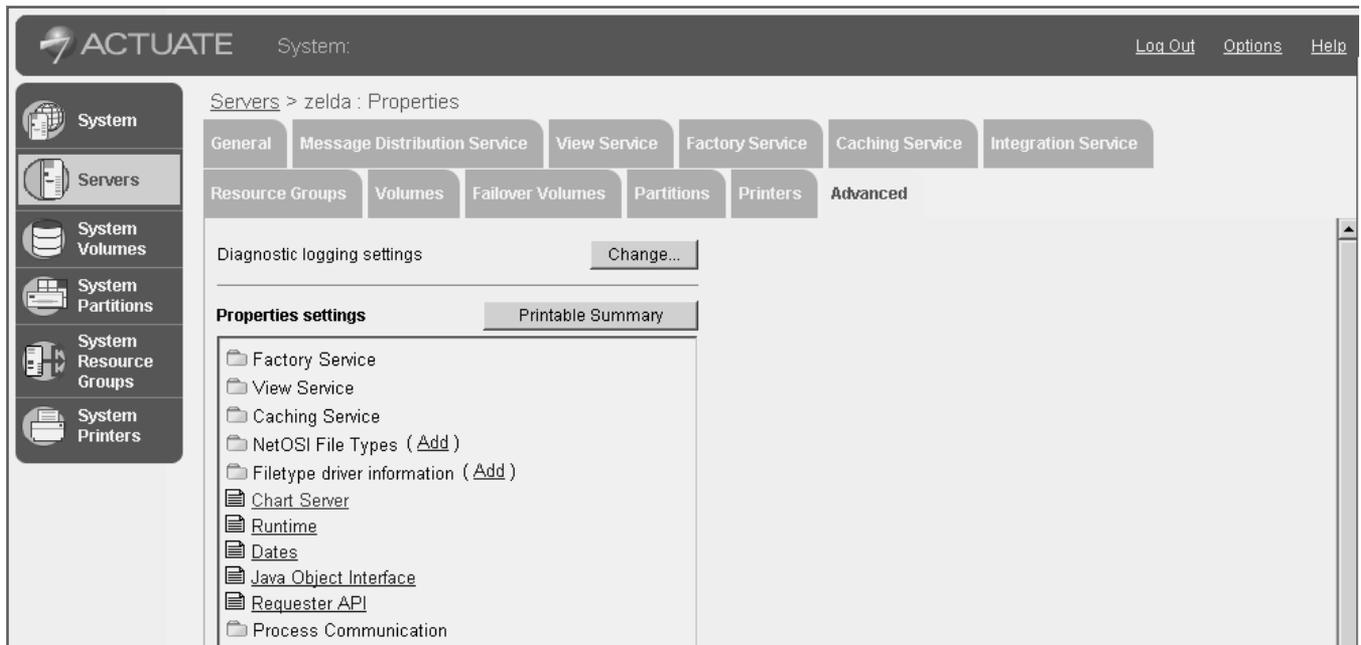
- 2 Select System Administration from the **Log in to** drop-down list.
- 3 Click **Log in** to log into Management Console as the System Administrator. The Management Console appears.

NOTE MRO Software recommends that you use the password you entered for the system administrator during the Actuate iServer installation.

Management Console (Servers) Server Name selected

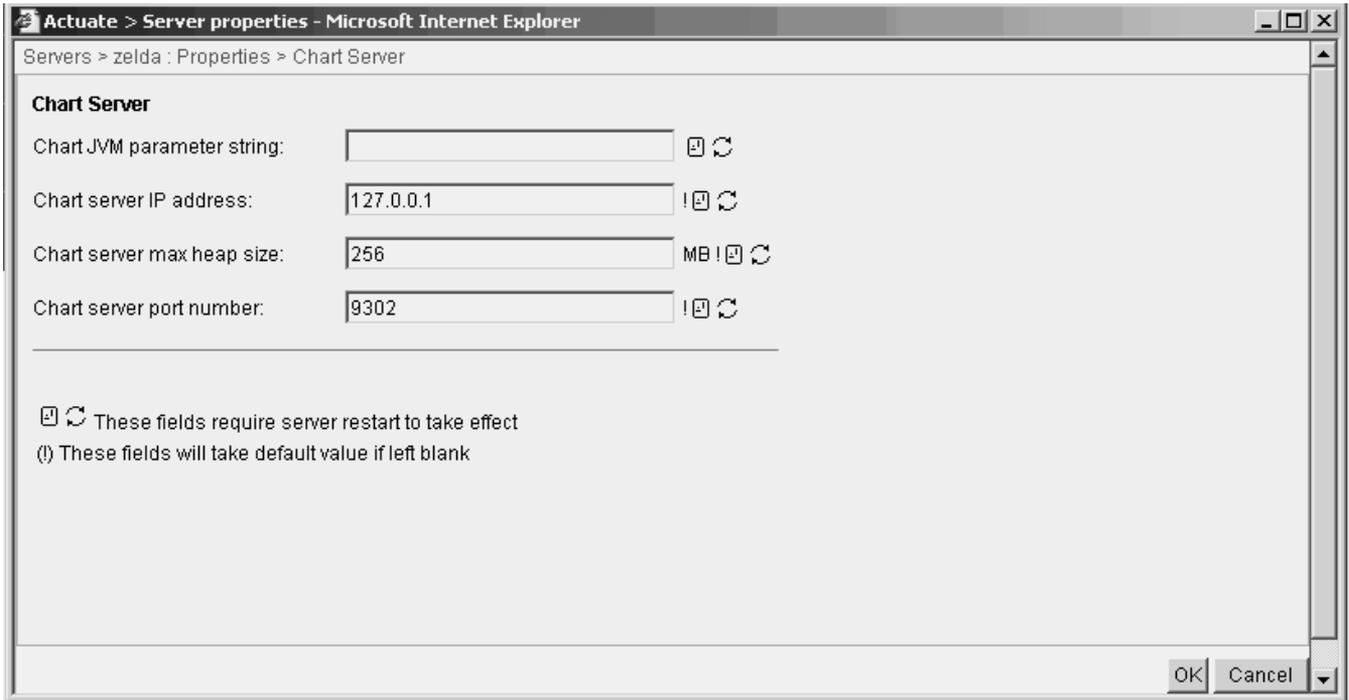


- 4 Select the Servers option from the side menu.
- 5 Click your server name or click the down arrow next to server name and select Properties to open the Properties Tabs.
- 6 Select the Advanced tab.

Management Console (Servers) Advanced Tab selected

- 7 Click Chart Server to open the Server Properties dialog box where you can change your chart server properties.

Server Properties Dialog Box



The screenshot shows a web browser window titled "Actuate > Server properties - Microsoft Internet Explorer". The address bar shows "Servers > zelda : Properties > Chart Server". The main content area is titled "Chart Server" and contains four input fields:

- Chart JVM parameter string: [] [!][↻]
- Chart server IP address: [127.0.0.1] [!][↻]
- Chart server max heap size: [256] MB [!][↻]
- Chart server port number: [9302] [!][↻]

Below the fields, there are two lines of text:

- [↻] These fields require server restart to take effect
- [!] These fields will take default value if left blank

At the bottom right, there are "OK" and "Cancel" buttons.

- 8 In the **Chart server max heap size** field, enter 256.
- 9 Click **OK** to save the change. The Advanced tab reappears.
- 10 Restart your Actuate iServer to increase the JVM maximum heap size.

Compiling Reports in Batch Format

The oracompile.bat file is in your default\config folder and lets you compile many reports simultaneously. To run the oracompile.bat file, complete the following steps:

- 1 Using Windows Explorer, navigate to your default\config folder and open either oracompile.bat (in Oracle) or sqlcompile.bat (SQL Server). Use Microsoft Notepad or another text editor to open either batch file.
- 2 Depending on where you installed e.Report Designer Professional, refer to the following table:

If you installed e.Report Designer Professional to . . .	then . . .
the default directory C:\Actuate8\ErdPro	continue to the next step 3.
a directory other than the default	<p>modify the following line and change the directory to that location.</p> <pre>SET PATH=%PATH%; C:\Actuate8\ErdPro\bin</pre> <p>After you modify this line, it appears as:</p> <pre>SET PATH=%PATH%;<<location of eRDPro>>\bin</pre>

- 3 You must modify the following line so that it contains the folder where the Reports_Source (.rod) files are copied.

```
SET REPORT_ROOT=C:\Report_Builds\Reports_Source
```

After you modify this line, it appears as:

```
SET REPORT_ROOT=<<location of Reports_Source (.rod) files>>
```

- 4 Save the revised batch file.

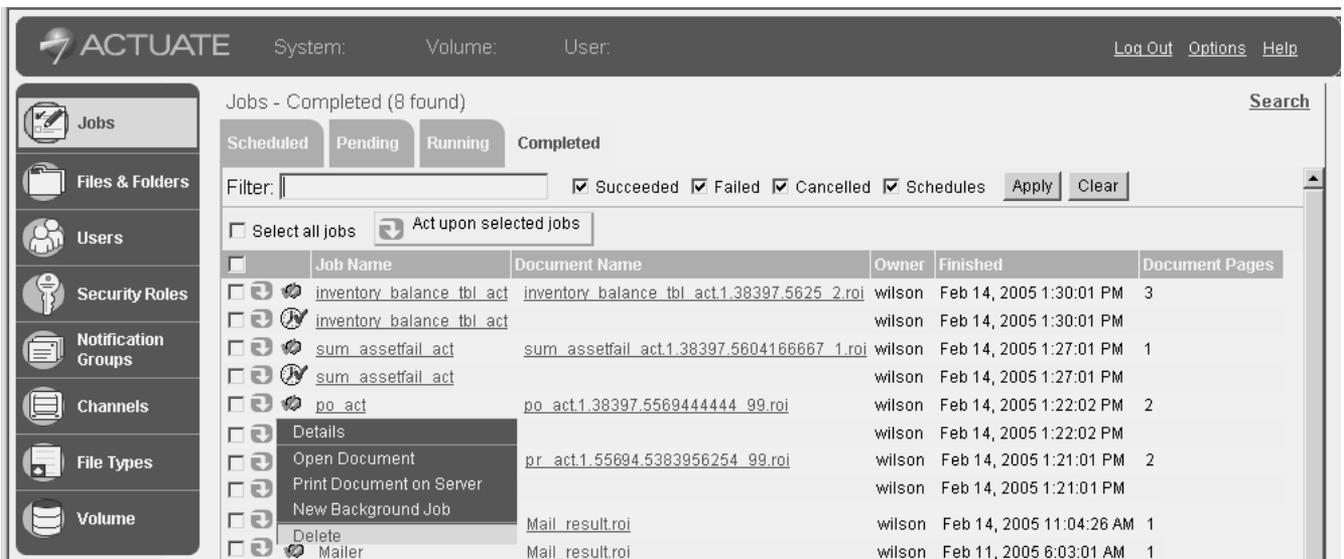
Clearing a Completed Notice

After you schedule a report, Actuate creates a completed notice for that report. This notice provides detailed information on the report. Since these report notices build up over time, MRO Software recommends that you delete them if you do not use them.

To delete an individual completed notice for a purchase order report, complete the following steps:

- 1 In Actuate, log in to Management Console.
- 2 Select the Jobs options from the side menu and choose the Completed tab.

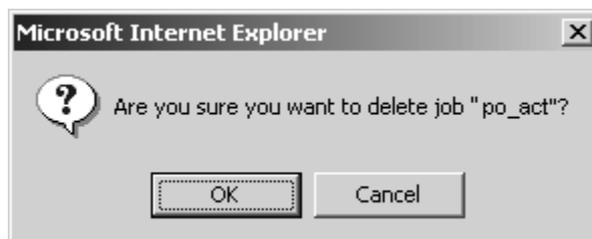
Management Console (Jobs) with Completed Tab selected



- 3 Place your cursor over the arrow icon to the left of the job notice you want to delete.
- 4 Right click the completed folder and select **Delete** to open the Confirm Deletion dialog box.

CAUTION You cannot recover a deleted notice.

Confirm Deletion Dialog Box



- 5 Click **OK** to confirm the deleted notice. The page reopens with the selected job deleted.

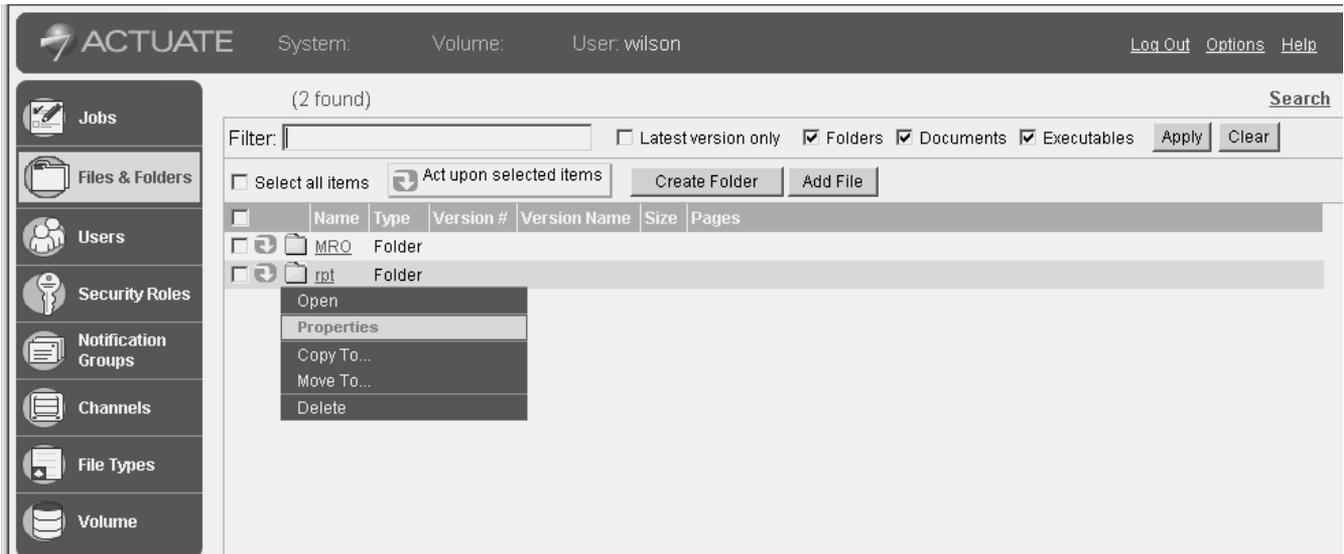
Clearing Multiple Completed Notices

Since Actuate creates a completed notice each time you schedule a report, you might find it more convenient to clear multiple completed notices at one time instead of individually. To set Actuate to delete all .roi and .doi completed notices for all subfolders in your RPT folder, complete the following steps:

NOTE Use these steps if you want to delete large numbers of completed notices through the RPT report level.

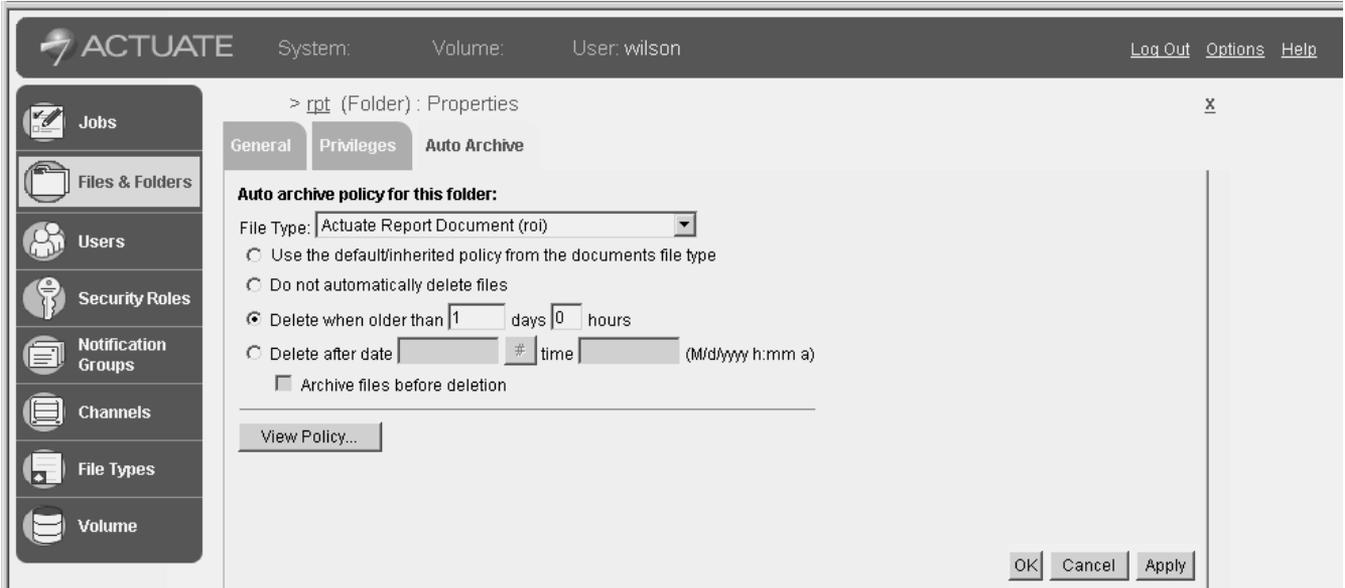
- 1 In Actuate, log in to Management Console.
- 2 Select the Files & Folders option from the side menu.
- 3 Select the RPT folder to change properties for all subfolders in that folder. Your RPT folder contains subfolders corresponding to each of your Maximo applications.

Management Console (Files & Folders) with RPT Folder selected



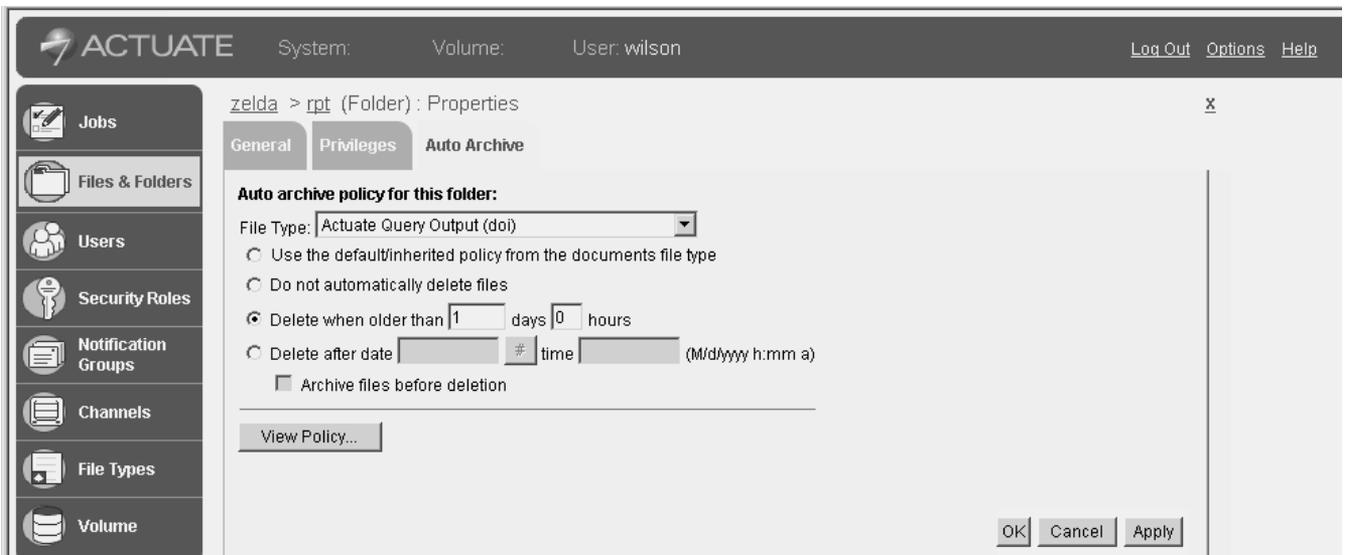
- 4 Right-click the down arrow next to rpt and select Properties to open the properties tabs.
- 5 Select the Auto Archive tab and complete the following fields:
 - ▼ **File Type** – Select Actuate Report Document (roi).
 - ▼ **Delete when older than** – Enter 1 so that .roi files will be deleted after one day. Actuate now will delete all completed notices in every subfolder in your RPT folder.

Management Console (Files & Folders) with Auto Archive Tab selected to delete .roi Files



- 6 Click **Apply**, then **OK**. The rpt folder reopens.
- 7 Repeat steps 4 – 6 and select all .doi file types in the **FileType** drop-down list.

Management Console (Files & Folders) with Auto Archive Tab selected to delete .doi Files



Archiving Reports

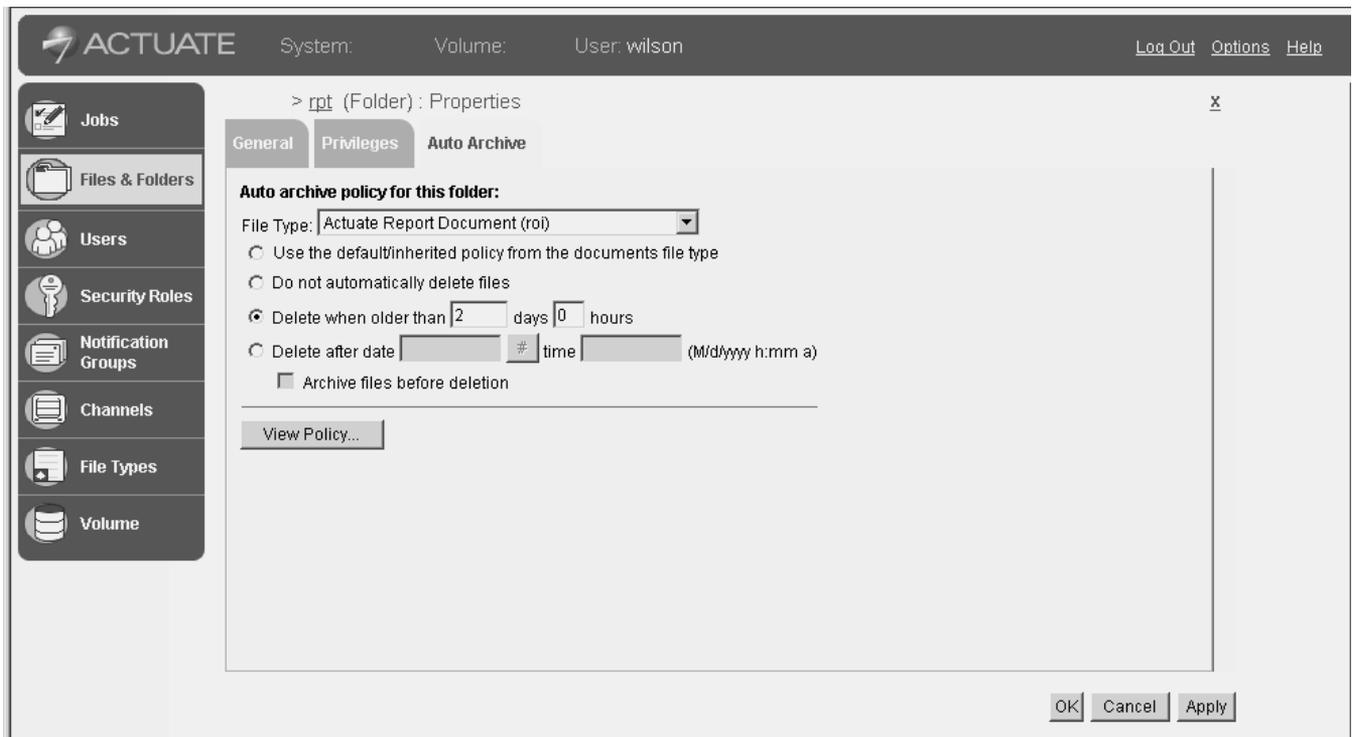
You can archive reports to clean out your reports folders periodically. For more information about archiving, see the *Using Actuate Management Console* in the manuals folder on the Actuate Reporting Release 8 e.Report Designer Professional CD.

WARNING Archiving is equivalent to deleting. You CANNOT retrieve archived reports. You should archive only report document files (.roi).

To set up an auto archive policy to delete all .roi after two days, complete the following steps:

- 1 In Actuate, log in to Management Console.
 - 2 Select Files & Folders from the side menu.
 - 3 Right-click your Encyclopedia (the first level in the tree below Encyclopedia).
- or
- Right-click a report folder.
- 4 Choose Properties, then select the Auto Archive tab.

Management Console (Files & Folders) with Auto Archive Tab selected to archive (delete) .roi Files



- 5 Complete the following fields:
 - ▼ **File Type** – Select Actuate Report Document (roi).
 - ▼ **Delete when older than** – Enter 2 days (the default).
- 6 Click **Apply**, then **OK**. Actuate now will archive the reports in your encyclopedia or the folder you selected.

Setting up Localized Reports and Queries in Maximo

13

Overview

This chapter contains information you need to localize your reports and queries in Maximo. This overview briefly description each section in this chapter.

- ▼ Determining report language – a description and flowchart of how Maximo determines whether you run a report in English or a localized language

Reports

- ▼ Localizing reports – This section contains the following report related tasks:
 - Localizing report data – using e.Report Designer Professional to localize your report data, a listing of specific fields MRO Software enables for localization “out of the box,” and how to set up the hyperlinks in your report to accept localized data
 - Setting the label value Maximo displays on your report – modifying how your localized label appears in your report
 - Populating the REPORTLABEL table – using e.Report Designer Professional to place localized data into the REPORTLABEL table that you will use to run a localized report
 - Changing the value of report labels – using the Report Administration application to change the value of report labels
 - Localizing cross-tab reports – describing how cross-tab reports differ from other types of reports.

Queries

- ▼ Localizing queries – This section contains the following query-related tasks:
 - Viewing query label values – setting query labels values in e.Report Designer Professional
 - Localizing query data – changing your query’s SQL statement to run against your localized database
 - Adding query labels – using the Report Administration application to add and change query labels

Determining Report Language

When you run reports, Maximo determines the language you are using and passes the information to Actuate. When Actuate receives this information, it compares it to the BASELANGUAGE setting of the MAXVAR (Maximo variable) table.

The following table shows the two possible results.

Creating a Localized Report Table

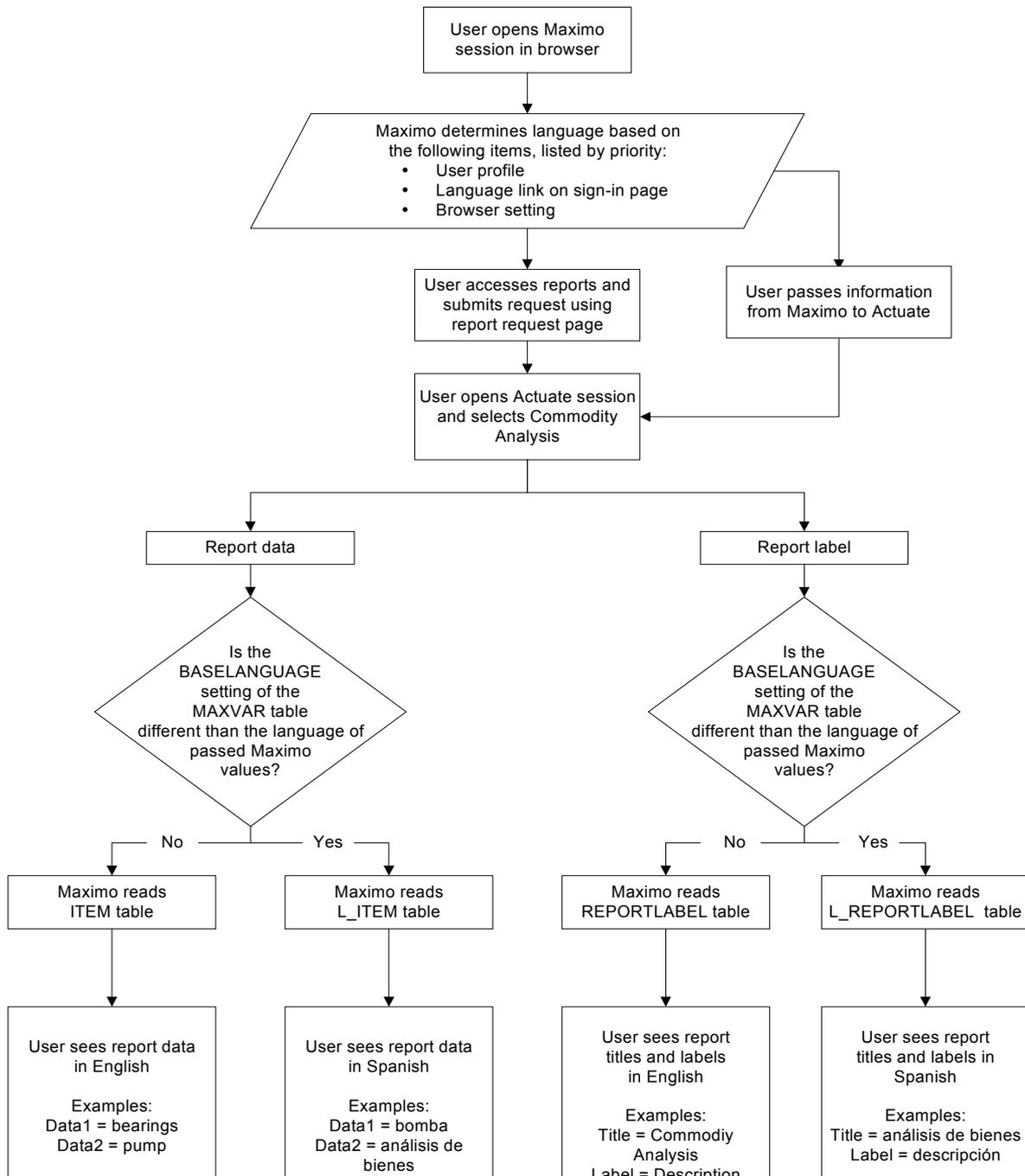
If the BASELANGUAGE setting of the MAXVAR table and the language you are using are . . .	Maximo displays report information . . .
the same	in the language indicated by the BASELANGUAGE setting of the MAXVAR table.
different	in your localized language, indicated by (L_<< <i>table name</i> >> where << <i>table name</i> >> is the base language table name).

Determining Report Language Flowchart

The following flowchart shows how Maximo determines whether to use the BASELANGUAGE setting of the MAXVAR table or your localized language when one of your users runs a report.

The flowchart shows the divergence in data between the base language (the default BASELANGUAGE setting of the MAXVAR table is English) and the localized language (defined in L_<<tablename>>). In this example, a Spanish language user runs a Commodity Analysis Report.

Determining your Report Language Flowchart



Localizing Reports

This section describes the following topics. These topics must be completed in order to localize your report data.

- ▼ Localizing report data – using e.Report Designer Professional to localize your report data, a listing of specific fields MRO Software enables for localization “out of the box,” and how to set up the hyperlinks in your report to accept localized data
- ▼ Setting the label value Maximo displays on your report – modifying how your localized label appears in your report
- ▼ Populating the REPORTLABEL table – using e.Report Designer Professional to place localized data into the REPORTLABEL table that you will use to run a localized report
- ▼ Changing the value of report labels – using the Report Administration application to change the value of report labels

NOTE If you are localizing a crosstab report, see “Localizing Crosstab Reports,” on page 13-16.

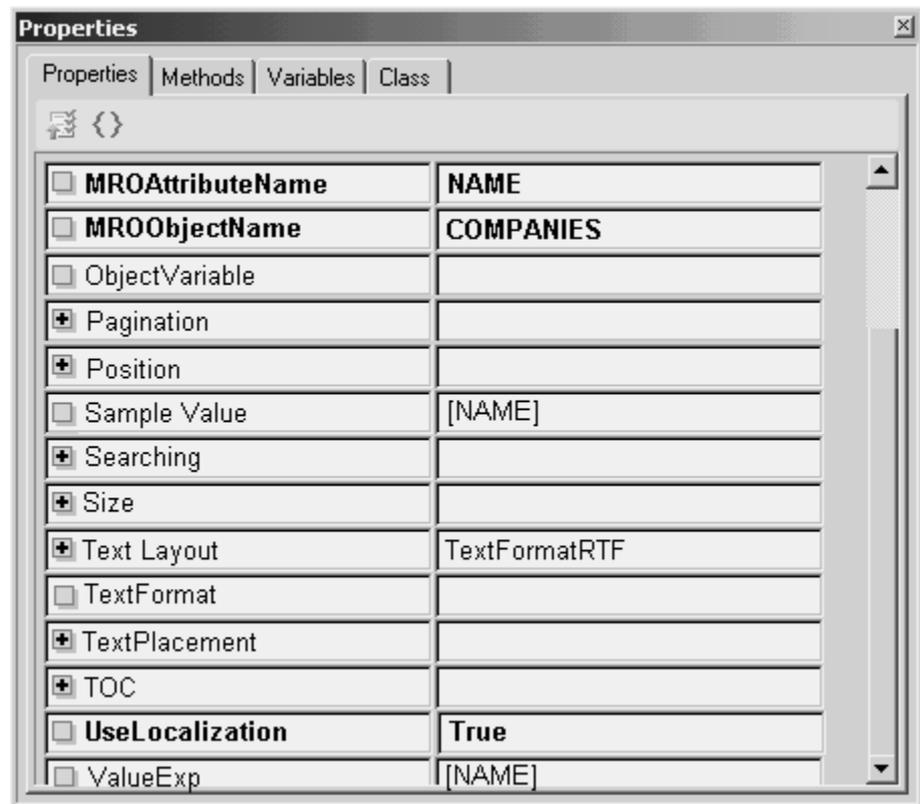
Localizing Report Data

MRO Software has added customized controls to Actuate that allow you to localize your reports in multiple languages. You can access these controls through e.Report Designer Professional. By customizing these controls, MRO Software provides Actuate with the capability to pull data from localized **L_<<object name>>** fields in addition to the base language **<<object name>>** fields.

This section describes how to customize three localization controls that exist in both the BaseDynamicTextControl library and BaseTextControl library so localized data appears in the report.

- 1 Open the source file of the report you want to modify in e.Report Designer Professional.
- 2 Select the field you want to modify, right-click, and select Properties to open the Properties dialog box.

Properties Dialog Box (Properties tab)



3 Select the Properties tab.

As an example, set the Vendor's Name field in the Vendor Contract report by completing the following properties:

- ▼ **MROAttributeName** – This control determines the MAXIMO field name for the data control. Set this control to NAME.
- ▼ **MROObjectName** – This control determines the MAXIMO table for the data control. Set this control to COMPANIES.
- ▼ **UseLocalization** – This control determines if your Maximo database reads localized data. The default for this property is False. Set this control to True to enable Maximo to use localized data.

NOTE You must update the query for the report so that it contains the ID field of the MROObjectName. The ID field is usually the SAMEASATTRIBUTE field for the OWNERID of the localized table.

You can run the following SQL statement to determine the ID field to add to your query:

```
select sameasattribute from maxattribute where objectname =  
'L_COMPANIES' and attributename = 'OWNERID'
```

4 Modify the query to include COMPANIES.COMPANIESID as shown in the following example:

```
select compcontact.company, companies.name,  
compcontact.contact,  
compcontact.position, compcontact.email,  
compcontact.voicephone, compcontact.faxphone,  
companies.companiesid  
from maximo.companies, maximo.compcontact  
where compcontact.company = companies.company and  
compcontact.orgid = companies.orgid and  
compcontact.orgid = :mroOrg and 1=1 order by compcontact.company
```

Identifying System Default Localized Tables

The following table lists those reports and fields that MRO Software enables for data localization “out of the box”.

“Out of the Box” Localized Reports Table

Report File Name	Field	Class Name
vendor_contacts_act.rox	Name	BaseDynamicText1
item_orderstatus_act.rox	Description	BaseDynamicText1
	Description	ITEMDESCControl
commodity_anly_act.rox	Item Description	BaseDynamicText2

MRO Software does not localize additional reports “out of the box” due to the impact on Maximo performance.

Setting up Hyperlinks

If you use hyperlinks in your reports, you must include the `mroLangCode` in the report’s link expression to pass the correct localized values to the hyperlinked report. The link expression defines the hyperlink for the report.

The following example shows a hyperlink from the PO List Report to the PO Status Report with the `mroLangCode` highlighted:

```
mroRootFolder & "/po/reports/po_status_tbl_act.rox?LinkedRep=
True&po=" & [PONUM] & ";ParmPassword=" & ParmPassword &
";ParmUserName=" & ParmUserName & ";mroSite=" & rowSite &
";mroOrg=" & mroOrg & "&mroRootFolder=" & mroRootFolder & "&schema="
& schema & "&connectString=" & connectString & "&mroLangCode=" &
mroLangCode & "&mroDbType=" & mroDbType
```

For general information on adding hyperlinks to reports, see “Creating a Hyperlink from One Report to Another,” on page 9-24.

Setting the Label Value Maximo Displays on your Report

There are two ways you can supply label values to populate the report label table in Maximo:

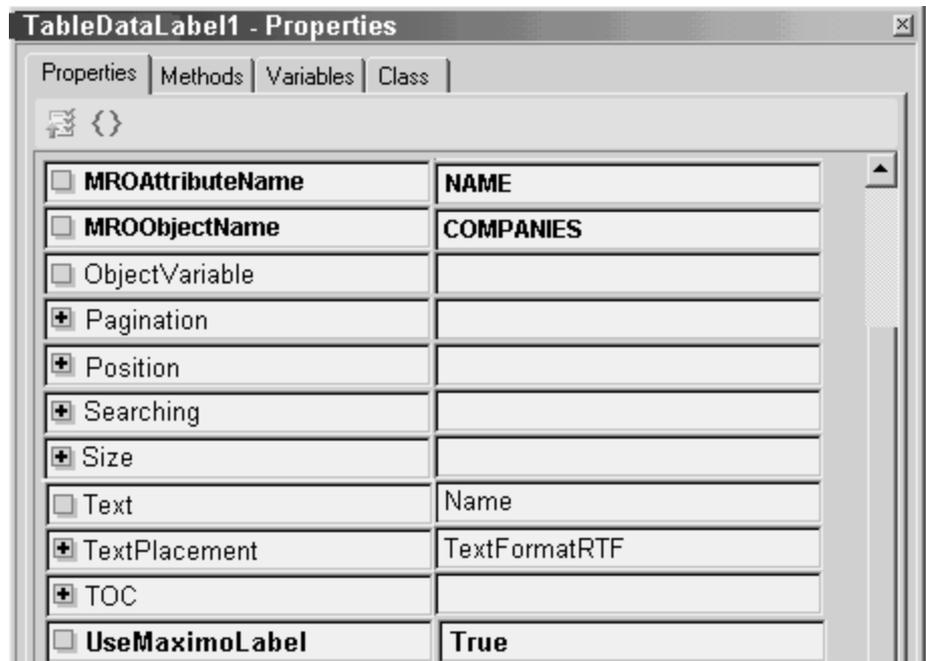
- ▼ You can populate the **MROAttributeName** control and **MROObjectName** controls in the Properties dialog box for that label. For more information, see page 13-9.
- ▼ You can leave the **MROAttributeName** control and **MROObjectName** control blank and supply the label text through the Text control in the Properties dialog box for that label. In the Maximo reports that MRO Software provides to you “out of the box,” label data is provided through this method. For more information, see page 13-10.

Providing data from the MROAttributeName and MROObjectName controls

To have report labels supplied by the **MROAttributeName** and **MROObjectName** controls, complete the following steps:

- 1 Open the report in e.Report Designer Professional, select the label you want to update, and open the Properties dialog box for that label.

TableDataLabel1 - Properties Dialog Box (Properties Tab)



- 2 In the Properties dialog box, set the value in the **UseMaximoLabel** control to True. When the **UseMaximoLabel** control is true, Maximo uses the MAXATTRIBUTE.TITLE value from the defined **MROAttributeName** and **MROObjectName** controls.
- 3 Enter values in the **MROAttributeName** and **MROObjectName** controls.

After you publish the labels of a report to the Maximo database, Actuate pulls data from the corresponding title field. When you run the report in your browser, the report label appears as Description.

NOTE You can run the following SQL Statement to determine the label that appears on your report:

```
select title from maxattribute where objectname =
'COMPANIES' and attributename = 'NAME'
```

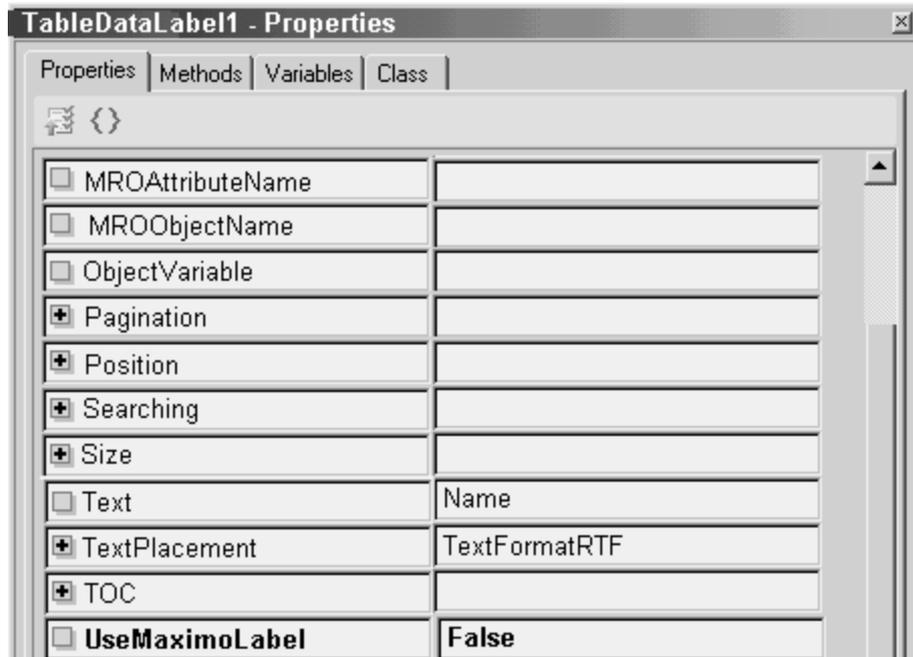
After you complete this section, continue on to the section “Providing Data from the Text Control,” on page 13-11.

Providing Data from the Text Control

To have report labels supplied by the **Text** control, complete the following steps:

- 1 Open the report in e.Report Designer Professional, select the label you want to update, and open the Properties dialog box for that label.
- 2 Accept the default value (False) for the **UseMaximoLabel** control.
- 3 Enter a value in the **Text** control. You may have already populated this field.

TableDataLabel1 - Properties Dialog Box (Properties Tab)



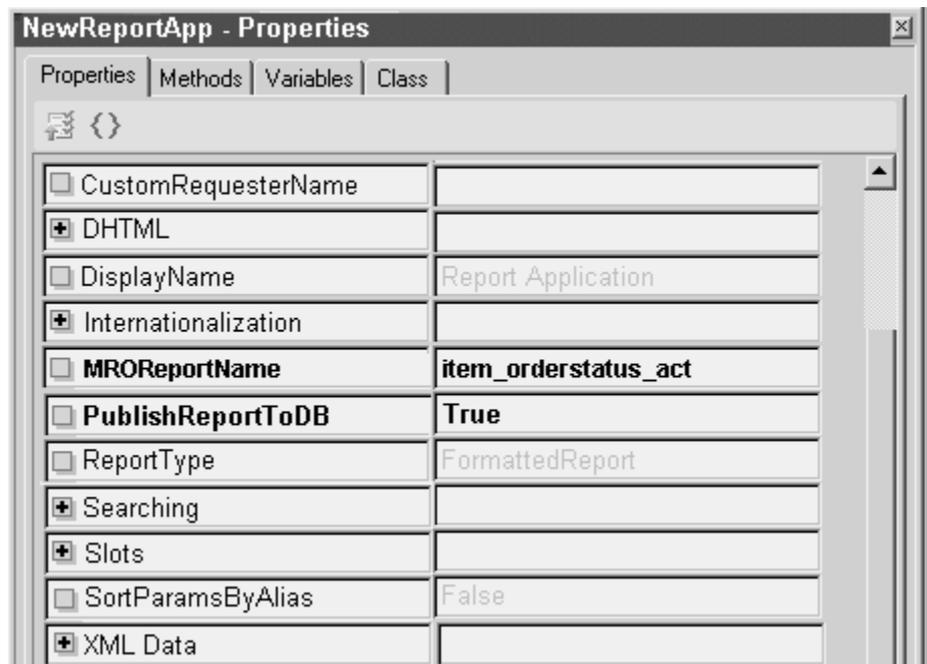
Populating the REPORTLABEL Table

Your REPORTLABEL table contains all of the report labels for those reports that MRO Software provides to you “out of the box.” If you want to use the Maximo Report Label feature to localize your reports, you must populate the titles and labels in the REPORTLABEL table when you create your new report.

Complete the following steps:

- 1 In e.Report Designer Professional, select **View>Design**. Double-click NewReportApp to open its Properties dialog box.
- 2 In the **MROReportName** control, enter the name of the file you created but do not include the .rox extension. In the figure shown, the file name item_orderstatus_act is for the Item Order Status Report.
- 3 In the **PublishReportToDB** control, change the value to True.

NewReportApp – Properties Dialog Box (Properties Tab)



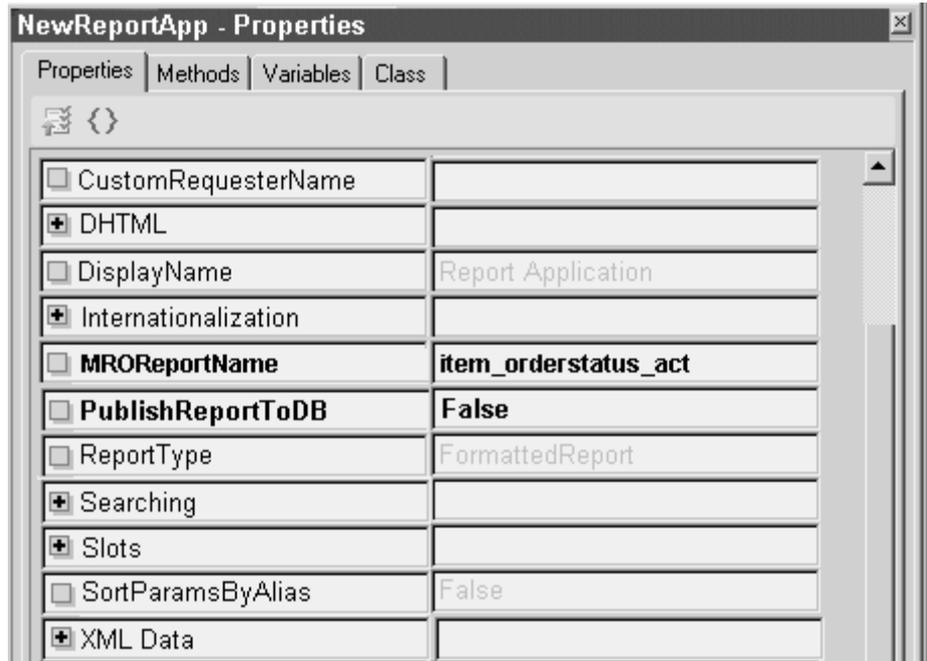
- 4 Close the Properties dialog box.
- 5 Click **File>Save**.

NOTE Before running your report, check your global variables. They must be set to the database against which you want to run the report.

- 6 Select the Run icon to build and run your report. By running the report, you enable the report’s file name, title, and labels to be populated to the REPORTLABEL table.

7 In the **PublishReportToDB** control, change the value back to False.

NewReportApp – Properties Dialog Box (Properties Tab)



8 Compile the report to create an .rox file.

9 Publish the report to the Actuate Encyclopedia.

After you store the report title and label in the Maximo database, you can modify these fields through the Maximo Report Administration application.

Changing the Value of Report Labels

After publishing your report labels to the Maximo database, complete the following steps to change the values of report labels in your report. For this example, you will change the labels in the Job Plan List Report.

NOTE To change the values of the fields in Job Plans or any other Maximo application, use Application Designer.

- 1 Open the Report Administration application in Maximo. For this example, select the Job Plan List report and view the labels for it on the Labels tab.

Report Administration Application (Labels Tab)

The screenshot shows the Maximo Report Administration application interface. At the top, there is a navigation bar with "Report Administration" and "maximo" logos, along with utility links like "Bullets: (2)", "Go To", "Reports", "Start Center", "Profile", "Sign Out", and "Help". Below this is a search bar with "Find:" and a "Select Action" dropdown. The main content area has tabs for "List", "Report", and "Labels", with "Labels" being the active tab. Under the "Labels" tab, there are two input fields: "Report Name" containing "jobplan_act.rox" and "Job Plan List Report". Below these fields is a table titled "Report Labels Setting" with a "Filter" button and a "Download" button. The table has two columns: "Label Key" and "Label Value". The first row is highlighted and shows "NewReportApp::TFTitleLabel" in the key column and "Job Plan List" in the value column. The following six rows show keys like "NewReportApp::TableDataLabel1" through "NewReportApp::TableDataLabel6" with corresponding values: "Job Plan", "Description", "Duration", "WO Priority", "Organization", and "Site". Each row has a trash icon to its right. A "New Row" button is located at the bottom right of the table area.

Label Key	Label Value
NewReportApp::TFTitleLabel	Job Plan List
NewReportApp::TableDataLabel1	Job Plan
NewReportApp::TableDataLabel2	Description
NewReportApp::TableDataLabel3	Duration
NewReportApp::TableDataLabel4	WO Priority
NewReportApp::TableDataLabel5	Organization
NewReportApp::TableDataLabel6	Site

2 Click **Preview** on the Report tab to show how the report opens to the user.

Job Plan List Report

Job Plan	Description	Duration	WO Priority	Organization	Site
APPLREQ	Application Request	0.00	3		
AUTOTRANS	Automatic Transmission Service	3.00	2	EAGLENA	FLEET
ENGSERV	ENGINE SERVICE - SPF343 DECK	3.00	1	EAGLENA	FLEET
INS-PC	PC Inspection	1.00	3	EAGLENA	BEDFORD
INS-SUBSYS	General Inspection of Major Subsystems	3.00	9	EAGLENA	BEDFORD
INS1002	Fire Extinguisher Inspection	0.00	0	EAGLENA	BEDFORD
INS11200	HVAC System Inspection	2.50	9	EAGLENA	BEDFORD
INS11300	Reciprocating Compressor Inspection	3.00	9	EAGLENA	BEDFORD
INS11460	Burner Gas Fired Inspection	3.00	9	EAGLENA	BEDFORD
INS12100	Electric Cart/Forklift Inspection	1.00	7	EAGLENA	BEDFORD
INS12200	Overhead Crane Inspection	1.00	7	EAGLENA	BEDFORD
INS13141	PKG Machine, Elevator & Drainpan Inspection	3.00	9	EAGLENA	BEDFORD
INS15210	Inspect and Adjust Westinghouse Overcurrent Relay	1.00	8	EAGLENA	BEDFORD
IT-ACC-DIS	Disable IT Accounts	0.00	1		
IT-ACC-NEW	Create IT Accounts	0.00	2		
IT-ISSUE	New Employee Asset Issue	0.00	2	EAGLENA	
JP1000	Emergency Pipe Repair	5.00	9	EAGLENA	BEDFORD
JP11210	Emergency Generator Overhaul	4.00	8	EAGLENA	BEDFORD
JP11220	Electrical Panel Test	1.50	9	EAGLENA	BEDFORD
JP11430	Centrifugal Pump Service- 12 Month	3.00	8	EAGLENA	BEDFORD
JP11430A	Centrifugal Pump Service- 3 Month	1.00	8	EAGLENA	BEDFORD
JP12300	Electric Cart Tune-Up	1.00	7	EAGLENA	BEDFORD
JP13110	Feeder System Service	2.00	8	EAGLENA	BEDFORD
JP13140	Conveyor Belt 12 Month Service	4.00	8	EAGLENA	BEDFORD
JP13140-R	CONVEYOR BELT FIX	3.00	2	EAGLENA	BEDFORD
JP1314A	Conveyor Belt 3 Month Service	2.00	9	EAGLENA	BEDFORD
JP1314R	CONVEYOR BELT FIX	3.00	2	EAGLENA	BEDFORD
JP3004	CONVEYOR MOTOR REPAIRS IN SHIPPING	3.00	2	EAGLENA	BEDFORD
JP37689	Ford Electrical Cart Overhaul	6.75	20	EAGLENA	BEDFORD
JP50167	GM Electrical Cart Overhaul	6.75	7	EAGLENA	BEDFORD
JP5467	Upgrade Order Processing Unit	6.25	3	EAGLENA	BEDFORD

3 Return to the Labels tab and change the Label Value for each of the following tables.

Label Heading Replacement List

Replace . . .	With . . .
Job Plan List	JP List
Job Plan	JP #
Description	JP Description
Duration	JP Duration

Report Administration Application (Labels Tab)

Label Key	Label Value
NewReportApp::TFTitleLabel	JP List
NewReportApp::TableDataLabel1	JP #
NewReportApp::TableDataLabel2	JP Description
NewReportApp::TableDataLabel3	JP Duration
NewReportApp::TableDataLabel4	WO Priority
NewReportApp::TableDataLabel5	Organization
NewReportApp::TableDataLabel6	Site

- Save your changes and preview the newly revised report with the new label values.

JP List Report

JP #	JP Description	JP Duration	WO Priority	Organization	Site
APPLREQ	Application Request	0.00	3		
AUTOTRANS	Automatic Transmission Service	3.00	2	EAGLENA	FLEET
ENGSEV	ENGINE SERVICE - SPF343 DECK	3.00	1	EAGLENA	FLEET
ENGSEV1	Engine Service Recheck	1.00	1		
INS-PC	PC Inspection	1.00	3	EAGLENA	BEDFORD
INS-SUBSYS	General Inspection of Major Subsystems	3.00	9	EAGLENA	BEDFORD
INS1002	Fire Extinguisher Inspection	0.00	0	EAGLENA	BEDFORD
INS11200	HVAC System Inspection	2.50	9	EAGLENA	BEDFORD
INS11300	Reciprocating Compressor Inspection	3.00	9	EAGLENA	BEDFORD
INS11460	Burner Gas Fired Inspection	3.00	9	EAGLENA	BEDFORD
INS12100	Electric Cart/Forklift Inspection	1.00	7	EAGLENA	BEDFORD
INS12200	Overhead Crane Inspection	1.00	7	EAGLENA	BEDFORD
INS13141	PKG Machine, Elevator & Drainpan Inspection	3.00	9	EAGLENA	BEDFORD
INS15210	Inspect and Adjust Westinghouse Overcurrent Relay	1.00	8	EAGLENA	BEDFORD
IT-ACC-DIS	Disable IT Accounts	0.00	1		
IT-ACC-NEW	Create IT Accounts	0.00	2		
IT-SSUE	New Employee Asset Issue	0.00	2	EAGLENA	
JP1000	Emergency Pipe Repair	5.00	9	EAGLENA	BEDFORD
JP11210	Emergency Generator Overhaul	4.00	8	EAGLENA	BEDFORD
JP11220	Electrical Panel Test	1.50	9	EAGLENA	BEDFORD
JP11430	Centrifugal Pump Service- 12 Month	3.00	8	EAGLENA	BEDFORD
JP11430A	Centrifugal Pump Service- 3 Month	1.00	8	EAGLENA	BEDFORD
JP12300	Electric Cart Tune-Up	1.00	7	EAGLENA	BEDFORD
JP13110	Feeder System Service	2.00	8	EAGLENA	BEDFORD
JP13140	Conveyor Belt 12 Month Service	4.00	8	EAGLENA	BEDFORD
JP13140-R	CONVEYOR BELT FIX	3.00	2	EAGLENA	BEDFORD
JP1314A	Conveyor Belt 3 Month Service	2.00	9	EAGLENA	BEDFORD
JP1314R	CONVEYOR BELT FIX	3.00	2	EAGLENA	BEDFORD
JP3004	CONVEYOR MOTOR REPAIRS IN SHIPPING	3.00	2	EAGLENA	BEDFORD
JP37689	Ford Electrical Cart Overhaul	6.75	20	EAGLENA	BEDFORD
JP50167	GM Electrical Cart Overhaul	6.75	7	EAGLENA	BEDFORD
JP5467	Upgrade Order Processing Unit	6.25	3	EAGLENA	BEDFORD

Localizing Crosstab Reports

You cannot localize all of the report labels for cross-tab reports. Due to the unique property values of this type of report, you cannot populate these labels to the Maximo database. Maximo publishes only the titles and header labels for cross-tab reports.

The following table lists cross-tab reports and their filenames.

Cross-Tab Reports and File Names Table

Cross-Tab Report	File Name
Asset Availability Report	asset_availability_act.rox
Asset Cost Rollup Report	asset_costrollup_act.rox
Location Availability Report	loc_availability_report.rox
Projected PM Labor Requirements	projected_pm_labor_requirements.rox
WO Material Shortage Report	wo_matlbal_tbl_act.rox

Localizing Queries

This section describes the following topics that must be completed for you to localize your query data.

- ▼ Viewing query label values – checking query labels values in e.Report Designer Professional
- ▼ Localizing query data – changing your query’s SQL statement to run against your localized database
- ▼ Adding query labels – using the Report Administration application to add and change query labels

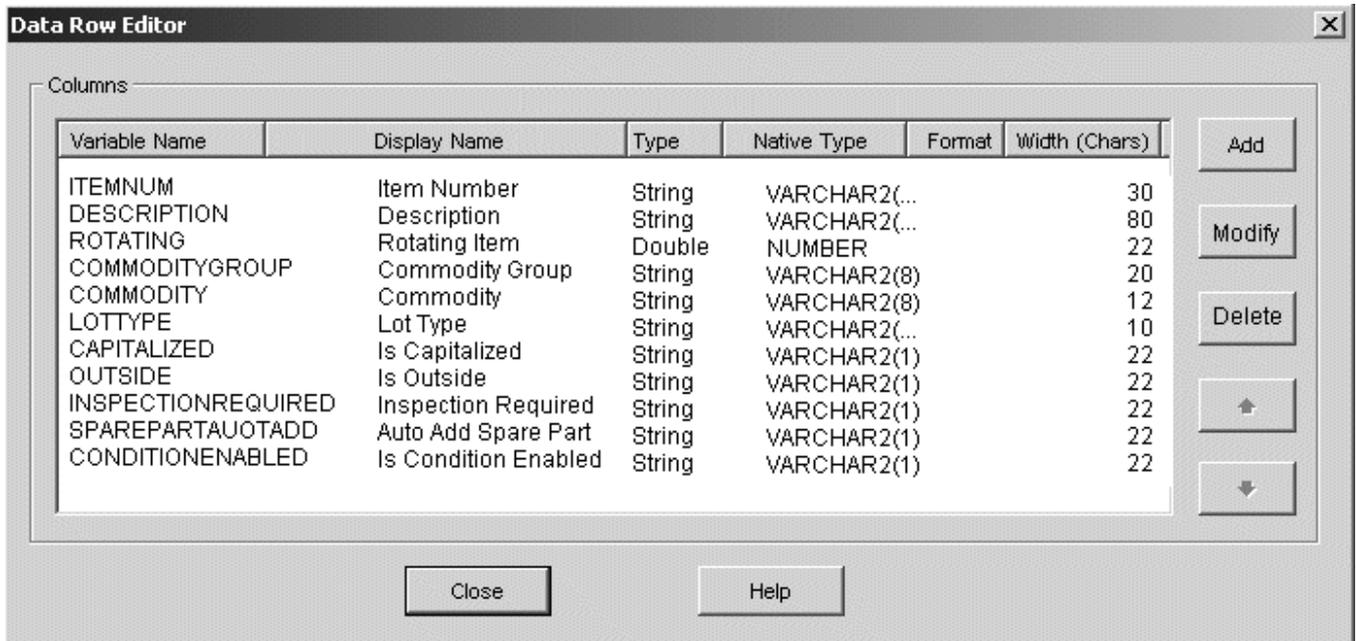
NOTE Before localizing your queries, complete the section, “Determining Report Language,” on page 13-2.

Viewing Query Label Values

Use the following instructions to see how localized field labels display for your queries. You will check your Maximo database to see if any query values exist in the REPORTLABEL table.

- 1 In e.Report Designer Professional, click the Data Row Editor icon to open the Data Row Editor dialog box where you can add or modify the columns of the query.

Data Row Editor Dialog Box



- 2 You identify the value for the query label by its report file name and label key (the field's variable name).

For example, if you were looking for the value of the Item Number label in the Item Query, you would run the following SQL statement:

```
select labelvalue from REPORTLABEL where reportname = 'item.dox'
and labelkey = 'ITEMNUM';
```

- 3 If the REPORTLABEL table does not contain any values, the Maximo query appears with the Display Name of the field from e.Report Designer Professional.

NOTE All queries shipped to you by MRO Software have their field values in the REPORTLABEL table.

Localizing Query Data

Since queries do not use report controls, they cannot be localized in the same way as reports. To run your query with localized information, you must modify the corresponding SQL statement for that query.

The following example shows how you can modify the SQL Statement for the Item Query to accept a localized item description. The SQL statement appears before and after you add or modify text to localize the query.

Note bolded sections where you will change or append information:

SQL Statement in English Language

```
select item.itemnum, item.description, item.rotating,
item.commoditygroup, item.commodity, item.lottype

from MAXIMO.item
where item.itemtype in (select value from MAXIMO.synonymdomain
where domainid = 'ITEMTYPE' and maxvalue = 'ITEM')
```

You must change the following items in this statement to accept values from the localized language:

- ▼ change **item.description** to **l_item description** to indicate that Maximo must use the localized item description data
- ▼ append **MAXIMO.l_item** to the “from statement” to indicate that Maximo must run the query for the item description from the localized Maximo data table

Note the revised bolded sections in the following SQL statement:

SQL Statement in a Localized Language

```
select item.itemnum, l_item.description, item.rotating,
item.commoditygroup, item.commodity, item.lottype

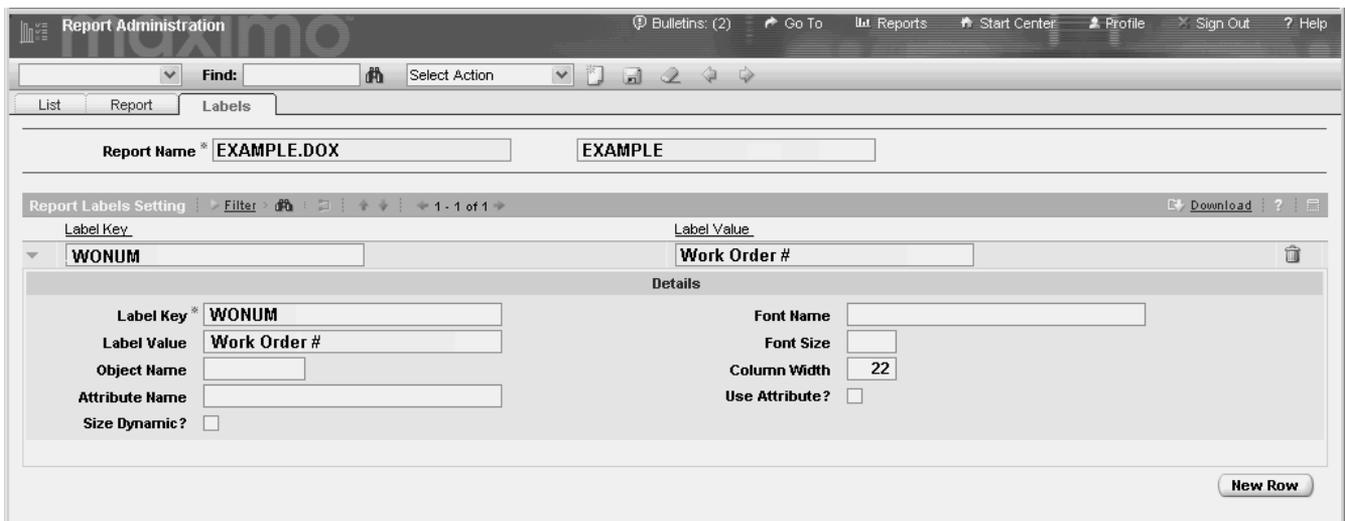
from MAXIMO.item, MAXIMO.l_item
where item.itemtype in (select value from MAXIMO.synonymdomain
where domainid = 'ITEMTYPE' and maxvalue = 'ITEM')
and item.itemid = l_item.ownerid
```

Adding Query Labels

To add label values for new queries, follow these instructions. In this section, you will create a new query called Example and a field (label) for that query called WONUM (Work Order Number).

- NOTE**
- ▼ Queries do not use controls so their report label setup is different than reports.
 - ▼ You also can use the following steps to add or change a label in any of the queries MRO Software provides to you “out of the box.”
- 1 Open the Report Administration application and select your query.
 - 2 Click the Labels tab.
 - 3 Click **New Row**. Enter values in the following fields:
 - ▼ **Label Key** – Enter the variable name. In this example, **WONUM** is the variable name.
 - ▼ **Label Value** – Enter the display name. In this example, **Work Order #** is the label display name.
 - ▼ **Column Width** – Enter the column width for the label you select. In this example, **22** is the column width.

Report Administration Application (Labels Tab)



- 4 Click **Save** to add the new query label to the Maximo database.

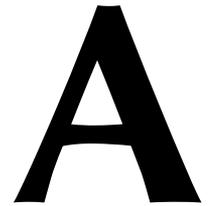
Maximo Query (Content Tab)

The screenshot shows a dialog box titled "Maximo Query (Content Tab)" with five tabs: "1. Content", "2. Groups", "3. Sorting", "4. Filters", and "5. Finish". The "Content" tab is selected. Below the tabs, the instruction "Choose the fields to include to your query." is displayed. The dialog is divided into two main sections: "Available Columns" on the left and "Selected Columns" on the right. In the "Available Columns" section, a list box contains the text "Work Order #". Between the two sections are four buttons: ">>", ">", "<", and "<<". To the right of the "Selected Columns" section is a vertical double-headed arrow button. At the bottom of the dialog, there are five buttons: "Preview", "Cancel", "Back", "Next", and "Finish".

- 5 Click the Report tab.
- 6 Click **Preview**. The report label appears exactly as you entered it.

NOTE You do not have to regenerate XML when you change a query.

Maximo.Properties File Descriptions



The MAXIMO.PROPERTIES file is the Maximo configuration file. You selected the folder location for this file and property values during installation. The tables in this appendix contain the following items and descriptions from the MAXIMO.PROPERTIES file:

- ▼ report server properties
- ▼ database properties mentioned in either Chapter 4, “Creating Spreadsheet Reports” or Chapter 5, “Using Maximo Query in e.Report Designer Professional.”

NOTE If you change the report server properties in MAXIMO.PROPERTIES, you must remove the Actuate Web module that holds the war files, rebuild, and redeploy. For information about building an Enterprise Application Archive file, refer to the Maximo Enterprise Suite *System Administrator’s Guide*.

For information about the following topics, refer the Maximo Enterprise Suite *System Administrator’s Guide*.

- ▼ all properties in the MAXIMO.PROPERTIES file
- ▼ Maximo security

Report Server Properties

Property Name	Description
mxe.report.actuate.reportserver	The machine name of the report server that accesses the Encyclopedia (also referred to as the Volume).
mxe.report.actuate.portalHost	The URL of the Active Portal Server, including port number and folder. The default folder name is acweb.
mxe.report.actuate.iServer	The URL of the Actuate iServer, including port number.

Property Name	Description
mxe.report.actuate.db.connectstring (Oracle)	<p>The Actuate Encyclopedia uses this property to access the database. This property must specify a connection string on the Actuate server. The connection string must reference the same Oracle database that Maximo runs against.</p> <p>The connection string is the tnsnames.ora alias of the Oracle system identifier (SID).</p>
mxe.report.actuate.db.connectstring (SQL Server)	<p>The Actuate Encyclopedia uses this property to access the database. This property must specify a Data Source Name (DSN) on the Actuate server. The DSN must reference the same SQL Server database that Maximo runs against.</p>
mxe.report.actuate.rootEncycFolder	<p>The Actuate Encyclopedia root folder name that contains all the subfolders, reports, and queries.</p> <p>The default is rpt.</p>
mxe.report.actuate.rsseAlias	<p>The alias name of the RSSE (Report Server Security Extension). RSSE lets you direct your Actuate server to an external security system for all authentication and security information.</p> <p>The default is localhost.</p>
mxe.report.actuate.multiServer	<p>The property that indicates whether multiple Maximo instances use one Actuate server (yes) or multiple Actuate servers (no).</p> <p>The default is no.</p>

Database Properties

Property Name	Description
mxe.db.driver (Oracle)	The Oracle thin driver: oracle.jdbc.driver.OracleDriver
mxe.db.driver (SQL Server)	The SQL Server driver: com.inet.tds.TdsDriver
mxe.db.url (Oracle)	The default URL is: jdbc:oracle:thin@<dbserver>:1521:<sid> where <dbserver> is the name of your database server. 1521 is your default Oracle port number. <sid> is your Oracle system identifier.
mxe.db.url (SQL Server)	The default URL is: jdbc:inetdae7a:<servername>:1433? database=<databasename>&language=us_english&nowarnings=true where <servername> is your database server name. 1433 is your default SQL Server port number. <databasename> is your SQL Server database name. Note: You can follow the string jdbc:inetdae with 7 (supports Unicode) or 7a (supports ascii). Currently, Maximo supports only ascii for SQL server.
mxe.db.user	The name of the database user the server uses to attach to the database server. This user must be the schema owner. The default is maximo.
mxe.db.password	The password for the database schema owner user. The default is maximo.
mxe.db.schemaowner	The owner of the database schema. The default schemaowner is maximo.

RSSE Properties Descriptions

B

This appendix helps you configure the two Report Server Security Extension (RSSE) properties files in Maximo. In order to have multiple instances of Maximo access a single Actuate Report Server, you must configure these files.

NOTE For more information about RSSE files, refer to “Setting up Multiple Instances of Maximo to access a single Actuate Report Server in Maximo Enterprise Suite (MXES)” (Document Identification Number M04749) on the Support Online Web site’s Knowledge Base.

Maximo contains two RSSE-related properties files:

File	Description
RSSE_LOCALHOST.PROPERTIES	connection properties for JDBC, Maximo, and LDAP
RSSE_MAXIMO.PROPERTIES	connection properties for JDBC, Maximo, and LDAP as well as Maximo role mapping properties

RSSE_Localhost.Properties and RSSE_Maximo.Properties Files

This section contains descriptions for JDBC, Maximo, and LDAP connection properties in the RSSE_LOCALHOST.PROPERTIES and the RSSE_MAXIMO.PROPERTIES file.

JDBC Connection Properties

Property Name	Description
jdbc.url (Oracle)	<p>The default URL:</p> <p>jdbc:oracle:thin@<dbserver>:1521:<sid></p> <p>where</p> <p><dbserver> is the name of your database server.</p> <p>1521 is your default Oracle port number.</p> <p><sid> is your Oracle system identifier.</p>
jdbc.url (SQL Server)	<p>The default URL:</p> <p>jdbc:inetdae7a:<servername>:1433? database=<databasename>&language=us_english&nowarnings=true</p> <p>where</p> <p><servername> is your database server name.</p> <p>1433 is your default SQL Server port number</p> <p><databasename> is your SQL Server database name.</p> <p>Note: You can follow the string jdbc:inetdae with 7 (supports Unicode) or 7a (supports ascii). Currently, Maximo supports only ascii for SQL server.</p>
jdbc.username	<p>User name for the jdbc connection.</p> <p>The default is maximo.</p>
jdbc.password	<p>Password for the jdbc connection.</p> <p>The default is maximo.</p>
jdbc.driverClass (Oracle)	<p>The Oracle thin driver: oracle.jdbc.driver.OracleDriver</p>
jdbc.driverClass (SQL Server)	<p>The SQL Server driver: com.inet.tds.TdsDriver</p>

Maximo Connection Properties

Property Name	Description
maximo.host	The IP address of the Server name where Maximo runs. The default is 172.22.50.15.
maximo.port	The RMI registry port for Maximo. The default is 1099.
maximo.servername	The Maximo server name. This property must be the same as that used for the mxs.name property in the Maximo.Properties file. The default is MXServer.

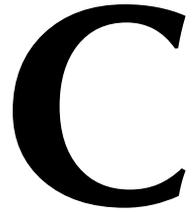
LDAP Connection Properties

Property Name	Description
ldap.context.factory	The context factory LDAP uses to access the Maximo server. The default is com.sun.jndi.ldap.LdapCtxFactory.
ldap.provider.url	The LDAP URL of your Maximo server. Default url: ldap://172.22.4.8.389
ldap.user.basedn	The top level of the LDAP directory tree. Default values for Organizational Unit (OU) and Domain Component (DC): OU=Bedford DC=maximodev DC=mro DC=com

Maximo Role Mapping Properties (RSSE_MAXIMO.PROPERTIES file, only)

Property Name	Description
rsse.internalrole.all	Maximo assigns the all role to all users. Default: all
rsse.internalrole.administrator	Users with the administrator role can modify folders and reports as well as user and role privileges. Default: MAXADMIN
rsse.internalrole.operator	Users with the operator role can modify folders and reports, but not user and role privileges. Default: SYSADM.
rsse.mutltiserver	RSSE Multiserver property. This property indicates whether multiple Maximo instances use one Actuate server (no) or many.

Actuatei18ntext.Properties File Descriptions



This appendix helps you to configure the ACTUATEI18NTEXT.PROPERTIES file in Maximo. You must configure this file so that many instances of Maximo can access a single Actuate Report Server.

NOTE For more information about the ACTUATEI18NTEXT file, refer to “Setting up Multiple Instances of Maximo to access a single Actuate Report Server in Maximo Enterprise Suite (MXES)” (Document Identification Number M04749) on the Support online Web site’s Knowledge Base.

The ACTUATEI18NTEXT.PROPERTIES file lets you establish database access to externalized text in Maximo. In order to define these properties, you must define these parameters.

The following table provides the property names and descriptions for the ACTUATEI18NTEXT.PROPERTIES file.

Property Name	Description
actuate.externText.JDBCdriverName (Oracle)	The Actuate externalized-text JDBC thin driver name. Default: oracle.jdbc.driver.OracleDriver.
actuate.externText.JDBCdriverName (SQL Server)	The Actuate externalized-text JDBC driver name. Default: com.inet.tds.TdsDriver
actuate.externTextJDBCConnectionURL (Oracle)	The Actuate externalized-text JDBC connection. Default URL: jdbc:oracle:thin@<dbserver>:1521:<sid> where <dbserver> is the name of your database server. 1521 is your default Oracle port number. <sid> is your Oracle system identifier.

Property Name	Description
actuate.externTextJDBCConnectionURL (SQL Server)	<p>The Actuate externalized text JDBC connection. Default URL:</p> <pre>jdbc:inetdae7a:<servername>:1433? database=<databasename>&language=us_english&nowarnings=true</pre> <p>where</p> <p><servername> is your database server name.</p> <p><i>1433</i> is your default SQL Server port number.</p> <p><databasename> is your SQL Server database name</p> <p>Note: You can follow the string jdbc:inetdae with either 7 (supports Unicode) or 7a (supports ascii). Currently, Maximo supports only ascii for SQL server.</p>
actuateexternText.username	<p>The Actuate externalized text username.</p> <p>Default: maximo.</p>
actuate.externText.password	<p>The Actuate externalized text password.</p> <p>Default: maximo.</p>

Glossary

This section contains a list and description of the common terms used in this document. For more information, see the *Actuate 8 Glossary* in the manuals folder on the Actuate Reporting Release 8 e.Report Designer Professional CD.

Active Portal	Lets you use the Web to access reports in your Encyclopedia through Microsoft Internet Explorer.
Actuate Query	An option that supports retrieving information by using an information object from a pre-defined data source.
ad hoc parameter	In e.Report Designer and e.Report Designer Professional, a parameter associated with a database column that passes an expression to extend dynamically the query's where clause. An ad hoc parameter restricts the number of rows returned from the database to the report.
Archive	See Auto-Archive.
asynchronous	In Actuate iServer, a report generation process or job that runs in the background independently of other processes.
auto-archive	In Actuate, archiving is equivalent to deleting. You can not retrieve archived reports. You should archive only report document files (roi).
BAS	See Basic Source (.bas) file.
basic source (.bas) file	A source file containing Actuate Basic code associated with a specific report design.
browser scripting control	In e.Report Designer and e.Report Designer Professional, browser scripting control supports the writing of code for your Web browser inside a report and allows you to open and use any type of Web page item.
compile	In e.Report Designer and e.Report Designer Professional, compiling translates an Actuate Basic source file and a report object design (.rod) file into a report object executable (.rox) file.
Data Manager	A Maximo e.Spreadsheet Designer tool used to create a connection between a workbook and external data, add queries, and create report ranges for the spreadsheet.
Data Row Editor	In e.Report Designer Professional, a tool used to display and sort available data rows.
delete privilege	A privilege that provides the ability to remove items from the Encyclopedia.
DHTML	See Dynamic Hypertext Markup Language (DHTML).
DOI	See Information Object Instance (.doi) File.
DOX	See Information Object Executable (.dox) File.

Dynamic Hypertext Markup Language (DHTML)	Dynamic Hypertext Markup Language (DHTML) is an HTML extension that provides interactivity in a Web page without needing to communicate with a Web server.
Encyclopedia	The Encyclopedia is a repository that contains all the items managed by a single iServer machine. Multiple users share these items, which include folders, report files, and user profiles.
e.Report	A structured document that follows a set of rules to organize, summarize, and present data from many records.
e.Report Designer	A flexible tools that lets report developers create or modify simple reports quickly. Reports created in e.Report Designer require no programming.
e.Report Designer Professional	A tool that report developers install on their desktop to let them create custom reports and/or modify existing reports. e.Report Designer Professional lets professional developers deliver information in any format and present reports in any layout regardless of report complexity.
e.Spreadsheet Designer	An application used to design, create, analyze, and distribute custom spreadsheets over the Web using the Actuate iServer system or an application server.
Encyclopedia	<p>A shared repository for all information related to the reporting environment. In addition to the reports used by Maximo, the Encyclopedia contains three directories:</p> <ul style="list-style-type: none">▼ an administrative directory – users, roles, and privileges▼ a requests and scheduling directory – synchronous or asynchronous instructions to perform an action and jobs designated for execution at a specified time▼ a report items directory – designs, executables, instances, parameters, files, and libraries
executable (.rox) file	A file you run to generate report documents with current data.
execute privilege	A privilege that provides the ability to run items from the Encyclopedia.
Factory	An internal tool that generates an e.report for viewing. The Factory follows the instructions in a report executable (.rox) file to generate a report (.roi).
grant privilege	A privilege that provides the ability to extend privileges for an item to other users. The user who develops an item and the administrator both have grant privileges for that item.
hyperlink	In e.Report Designer and e.Report Designer Professional, a connection from one part of a report to another part of the same or different report. Typically, hyperlinks support access to related information within the same report, in another report, or in another application.
information object	A file that contains a query.
information object design (.rod) File	A design file containing components that specify the format and content of a finished query.
information object executable (.dox) File	The executable for an information object.

information object Instance (.doi) file	A finished query the end user sees in Internet Explorer.
iServer system	A server application that generates information objects and report documents, manages them in the Encyclopedia, and makes them available to users.
Java Database Connectivity	Java Database Connectivity (JDBC) is a standard protocol used by Java to access database data sources in a platform-independent manner.
Join	An SQL query operation that combines two tables and returns them in a result set based on the values in the join fields.
JDBC	See Java Database Connectivity.
job	An asynchronous or batch process used to generate reports.
library (.rol) file	A file that contains reusable report components.
Management Console	A Web-based administration tool that enables server management from any Web-enabled desktop or device.
privilege	A level of control over an item in the Encyclopedia. Privileges are granted to users either directly or through roles. The privileges include the ability to delete, execute, grant, read, secure read, view, and write. The user who develops a particular item and places it in the Encyclopedia and the administrator both have all privileges for that item.
read privilege	A privilege that provides the ability to open, work with, and print an item in the Encyclopedia
report object design (.rod) file	A design file that contains components that specify the format and content of a finished report.
report object instance (.roi) File	A file that contains the viewable report.
report page	A report returned from a request page.
report structure	In e.Report Designer or e.Report Designer Professional, a tool that displays the outline of the report components showing their relationships to one another.
request	A synchronous or asynchronous instruction to an Actuate iServer to perform an action.
ROD	See report object design (.rod) File.
ROI	See report object instance (.roi) File.
ROL	See library (.rol) file.
Report Server Security Extension (RSSE)	An Actuate iServer capability that accesses data from an external database or security source, such as an LDAP directory server, in order to manage user information.
secure read privilege	A privilege that provides the ability to open, work with, and print, but not download, an item in the Encyclopedia.

static parameter	In e.Report Designer or e.Report Designer Professional, a global variable, defined with the parameter editor, for which an end user can set an initial value when defining a report. The report developer can design the report to use the parameter's value to affect the report's outcome.
synchronous	In Actuate iServer, a report generation process or job that occurs on demand.
Template	A file that determines how generated HTML pages open in Internet Explorer. Template files can contain HTML tags and scripting language commands which determine the format of the text, the text that should be appear, and variables that form part of your request.
Textual Query Editor	A textual tool in e.Report Designer Professional used to write a SQL SELECT statement.
Visible Privilege	A privilege that provides the ability to view items in the Encyclopedia
Volume	<ol style="list-style-type: none">1 A collection of Encyclopedia items managed by an Actuate e.Reporting Server. Administrators use a volume to group parts of a large Encyclopedia in convenient and manageable clusters.2 The name of the machine on which the Actuate e.Reporting Server is running.
Wildcard	A character used in a search or conditional expression that matches one or more literal characters.
Write Privilege	A privilege that provides the ability to place an item in the Encyclopedia.

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Workflow Implementation Guide

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About This Guide

This section briefly summarizes this document and how it can help you as a Maximo® user. It also provides information on other MRO resources available to you, such as additional documentation and support.

Who Should Read This Guide?

The *Workflow Implementation Guide* is for both novice and experienced Maximo system administrators, Workflow designers, and Workflow administrators.

This guide provides information about planning, designing, building, testing, implementing, and managing Workflow processes using Maximo Enterprise Suite.

How to Use This Guide

The *Workflow Implementation Guide* provides an introduction to Maximo Workflow. Each Maximo application contains extensive online help including overviews and procedures. Use this guide together with the *Maximo System Administrator's Guide*, *Maximo User's Guide*, and the Maximo Help.

Notation Conventions

This guide uses the following typographical conventions:

Bold type indicates the following elements of the user interface:

- ▼ Buttons
- ▼ Check boxes
- ▼ Field names
- ▼ Select Action menu options

Italic type indicates a documentation title, and is used for emphasis.

The greater than sign (>) indicates a menu choice from a submenu. For example, **Select File > Open** means you should select the File menu, then select the Open option from the File menu.

TIP A tip helps you to apply the techniques and procedures described in the text to your specific needs.

NOTE A note provides related information, reminders, recommendations, and strong suggestions.

CAUTION A caution means that taking or avoiding a specific action could cause you to lose data.

Chapter Contents

The following table briefly describes each chapter in this document. Read the chapters in the order they appear and perform the tasks in sequence as written.

Chapter Name	Chapter Contents
Chapter 1: Workflow Overview	Describes the goals and capabilities of Workflow.
Chapter 2: Planning Workflow Processes	Describes how to analyze and document your business processes in preparation for creating Workflow processes.
Chapter 3: Configuring Maximo for Workflow	Describes how to configure Maximo in preparation for creating Workflow processes.
Chapter 4: Creating Maximo Records for Workflow	Describes how to create and manage records that support Workflow processes.
Chapter 5: Creating Roles	Describes how to create and manage role records.
Chapter 6: Creating Actions	Describes how to create and manage action records.
Chapter 7: Understanding the Workflow Designer Application	Describes the Workflow Designer application and the Workflow canvas elements.
Chapter 8: Creating Workflow Processes	Describes how to use the Workflow Designer application to create Workflow process records.
Chapter 9: Testing Workflow Processes	Explains how to test and activate Workflow processes.
Chapter 10: Modifying Workflow Processes	Describes how to modify Workflow processes.
Chapter 11: Managing Active Workflow Processes	Describes how to use the Workflow Administration application to manage active Workflow processes.
Appendix: Managing Workflow Assignments	Describes how to use the Workflow Inbox and application Workflow actions to view and manage Workflow assignments.

Related Documentation

You can find more information regarding Maximo in the following documents:

Document	Description
<i>Maximo[®] Installation Guide</i>	Describes how to install and configure software for the following: <ul style="list-style-type: none"> ▼ application server ▼ Maximo[®] Enterprise Suite ▼ Actuate[®]
<i>Maximo[®] Multisite Administrator's Guide</i>	Describes how to configure Maximo for a Multisite implementation.
<i>Maximo[®] System Administrator's Guide</i>	Describes database configuration, security, and other administrative level applications and tasks.
<i>Enterprise Adapter System Administrator's Guide</i>	Describes how to configure and use the Maximo Enterprise Adapter.
<i>Maximo[®] Finance Manager's Guide</i>	Describes Maximo's financial transactions and how to set up General Ledger accounts.
<i>Maximo[®] Report Administration and Development Guide</i>	Describes how to design and administer Maximo reports using Actuate.
<i>Maximo User's Guide</i>	Provides an overview of the Maximo end user applications, and describes how the Maximo applications interact with each other.
Help	Provides step-by-step procedures for each Maximo application.

Support

MRO Software, Inc. users with a valid Annual Customer Support Plan (ACSP) can obtain product support online at:

support.mro.com

NOTE To use the MRO Software Support Online Web site, you must provide your contact information and your MRO Software product serial/license number.

The MRO Software Support Online Web site includes information on product releases, software patches, and documentation updates. To find the most current version of a document, refer to the Support Web site's Knowledge Base.

Workflow Overview

Maximo's Workflow features let you automate repetitive business processes and record management processes. Automating these processes provides a means for greater efficiency and accountability throughout your enterprise.

Workflow Goals

The goal of Maximo Workflow is to provide a means of electronically reproducing your business processes so that they can be applied to Maximo records. Using Workflow to manage records lets you do the following:

- ▼ Consistently apply your business practices to Maximo records.
- ▼ Manage the movement of a record through a process from start to finish.
- ▼ Route a record and appropriate instructions to the appropriate individual(s) so that they can act on it.
- ▼ Ensure that individuals act on records assigned to them in a timely manner.
- ▼ Guide users through their interaction with a record.
- ▼ Ensure that an audit trail exists for each record and process.

Workflow Capabilities

Maximo Workflow is an integrated part of the Maximo software and includes the following capabilities:

- ▼ Workflow processes and their supporting records are at the System level in Multisite, and therefore can be used for all Organizations and Sites. You can design processes or subprocesses that are Organization or Site specific through the use of logical branching.
- ▼ You can create a Workflow process for any Maximo business object (MBO). Because all Maximo applications are associated with MBOs, you can build Workflow processes for any application, including cloned and custom applications.
- ▼ A record can be routed into a Workflow process automatically or manually.

- ▼ When a process task requires a user decision, Maximo can automatically assign the record to a role that resolves to a person group, person, or delegate (alternate) at runtime.
- ▼ Assignees can receive notifications of assignments in their Workflow Inbox, or via e-mail, eliminating the need for users to search for their assignments.
- ▼ You can specify a delegate when workers are unavailable.
- ▼ Workers or administrators can reassign Workflow tasks.
- ▼ Assignees can link from their Workflow Inbox directly to the assigned record.
- ▼ When a process requires user input, Maximo can display a dialog box with a menu of context appropriate options specified in the process.
- ▼ When a process requires user interaction, Maximo can direct a user to a specific application, tab, or action.
- ▼ Maximo can automatically move a record through a step in a process if there is only a single choice of actions.
- ▼ You can define a time limit for completing a task, after which Maximo can escalate the record.
- ▼ You can specify at what point in a process Maximo should generate e-mail notifications.
- ▼ Workers or administrators can stop a process instance and remove a record from the control of Workflow.
- ▼ A Workflow process can run an executable program (batch file or .exe) stored on a local server in the Maximo directory.
- ▼ A Workflow can execute a custom Java™ class.
- ▼ A Workflow process for one type of Service Desk record, for example a service request, can launch a process for another type of record, for example an incident.
- ▼ A Workflow process can contain subprocesses, for example, for different subcategories of records, or records from different Sites.

Workflow Applications

A number of Maximo applications either directly or indirectly support Maximo Workflow.

Actions	Used to create and manage actions and action groups. Actions are associated with connection lines in a Workflow process and are triggered by the routing that moves a record from one node to another.
Communication Templates	Used to create and manage templates that Maximo uses when generating e-mail messages. Workflow uses communication templates for notifications.
Escalations	Used to create and manage escalation processes. An escalation is a mechanism that can monitor time-sensitive records and key performance indicators (KPIs), which can take actions or send notifications when a record reaches a defined escalation point. Workflow can use escalations with task assignments.
Inbox/Assignments Setup	Used to configure the Workflow Inbox that appears on a user's Start Center.
People	Used to create and manage records for individuals who are listed on Maximo records in any capacity. Workflow uses person records when generating assignments and notifications.
Person Groups	Used to create and manage records for groups of individuals. Workflow uses person group records when generating assignments and notifications.
Roles	Used to create and manage records for roles. All roles resolve to a person, person group, or e-mail address. All Workflow assignments and notifications are made to roles.
Workflow Administration	Used to view and modify assignments and active instances of Workflow processes.
Workflow Designer	Used to create, view, and modify Workflow processes.
Workflow Inbox	Used to view and respond to Workflow assignments. A Workflow process routes assignments to a user's Inbox.

Planning Workflow Processes

2

Because business rules and processes vary from company to company, and can vary even within a company, you must design and build your own custom Workflow processes.

Before you can build Workflow processes, you must research and document your company's business practices. The amount of time required for this planning stage varies depending on a number of factors, including whether your company's business practices are already documented.

This chapter includes general questions to help you start researching your company's business processes, and guidelines to help you convert your business processes into Workflow processes. The questions that you must ask during your research might vary depending on whether your company is implementing Maximo for the first time, or has been using Maximo and is implementing Workflow for the first time.

Analyzing Your Business Processes

Your business practices encompass all of the ways that you manage your business. As you begin to ask questions about your business practices, concentrate on practices that you manage using Maximo. For example, how you process and manage records and the individuals make decisions about those records.

Start collecting data by asking questions about your company and how you have implemented Maximo. Your Maximo implementation team might have already documented the answers to some of these questions.

Questions about your company:

The answers to the following questions provide background information for planning Workflow processes, and will help you to determine what types of processes you might want to use Workflow to automate.

- ▼ How is your company organized? Does a written organizational chart exist?
- ▼ Is your company multinational? Do you need to create Workflow processes in different languages?
- ▼ Do you have business process flows documenting your organization's various business units? Are there different process flows for the same organizations at different locations? Do the business practices at different locations have major or minor differences?

- ▼ Does your company have written standard operating procedures (SOPs)? For example, does your company have an ISO™ 9000 quality management or ISO™ 14000 environmental management system in place?
- ▼ What are the regulatory requirements for your industry? How do they impact your business processes?
- ▼ Does your company have written policies that define who is responsible for creating budgets? Are there written policies that define financial approval limits and which individuals have the authority to approve spending?
- ▼ What types of records at your company require approval? Are there written policies that define the levels of approval that are required for each type of record?

Questions about your Maximo implementation:

The answers to the following questions will help you to determine which of your company's business processes apply to records that you create and manage using Maximo.

- ▼ How has your company implemented Multisite? How many Organizations and Sites exist? You create Workflow processes at the System level. Do you need to create separate processes or subprocesses for different Organizations or Sites?
- ▼ Are you using the Maximo Enterprise Adapter to integrate Maximo with any external systems?
- ▼ Have you purchased any Maximo options, for example, Maximo Navigator?
- ▼ Which Maximo applications has your company implemented? What types of records do you use Maximo to create or manage?
- ▼ Have you configured Maximo to generate records automatically? For example, inventory reorder, PM work orders, scheduled payment invoices, and so forth.
- ▼ Does your Maximo implementation use any Start Centers that do not include the Workflow Inbox? If users cannot access the Inbox, you will need to design your Workflow processes to generate e-mail notifications.

Identifying Processes That Will Use Workflow

The answers to the following questions will help you to determine the types of Maximo records that can benefit from being managed via a Workflow process.

- ▼ What types of new Maximo records must be reviewed by someone at your company? For example records for new employees, or new inventory item records.
- ▼ What types of new Maximo records must be processed by more than one individual at your company? For example purchasing records, tickets, or work orders.
- ▼ Are there Maximo records that must be approved or activated before they can be utilized? For example new asset records, contracts, solution records, and so forth.
- ▼ Does the life cycle of a record require one or more individuals to review the record and then take action, such as approving the record or changing its status?
- ▼ Do you want to handle status changes for new records manually or via a Workflow process?

Identifying Steps in a Process

The answers to the following questions will help you to start listing the different steps in a business process. These steps can become nodes or connection lines in a Workflow process diagram.

- ▼ What are the common paths that a record can follow? Which factors decide where a record will go next? Can Maximo determine which path a record takes based on data contain on the record, or does the record require that an individual review or act on the record? Do these common paths have any exceptions?
- ▼ What are the decision points for a particular record?
- ▼ What kind of actions must be taken at each decision point? Who must initiate these actions?
- ▼ Who needs to be notified of actions and decisions?
- ▼ When does the record need to be evaluated, reviewed, or approved by an individual or group? Examples might include safety checks, environmental approval, financial approval, legal approval, and so forth.
- ▼ When does a record need to be assigned to an individual or group? Assignments might include performing work associated with the record, or reviewing the record.
- ▼ How quickly does a task assignment need to be performed? Does the task need a time limit and escalation?
- ▼ What are the different statuses that a record can go through during its life cycle?

Identifying People and Roles

When you create Workflow processes you must identify the individuals who create and manage a record throughout its life cycle. The answers to the following questions will help you to determine which individuals must have Maximo person records, user records, and/or labor records created for them.

Workflow processes make assignments to roles, which represent either individual persons or person groups. As you generate a list of individuals associated with each process, consider whether you can create person groups for individuals with similar job responsibilities, levels of authority, and security clearances.

- ▼ How will individuals be notified of Workflow assignments? Individuals who are going to be assigned tasks will need person and user records.
- ▼ Which individuals must be notified of the progress of a record? Maximo can send notifications to a non-Maximo e-mail, but creating person records for all individuals who will be receiving notifications is more efficient.
- ▼ Does the individual who must be notified vary by shift?
- ▼ Which individuals supervise other workers? You must list these individuals as a **Supervisor** on person records for escalations and notifications.
- ▼ Does your company hire contract labor? Will any contractors be required to interact with a record in a Workflow process? Will you need to create person and labor records for contract workers?
- ▼ Which level of security applies to individuals in different roles at your company? Which Maximo applications and actions are workers in each security group allowed to view? When you design your security groups and Workflow processes, you must ensure that users in a role have the security permissions that let them perform their assigned tasks.

Identifying Standard Notifications

Many individuals come into contact with a record as it moves through its life cycle, and often those individuals must be notified about the progress of the record. The answers to the following questions will help you to determine what kinds of notifications must be sent as part of a Workflow process, and whether or not you can create communication templates to use when generating those notifications.

- ▼ Which individuals must be notified when a new record is created?
- ▼ Which individuals must be informed when a record is approved?
- ▼ Which individuals must be informed when records are rejected?
- ▼ Which individuals must be informed when records are modified? For example, when the status of the record changes?
- ▼ Which individuals must be informed when records are cancelled?
- ▼ Which individuals must be informed when records are closed?
- ▼ What information needs to be contained in the text of the message? Which information, such as a work order number, description, or location, should you include to describe the record?

Identifying Time Sensitive Records and Tasks

You can specify that task assignments must be completed within a specified time limit. If the assignee does not complete the assignment within the allotted time, Maximo can escalate the record automatically. The answers to the following questions will help you to determine what kinds of escalation records you might need to create for use with your Workflow processes.

- ▼ Which Maximo records must be processed in a timely manner? For example, emergency work orders, or tickets subject to service level agreements.
- ▼ Which kind of records require that someone be notified when a record is created, modified, updated, or passes a certain date? For example password expirations, asset lease renewals, contract expirations, and so forth.
- ▼ Under what conditions should a record be escalated? For example, if a work order has passed the **Target Start** date and the status is still waiting for approval (WAPPR).
- ▼ What types of actions must be taken when an assignment is escalated? For example, changing the status of the record, or reassigning the task to another user.
- ▼ Who needs to be notified when an assignment is escalated? For example, the assignee, their supervisor, and so forth.

Identifying Automated Tasks

The answers to the following questions will help you to determine which kinds of action records you might need to create for use with your Workflow processes. Action records also can be used when creating escalations.

- ▼ Do you want Maximo to generate ticket or work order records during a process?
- ▼ Do you want Maximo to apply a service level agreement during a process?
- ▼ Do you want Maximo to change the status of a record during a process?
- ▼ Do you want Maximo to initiate a Workflow process for a different object from within a process? For example, to launch the incident process from within a service request process?
- ▼ Do you want Maximo to enter a value in a field during a process?

Documenting Processes for Workflow

After you gather information about your business processes, the next task is to document your business processes. Be sure your documentation includes information that answers the following questions:

- ▼ Who interacts with records during a process?
- ▼ Which processes manage which records?
- ▼ How do records enter the process, and where do they go when they exit the process?
- ▼ How are the records managed during the process?
- ▼ When are the records managed by a process, and how long does it take a record to go through the process?
- ▼ What parts of your current processes are working well and should be kept? What parts of your current process don't work or are inefficient and should be changed?

After you answer these questions, you can begin to format your information into a flowchart. You might also choose to use a spreadsheet to generate lists of process elements to help you identify whether there are process elements that you can reuse. Make sure to define the beginning and end of a record's life cycle, and what parts of the life cycle will be managed by a Workflow process.

You might choose to diagram your business process on paper, on a blackboard, or using software such as Microsoft® Visio® to create a flowchart. Writing or diagramming a business practice helps you to analyze it. It also provides you with a map of your process flows that you can use when you create a Workflow process using the Workflow Designer application. Your goal should be to produce a detailed diagram that shows all possible routes that a record can take through your company during its life cycle.

As you document your business process, note possible trouble spots, such as undocumented procedures, or different ways to complete the same task. You might need to address these issues and refine your business processes before you can create and implement a Workflow process.

Using Workflow's Process Design Elements

When you draw out a business process, use standard symbols to indicate the different elements of the process. The following table lists the symbols that the Workflow Designer application uses to represent the decision points (nodes) and paths (connection lines).

TIP You might find it helpful to read Chapter 7, "Understanding the Workflow Designer Application," on page 7-1 before you begin creating diagrams of your business processes.

Workflow Symbols

Symbol	Represents
	Start Node
	Condition Node
	Interaction Node
	Manual Input Node
	Subprocess Node
	Task Node
	Wait Node
	Stop Node
	Positive Connection Line
	Negative Connection Line

Designing Workflow Processes

Maximo Workflow lets you automate your business processes. To ensure that you get the maximum benefit from Workflow, you will want to design your Workflow processes carefully to incorporate the most efficient and effective ways of completing the various business tasks required by a business process.

During your research, you might have discovered that the business processes at your company were not well defined. If so, evaluate your current practices and determine how you can improve or standardize them before you design Workflow processes.

Remember that Maximo can direct records only through paths that you define when you create a Workflow process. When you design a process, be sure to consider what should happen at each decision point and include all possible paths that a record could take. You might choose to begin your Workflow implementation with very simple processes. You can always build in more complexity in a later revision.

Creating Different Kinds of Workflow Processes

Maximo's Workflow process elements gives you great flexibility when designing Workflow processes. The types of Workflow processes that you can design fall into several general categories, based on the number of individuals who must interact with the record and the amount of freedom they have to make decisions regarding the record.

When a process does not require user interaction with the record, you can create an **automated** type process. With an automated process, Maximo uses the information contained on Condition nodes to trigger actions regarding the record.

When you have a process where several different individuals must interact with a record, you can create a **routing** type process. With a routing type process, Maximo uses the information specified on Manual Input and Task nodes to route the record to the individuals who must make decisions or take actions regarding the record. Maximo "pushes" the record to each individual who must act on the record.

When you have a process where a single individual interacts with a record you can create an **interaction** type process. Maximo uses the information specified on Interaction and Manual Input nodes to guide the user through a structured interaction with the record. Maximo "pulls" the individual through the process.

When you have a process where some individuals will be guided through a structured interaction with a record, while others will have more flexibility in how they interact with the record, you can create a process that includes elements of both routing and interaction type processes. **Hybrid** type processes can include Interaction, Manual Input, and Task nodes to manage the different types of user interaction with the record.

Design Considerations

As you design your Workflow processes, remember the following design considerations:

- ▼ Generic processes require less maintenance. For example, you might need to modify roles that resolve to an individual more often than roles that resolve to a person group.
- ▼ When designing processes, consider when you want Maximo to generate notifications. Maximo can generate notifications when any of the following occur in a process:
 - when a record reaches a decision point (node)
 - when a record follows a specific path (connection line) in a process
 - when task assignments are made
- ▼ When designing processes, consider how you want to handle null values. What should happen if a process reaches a decision point that evaluates data on the record and that data is missing?
- ▼ What happens when a record takes the negative path? Does it get another chance to be modified and take the positive path, or does it exit the process permanently?
- ▼ If a record can go through a process again after it has been rejected, is there any limit to the number of times a record can repeat the process?
- ▼ Try to avoid having separate groups of nodes and connection lines that perform the same function at different points in a process. It is more efficient to reuse the same code via looping or creating a subprocess.
- ▼ The number of nodes that you can include in a process has no limit. However, simple processes are easier to troubleshoot and maintain. If the number of nodes in your process grows too large, you might want to consider whether you can break the process down into subprocesses.
- ▼ When writing SQL statements, consider how your SQL syntax will affect how Maximo interprets the statements. For example:
 - ASSETNUM — (no colon) Instructs Maximo to go to the database for the asset record.
 - :ASSETNUM — (with colon) Instructs Maximo to use the asset record in memory (the record currently on screen).

Sample Workflow Processes

To give you an idea of some different ways that you can use Workflow to manage Maximo records, this document includes some sample Workflow processes. Because the page size of this document limits the number of nodes that can be displayed, these examples are very simplistic. Maximo's demonstration database also includes several Workflow processes that demonstrate very simple processes.

The examples are designed only to illustrate some of Workflow's capabilities. Do not use them in a production environment. You must design and build your own Workflow processes that reflect the needs of your business. The Workflow processes that you design probably will be more complex than these examples.

Sample Purchase Requisition Business Process

When users create a purchase requisition, their supervisor must approve it. If the requisition total is less than \$500, the requisition is routed to the purchasing department. If the requisition total exceeds \$500, it also requires the approval of the department manager before it can be routed to the purchasing department. If the requisition total exceeds \$1,000, it also requires the approval of a vice president before it can be routed to the purchasing department. If the requisition total exceeds \$5,000, it also requires the approval of the chief financial officer before it can be routed to the purchasing department.

When an approved purchase requisition reaches the purchasing department, a purchasing agent evaluates the record, and then takes one of three steps:

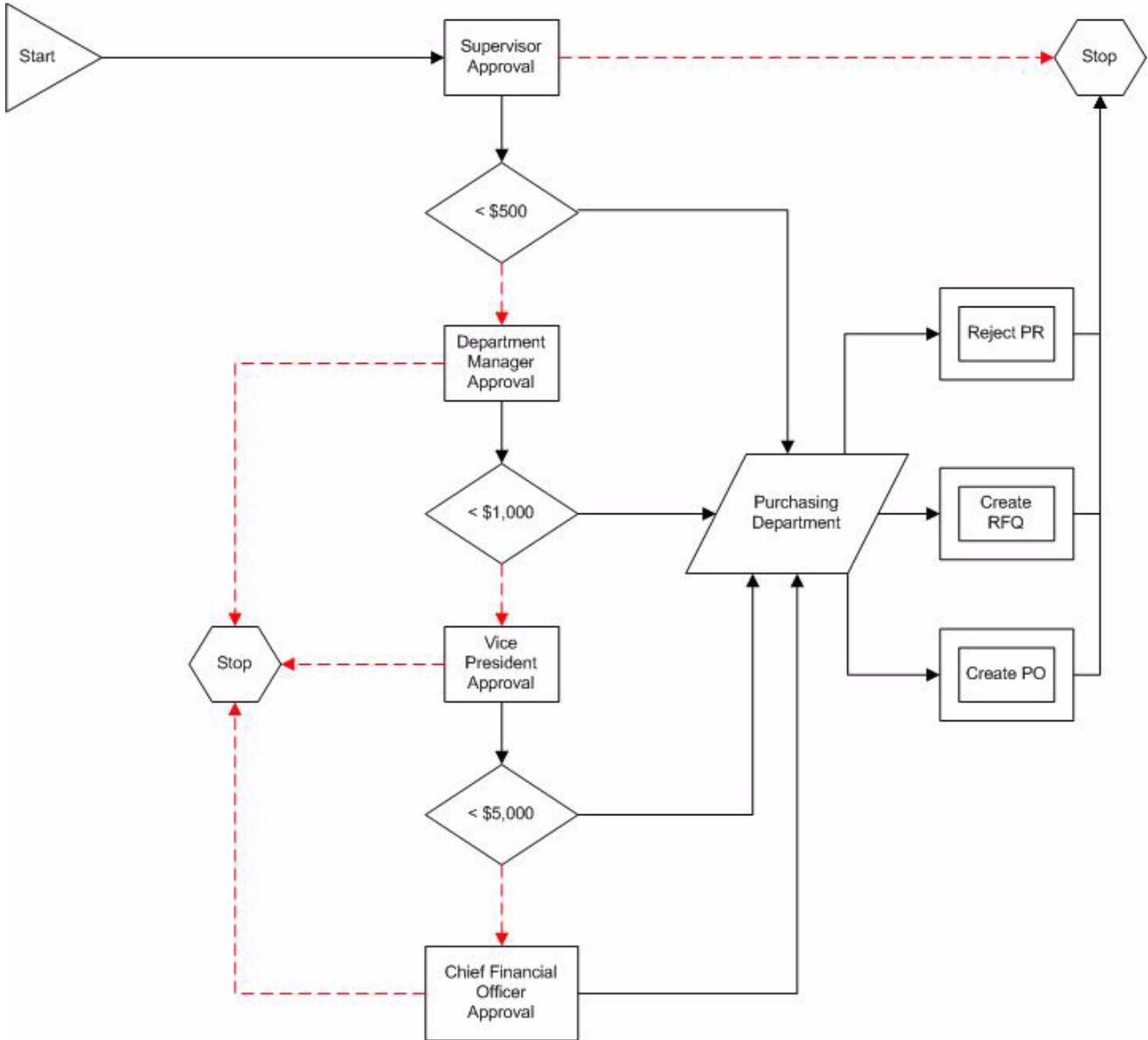
- ▼ Reject the requisition
- ▼ Create a request for quotation to get bids for the purchase
- ▼ Create a purchase order from the requisition

At this point, the record exits the purchase requisition Workflow process.

Sample Purchase Requisition Process Diagram

The following diagram illustrates one way that you could map the scenario described in the previous section. The nodes and connection lines in this example are arranged so that they fit on the page. You could arrange the nodes and connection lines differently and add or remove Stop nodes, and the Workflow process still would illustrate the exact same business process.

Sample Purchase Requisition Workflow



Sample Work Order Business Process

Our example company has configured Maximo to route all new PM work orders that are generated via the PM work order generation cron task into a Workflow process.

The first step is to evaluate the priority of the work order.

- ▼ If the PM work order is high priority or has a null value in the **Priority** field, it gets routed to a work planner for immediate review and approval.
- ▼ If the PM work order has a low priority, it gets routed to a Stop node and exist the process.

All PM work orders then go through a financial approval process. Work orders with an estimated total cost of less than \$500 are automatically approved. Work orders with an estimated total cost of more than \$500 must be reviewed and approved by the maintenance supervisor.

After a work order passes the financial approval process, it must be assigned to a work group.

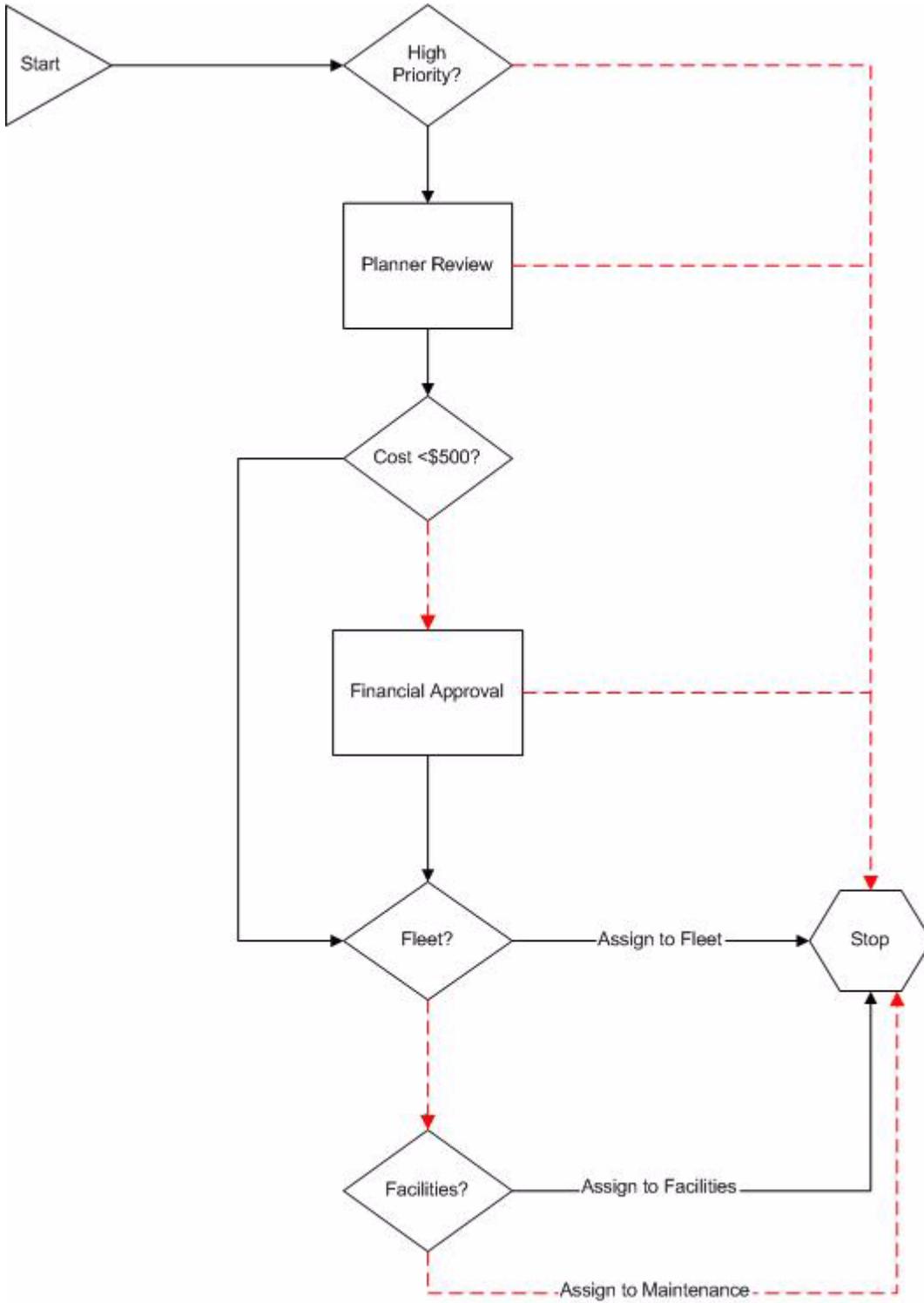
- ▼ If the PM work order is for a vehicle, Maximo assigns it to the fleet maintenance group.
- ▼ If the PM work order is for a building or location, Maximo assigns it to the facilities maintenance group.
- ▼ Maximo assigns all other PM work orders to the maintenance group.

After Maximo assigns the work order to a maintenance group, the work order exits the Workflow process.

Sample Work Order Process Diagram

The following diagram illustrates one way that you could map the scenario described in the previous section.

Sample PM Work Order Workflow



Sample Service Request Business Process

Our example company uses Maximo for their Service Desk functions, and they have designed a Workflow process that guides the Service Desk agent through the initial steps of the record management process.

When Service Desk agents take an incoming phone call, they create a service request ticket to record the interaction. The company has configured the database to require the agent to record the caller's name and phone number. The agent also must enter a short description of the service request, for example, a request for information, IT service, or maintenance, and enter a classification for the service request. Depending on the type of service request, the agent also might enter information about the asset or location.

When the agent saves the service request ticket, Maximo launches the SR Workflow process. Maximo displays a Manual Input dialog box with the following options:

- ▼ I must enter additional information regarding this service request.
- ▼ I must enter information about tickets or work orders related to this service request.
- ▼ I must make an entry in the Work Log or Communications Log.
- ▼ I have completed data entry for this ticket.

If agents indicate that they must enter additional information on the ticket, Maximo displays either the Service Request tab, the Related Records tab, or the Log tab, depending on which option the agent selected. When agents indicate that they have completed data entry for a service request, Maximo evaluates the data on the record.

Maximo then evaluates the data on the record. If the agent has not entered asset or location data, Maximo displays a Manual Input dialog box with the following options:

- ▼ Close ticket - informational call.
- ▼ Close ticket - unauthorized caller.
- ▼ Close ticket - misdirected call.
- ▼ Take no action.

If an asset or location is specified on the record, Maximo displays a Manual Input dialog box with the following options:

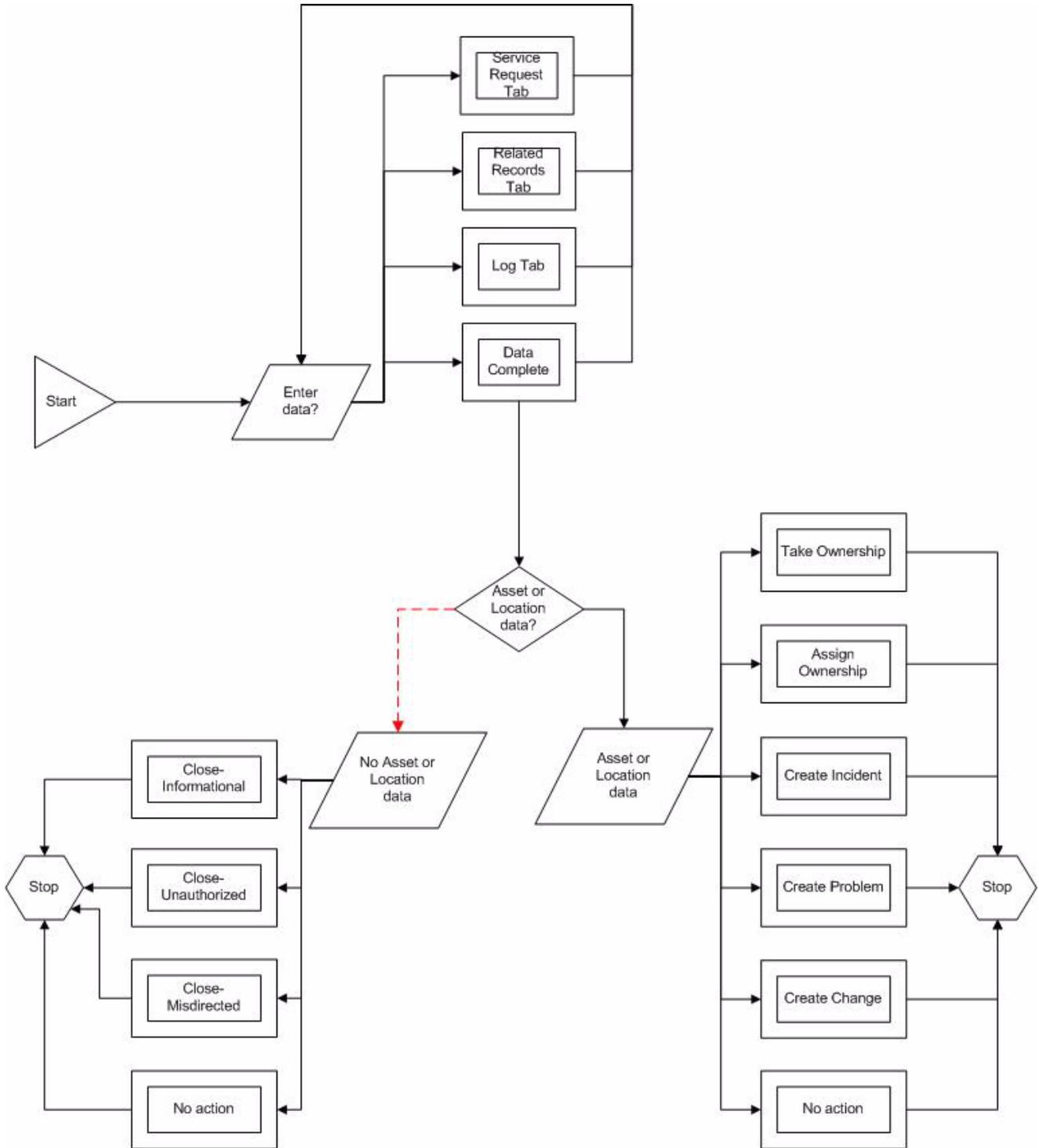
- ▼ Take Ownership of ticket. (**Take Ownership** action)
- ▼ Assign Ownership of ticket. (**Assign Ownership** action)
- ▼ Create Incident record. (**Create Incident** action)
- ▼ Create Problem record. (**Create Problem** action)
- ▼ Create Change work order for an IT asset. (**Create Change** action)
- ▼ Create Work Order for a non-IT asset. (**Create Work Order** action)
- ▼ Take no action on this ticket.

After the agent selects an option from a manual input dialog box, the record exits the Workflow process.

Sample Service Request Process Diagram

The following diagram illustrates one way that you could map the scenario described in the previous section.

Sample Service Request Workflow



Configuring Maximo for Workflow

3

Workflow is fully integrated with Maximo and requires minimal configuration before you can create Workflow processes.

Workflow Designer Requirements

Individuals who design and create Workflow processes should be familiar with the following:

- ▼ your business processes
- ▼ Maximo's applications
- ▼ Maximo's database and data relationships
- ▼ structured query language (SQL)
- ▼ SQL syntax required by your database

Installing the Java Virtual Machine

The Workflow Designer application requires a Java Virtual Machine (JVM) on the client workstation. If you do not have a JVM installed, Maximo cannot display the Workflow canvas. For more information about Maximo's JVM requirements, refer to the *Maximo System Administrator's Guide*.

Configuring Workflow Administrator E-mail Notifications

During the Maximo installation process, Maximo prompts you to enter an e-mail address for the Workflow Administrator. Maximo sends system messages to this address when errors occur. Maximo records the address in the `maximo.properties` file, which is located in the following directory:

```
<Maximo Root> applications\maximo\properties
```

```
for example, C:\Maximo\applications\maximo\properties
```

To modify the `maximo.properties` file, complete the following steps:

- 1 Open the `maximo.properties` file using a text editor.
- 2 Search for the following property in the Workflow Related Properties section:

```
mxe.workflow.admin=
```

- 3 Enter or modify the e-mail address, for example:

```
mxe.workflow.admin=julie.stickler@mro.com
```

- 4 **Save** your changes.

NOTE Whenever you modify the `maximo.properties` file, you must rebuild and redeploy your EAR files, then restart the Maximo server.

Granting Security Permissions

The person designing your Workflow processes must be a Maximo user and belong to a security group with security permissions to the following applications:

- ▼ Actions
- ▼ Communication Templates
- ▼ Escalations
- ▼ Inbox/Assignments Setup
- ▼ People
- ▼ Person Groups
- ▼ Roles
- ▼ Workflow Administration
- ▼ Workflow Designer
- ▼ Workflow Inbox

NOTE The person or group testing your Workflow processes will need security permissions to additional Maximo applications, depending on the processes they are testing.

Modifying Domains

If your business processes for record approvals or status changes involves multiple steps for each approval or status change, you might want to create synonym statuses. For example, your business process might call for three different people to review a record before it is considered "approved." Maximo has only a single status for waiting for approval (WAPPR) and a single status for approved (APPR). You can create synonym statuses of waiting for approval (WAPPR) that represent each of the preliminary approvals before the record is considered approved.

You use the Domains application to add new synonym values to a value list. For more information about creating synonym statuses, refer to the *Maximo System Administrator's Guide* or to the Domains Help.

Configuring Workflow for Eastern Asian Languages

For information about configuring Maximo and the Workflow canvas to properly display Chinese and other Eastern Asian languages, refer to the *Maximo System Administrator's Guide*.

Creating a Development (Test) Environment

Because Workflow processes are generally automated, MRO Software strongly suggests that you use a test environment where you can design and test Workflow processes without affecting records in your production environment. Your test environment should duplicate as closely as possible your production environment. Your test database should include enough data and users to let you thoroughly test each Workflow process.

You can use the applications in the Integration module to migrate a Workflow process from your test environment to your production environment. For more information about using the applications in the Integration module, refer to the *Maximo Enterprise Adapter System Administrator's Guide*.

Creating Maximo Records for Workflow

4

In addition to the applications in the Workflow module, you use records from other Maximo applications when you create Workflow processes. This chapter explores how records you create in the following applications contribute to Workflow processes:

- ▼ People application (Resources module)
- ▼ Person Groups application (Resources module)
- ▼ Communication Templates application (Administration module)
- ▼ Escalations application (Configuration module)

Creating People Records

A **person record** is a record for an individual who might appear somewhere on a Maximo record, for example, in a **Reported By** or **Affected Person** fields on a service request, as a **Supervisor** on a labor record, or as the value in a Ship To or Bill To **Attention** field on a purchasing record.

You use the People application to create, modify, view, and delete records for individuals. This application stores personal and official information about individuals, such as Maximo users, laborers, asset owners, supervisors, and individuals who receive Workflow notifications.

People Records and Workflow

Maximo makes Workflow assignments to roles. And all roles resolve to either a person, a person group, or an e-mail address.

You must create a person record for any individual who will be assigned tasks as part of a Workflow process. When you create records in the Labor and Users applications, you are required to create a person record. Additional individuals, who are neither laborers nor Maximo users, might also need person records created for them.

Person records that you create for use as part of Workflow processes should contain values in the following fields:

- ▼ **Supervisor** — Person who oversees or manages the individual. Maximo uses this information for escalations.
- ▼ **Primary E-mail** — E-mail address where Maximo should send notifications.

- ▼ **Primary Calendar** — Specifies the work calendar that the individual follows. Maximo uses this information when determining assignments and escalations.
- ▼ **Primary Shift** — Specifies the shift that the individual works. Maximo uses this information when determining assignments and escalations.
- ▼ **Workflow E-mail Notification** — Specifies the circumstances when the individual should receive e-mail notifications for task assignments. The default value is PROCESS.

For information about creating and managing person records, refer to the *Maximo User's Guide* or the People Help.

Understanding Workflow Delegates

If an individual is unavailable for any extended period of time, for example, on vacation, and cannot receive their Workflow assignments, Workflow can route their assignments to a designated alternate. You use the **Workflow Delegate** field to specify the person ID for the alternate, and the **Delegate From** and **Delegate To** fields to indicate the time period when Workflow processes should route assignments to the delegate. If **Workflow Delegate** contains a value, but **Delegate From** and **Delegate To** are empty, Maximo routes *all* Workflow assignments to the delegate.

Creating Person Groups

A **person group** is a list of individuals who might have similar job responsibilities, levels of authority, and security clearances. After you define person groups, responsibility for records such as tickets and work orders can be assigned to a group rather than an individual.

A person group also can receive a record routed by a Workflow process. Maximo can determine which member of a group to route a record to based on their calendar and shift. If Maximo routes a record such as a purchase order or a work order to a person group, everyone in the group can receive the record unless the Workflow process is configured to send it only to the member whose calendar shows that they are available.

Person Groups and Workflow

Person and person group records exist at the System level. You can specify that Maximo should use a group member for a specific **Organization** or **Site** when making Workflow assignments.

Maximo makes Workflow assignments to roles. Because different workers can fill the same role on different shifts, creating person groups for roles such as "supervisor" or "safety engineer" can simplify a Workflow process, as well as reduce the need for revisions as workers move in and out of roles.

When Workflow makes an assignment to a person group type role, Maximo determines who should be assigned the task, based on the following logic:

- ▼ If the **Broadcast?** check box is selected on the role record, Maximo assigns the task to all members of the person group.
- ▼ If the **Broadcast?** check box is cleared on the role record, Maximo uses the following logic to determine a single person to assign the task to:
 - 1 Maximo checks for a person record with an appropriate **Calendar** and **Shift** for the assignment, checking the group members in the order specified by the **Sequence** field. If no sequence values are specified, Maximo makes the assignment to the first group member with an appropriate **Calendar** and **Shift**. The search logic depends on whether the Workflow process is for an application at the Site, Organization, or System level.
 - ▼ If the application is at the Site level, Maximo first checks for person records where the value in the **Use for Site** field matches the Site of the record in the Workflow process. Maximo then checks for person records where the value in the **Use for Organization** field matches the Site of the record in the Workflow process. Maximo then checks for person records where there is no value in either the **Use for Site** field or the **Use for Organization** field.
 - ▼ If the application is at the Organization level, Maximo checks for person records where the value in the **Use for Organization** field matches the Organization of the record in the Workflow process. Maximo then checks for person records where there is no value in either the **Use for Site** field or the **Use for Organization** field.
 - ▼ If the application is at the System level, Maximo checks for person records where there is no value in either the **Use for Site** field or the **Use for Organization** field.
 - 2 If Maximo cannot find a person whose **Calendar** and **Shift** match the assignment, Maximo checks for a person record who is checked as the **Site Default**. You are not required to specify a Site default, however you can specify only a single Site default per Site.
 - 3 If no Site default is specified, Maximo checks for a person record who is checked as the **Organization Default**. You are not required to specify an Organization default, however you can specify only a single Organization default per Organization.

- 4 If no Organization default is specified, Maximo makes the assignment to the person who is the **Group Default**. By default the first person added to a person group becomes the group default, but you can modify this setting.

When you create person groups, you also can define one or more alternates for each person in the group.

For more information about creating and managing person group records, refer to the *Maximo User's Guide* or the Person Groups Help.

Planning Person Groups

When you are planning person groups, keep the following guidelines in mind:

- ▼ Ensure that you include members for each **Calendar** and **Shift** in the group.
- ▼ Ensure that you designate sufficient alternates to cover unavailable group members. Alternates should have the same **Calendar** and **Shift** as the group member they will be replacing.

Creating Communication Templates

You use the Communication Templates application to create and manage generic templates that Maximo uses when generating e-mail messages.

When you create a communication template, you can specify the following:

- ▼ The Maximo business object (MBO) that the template can be used for.
- ▼ The Maximo applications where the template can be used.
- ▼ The address that the e-mail should be sent from.
- ▼ The address that replies should be sent to.
- ▼ The subject line of the message.
- ▼ The body of the message.
- ▼ One or more recipients of the message. Maximo can send messages to roles, persons, person groups, and non-Maximo e-mail addresses.
- ▼ Whether each recipient should receive the message (To), a carbon copy of the message (CC), or a blind carbon copy of the message (BCC).
- ▼ Documents to include as attachments when the message is generated.

The Communication Templates application lets you use substitution variables when creating the subject line and body of your message. When Maximo generates an e-mail using that template, it replaces the substitution variables from the template with the corresponding value(s) from the record.

Communication Templates and Workflow

Workflow uses communication templates for notifications. Many individuals come into contact with a record as it moves through its life cycle, and often those individuals want or need to know about the progress of the record. You can design your Workflow process to generate notifications as required by your business process. Notifications can be made via e-mail or via pager, providing that your paging system supports e-mail.

You can configure the following Workflow components to generate notifications:

- ▼ escalations
- ▼ negative connection lines
- ▼ positive connection lines
- ▼ Manual Input nodes
- ▼ Task nodes
- ▼ Wait nodes

You can create each notification manually in the Workflow Designer, or you can create communication templates to use for frequently generated notifications, for example, record approvals, rejections, or status changes. When you create communication templates for Workflow notifications you should specify roles as the recipients rather than persons or person groups.

NOTE You cannot modify a communication template in the Workflow Designer application. You should create separate templates for your different notification requirements.

Communication Templates and Escalations

You can use escalations to monitor time-sensitive records and key performance indicators (KPIs). When you create escalation records, you can specify that Maximo should generate one or more e-mail notifications when a record reaches the defined escalation point. You can create each notification individually in the Escalations application, or you can create communication templates for frequently generated notifications.

NOTE You also can create escalations on the Escalations tab of the Service Level Agreements application.

Creating Communication Templates

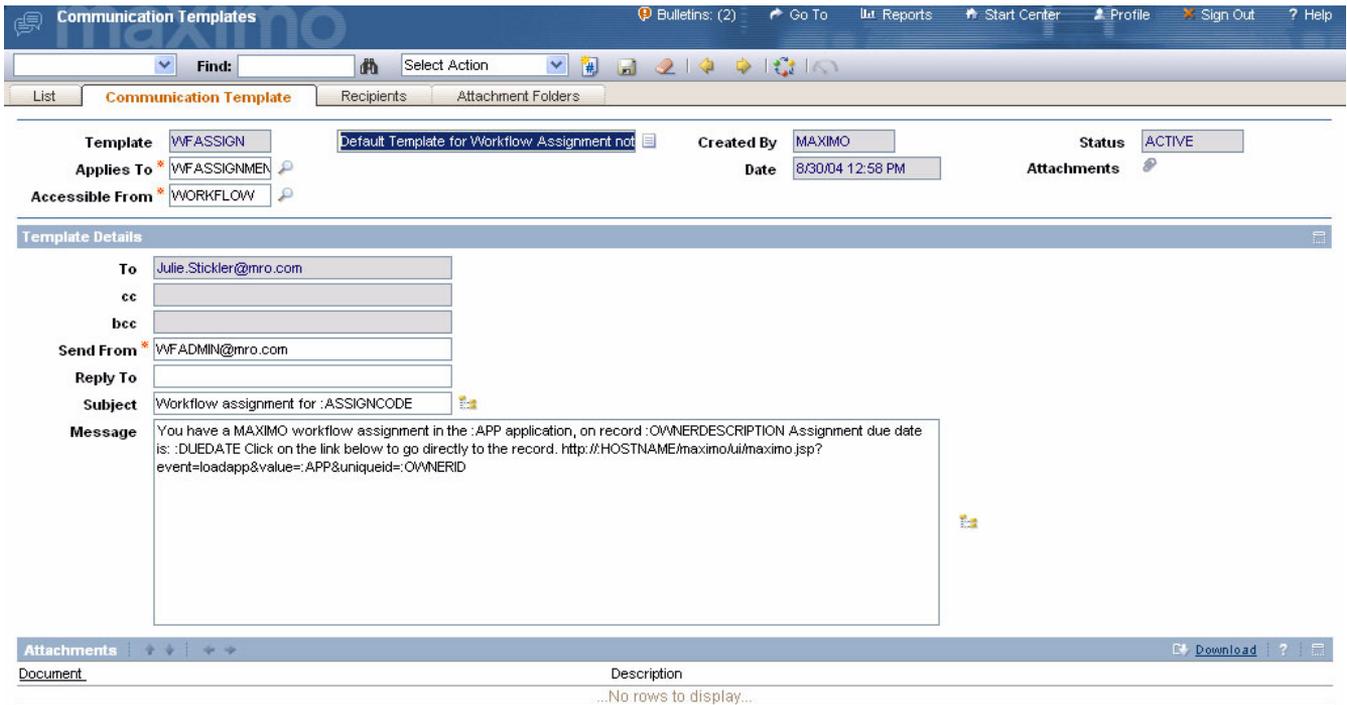
For procedures for the following tasks, refer to the *Maximo System Administrator's Guide* or the Communication Templates Help:

- ▼ Creating a Communication Template
- ▼ Adding a Recipient to a Communication Template
- ▼ Associating Attachments with a Communication Template
- ▼ Modifying a Communication Template
- ▼ Changing the Status of a Communication Template
- ▼ Duplicating a Communication Template

Using Substitution Variables

You can use substitution variables in the **Subject** and **Message** field of a communication template. A **substitution variable** is code that represents a column in the database related to the object specified in the **Applies To** field on the communication templates. When Maximo generates a notification for a record, it replaces the variable with the database value for that column.

Communication Template Using Substitution Variables



You can click the **Detail Menu** button next to the **Subject** and **Message** fields to select a field from the tables and related tables for the object specified in the **Applies To** field on the communication template.

When you enter a substitution variable manually, you enter a colon (:), followed by the database column name, for example :WONUM.

- ▼ If the column is from the main database table for the object, the format is a colon (:) and the column name, for example :WONUM.
- ▼ If the column is from a database table *related* to the main object, the format is a colon (:), one or more relationship names separated by periods (.), and then the column name, for example :ASSET.STATUS.

NOTE Be sure to include a space before and after each substitution variable to ensure that Maximo formats the generated text properly.

For example, if you were creating a communication template to notify the system administrator to create a new user record, your message might be similar to the following message:

Subject – New employee

Message – :FIRSTNAME :LASTNAME was hired on :HIREDATE. Please create a Maximo user record for this individual and e-mail them their user name and password at :EMAIL.EMAILADDRESS.

When Maximo uses a communication template to generate a notification, it replaces the substitution variables with the corresponding values from the record that is generating the notification. A notification generated from the previous example might resemble the following notification:

Subject – New employee

Message – Julie Stickler was hired on 6/01/01. Please create a Maximo user record for this individual and e-mail them their user name and password at Julie.Stickler@mro.com.

TIP To find out the column name for any Maximo field, place the cursor in the field and press Alt+F1. Maximo displays the table and column name associated with the field.

CAUTION If you are including a substitution variable for a non-required field, you should phrase the message so that it still makes sense to the reader if the field is null.

Inserting Hyperlinks

You can insert a hyperlink to a Maximo record within the body of your communication template message that includes the application name and record ID.

To insert a hyperlink in a Workflow communication template, insert the following link into the body of your message:

```
http://:HOSTNAME/maximo/ui/  
maximo.jsp?event=loadapp&value=:APP&uniqueid=:OWNERID
```

Where HOSTNAME is the name or IP address of the MXServer.

When Maximo generates a notification, the application name and record ID appear in the message as a hyperlink that leads directly to the record.

NOTE In order to be able to view the record, the e-mail recipient must be a Maximo user with security permission to the specified application.

Modifying Communication Templates

You also can use the Communication Templates application to modify communication templates. You can modify a template without inactivating it. However, you cannot modify a communication template if it is in use on an escalation record, or an enabled or active Workflow process. Maximo displays an error message if you cannot modify a communication template.

Creating Escalations

An **escalation** is a mechanism for monitoring time-sensitive records which can take actions or send notifications when a record reaches a defined escalation point. You can create an escalation for any Maximo business object (MBO). Because all Maximo applications are associated with MBOs, you can create escalations for any application.

You use the Escalations application to create, view, modify, and delete escalation records. Creating an escalation record consists of the following tasks:

- 1 Defining the header information for the escalation, including the object and records to which the escalation applies.
- 2 Defining one or more escalation points, which specify the threshold that triggers the escalation.
- 3 Defining actions and/or notifications that Maximo should initiate when an escalation point is reached. You define actions and/or notifications separately for each escalation point.
- 4 Validating the escalation record.
- 5 Activating the escalation record.

Escalations and Workflow

You can create an escalation for any Maximo business object. Workflow uses escalations primarily with the following objects:

- ▼ **WFASSIGNMENT** — object associated with Workflow task assignments. You can create escalations that monitor whether an assignee completes a task assignment within the specified time limit. Maximo can trigger one or more actions, for example, reassigning the task to a work group, or generate notifications, for example, to the worker's supervisor, if the task is not completed within the time limit.
- ▼ **WFINSTANCE** — object associated with active instances of Workflow processes. You can create escalations to monitor how long it takes a record to exit the control of a process, for example, if the process design includes one or more Wait nodes.

Escalations and Actions

An **action** is an event you want Maximo to trigger when it finds records meeting the condition(s) defined by the escalation point. You create action records in the Actions application.

An **action group** is a type of action record that includes multiple actions and a **Sequence** that Maximo should use when performing the actions. Escalations are always associated with action groups.

You can associate an action group with an escalation in either of the following ways:

- ▼ You can create action groups using the Actions application, then click the **Detail Menu** button next to the **Action Group** field on the Actions subtab to associate the action group with the escalation.
- ▼ You can create action groups in the Escalations application using the **New Row** button on the Actions subtab. When you create an action group in the Escalations application, Maximo generates a name for the action group and assigns **Sequence** numbers to the actions based on the order that you add them to the group.

Creating Escalation Records

You use the Escalations application to create escalation records. An escalation record consists of the following elements:

- ▼ **Object** — [**Applies To** field] You create escalation records for a specific Maximo business object (MBO), and apply to records in the application(s) associated with the object.
- ▼ **SQL Statement** — [**Condition** field] An escalation record can apply to all application records, or to a specific set of records. You can create a SQL statement that specifies records to which Maximo should apply the escalation. The conditions can apply to one or more tables associated with the object.
- ▼ **Organization and/or Site** — Escalations are at the System level. You can create escalations for use with a specific Organization or Site.
- ▼ **Schedule** — A schedule that defines how often Maximo should check for records meeting the criteria for the escalation. The polling interval can be seconds, minutes, hours, days, weeks, or months. You also can specify that the interval should be calendar or date based.
- ▼ **Escalation Point** — Date and time based criteria for when Maximo should trigger the actions and/or notifications specified on the escalation record. An escalation record can have one or more escalation points.
- ▼ **Actions** — Any actions that Maximo should take when a record reaches an escalation point. You define actions separately for each escalation point.

- ▼ **Notifications** — Any notifications that Maximo should generate when a record reaches an escalation point. You define notifications separately for each escalation point.

To create an escalation, complete the following steps:

- 1 On the Maximo toolbar, click **New Escalation**. If the **Escalation** field is empty, enter a value.
- 2 Enter a description in the **Escalation Description** field.
- 3 In the **Applies To** field, enter the object to which Maximo will apply the escalation, or click **Select Value**.
- 4 If appropriate, enter values in the **Organization** and **Site** fields.
- 5 If appropriate, you can enter an expression in the **Condition** field to indicate to which records Maximo should apply the escalation. For example, if you only want to escalate task assignments that have a value specified in the **Time Limit** field, you would include the following in your SQL statement: `TIMELIMIT is not null`. You can enter the SQL condition manually, or use the Expression Builder as described in "Using the Expression Builder," on page 4-10.
- 6 In the **Schedule** field, click **Set Schedule** to set how often Maximo should poll the database for records.
- 7 Click **Save Escalation**.

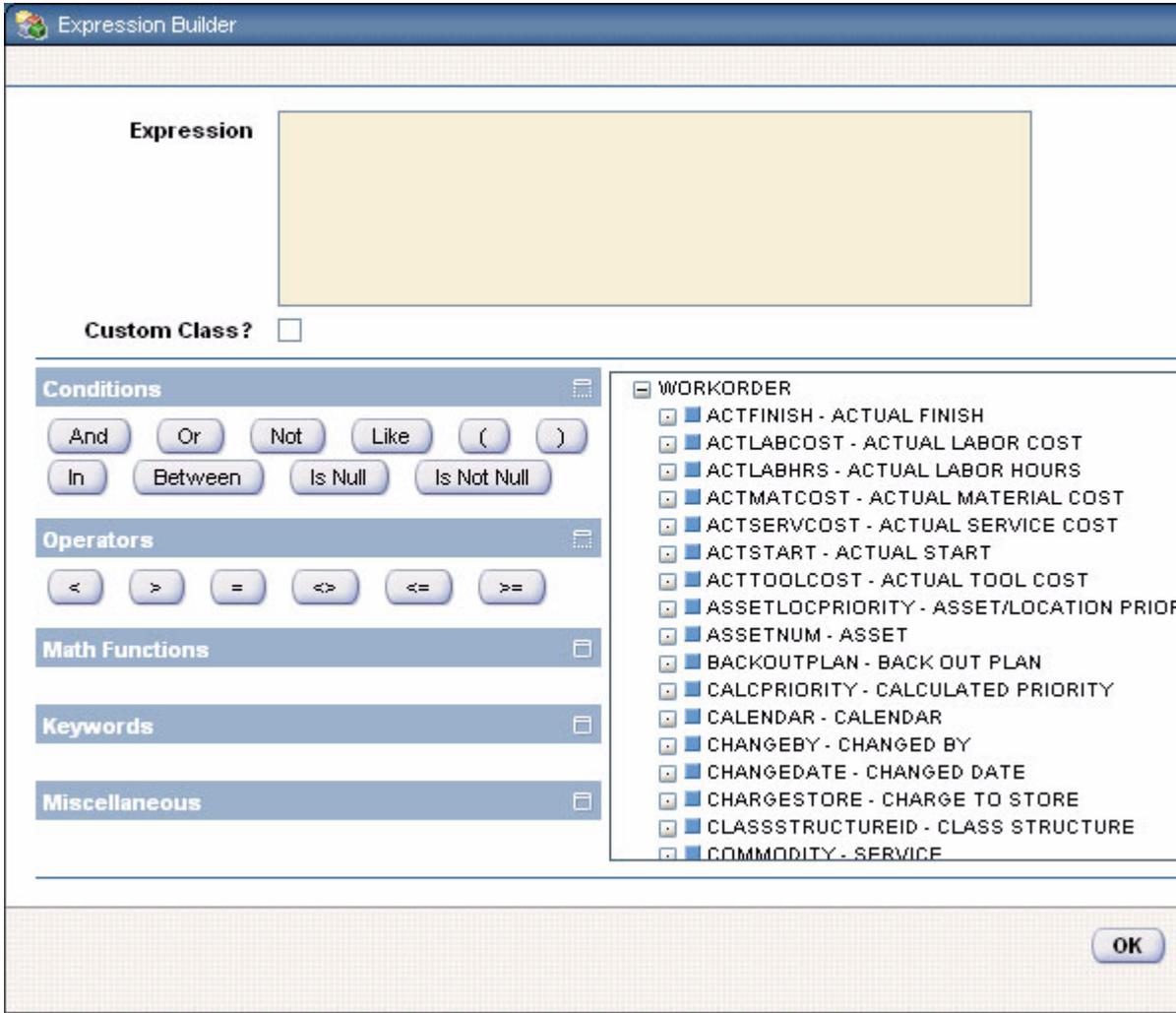
NOTE You can save an escalation record after you enter the header information. Before you can activate and use an escalation record, you *must* define at least one escalation point, and at least one action or notification for the escalation point. These procedures are described in "Defining Escalation Points," on page 4-12, "Defining Actions," on page 4-13, and "Defining Notifications," on page 4-14.

Using the Expression Builder

An escalation record can contain SQL statements in the **Condition** and/or **Escalation Point Condition** fields specifying to which records Maximo should apply the escalation, and what data on the record should trigger the escalation. These conditions can apply to one or more tables associated with the object.

You can enter a SQL condition manually, or use Maximo's Expression Builder to help you to construct a SQL statement. The Expression Builder includes common SQL conditions, operators, mathematical functions, keywords, a calendar look up, and a link to Classifications. The Expression Builder also includes a relationship tree that lets you drill down through the fields and related tables for the specified object or application and select a value.

Maximo's SQL Expression Builder



NOTE The SQL Expression Builder is a tool for building SQL expressions. It requires a basic understanding of SQL structure and syntax.

To use the SQL Expression Builder, complete the following steps:

- 1 In the Escalations application, create or display an escalation record.
- 2 In a **Condition** field, type a value or click the **SQL Condition Builder** button. Maximo opens the SQL Expression Builder dialog box.
- 3 Select one or more of the following options to build an SQL expression:
 - ▼ Type text in the **Expression** field.
 - ▼ Click one or more buttons in the Conditions section to add conditions to your expression.
 - ▼ Click one or more buttons in the Operators section to add SQL operators to your expression.

- ▼ Click one or more columns in the relationship tree to add a database column to your expression.
 - ▼ Click the **Maximize** button in the Miscellaneous section to access the following buttons:
 - Test Expression
 - Calendar
 - Classifications
- 4 To close the Expression Builder, click **OK**.
 - 5 Click **Save Escalation**.

Defining Escalation Points

An escalation point defines the attributes of a record that trigger the escalation. You can define one or more escalation points for an escalation, and specify one or more actions and/or notifications for each escalation point.

In general, you can create the following categories of escalation points:

- ▼ **Elapsed time since a past event** — Maximo compares the current date and time to the specified field that represents an event in the past. You can select from a list of DATETIME fields on the record, for example, a **Start Date** on a Workflow assignment, an **Actual Start** date on a work order, or a **Status Date** on a statusable record.
- ▼ **Time until a future event** — Maximo compares the current date and time to the specified field that represents an event in the future, for example, a **Renewal Date** on a contract, a **Due Date** on an invoice, or a **Target Finish** date on a work order.
- ▼ **Condition** — Condition without a time measurement. If you want Maximo to trigger the escalation's actions and notifications based on a condition that does not have a time measurement, you can specify the condition that should trigger the escalation in the **Escalation Point Condition** field.

NOTE You also can use the **Condition** field to specify that the escalation point should be applied to only the subset of records specified by the condition.

To define an escalation point, complete the following steps:

- 1 In the Escalations application, create or display an escalation record.
- 2 In the Escalation Points table window, click **New Row**. The Row Details open.

- 3 To specify the condition that should trigger the escalation point, select one of the following options:
 - ▼ If you are creating a time-based escalation point, enter values in the **Elapsed Time Attribute**, **Elapsed Time Interval** and **Interval Unit of Measure** fields. Enter a positive number in the **Elapsed Time Interval** field to indicate a time period in the past, enter a negative number to indicate a time in the future.
 - ▼ If you are creating a condition-based escalation point, enter an SQL statement in the **Escalation Point Condition** field to specify the condition that should trigger the escalation. You can type a value manually, or click the **SQL Expression Builder** button.
- 4 If you want Maximo to trigger the escalation point's actions and notifications more than once, select the **Repeat?** check box.
- 5 Click **Save Escalation**.

Defining Actions

You must define at least one action or notification for each escalation point on an escalation record. You define actions separately for each escalation point.

You use the Actions application to create action records. For more information about creating actions, see "Creating Action Records," on page 6-3.

To define actions for an escalation point, complete the following steps:

- 1 In the Escalations application, create or display an escalation record.
- 2 In the Escalation Points table window, select the escalation point for which you want to define actions.
- 3 If necessary, click the Actions subtab.
- 4 In the Actions table window, click **New Row**. The Row Details opens.
- 5 In the **Action** field, enter a value or click **Detail Menu** to select an option and retrieve a value.
- 6 If appropriate, you can modify the **Sequence** field to indicate the order that Maximo should perform the action.
- 7 Click **Save Escalation**.

Defining Notifications

You must define at least one action or notification for each escalation point on an escalation record. You define notifications separately for each escalation point.

You can use a communication template to create a notification, or type the subject, message, and recipients manually. You use the Communication Templates application to create communication templates. For more information about creating communication templates, see "Creating Communication Templates," on page 4-4.

To define notifications for an escalation point, complete the following steps:

- 1 In the Escalations application, create or display an escalation record.
- 2 In the Escalation Points table window, select the escalation point for which you want to define notifications.
- 3 If necessary, click the Notifications subtab.
- 4 In the Notifications table window, click **New Row**. The Row Details opens.
- 5 Select one of the following options:
 - ▼ In the **Template** field, enter a value or click **Detail Menu** to select an option and retrieve a value.
 - ▼ Enter a **Role/Recipient**, **Subject**, and **Message**.
- 6 Click **Save Escalation**.

Duplicating Escalations

You can use the **Duplicate Escalation** action to copy an existing escalation record, for example, if you wanted to create similar escalations for different objects. After you duplicate an escalation record, you then can modify it as needed.

To duplicate an escalation, complete the following steps:

- 1 In the Escalations application, display the record that you want to duplicate.
- 2 From the Select Action menu, select **Duplicate Escalation**.
- 3 If the **Escalation** field is empty, enter a name for the escalation.
- 4 You can modify the description of the escalation in the **Escalation Description** field. To enter additional information, click **Long Description**.
- 5 If appropriate, modify the **Applies To** field.

- 6 Modify the record as needed.
- 7 Click **Save Escalation**.

Validating Escalations

Maximo must validate an escalation record before you can activate it. Validation checks the SQL statements in the **Condition** and/or **Escalation Point Condition** fields to ensure that the SQL is valid and that the escalation engine can run it.

The Validation process checks for the following:

- ▼ Syntax errors.
- ▼ Tables and columns in conditions must exist for the specified object.

NOTE Maximo does not validate actions or notifications.

If Maximo discovers errors in one or more SQL statements, it writes the errors to the Validation Results section of the escalation record.

To validate an escalation, complete the following steps:

- 1 In the Escalations application, display the record that you want to validate.
- 2 From the Select Action menu, select **Validate**. Maximo displays a message in the Navigation Bar.
- 3 If the validation fails, click the **Maximize** button to expand the Validation Results section and view the error log. The SQL error might be in the **Condition** field, or in an **Escalation Point Condition** field. Correct the SQL statements and validate the record again.
- 4 Click **Save Escalation**.

Activating Escalations

An escalation record must meet the following criteria before you can activate it:

- ▼ have at least one escalation point
- ▼ have at least one action or notification defined for each escalation point

Activating an escalation does not trigger an escalation process. Maximo triggers an escalation only when the escalation engine finds records meeting the criteria defined by the escalation points. When you activate an escalation, Maximo polls for records meeting the criteria set by the escalation, according to the frequency in the escalation's **Schedule** field. If Maximo finds records that match, and any of those records meet the conditions defined by the escalation points, then Maximo triggers the appropriate actions and/or notifications.

When you activate an escalation, all fields on the record become read-only. You cannot edit an escalation record while it is active.

NOTE An escalation record must be validated before it can be activated. Maximo automatically validates the escalation when you activate it.

To activate an escalation, complete the following steps:

- 1 In the Escalations application, display the record that you want to activate.
- 2 From the Select Action menu, select **Activate/Deactivate Escalation**. Maximo places a check mark in the **Active?** check box in the record heading and creates an instance of the ESCALATION cron task.
- 3 Click **Save Escalation**.

Deactivating Escalations

When you activate an escalation, all fields become read-only, and you cannot edit the definition of the escalation while it is active. To modify or delete an escalation, you first must deactivate it.

To deactivate an escalation, complete the following steps:

- 1 In the Escalations application, display the record that you want to deactivate.
- 2 From the Select Action menu, select **Activate/Deactivate Escalation**. Maximo clears the check mark in the **Active?** check box in the record heading deactivates the instance of the ESCALATION cron task associated with the escalation.
- 3 Click **Save Escalation**.

Modifying Escalations

All fields on an activated escalation are read-only. To modify an escalation record, you first must deactivate it as described in , see "Deactivating Escalations," on page 4-16.

You can modify the following elements of a deactivated escalation:

- ▼ You can delete one or more escalation points. To activate an escalation, it must have at least one escalation point. When you delete an escalation point, Maximo deletes the links to the associated actions and notifications.
- ▼ You can delete one or more actions or notifications associated with an escalation point. To activate an escalation, it must have at least one action or notification defined for each escalation point.

For instructions on how to delete escalations, refer to the Escalations Help.

Creating Roles

You use the Roles application to create and manage role records that can be used with communication templates, escalations, service level agreements (SLAs), and Workflow processes.

Creating Role Records

A **role** is a function or position within a business. A role can represent a specific job title, for example, a department manager, or an assigned duty, for example, a watch officer. You can use a role to represent a specific person or a group of people. You also can create roles for class files and datasets.

You use the Roles application to create, modify, view, and delete role records that can be used as part of a communication template, escalation, service level agreement (SLA) or Workflow process. When a role is used within a process, Maximo can determine the correct individual(s) the process should be routed to based on information within the role record.

Understanding Roles and Workflow

Maximo always makes Workflow Inbox assignments and Workflow notifications to roles. All role records point to one or more person IDs or to a table and column in the database that represent a person. When Maximo encounters a role in a Workflow process, it resolves the role to a person group or individual person record.

You use roles when you create and configure the following Workflow elements:

- ▼ communication templates (recipients)
- ▼ escalations
- ▼ negative connection lines (notifications)
- ▼ positive connection lines (notifications)
- ▼ Manual Input nodes (notifications)
- ▼ Task nodes (assignments and notifications)
- ▼ Wait nodes (notifications)

Using role records instead of person records for assignments and notifications lets you create more generic Workflow processes that require less maintenance as individuals move in and out of different roles within your company.

Understanding Role Types

You can use a role to represent different functions or positions. When you create role records, you specify a role **Type** to help Maximo determine how to resolve the role when it is encountered in a process.

You can create the following types of roles:

- ▼ **CUSTOM** — Used when you want to use a custom class file that resolves to one or more people. Custom class files are Java programs written to perform specific data management process within Maximo. Maximo routes the record to one or more persons based on the data returned by the custom class program.
- ▼ **DATASET** — Used when you route a record based on a specific field on a record, or a field on a related or child record. You must specify a value in the **Object** field when creating DATASET type roles. Maximo routes the record to one or more persons based on the field that you specify in the **Value** field. Examples of fields that could be used with a DATASET type role include **Affected User, Reported By, Supervisor, Work Group**, and so forth.
- ▼ **EMAILADDRESS** — Used when you want to notify one or more e-mail addresses. Because e-mail addresses might or might not represent individuals who have person records created for them in Maximo, these addresses can be used for notifications, but not assignments.
- ▼ **PERSONGROUP** — Used when you want to route a record to one or all members of a person group. You use the Person Groups application to create person groups.
 - If the **Broadcast?** check box is selected, assignments and notifications are sent to all members of the group.
 - If the **Broadcast?** check box is cleared (the default), Maximo routes the assignment or notification to the first available group member based on their calendar and shift, or the individual who is the group default assignee. For more detail about how Maximo determines the assignee, see "Person Groups and Workflow," on page 4-3.
- ▼ **PERSON** — Used when you want to route a record to a specific individual. You use the People application to create person records.
- ▼ **USERDATA**— Used when you want to route a record based on a specific field within the person record of the logged in user.

Creating Role Records

You use the Roles application to create role records that can be used as part of a communication template, escalation, service level agreement (SLA), or Workflow process.

You can create different types of roles. The value in the **Type** field determines which fields on the role record can be edited, and the values that can be entered in those fields.

To create a role, complete the following steps:

- 1 On the Maximo toolbar, click **New Role**. If the **Role** field is empty, enter a name for the role.
- 2 Enter a description in the **Role Description** field. To enter additional information, click **Long Description**.
- 3 If you are creating a DATASET type role, enter a value in the **Object** field or click **Select Value**. If you are creating another role type, do not enter a value in the **Object** field.
- 4 In the **Type** field, select a value from the menu of role types.
- 5 In the **Value** field, enter a value that specifies how Maximo should resolve the role at runtime.
 - ▼ If **Type** = CUSTOM, enter the name and path of a class file that resides in the Maximo directory.
 - ▼ If **Type** = DATASET, click **Select Value** to select a field from the object specified in the **Object** field.
 - ▼ If **Type** = EMAILADDRESS, enter one or more e-mail addresses.
 - ▼ If **Type** = PERSONGROUP, enter a person group record or click **Detail Menu** to select an option and retrieve a value.
 - ▼ If **Type** = PERSON, enter a person record or click **Detail Menu** to select an option and retrieve a value.
 - ▼ If **Type** = USERDATA, click **Select Value** to select a field from the person object.
- 6 If you are creating a CUSTOM type role, you can use the **Parameter** field to specify a parameter to be used with/passed to the custom class.
- 7 If you are creating a DATASET or USERDATA type role, you can select the **E-mail?** check box to indicate that the data set consists of e-mail addresses for individuals who might not have Maximo person records.

- 8 If you are creating a PERSONGROUPID, CUSTOMCLASS, DATASET or USERDATA type role, you can select the **Broadcast?** check box to indicate that assignments and notifications should be sent to all members in a group.
- 9 Click **Save Role**.

Duplicating Roles

You can use the **Duplicate Role** action to copy an existing role record, for example, if you want to create roles for different person groups. After you duplicate a role record, you then can modify it as needed.

To duplicate a role, complete the following steps:

- 1 In the Roles application, display the record that you want to duplicate.
- 2 From the Select Action menu, select **Duplicate Role**.
- 3 If the **Role** field is empty, enter a name for the role.
- 4 Enter a description in the **Role Description** field. To enter additional information, click **Long Description**.
- 5 Modify additional fields as needed.
- 6 Click **Save Role**.

Modifying Roles

You can modify a role record at any time.

CAUTION Role records are not copied when a Workflow process instance is created. Modifying a role record will affect ALL process instances that use the role, including existing process instances.

To modify a role, complete the following steps:

- 1 In the Roles application, display the record that you want to modify.
- 2 Modify the fields as needed.
- 3 Click **Save Role**.

Deleting Roles

You can delete a role record using the **Delete Role** action available from the Select Action menu. A role cannot be deleted if it is being used with any of the following records or Workflow elements:

- ▼ communication templates
- ▼ escalations
- ▼ service level agreements
- ▼ Workflow negative connection lines
- ▼ Workflow positive connection lines
- ▼ Workflow Manual Input nodes
- ▼ Workflow Task nodes
- ▼ Workflow Wait nodes

To delete a role, complete the following steps:

- 1 In the Roles application, display the record that you want to delete.
- 2 From the Select Action menu, select **Delete Role**. Maximo deletes the role record.

6

Creating Actions

You can use the Actions application to create and manage actions and action groups which can be used with escalation, service level agreement (SLA), and Workflow processes.

Creating Action Records

An **action** is an event that you want Maximo to trigger when it encounters records that meet the conditions defined by an escalation point, service level agreement, or Workflow process. You can create actions that initiate an application action, change the status of a Maximo record, execute a custom class or a specified executable program, or set the value of a field on a Maximo record.

You use the Actions application to create and manage both individual action records and action group records. An action group contains multiple actions that should be initiated or processed in sequence.

Understanding Actions and Workflow

Workflow processes use actions to move records through a process and to trigger events, for example, status changes. You use actions when you create and configure the following Workflow elements:

- ▼ escalations
- ▼ negative connection lines
- ▼ positive connection lines

Creating records in the Actions application lets you define actions once, then reuse them when creating multiple Workflow processes.

Understanding Actions and Escalations

An escalation is a mechanism for monitoring time sensitive records automatically, which can take actions or send notifications when a record reaches a defined escalation point. You create the actions that are associated with an escalation record in the Actions application.

Understanding Action Types

You can create several different types of actions using the Actions application. When you create an action record, you specify an action **Type** to help Maximo determine what kind of action to take when the action is encountered in a process.

An action can be one of the following types:

- ▼ **APPACTION** — Used to specify that Maximo should initiate an application action. Maximo requires a value in the **Object** and **Value** field for this type of action. When creating an APPACTION type action, you can specify one of the following actions if it is available for the specified object:
 - **Apply SLA** — Apply the specified service level agreement.
 - **Create Change** — Create a change work order.
 - **Create Incident** — Create an incident ticket.
 - **Create Problem** — Create a problem ticket.
 - **Create Release** — Create a release work order.
 - **Create SR** — Create a service request ticket.
 - **Create WO** — Create a work order.
 - **WF Accept** — Workflow auto-accept. Accepts the record and routes it to the positive path in the Workflow process.
 - **WF Escalate** — Escalate the record in the Workflow process and reassigns the assignment to its escalation role.
 - **WF Initiate** — Initiate a Workflow process. This option requires a value in the **Parameter/Attribute** field.
 - **WF Reject** — Workflow auto-reject. Rejects the record and routes it to the negative path in the Workflow process.
- ▼ **CHANGESTATUS** —Used to specify that Maximo should change the status of the record. Maximo requires a value in the **Object** field and a status in the **Value** field for this type of action.
- ▼ **CUSTOM** — Used to specify that Maximo should execute a custom class file. Maximo requires a value in the **Object** field and the name and path of a class file in the **Value** field for this type of action.
- ▼ **EXECUTABLE** —Used to specify that Maximo should run an executable program on the server. Maximo requires a the name of an executable file in the **Value** field for this type of action.

- ▼ **GROUP** — Used to specify that Maximo should execute the sequence of actions that you specify in the Members table window.
- ▼ **SETVALUE** —Used to specify that Maximo should set the value of a specified field. Maximo requires a value in the **Object**, **Value**, and **Parameter/Attribute** fields for this type of action.

Creating Action Records

You use the Actions application to create action records that can be used as part of an escalation, service level agreement (SLA), or Workflow process.

You can create different types of actions. The value in the **Type** field determines which fields on the action record you can edit, which fields are required, and the values that can be entered in those fields.

To create an action, complete the following steps:

- 1 On the Maximo toolbar, click **New Action**. If the **Action** field is empty, enter a name for the action.
- 2 Enter a description in the **Action Description** field. To enter additional information, click **Long Description**.
- 3 In the **Value** field, enter a value that specifies the type of action Maximo should initiate.
 - ▼ If you are creating an APPACTION type action, click **Detail Menu** to select from the list of available actions. Note that Maximo requires a value in the **Object** field for this type of action.
 - ▼ If you are creating a CHANGESTATUS type action, enter a status for the specified object. Note that Maximo requires a value in the **Object** field for this type of action.
 - ▼ If you are creating a CUSTOM type action, enter the name and path of a class file that resides in the Maximo directory.
 - ▼ If you are creating an EXECUTABLE type action, enter the name and path of an executable file that exists on the server.
 - ▼ If you are creating a GROUP type action the **Value** field is read-only.
 - ▼ If you are creating a SETVALUE type action, enter the value to which you want Maximo to set the field. You can click **Detail Menu** to use the SQL Expression Builder. Note that Maximo requires a value in the **Object** and **Parameter/Attribute** fields for this type of action.
- 4 If you are creating an APPACTION, CHANGESTATUS, CUSTOM, or SETVALUE type action, you must enter a value in the **Object** field, or click **Select Value**. Specifying an **Object** is optional for GROUP and EXECUTABLE type actions.

- 5 If you are creating a SETVALUE type action, enter a value in the **Parameter/Attribute** field, or click **Detail Menu**.

NOTE The **Parameter/Attribute** field contains a relationship tree containing relationships associated with the main object.

- 6 In the **Type** field, select a value from the menu of action types.
- 7 If you are creating a CHANGESTATUS type action, you can use the **Memo** field to add remarks regarding the status change.
- 8 If you are creating an action specifically for use with Escalations or Workflow, you can change the value in the **Accessible From** field. Click **Detail Menu** to select an option and retrieve a value.
- 9 Click **Save Action**.

Creating Action Groups

You can create a GROUP type action containing two or more action records, and specify a sequence that Maximo should use when it activates the actions in the group.

The following rules apply to action groups:

- ▼ If you specify an object for the group, all members of the action group must be for the same object.
- ▼ Group type actions cannot be members of an action group.

NOTE When you create a GROUP type action the **Value**, **Parameter/Attribute**, and **Memo** fields are all read-only.

To create an action group, complete the following steps:

- 1 On the Maximo toolbar, click **New Action**. If the **Action** field is empty, enter a name for the role.
- 2 Enter a description in the **Action Description** field. To enter additional information, click **Long Description**.
- 3 If appropriate, enter a value in the **Object** field.
- 4 In the **Type** field, select GROUP from the menu of action types.
- 5 If you are creating an action specifically for use with Escalations or Workflow, you can change the value in the **Accessible From** field. Click **Detail Menu** to select an option and retrieve a value.

- 6 Click **Select Members**. Maximo displays a list of actions that exist for the specified object. If you do not specify an object, Maximo displays action records that do not have a specified object.
 - a To select an action, select the **Select Row** check box. You can select more than one action. To cancel a selection, clear the check box.
 - b Click **OK**. Maximo copies your selections to the Members table window and assigns sequence numbers to each action.
- 7 If necessary, you can modify the **Sequence** field to change the order that Maximo will initiate the actions.
- 8 Click **Save Action**.

Duplicating Actions

You can use the **Duplicate Action** action to copy an existing action record, for example, if you wanted to create the same application action for two different objects. Once you duplicate an action record, you can then modify it as needed.

To duplicate an action, complete the following steps:

- 1 In the Actions application, display the record that you want to duplicate.
- 2 From the Select Action menu, select **Duplicate Action**.
- 3 If the **Action** field is empty, enter a name for the action.
- 4 Enter a description in the **Action Description** field. To enter additional information, click **Long Description**.
- 5 Modify additional fields as needed.
- 6 Click **Save Action**.

Modifying Actions

You can modify an action record at any time.

CAUTION Action records are not copied when a Workflow process instance is created. Modifying an action record will affect ALL process instances that use the action, including existing process instances.

To modify an action, complete the following steps:

- 1 In the Actions application, display the record that you want to modify.
- 2 Modify the fields as needed.
- 3 Click **Save Action**.

Deleting Actions

You can delete an action record using the **Delete Action** action available from the Select Action menu. An action cannot be deleted if it is being used with any of the following records or Workflow elements:

- ▼ escalations
- ▼ negative connection lines
- ▼ positive connection lines
- ▼ service level agreements

To delete an action, complete the following steps:

- 1** In the Actions application, display the record that you want to delete.
- 2** From the Select Action menu, select **Delete Action**. Maximo deletes the action record.

Understanding the Workflow Designer Application

7

You use the Workflow Designer application to create, view, modify, and delete Workflow process records, including the following requirements:

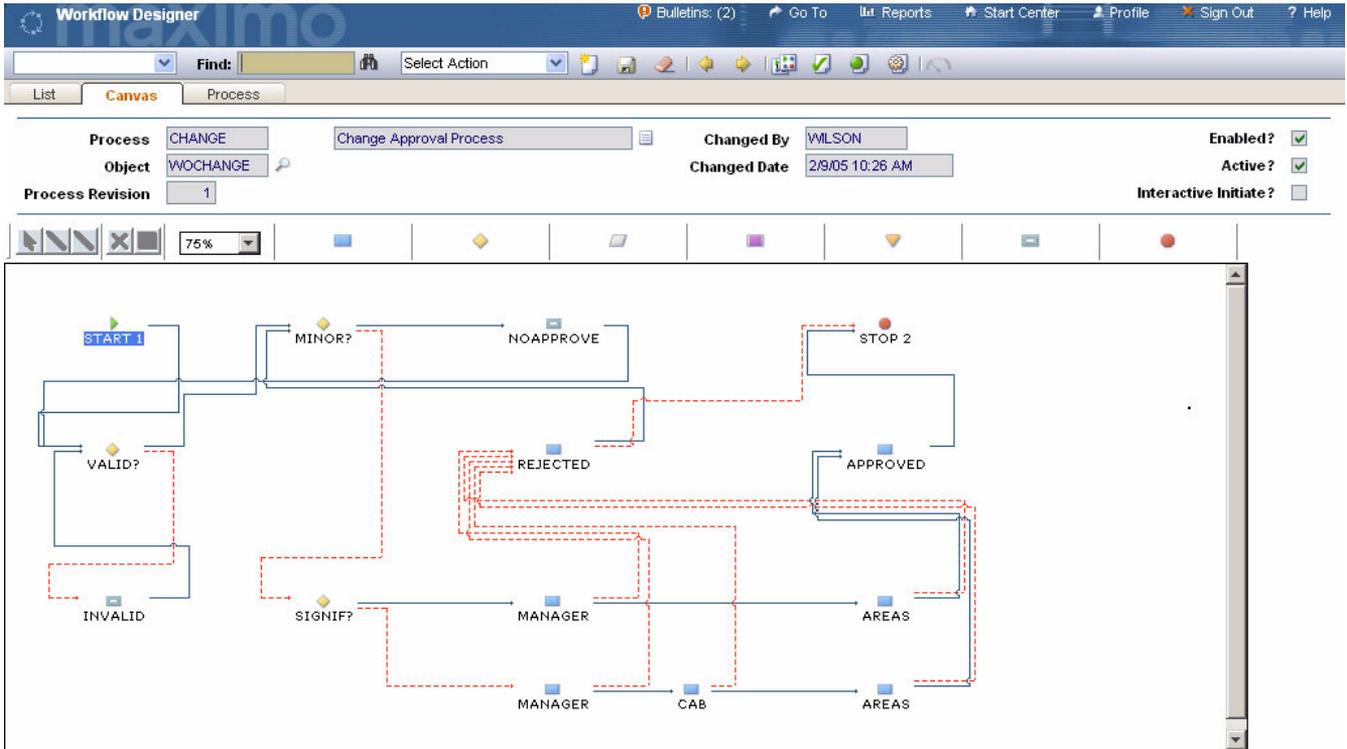
- ▼ what should happen to the record as it goes through the process
- ▼ what manual input users must perform
- ▼ what actions Maximo can take automatically
- ▼ what notifications Maximo should send, and to whom

This chapter describes the Workflow Designer application and the graphical elements used to construct a Workflow process. Instructions for creating Workflow processes are found in Chapter 8, "Creating Workflow Processes," on page 8-1.

Understanding the Workflow Canvas

The Workflow Canvas tab provides the tools and work space to create, view, and modify Workflow processes. The Workflow canvas is a graphical representation of a Workflow process that lets you see the process elements and how they are connected.

The Workflow Canvas Tab



The Workflow Canvas tab consists of the following sections:

- ▼ record header
- ▼ Workflow tool palette
- ▼ Workflow canvas

You use the canvas to add nodes and connection lines as you construct a process and to configure the properties of each process elements.

Understanding the Workflow Designer Toolbar Buttons

The following table lists application specific buttons that appear in the Workflow Designer toolbar.

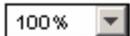
Workflow Designer Toolbar Buttons

Icon	Function
	Create Process Revision — Click to create a revision of an enabled or activated process.
	Validate Process — Click to validate a process.
	Enable Process — Click to enable a completed process.
	Activate Process — Click to activate an enabled process.

Understanding the Workflow Tool Palette

The Canvas tab includes a tool palette just below the record heading. You use the tools on this palette to add, manipulate, and delete Workflow process nodes and connection lines. The following table lists the buttons that appear in the Workflow tool palette.

Workflow Tool Palette Buttons

Icon	Function
	Move/Add Nodes Tool — Click to manipulate nodes.
	Connect Nodes Tool — Click to draw a line between nodes that indicates a positive outcome or a true condition.
	Negative Connection Tool — Click to draw a line between nodes that indicates a negative outcome or a false condition.
	Delete Nodes Tool — Click to delete the highlighted node or connection line. You also can right-click a canvas element and select Delete.
	Properties Tool — Click to specify properties for the highlighted node or connection line. You also can right-click a canvas element and select Properties.
	Zoom Tool — Select a magnification level from the Zoom menu to increase or decrease the magnification of the Workflow canvas.
	Task Node Tool — Click to drag a new Task node onto the canvas.

Icon	Function
	Condition Node Tool — Click to drag a new Condition node onto the canvas.
	Manual Input Node Tool — Click to drag a new Manual Input node onto the canvas.
	Subprocess Node Tool — Click to drag a new Subprocess node onto the canvas.
	Wait Node Tool — Click to drag a new Wait node onto the canvas.
	Interaction Node Tool — Click to drag a new Interaction node onto the canvas.
	Stop Node Tool — Click to drag a new Stop node onto the canvas.

Understanding Workflow Nodes

A **node** is a graphical element representing a point in your business process. The Workflow designer includes different types of nodes that can represent different points in your business process, including:

- ▼ a record's entry into the process
- ▼ decision points
- ▼ points when a path branches
- ▼ manual input from an individual or group
- ▼ automated actions
- ▼ record exit from the process

You can drag and drop nodes from the palette onto the canvas. You can add any number of nodes to a process. However, if a process exceeds 50 – 100 nodes, you might want to consider whether you can break the process down into subprocesses to simplify managing and maintaining it.

NOTE The Move/Add Nodes Tool must be selected in order to manipulate nodes on the canvas.

Understanding Start Nodes



A Start node indicates the point when a record enters or starts a Workflow process. The tool palette does not include a Start Node Tool because when you create a new process, Maximo places a single Start node on the canvas. Each process can have only one Start node, and you cannot delete Start nodes.

Connecting Lines

A single positive connection line must exit the Start node.

Properties

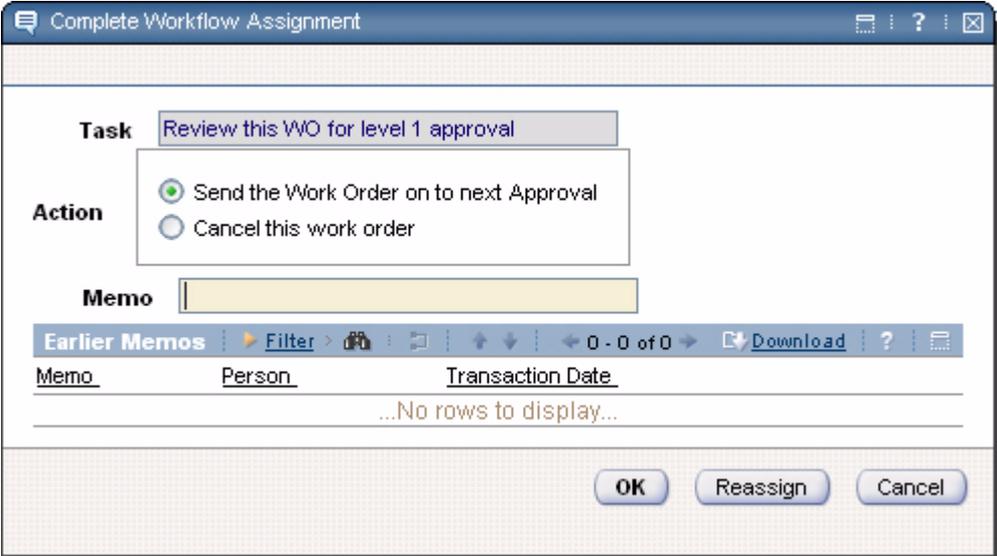
You cannot define properties for Start nodes.

Understanding Task Nodes

A Task node indicates when a user has two choices, for example, to approve or reject a record. You use Task nodes when your business process requires a user to evaluate the record and you want to create a task assignment that routes the record to one or more individuals.

When Maximo encounters a Task node while routing a record through the process, it stops the process and generates one or more task assignments, based on the node properties. Individuals can receive task assignments via the Workflow Inbox portlet on their Start Center, or via e-mail. The assignee views and completes the assignment in the Complete Workflow Assignment dialog box. For more information about completing assignments, see Appendix A, "," on page A-1.

Example of a Complete Workflow Assignment Dialog Box



The screenshot shows the 'Complete Workflow Assignment' dialog box. The 'Task' field contains the text 'Review this WO for level 1 approval'. The 'Action' section has two radio buttons: 'Send the Work Order on to next Approval' (selected) and 'Cancel this work order'. Below the memo field is a table titled 'Earlier Memos' with columns 'Memo', 'Person', and 'Transaction Date'. The table is empty, showing '...No rows to display...'. At the bottom are 'OK', 'Reassign', and 'Cancel' buttons.

You place a new Task node on the canvas by using the Task Node Tool in the palette. A process can have one or more Task nodes, but you do not have to include Task nodes in a process.

Connecting Lines

You can have one or more positive connection lines entering a Task node. You can have one or more negative connection lines entering a Task node. Only one positive and one negative connection line can exit a Task node. The instructions that Maximo displays to the user in the Complete Workflow Assignment dialog box are defined in the properties of the connection lines exiting the Task node.

Properties

You can define the following properties for a Task node:

- ▼ **Assignments** — You must specify that Maximo should assign the record to one or more roles. You create role records in the Roles application. When Maximo routes a record through the process it determines which person(s) the record should be assigned to based on the node properties and the role definition. You also can specify a time limit for completing the assignment.
- ▼ **Notifications** — You can use a communication template to create one or more notifications, or enter a subject, message, and role recipients manually.
- ▼ **Perform Accept Action** — You can specify whether one or all assignees must approve the record in order for the record to follow the positive connection line as it leaves the Task node.

Understanding Condition Nodes



A Condition node indicates an evaluation of the record, based on data in the record. You use a Condition node to have Maximo to make a true/false evaluation of the record, then direct the record based on that evaluation. When Maximo encounters a Condition node, it evaluates the record based on the SQL statement defined in the node properties, then routes the record to either the positive or negative connection line exiting the node.

You place a new Condition node on the canvas by using the Condition Node Tool in the palette. A process can have one or more Condition nodes, but you do not have to include Condition nodes in a process.

Connecting Lines

You can have one or more positive connection lines entering a Condition node. You can have one or more negative connection line entering a Condition node. One positive and one negative connection line must exit a Condition node.

Properties

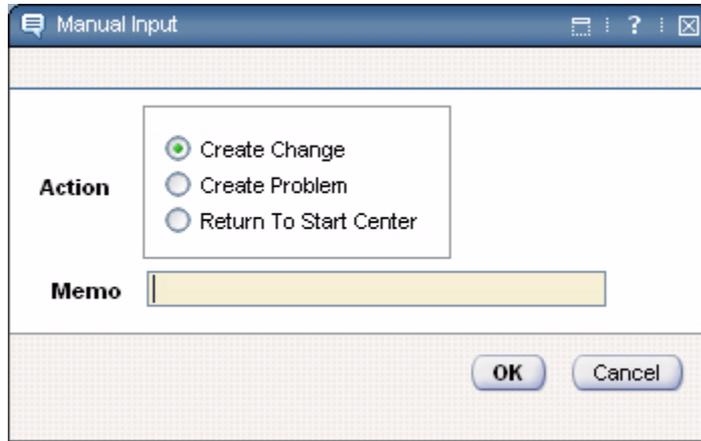
You can define the following properties for a Condition node:

- ▼ **Expression** — You can specify a SQL statement that Maximo should use to evaluate the record. This SQL statement indicates which field(s) to evaluate and the condition against which the field value(s) should be tested.
- ▼ **Custom Class?** — You can specify that Maximo should use a custom class file to evaluate the record. Custom class files should be located in the Maximo directory.

Understanding Manual Input Nodes

A Manual Input node indicates a need for user input because there are multiple directions that a record can take in a process. You use a Manual Input node to have a person decide what should happen next. When Maximo encounters a Manual Input node, it displays a dialog box to the user. The Manual Input dialog box contains a menu of options for routing the record. When the assignee selects an option, Maximo triggers any actions or notifications associated with the option.

Example of a Manual Input Dialog Box



You place a new Manual Input node on the canvas by using the Manual Input Node Tool in the palette. A process can have one or more Manual Input nodes, but you do not have to include Manual Input nodes in a process.

Connecting Lines

You can have one or more positive connection lines entering a Manual Input node. You can have one or more negative connection lines entering a Manual Input node. You can have multiple positive connection lines exiting a Manual Input node. You cannot have negative connection lines exiting a Manual Input node. The options that Maximo displays to the user in the Manual Input dialog box are defined in the properties of the connection lines exiting the Manual Input node.

Properties

You can define the following properties for a Manual Input node:

- ▼ **Display One?** — The options that Maximo displays to the user in the Manual Input dialog box are determined by the user's security permissions and any conditions specified on the connection lines. If the assignee has security permission for only a single option you can specify whether Maximo should display the option or automatically select the option and route the record through the node.
- ▼ **Actions** — The Actions table window is read-only and displays the actions associated with connection lines exiting the node.
- ▼ **Notifications** — The Notifications table window displays the notifications associated with connection lines exiting the node. You can use a communication template to create one or more notifications, or enter a subject, message, and role recipients manually.

Understanding Subprocess Nodes



A Subprocess node indicates that a separate Workflow process is contained within a Workflow process. You use a Subprocess node to break a complicated business process down into smaller self-contained units. For example, you might use a different process for different subcategories of records, such as records from different Sites, or different classes of work orders. When Maximo encounters a Subprocess node while routing a record through a process, it routes the record into the subprocess. When the record encounters a Stop node within the subprocess, Maximo returns it to the main process at the same point where it left the process.

You place a new Subprocess node on the canvas by using the Subprocess Node Tool. A process can have one or more Subprocess nodes, but you do not have to include Subprocesses nodes in a process. A Workflow can have one or more Subprocess nodes based on the complexity of your business process and how you choose to design the process.

Connecting Lines

You can have one or more positive connection lines entering a Subprocess node. You can have one or more negative connection lines entering a Subprocess node. A record might be traveling a positive or a negative connection line when it exits a subprocess. Therefore you must have a single positive and a single negative connection line exiting a Subprocess node.

Properties

You can define the following property for a Subprocess node:

- ▼ **Subprocess** — You can specify the name of an existing enabled Workflow process to use as a subprocess.

Understanding Wait Nodes



A Wait node indicates that a record's progress through a process should pause until a required condition is met. You use a Wait node to create a reaction to a database event, for example, a status change, or a record being updated.

You might use a Wait node when Maximo is integrated with another system, for example, an external financial system, and must exchange data with that system.

When Maximo encounters a Wait node it pauses at the node indefinitely, until any event specified in the node properties occurs. At that point, the record resumes its progress through the process, and Maximo triggers any actions or notifications specified on the properties of the connection line exiting the node.

You place a new Wait node on the canvas by using the Wait Node tool in the palette. A process can have one or more Wait nodes, but you do not have to include Wait nodes in a process. A Wait node cannot precede a node that requires user interaction (Interaction node or Manual Input node).

Connecting Lines

You can have one or more positive connection lines entering a Wait node. You can have one or more negative connection lines entering a Wait node. You are required to have a single positive connection line exiting the Wait node.

Properties

You can define the following properties for a Wait node:

- ▼ **Wait List** — You can specify one or more Maximo system events on a Wait node. The first event that occurs triggers the record to resume its progress through the process.
- ▼ **Notifications** — You can use a communication template to create one or more notifications, or enter a subject, message, and role recipients manually.

Understanding Interaction Nodes

An Interaction node provides one option for a user interaction with a record. You use Interaction Nodes with Manual Input nodes to guide a user through a structured interaction with a Maximo record.

When Maximo encounters an Interaction node while routing a record through a process, the result depends on how the node is configured. You can configure an Interaction node in the following ways:

- ▼ Specify that Maximo should display the record in the specified application.
- ▼ Specify that Maximo should display a specified application tab.
- ▼ Specify that Maximo should trigger an action from the application's Toolbar or Select Action menu.
- ▼ Specify that Maximo should trigger a process, for example, another Workflow process.

In addition, Maximo can display a message dialog box containing instructions to the user.

You place a new Interaction node on the canvas by using the Interaction Node Tool in the palette. A process can have one or more Interaction nodes, but you do not have to include Interaction nodes in a process. A Manual Input node usually precedes an Interaction node. If an Interaction node leads to an application not related to the object specified on the process record, a Stop node should follow the Interaction node.

Connecting Lines

You can have one or more positive connection lines entering an Interaction node. You can have one or more negative connection lines entering an Interaction node. You can have only one positive action line exiting an Interaction node.

Properties

You can define the following properties for an Interaction node:

- ▼ **Application and Tab** — You can direct the user to a specific application and tab.
- ▼ **Action** — You can direct the user towards a specific application action.
- ▼ **Relation** — You can create an interaction that leads to another application. Maximo uses the information in the **Relation** field to determine which record to display in the specified application.
 - If the interaction involves creating a new ticket or work order, you use the **Relation** field to specify what kind of new record has been created, for example, NEWWORKORDER.
 - If the interaction does not involve creating a new record, you can use the Select Relationship dialog box to specify a data relationship, for example, the asset record that is listed on a work order.

- ▼ **Process** — You can direct Maximo to launch an active Workflow process for the specified application. For example, if you create an incident record from a service request you could launch a Workflow process for the incident record.
- ▼ **Directions** — You can specify instructions that Maximo should display to users when they select the interaction.

Understanding Stop Nodes

A Stop node marks the end of a Workflow process, that is, the point where a record leaves control of the process. When you create a new process, Maximo places a single Stop node on the canvas. You can place additional Stop nodes on the canvas by using the Stop Node Tool in the palette.

You use a Stop node to have a record exit the process. If you are creating a subprocess, you use a Stop node when you want the record to return to the main process. When Maximo encounters a Stop node while routing a record through the process, the record exits the process.

Each process must have at least one Stop node. A process can have multiple Stop nodes.

Connecting Lines

You can have any combination of positive and negative connection lines entering a Stop node. Because a Stop node is the end of the process, connection lines cannot exit a Stop node.

Properties

You cannot define properties for Stop nodes.

Understanding Connection Lines

All nodes in a process must be connected to at least one other node, and all nodes except Start and Stop nodes must be connected to two other nodes. You can draw two types of connections between nodes:

- ▼ **Positive Connections** — You use the Connect Nodes Tool to draw a positive line between nodes. A solid black line on the canvas represents a positive connection. A positive connection indicates a positive outcome, for example, that an action was performed, a record was approved, or that a record meets the condition specified by the node.
- ▼ **Negative Connections** — You use the Negative Connection Tool to draw a negative line between nodes. A dashed red line on the canvas represents a negative connection. A negative connection indicates a negative outcome, for example, that a record was cancelled, a record was rejected, or a record does not meet the condition specified by the node.

Understanding Actions

An action is an event that is triggered by a record's progress through a Workflow process. For example, Maximo can change the status of a record. You define actions in the Actions application, as described in Chapter 6, "Creating Actions," on page 6-1.

You can configure the following Workflow components to trigger actions:

- ▼ negative connection lines
- ▼ positive connection lines

Understanding Notifications

A notification is an e-mail message that is generated by a record's progress through a Workflow process. You can use a communication template to create a notification, or enter a subject, message, and recipients manually.

You can configure the following Workflow components to generate notifications:

- ▼ negative connection lines
- ▼ positive connection lines
- ▼ Manual Input nodes
- ▼ Task nodes
- ▼ Wait nodes

Understanding the Process Tab

While the Canvas tab provides a graphical view of the elements in a process, the Process tab lists the process elements in a pair of table windows.

Workflow Designer Process Tab

The screenshot shows the 'Process' tab in the Workflow Designer application. At the top, there is a navigation bar with 'Workflow Designer' and utility buttons like 'Bulletins: (2)', 'Go To', 'List Reports', 'Start Center', 'Profile', 'Sign Out', and 'Help'. Below the navigation bar, there are tabs for 'List', 'Canvas', and 'Process'. The 'Process' tab is active, displaying a summary of the process 'Incident Interaction Process'. The summary includes fields for 'Process' (INC), 'Object' (INCIDENT), 'Process Revision' (4), 'Changed By' (WILSON), and 'Changed Date' (10/6/05 1:36 PM). There are also checkboxes for 'Enabled?' (checked), 'Active?' (checked), and 'Interactive Initiate?' (unchecked). Below the summary, there are two table windows: 'Process Nodes' and 'OPTIONS Actions'. The 'Process Nodes' table lists nodes such as RESOLUTION, NORESOLUTI, OPTIONS, DELEGATE, NETWORK, EMAIL, FACILITY, STOP 22, HASSLA?, and START. The 'OPTIONS Actions' table lists actions like INC CREATECH, INCIDENT CREA, and their associated instructions and nodes.

Title	Description	Node Type
RESOLUTION	Is there a resolution?	CONDITION
NORESOLUTI	No Resolution	INTERACTION
OPTIONS	Incident Options	INPUT
DELEGATE	Delegate Options	INPUT
NETWORK	Delegate to Network Group	INTERACTION
EMAIL	Delegate to Email Group	INTERACTION
FACILITY	Delegate to Facility Group	INTERACTION
STOP 22	STOP 22	STOP
HASSLA?	Have SLAs been applied to the Incident?	CONDITION
START	Return To Start Center	INTERACTION

Action	Instruction	To Node	Positive?
INC CREATECH	Create Change	CREATECHG	✓
INCIDENT CREA	Create Problem	CREATEPROB	✓
	Resolve Incident	RESOLUTION	✓
	Take Ownership	TAKEOWNER	✓
	Delegate	DELEGATE	✓

The Process Nodes table window displays all nodes in the process. Each row includes the node **Title**, **Description**, and **Type**.

The row that you select in the Process Nodes table window determines the data that Maximo displays in the Actions table window. The Actions table window displays any actions associated with the connection lines exiting the selected node. Each row includes the name of the action record, the instructions to the assignee, the node to which the connection line leads, and whether it is a positive or negative connection.

You can click the **Edit Properties** button for any node or action to access the Properties dialog box for the node or connection line.

Creating Workflow Processes

8

You use the Workflow Designer application to create a Workflow process record that reflects your business process. A Workflow process record defines the different paths that a record can take as it moves through the business process, and the different actions and notifications that should take place at different points in the process.

Creating a Workflow process involves three phases:

- 1 Designing the process — Described in "Planning Workflow Processes," on page 2-1.
- 2 Creating the Workflow process record — Described in this chapter.
- 3 Activating the process — Described in "Testing Workflow Processes," on page 9-1.

Objects and Workflow Processes

You create each Workflow process record for a specific Maximo business object (MBO). An **object** is a self-contained software entity that consists of both data and functions for manipulating data. Every Maximo application is associated with an object, and you can create a Workflow process for any main object or any object with its own application(s).

When you create a Workflow process, you must specify an object for the process. Specifying an object on the process record lets Maximo filter and display the appropriate actions, communication templates, escalations, Expression Builder relationships, and roles as you create the process. The object association also determines which records Maximo can route through the completed process.

You can create one or more Workflow processes for any object. However Maximo can automatically initiate records into only one process per object.

Creating a Process Record

A Workflow process record consists of the header information on the record, nodes, connection lines, and properties for the nodes and connection lines. You can save a process record after you enter the header information.

- TIP** When multiple active processes exist for an object, Maximo displays the process names in a dialog box so that the user can select the process into which to route the record. You should create process names and descriptions that your users will understand.

To create a Workflow process, complete the following steps:

- 1 On the Maximo toolbar, click the **New Process** button. If the **Process** field is empty, enter a name for the process.
- 2 Enter a description in the **Process Description** field. To enter additional information, click the **Long Description** button.
- 3 In the **Object** field, enter a value, or click the **Select Value** button.
- 4 Click **Save Process**.

Adding Process Nodes

You use the tools on the Workflow canvas palette to add, modify, and delete nodes as you design a Workflow process. For an overview of the canvas palette tools, see "Understanding the Workflow Canvas," on page 7-3.

As you drag and drop each new node onto the canvas, Maximo assigns the node a name and number. The node name describes the type of node, and the number indicates the order in which the node was added to the canvas. You can modify the name of a node when you configure the node properties.

- TIP** Whenever possible give nodes user friendly titles. Users can view node titles in the Workflow Map.

Except for Start and Stop nodes, all nodes have properties, which you can use to configure the node to match the requirements of your business process. You specify properties for a node by using the node's Properties dialog box. Each type of node has a different Properties dialog, and you must configure each node individually. You can configure nodes at any point while you build a process, but as a best practice, you should configure nodes as you add them to the canvas.

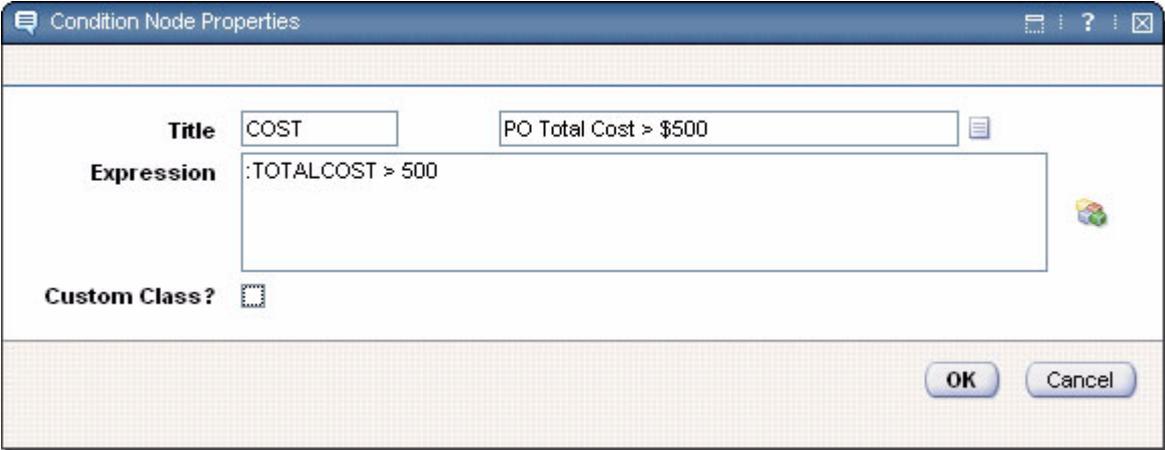
You can access the node properties in any of the following ways:

- ▼ On the Canvas tab:
 - Highlight the node and click the **Properties** button in the tool palette.
 - Right-click the node and select Properties.
 - Double-click the node.
- ▼ On the Process tab:
 - In the Process Nodes table window, click the **Properties** button for the node.

Adding and Configuring Condition Nodes

You place a new Condition node on the canvas by using the Condition Node Tool in the palette. To display the node properties, double-click the node.

Condition Node Properties dialog box



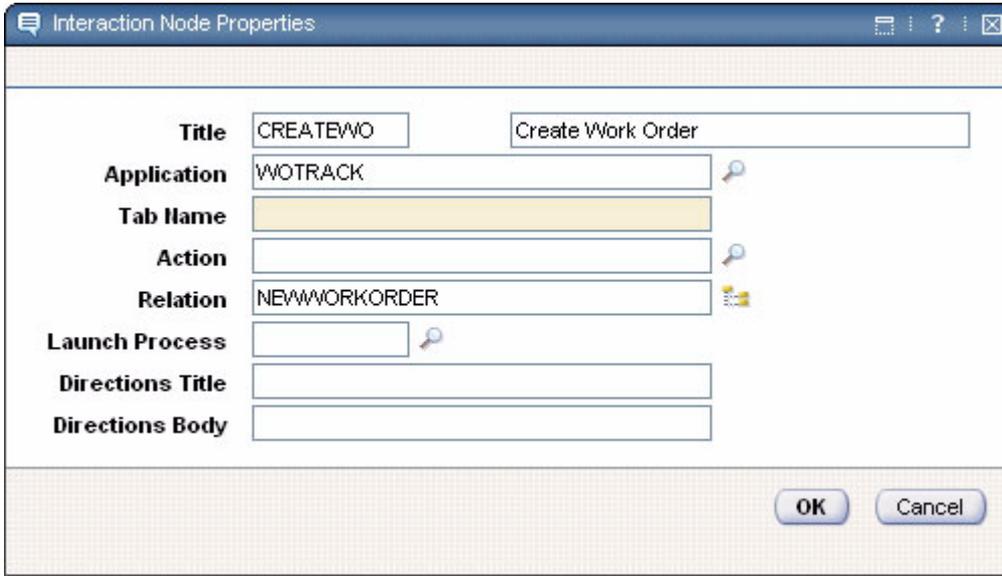
You can specify the following properties for a Condition node:

- ▼ **Title** — Used to enter or modify the node name and description.
- ▼ **Expression** — Used to enter the SQL Expression that Maximo should use to test one or more field values on the record, and return either a true or a false result. The expression that you define can be simple or quite complex, based on the needs of your business process. The SQL expression allows substitution variables. When Maximo encounters the Condition node, it substitutes values from the current record for the table and column information specified by the substitution variable when it performs the condition test. You can use the **Expression Builder** to help you to create your SQL expression.
- ▼ **Custom class?** — Used to specify that Maximo should use a custom class file to perform the condition test. Custom class files should be located in the Maximo directory.

Adding and Configuring Interaction Nodes

You place a new Interaction node on the canvas by using the Interaction Node Tool in the palette. To display the node properties, double-click the node.

Interaction Node Properties dialog box



You can specify the following properties for an Interaction node:

- ▼ **Title** — Used to enter or modify the node name and description. Maximo displays the **Description** to the user in the Manual Input dialog box.
- ▼ **Application** — Used to specify the application that Maximo should present to the user.
- ▼ **Tab** — Used to specify the tab that Maximo should present to the user. The value for the **Tab Name** should be the tab identifier from the XML presentation file. Tab identifiers are not in the database. You must enter them manually.

To determine a tab identifier, complete the followings steps:

- 1 Navigate to the following directory:
`<Maximo root>\resources\presentations`
- 2 Using a text editor, open the XML file for the application.
- 3 Search for the following phrase "tab id=" until you locate the appropriate tab identifier, for example:

```
<tab id="relatedrec" label="Related Records">
```

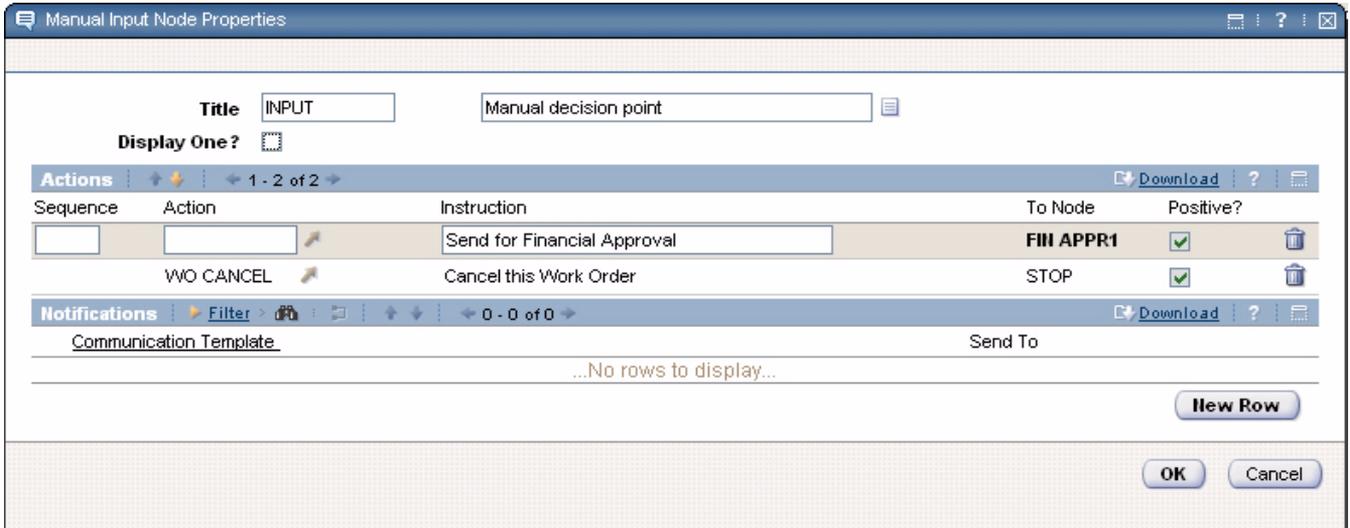
CAUTION Copy the tab id exactly as it is written in the XML file. Do not enter the tab label in the **Tab Name** field.

- ▼ **Action** — Used to specify an action that should be presented to the user or performed by Maximo. You can select from actions available to the user via toolbar button or the application Select Action menu.
- ▼ **Relation** — You can create an interaction that leads to another application. Maximo uses the information in the **Relation** field to determine which record to display when it opens the application.
 - If the interaction involves creating new ticket or work order, you use the **Relation** field to specify what kind of new record has been created, using one of the following values:
 - ▼ NEWACTIVITY
 - ▼ NEWCHANGE
 - ▼ NEWINCIDENT
 - ▼ NEWPROBLEM
 - ▼ NEWRELEASE
 - ▼ NEWSR
 - ▼ NEWTICKET
 - ▼ NEWWORKORDER
 - If the interaction does not involve creating a new record, you can use the Select Relationship dialog box to specify a data relationship, for example, the asset record that is listed on a work order.
- ▼ **Process** — Used to specify an active Workflow process for the specified **Application**.
- ▼ **Directions Title** — Used to specify the title of the message dialog box that Maximo displays to users.
- ▼ **Directions Body** — Used to specify the text of the instructions that Maximo displays to the user in a message dialog box. The user must click the **Route** button to indicate that they have completed the interaction. For example, your instructions might read, "Enter X data, then click the **Route** button to complete the assignment."

Adding and Configuring Manual Input Nodes

You place a new Manual Input node on the canvas by using the Manual Input Node Tool in the palette. To display the node properties, double-click the node.

Manual Input Node Properties dialog box



You can specify the following properties for a Manual Input node:

- ▼ **Title** — Used to enter or modify the node name and description.
- ▼ **Display One?** — Used to specify what Maximo should do if the user has security permissions to only one specified option.
 - If the check box is selected, Maximo displays the single option in the Manual Input dialog box.
 - If the check box is cleared, Maximo performs the action.
- ▼ **Actions** — The Actions table window displays actions associated with the connection lines existing the node. You add rows to the Actions table window by drawing connection exiting the node. You can enter a number in the **Sequence** column to specify what order the options should be presented to the user. Maximo displays the **Instruction** for each row in the Manual Input dialog box. For information about defining properties for connection lines, see "Adding Connecting Lines," on page 8-10.
- ▼ **Notifications** — Used to specify any notifications that Maximo should generate if the record travels a specific connection line exiting the node. You can use a communication template to create one or more notifications, or specify the subject, message, and role recipients manually.

Adding Stop Nodes

You place a new Stop node on the canvas by using the Stop Node Tool in the palette. Stop nodes have no properties associated with them.

Adding and Configuring Subprocess Nodes

You place a new Subprocess node on the canvas by using the Subprocess Node Tool in the palette. To display the node properties, double-click the node.

Subprocess Node Properties dialog box



Title	SUBPROC	Status Subprocess
Subprocess *	WOSTATUS	Work Order Status Cycle

OK Cancel

You can specify the following properties for a Subprocess node:

- ▼ **Title** — Used to enter or modify the node name and description.
- ▼ **Subprocess** — Used to enter the name and description of a Workflow process record. The subprocess must meet the following criteria
 - The process already must exist in the Workflow Designer application.
 - The process must be associated with the same object as the main process.
 - The process must be enabled, but not activated.

Adding and Configuring Task Nodes

You place a new Task node on the canvas by using the Task Node Tool in the palette. To display the node properties, double-click the node.

Task Node Properties dialog box

You can specify the following properties for a Task node:

- ▼ **Title** — Used to enter or modify the node name and description. Maximo displays the task **Description** to the user in the Workflow Inbox.
- ▼ **Time Limit** — Used to specify the time limit for the assignee to complete the task before it is escalated.
- ▼ **Application** — Used to specify which application Maximo should use to display the assigned record. In most cases, the object is associated with a single application, but in some cases, for example, Quick Reporting and Work Order Tracking, an object can be associated with more than one application.
- ▼ **Display One?** — Used to specify what Maximo should do if the user has security permissions to only one specified option.
 - If the check box is selected, Maximo displays the single option in the Complete Workflow Assignment dialog box.
 - If the check box is cleared, Maximo performs the action.
- ▼ **Assignments** — Used to specify one or more roles that should receive the task assignment. You must specify at least one assignment per Task node.

- ▼ **Notifications** — Used to specify the notifications that Maximo should generate as a record leaves the node. You can use a communication template to create one or more notifications, or specify the subject, message, and role recipients manually.
- ▼ **Perform Accept Action** — Used to specify how Maximo should route the record when the assignment is made to a group.
 - When any assignment is accepted — Used to specify that Maximo needs only one positive action to route the record to the positive connection line.
 - When All assignments are accepted — Used to specify that all assignees must select the positive action in order for Maximo to route the record to the positive connection line. If a single assignee selects the negative option, Maximo will route the record to the negative connection line.

The options that Maximo displays to the user in the Complete Workflow Assignment dialog box are defined on the connection lines that exit the node. You can define an action and instructions for the user for each possible path. For information about defining properties for connection lines, see "Adding Connecting Lines," on page 8-10.



Adding and Configuring Wait Nodes

You place a new Wait node on the canvas by using the Wait Node Tool in the palette. To display the node properties, double-click the node.

Wait Node Properties dialog box

The screenshot shows the 'Wait Node Properties' dialog box. At the top, the title bar reads 'Wait Node Properties'. Below the title bar, there are two main sections: 'Wait List' and 'Notifications'.
 In the 'Wait List' section, the 'Title' field contains 'WAITAPPR' and 'Waiting for an approval event'. Below this is a table with one row: 'Event' with the value 'maximo.workorder.statuschange.appr'. There is a 'New Row' button to the right of the table.
 In the 'Notifications' section, there is a 'Communication Template' field and a 'Send To' field, both currently empty. Below these fields is the text '...No rows to display...'. There is a 'New Row' button to the right of this section.
 At the bottom of the dialog, there are 'OK' and 'Cancel' buttons.

You can specify the following properties for a Wait node:

- ▼ **Title** — Used to enter or modify the node name and description.
- ▼ **Wait List** — Used to specify one or more system events. The first event to occur triggers the record to resume its progress through the process. Event names consist of three or four lower case words, delimited by periods. For example, `maximo.workorder.add` or `maximo.po.statuschange.appr`.
 - 1 The first word in an event name is always `maximo`.
 - 2 The second word in an event name is the name of the Maximo business object (MBO), for example, `po`.
 - 3 The third word in an event name is one of the following words:
 - ▼ `add`
 - ▼ `delete`
 - ▼ `init`
 - ▼ `statuschange`
 - ▼ `update`
 - 4 If the event is a status change, the event name has a fourth word, which is the name of the status, for example, `appr`.
- ▼ **Notifications** — Used to specify the notifications that Maximo should generate as a record leaves the node. You can use a communication template to create one or more notifications, or specify the subject, message, and role recipients manually.

Adding Connecting Lines

Connection lines indicate the direction that records travel between nodes. You can draw positive or negative connections between nodes. The type and number of connections that you can draw between nodes depends on the type of node. For more information about the rules governing connection lines, see "Guidelines for Connecting Nodes," on page 8-11.

You use the tools on the Workflow tool palette to draw connection lines.

- ▼ The Connect Nodes tool draws a positive line. A solid black line represents a positive connection line.
- ▼ The Negative Connection tool draws a negative line. A red dashed line represents a negative connection line.

You might want to place your nodes on the canvas and arrange them before you begin drawing connection lines. A connection line simply can connect two nodes, or it can have actions or notifications associated with it.

Each connection line in a process has an associated Properties dialog box, and you must configure each connection line individually. As a best practice, you should configure connection lines as you add them to a process.

Guidelines for Connecting Nodes

Each node except the Start node must have at least one line entering it. Each node except a Stop node must have at least one line exiting it.

The following table lists guidelines for the number and types of connection lines that you can draw between nodes.

Guidelines for Node Connections

Lines Entering Node	Type of Node	Lines Exiting Node
None.	 Start Node	One positive required.
One or more positives allowed. One or more negative allowed.	 Condition Node	One positive AND one negative required.
One or more positives allowed. One or more negatives allowed.	 Interaction Node	One positive allowed.
One or more positives allowed. One or more negatives allowed.	 Manual Input Node	Generally more than one positive. Negative connections exiting the node are not allowed.
One or more positives allowed. One or more negatives allowed.	 Subprocess Node	One positive AND one negative required.
One or more positives allowed. One or more negatives allowed.	 Task Node	One positive required. One negative allowed.
One or more positives allowed. One or more negatives allowed.	 Wait Node	One positive required.
One or more positives allowed. One or more negatives allowed.	 Stop Node	None.

Adding and Configuring Connections

You use the Connect Nodes tool to draw a positive connection between two nodes. You use the Negative Connection tool to draw a negative connection between two nodes.

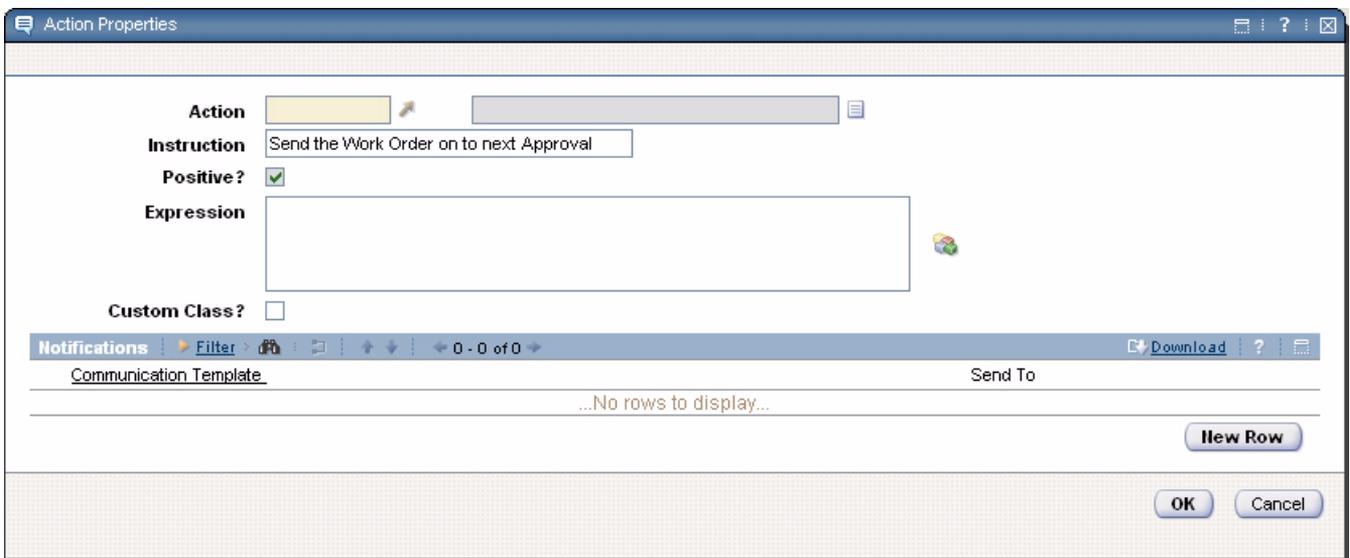
You can access the connection line properties in any of the following ways:

- ▼ On the Canvas tab:
- ▼ Highlight the connection line, then click the **Properties** button in the canvas palette.
- ▼ Right-click the connection line and select Properties.
- ▼ Double-click the connection line.

On the Process tab:

- ▼ In the <Node> Actions table window, click the **Properties** button for the connection line.

Action Properties Dialog Box



You can specify the following properties for a connection line:

- ▼ **Action** — Used to specify an action that Maximo should perform. You use the Actions application to create actions.
- ▼ **Instructions** — Used to indicate instructions that Maximo presents to the user in a Complete Workflow Assignment or Manual Input dialog box.
 - **Manual Input nodes**— Positive connection lines should include instructions that label each option. For example, an option might indicate that the record meets a certain condition, or that Maximo should perform an action.
 - **Task nodes**— Positive connection lines should include instructions that indicate that the record will be approved, accepted, or a similar action. Negative connection lines should include instructions that the record will be canceled, rejected, or a similar action.
- ▼ **Positive** — Read-only field used to indicate whether the connection line is a positive or negative connection.
- ▼ **Expression** — Read-only unless the action line connects a Manual Input node to an Interaction node. Specifies a SQL condition that evaluates record data to determine if the option defined on the Interaction node should be presented to the user. For example, you could have one or more conditional status change options that are displayed based on the status of the current record. You also can create conditions that evaluate data about the signed in user to determine if an option should be presented to them. For example, the user's craft, skill level, work group, and so forth.
- ▼ **Custom Class?** — Read-only unless the action line connects a Manual Input node to an Interaction node. Used to specify that a custom class file should be used to test the condition specified in the **Expression** field.
- ▼ **Notifications** — Used to specify the notifications that Maximo should generate when a record follows the connection line to the next node. You can use a communication template to create one or more notifications, or specify the subject, message, and role recipients manually. You might want to specify different notifications for positive and negative connection lines if different people must be notified depending on the path that the record follows.

CAUTION You can configure both nodes and connection lines to generate notifications. Avoid configuring a node and the connection lines exiting the node to generate duplicate notifications.

Editing Process Elements

You can add, modify, or delete process elements at any time, until the process has been enabled. After you enable a process, you must create a revision to modify it. For more information about modifying enabled processes, see "Modifying Workflow Processes," on page 10-1.

Guidelines for Arranging Nodes

Keep in mind the following guidelines as you arrange the nodes in your Workflow processes:

- ▼ The first node in a process must be a Start node.
- ▼ An Interaction node is usually preceded by a Manual Input node.
- ▼ An Interaction node that launches an application, action, or process in another object should be followed by a Stop node.
- ▼ A Wait node cannot precede an Interaction node.
- ▼ A Wait node cannot precede a Manual Input node.

Moving Canvas Elements

When the Move/Add Nodes Tool is selected, you can click a node and drag it to change its position on the canvas. If you move a node that is already connected to another node, Maximo redraws the canvas to adjust the connection line(s).

NOTE After you enable a process, it is locked and you no longer can move canvas elements. Maximo disables the Move/Add Nodes Tool.

Deleting Canvas Elements

You can delete nodes and connection lines at any time before you enable a Workflow process. After you enable a process, you create a revision of the process in order to modify it.

You can delete a process element using any of the following procedures:

- ▼ Highlight the element, then click the **Delete** button in the canvas palette.
- ▼ Highlight the element, then click the **Delete** key on your keyboard
- ▼ Right-click the element, then select Delete.

Duplicating Workflow Processes

You can use the **Duplicate Process** action to create a copy of an existing Workflow process, for example, if you wanted to create similar processes for different objects. After you duplicate a Workflow process, you then can modify it as needed.

NOTE You use the **Create Process Revision** action to create a revision of an enabled process.

To duplicate a Workflow process, complete the following steps:

- 1** In the Workflow Designer application, display the record that you want to duplicate.
- 2** From the Select Action menu, select **Duplicate Process**. Maximo copies the process with the **Enabled?** and **Active?** check boxes cleared.
- 3** If the **Process** field is empty, enter a name for the action.
- 4** You can modify the description of the process in the **Process Description** field. To enter additional information, click **Long Description**.
- 5** If appropriate, modify the **Object** field.
- 6** Modify canvas elements as needed.
- 7** Click **Save Process**.

Deleting Workflow Processes

You can delete a Workflow process record using the **Delete Process** action available from the Select Action menu.

You cannot delete a process record if any of the following is true:

- ▼ The process is activated.
- ▼ The process is enabled.
- ▼ Any Maximo record has ever been routed through the process.

To delete a Workflow process, complete the following steps:

- 1** In the Workflow Designer application, display the record that you want to delete.
- 2** From the Select Action menu, select **Delete Process**. Maximo displays a message asking "Are you sure you want to delete this record?"
- 3** Click **Yes**. Maximo deletes the process.

Testing Workflow Processes

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Once you have completed design of a Workflow process, the record must go through the following steps you can use it to manage Maximo records:

- ▼ validation — Validating a process checks the structural integrity of the process.
- ▼ enabling — Enabling a process includes the validation process. A check mark in the **Enabled?** check box indicates that the process can no longer be edited, and is ready for use, for example, as a subprocess.
- ▼ activation — Activating a process adds Workflow actions and buttons to applications associated with the object. A check mark in the **Active?** check box indicates that the process is being used to manage Maximo records. Active processes appear in the **Process** menu of the Start Workflow dialog box in the target application(s).

In addition, you should test your Workflow processes in a test environment by routing a record through each of the possible paths. You should perform these tests before you export your processes to your production environment to ensure that each Workflow process accurately reflects your business process.

Enabling a Process

Workflow process records are in a draft or development stage until you enable the record. Enabling a process involves two steps: validating the structure of the process, and enabling the process. Once a process record has been enabled it is locked and ready for use, for example, as a subprocess.

Validating a Process

Before you can enable a process it must be validated to verify the structural integrity of the process. Maximo automatically validates a Workflow process when you select the **Enable Process** action. If you want to run the validation process without enabling the record, you can do so using the **Validate Process** action.

CAUTION Enabling a process locks the process so that you can no longer modify it without creating a revision.

TIP If you are validating a process that includes subprocesses, validate the subprocess records *before* you validate the main process.

Maximo's validation process checks the following:

- ▼ That each node is connected to another node so that a record can travel each of the paths in a process without interruption.
- ▼ That all nodes except the Start node have at least one line entering the node and all nodes except Stop nodes have at least one line exiting the node. For more information about the rules governing connection lines, see "Guidelines for Connecting Nodes," on page 8-11.
- ▼ That Start nodes have one and only one positive connection exiting the node.
- ▼ That the SQL syntax of any conditions or conditional assignments is valid.
- ▼ That Condition nodes have either a valid WHERE clause or a custom class file specified in the node properties. The WHERE clause must execute to a true or false. Condition nodes have both a positive and a negative connection line exiting the node.
- ▼ That Manual Input nodes have at least one positive connection exiting the node.
- ▼ That Subprocess nodes have an enabled process specified in the node properties.
- ▼ That Task nodes have at least one assignment specified in the node properties.
- ▼ That Wait nodes have at least one event specified in the node properties.

CAUTION The validation process cannot check the following:

- ▼ whether notification e-mail addresses are valid addresses.
- ▼ whether custom class files are in the Maximo directory.
- ▼ whether custom class files will run.
- ▼ whether executable files will execute.
- ▼ whether a process accurately reflects your business process.

To validate a process, complete the following steps:

- 1 In the Workflow Designer application, display the record that you want to validate.
- 2 On the Maximo toolbar, click the **Validate Process** button. Maximo displays a progress dialog box. If the process fails the validation, Maximo displays a dialog box listing the errors. If the process passes the validation, Maximo displays a message in the navigation bar.

Troubleshooting Validation Errors

If a Workflow process fails the validation tests, Maximo displays a dialog box listing the validation errors. The format for node errors is:

```
Node type, node NAME:description, description of the configuration
error.
```

The following table lists some sample error messages.

Error	Example error messages
Node configuration errors	<p>Start START:START must have one and only one positive line exiting it.</p> <p>Condition EVALUATE:EVALUATE has both custom class and condition where clause empty.</p> <p>Interaction Node INTERACT:INTERACT is blank.</p> <p>Manual input INPUT:INPUT does not have a positive action.</p> <p>Subprocess SUBPROCE:SUBPROCESS must have a valid process defined for it.</p> <p>Cannot find enabled revision of subprocess.</p> <p>Task APPROVE:APPROVE must have at least one assignment.</p> <p>Wait node WAIT:WAIT must have at least one event.</p> <p>Node STOP:STOP must have at least one line entering it.</p>
Connection line errors	<p>Node type, NAME:NAME must have at least one line entering it.</p> <p>Node type, NAME:NAME must have at least one line exiting it.</p>

For guidelines for configuring nodes, see "Adding Process Nodes," on page 8-2.

For guidelines for the number of connection lines entering and exiting a node, see "Guidelines for Connecting Nodes," on page 8-11.

Enabling a Process

Before you can use a Workflow process, you must enable it. When you enable a Workflow process record, Maximo performs the following tasks:

- 1 Runs the validation process which checks the structural integrity of a Workflow process. Validation tests whether a record can travel each of the paths in the process without interruption. You can perform the validation process separately using the **Validate Process** action.
- 2 Locks the record so that it can no longer be edited without creating a revision.
- 3 Selects the **Enabled?** check box to indicate that the record is no longer a draft but is ready for use. Process records must be enabled in order to function as subprocesses.

NOTE Subprocess records must be enabled, but not activated.

To enable a process complete the following steps:

- 1 In the Workflow Designer application, display the record that you want to enable.
- 2 On the Maximo toolbar, click the **Enable Process** button. Maximo displays a progress dialog box. If the process fails the validation, Maximo displays a dialog box listing the errors. If the process passes the validation, Maximo displays a message in the navigation bar, and places a check mark in the **Enabled?** check box in the record heading.

Disabling a Process

Once a record has been routed through an enabled process, the process can no longer be deleted, since there might be other records under the control of the process. You use the **Disable Process** action to disable a previously enabled Workflow process record.

Disabling a process prevents new records from being routed into the Workflow process, but it does not affect records that are currently under the control of the process. You must use the Workflow Administration application to stop any active instances of the process.

NOTE Maximo automatically disables the previous revision when you enable a new process revision.

To disable a process, complete the following steps:

- 1 In the Workflow Designer application, display the enabled record that you want to disable.
- 2 From the Select Action menu, select **Disable Process**. Maximo displays a message in the navigation bar that the process was disabled and clears the check mark from the **Enabled?** check box.

Deploying a Process

The way that you deploy a Workflow process record is to activate it. Activating a process involves two steps: adding the Workflow actions and buttons to the application(s) associated with the object, and activating the record. Once a process record has been activated records can be routed into the process.

Preparing to Deploy

Deploying a Workflow process record means that the Maximo records that are managed by the process will now be handled in a consistent manner, without the flexibility that a manual system allows. Because you are changing the tools and procedures used at your company to process records, you might want to consider user training sessions as part of the deployment phase of your Workflow implementation.

The following Maximo documentation is available to help you teach your users about Workflow:

- ▼ The Managing Workflow Assignments Appendix in this guide.
- ▼ Workflow Inbox Help — Available via the main Maximo Help.
- ▼ The *Maximo User's Guide* — Available as a PDF on the Documentation CD, and as HTML via the main Maximo Help.

Routing Records into Workflow

Activating a Workflow process indicates to Maximo that the process is ready to have records routed through it. Before you activate a record, you should consider whether you want records to be routed into the process manually or automatically.

A record can enter a Workflow process via any of the following means:

- ▼ A user clicks the **Route** button in the Maximo toolbar.
- ▼ A user selects the **Route Workflow** action from the Select Action menu.
- ▼ You can set one process per object to automatically initiate. When a user creates and saves a new record, Maximo will automatically route the record into the Workflow process.
- ▼ You can set Workflow options in the Organizations application that specify that Maximo should route generated records into a specified Workflow process. You can specify a Workflow process to manage the following records:
 - Work orders that Maximo generates from a preventive maintenance record.
 - Purchase requisitions that Maximo generates via the inventory reorder process.

- Purchase orders that Maximo generates via the inventory reorder process.
- Work orders that Maximo generates when a purchase order for a rotating asset is approved.
- ▼ Maximo can automatically route a record into a process from another Workflow process. A record can be routed from one Workflow process to another in any of the following ways
 - via an Interaction node
 - via a Subprocess node
 - via a WFINITIAATE action specified on a connection line leaving a node
- ▼ Maximo can automatically route a record into a process via an escalation action.

Adding Workflow to Applications

When you install Maximo the software does not include Workflow actions or buttons with any of the applications. An application must support Workflow before you can route application records into a process. Maximo automatically adds the Workflow actions and buttons to an application when you select the **Activate Process** action.

You can add the Workflow actions and buttons to an application without activating a process by using the **Add Workflow to Applications** action. For example, if you wanted the actions and buttons visible for user training, or if you want to create customized toolbar buttons before activating the process.

The **Add Workflow to Applications** action performs the following tasks:

- ▼ add a **Route** button to the application toolbar. You can customize this button using the **Edit Workflow Go Buttons** action.
- ▼ adds the following Workflow-related actions to the application's Select Action menu:
 - **Route Workflow**
 - **Stop Workflow**
 - **View Workflow History**
 - **View Workflow Assignments**
 - **View Workflow Map**
 - **Workflow Help**
- ▼ automatically supplies the Workflow options to all users in security groups with access to that target application.

NOTE The **Add Workflow To Applications** action does not validate, enable, or activate the current process.

To add Workflow Support to a Maximo application complete the following steps:

- 1 In the Workflow Designer application, display a process record.
- 2 From the Select Action menu, select **Add Workflow to Applications**. Maximo displays the Add Workflow Support to Applications dialog box. If an application does not support Workflow Maximo automatically selects the **Add Support?** check box for the application.
- 3 You can clear the **Add Support?** check box for an application if you do not want to add Workflow support to it.
- 4 Click **OK**. Maximo adds Workflow support to the application.

Granting Users Security Access to Workflow

When you add workflow support to a Workflow process Maximo adds the Workflow actions to the application:

- ▼ **Route Workflow**
- ▼ **Stop Workflow**
- ▼ **View Workflow History**
- ▼ **View Workflow Assignments**
- ▼ **View Workflow Map**
- ▼ **Workflow Help**

Maximo does *not* automatically grant users access to these actions. An administrator must use the Security Groups application to grant users security permissions to these Workflow actions. The Workflow actions appear in the Security groups application when you add Workflow support to an application, allowing you to grant users access to these actions before you activate the process.

Activating a Process

Before you can route records into a Workflow process, you must activate it. When you activate a Workflow process record, Maximo performs the following tasks:

- 1 Adds the Workflow actions and buttons to the application(s) associated with the object if they do not yet support Workflow. You can perform this action separately using the **Add Workflow To Applications** action.
- 2 Selects the **Active?** check box to indicate that the record is currently being used to manage Maximo records.
- 3 When you activate a process revision, Maximo automatically deactivates the current revision. Maximo does not disable the revision because there might be active process instances.

NOTE Before you can activate a Workflow process, it must be validated and enabled. Validation tests whether a record can travel each of the paths in a process without interruption. When you enable a Workflow process, Maximo automatically validates the process before it enables it.

CAUTION Subprocess records should be enabled, but not activated. Records are routed to a subprocess through the main process.

To activate a Workflow process, complete the following steps:

- 1** In the Workflow Designer application, display the enabled record that you want to activate.
- 2** On the Maximo toolbar, click the **Activate Process** button.
 - ▼ If the application(s) associated with the object do not support Workflow, Maximo displays the Add Workflow Support to Applications dialog box. The **Add Support?** check box for each application is selected by default. Click **OK** to automatically add Workflow actions to the application. Maximo displays a message in the navigation bar that the process was activated and places a check mark in the **Active?** check box in the record heading.
 - ▼ If the application(s) associated with the object already support Workflow, for example, if you are activating a process revision, Maximo displays a message in the navigation bar that the process was activated and places a check mark in the **Active?** check box in the record heading.

Setting a Process to Automatically Initiate

You can specify that when a user creates and saves a new record in an application, that Maximo should automatically route the record into a Workflow process. Each object can only have a single process that is automatically initiated. A process must be validated, enabled, and activated before you can set it to automatically initiate.

NOTE This action only routes records created by users. Records that Maximo creates automatically, for example, via a PM cron task or the inventory reorder function, cannot be automatically routed into a process via this method.

To specify that Maximo should automatically route new user-created records into a process, complete the following steps:

- 1** In the Workflow Designer application, display an activated process record.
- 2** From the Select Action menu, select **Set Process to Auto-Initiate**. Maximo displays a message in the navigation bar and places a check mark in the **Interactive Initiate?** check box in the record heading.

Setting a Process to Not Automatically Initiate

You can specify that when a user creates and saves a new record in an application, that Maximo should automatically route the record into a Workflow process. Each object can only have a single process that is automatically initiated.

To specify that Maximo should not automatically initiate a process, complete the following steps:

- 1 In the Workflow Designer application, display the automated process record.
- 2 From the Select Action menu, select **Set Process to not Auto-Initiate**. Maximo displays a message in the navigation bar and clears the check mark in the **Interactive Initiate?** check box in the record heading.

Deactivating a Process

You can use the **Deactivate Process** action to deactivate a previously activated Workflow process record. Deactivating a process prevents new records from being routed into the Workflow process, but it does not affect records that are currently under the control of the process. You must use the Workflow Administration application to stop any active instances of the process.

To deactivate an active Workflow process, complete the following steps:

- 1 In the Workflow Designer application, display the active process that you want to deactivate.
- 2 From the Select Action menu, select **Deactivate Process**. Maximo displays a message in the navigation bar and clears the check mark in the **Active?** check box in the record heading.

Setting Workflow Options

The Organizations application is used to create and manage the Organizations and Sites that make up a Multisite implementation of Maximo. You also use the Organizations application to set System, Organization, and Site level options for Maximo.

You use the Workflow Options dialog box to specify whether any the following records that Maximo generates should automatically enter a Workflow process, and to specify which active process they should be routed to.

- ▼ Work orders generated from a preventive maintenance record.
- ▼ Purchase requisitions generated via the inventory reorder process.
- ▼ Purchase orders generated via the inventory reorder process.

- ▼ Work orders generated when a purchase order for a rotating asset is approved.

Even though Workflow process records are at the System level, Workflow options are set separately for each Organization, and each Site within an Organization.

NOTE You need security permissions to the Organizations application to perform the following procedure.

To set Workflow options in the Organizations application, complete the following steps:

- 1 In the Organizations application, display the Organization that you want to specify options for.
- 2 From the Select Action menu, select **Workflow Options**. Maximo opens the Workflow Options dialog box.
- 3 In the Sites table window, click the Site that you want to apply the settings to.
- 4 In the Workflow Options table window, click the **Select Value** button next to a field. Maximo displays all activated processes for that object.
- 5 If appropriate, select another Site and set Workflow options as needed.
- 6 Click **OK**. Maximo saves your changes.

Additional Process Testing

Validating a Workflow process only checks the structure and syntax of your process, it cannot test whether the process accurately reflects your business process, or if a process meets the needs of your business. Before you deploy your Workflow processes to your production environment, you should perform additional testing in a test environment. This testing should include the following steps:

- 1 Validate, enable, and activate each Workflow process in a test environment that contains sufficient sample data to test the process. Your test environment must include records for test users who can receive assignments and notifications.
- 2 Route records through all possible paths in the process, including all possible paths through any subprocesses. You might want to create test plans to help you verify that you have tested all possible routes in a process.
- 3 Verify that assignments appear in users' Workflow Inbox and that e-mail notifications are being generated.
- 4 Determine whether the process is complete, or if additional steps must be added.

- 5 Determine whether the process needs to be modified. Have you configured the process to make the necessary assignments, notifications, and so forth that are required by your business process.
- 6 Make any necessary additions, modifications, or deletions.
- 7 Retest the process.
- 8 Use Maximo's integration applications to export your tested processes from your test environment to your production environment.

CAUTION To avoid generating large volumes of unwanted e-mail, correct or delete any test e-mail addresses that exist in your records before you export them to your production environment.

Exporting and Importing Workflow Processes

The Maximo Enterprise Adapter (MEA) can import or export a Workflow process and its supporting data (including actions, roles, and communication templates) to XML. This lets you to build and test your process in a test environment, then use the MEA to export the process to your production environment.

For information about importing and exporting data using the MEA, refer to the following documentation:

- ▼ *Maximo Enterprise Adapter System Administrator's Guide*
- ▼ External Systems Help
- ▼ Integration Interfaces Help
- ▼ Integration Objects Help

Modifying Workflow Processes

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Testing your Workflow processes might reveal areas for improvement, or over time your processes might evolve due to changes in your business, increased efficiencies, and so on.

You can add, modify, or delete process elements at any time until the process has been enabled. Once a process has been enabled, you must create a revision to modify it.

Creating a Revision

You can modify a process at any time until it has been enabled. Once a process has been enabled, it is locked. You can no longer modify the process without creating a process revision because there might be Maximo records under the control of the process. You also can create a revision of a process that has not yet been activated or enabled.

NOTE Creating a revision does not deactivate or disable an activated or enabled process record. However, Maximo automatically deactivates the previous revision when you activate a new process revision.

To revise an enabled process, complete the following steps:

- 1** In the Workflow Designer application, display the enabled process record.
- 2** On the Maximo toolbar, click the **Create Process Revision** button. Maximo creates a copy of the process and add one to the value in the **Process Revision** field.
- 3** Make any necessary modifications to the process.
- 4** Click **Save Process**.

NOTE You must validate, enable, and activate a process revision before it can be used to process Maximo records.

Synchronizing Workflow Processes

A Workflow process can include one or more subprocesses. When you modify a subprocess, you will want to update the main process so that it utilizes the revised subprocess. This process is known as synchronization.

NOTE You must enable the subprocess revision(s) before you can synchronize a Workflow process.

To update the versions of one or more subprocesses being used by an active Workflow process, complete the following steps:

- 1** In the Workflow Designer application, display the main process record that you want to update.
- 2** From the Select Action menu, select **Resynchronize an Active Process**. Maximo displays a message in the navigation bar indicating that the process has been resynchronized.
- 3** Click **Save Process**.

Viewing Subprocess Revisions

You can use the **View Synchronized Processes** action to view the name and revision number of each subprocess associated with a main process.

NOTE The main process record must be activated before you can utilize this action.

To view the version of each subprocess being used by the main process, complete the following steps:

- 1** In the Workflow Designer application, display the process record that you want to view.
- 2** From the Select Action menu, select **View Synchronized Processes**. Maximo opens the View Synchronized Processes dialog box.
- 3** Click **OK**.

Creating Workflow Toolbar Buttons

When you add Workflow support to an application via either the **Add Workflow to Applications** action or by activating a process, Maximo adds a **Route** button to the application toolbar.

- ▼ If a single active process exists for an object, the **Route** button routes the current record into the process.
- ▼ If multiple active processes exist for an object, Maximo displays a Start Workflow dialog box that lets the user select which process to route the record into.
- ▼ If the record is already routed to one or more Workflow process, Maximo displays the Workflow dialog box, which lets the user either initiate a new Workflow process, or complete a Workflow task assignment.

There are two separate icons for the **Route** toolbar button, to indicate whether or not a record is in Workflow. You can customize the **Route** buttons, or if multiple processes exist for an application, you can create different buttons for each process.

Icon	File name	Function
	nav_icon_route.gif	Indicates that the application supports Workflow. Users can click the icon to route the current record into a process.
	nav_icon_route_active.gif	Indicates that the current record is under the control of one or more Workflow process. Users can click this toolbar button to <ul style="list-style-type: none"> ▼ complete a Workflow assignment. ▼ route the record into another Workflow process.

When you are creating customized images to use as toolbar buttons, you should create pairs of icons for each process.

MRO Software uses the following standards for toolbar button images:

- ▼ images are GIF files. Using the GIF format lets you have a transparent background for the icon image.
- ▼ image resolution is 72 dots per inch (dpi).
- ▼ image height for toolbar icons is 17 pixels. The width of the icon can vary from 12 to 26 pixels.
- ▼ Images used for toolbar buttons must be located in the following directory:

```
<MAXIMO>\applications\maximo\maximouiweb\webmodule
\webclient\images
```

Adding Workflow Toolbar Buttons

If multiple active processes exist for an object you have the following options:

- ▼ Use a single toolbar button for all active Workflow processes. Maximo displays the Start Workflow dialog box with a menu of active processes, allowing the user to select a process.
- ▼ Create separate toolbar buttons for different active process.

NOTE If you exceed the number of icons that can fit on the toolbar Maximo displays a downward pointing arrow (▼) to indicate to the user that there is a menu of options to choose from.

To add a Workflow toolbar button, complete the following steps:

- 1 In the Workflow Designer application, display a process record.
- 2 From the Select Action menu, select **Edit Workflow GO Buttons**. Maximo displays the Edit Workflow GO Buttons dialog box. Applications that are associated with the object and support Workflow are listed in the Toolbar Buttons for <object name> table window.

NOTE If there are no applications listed in the table window, you must use the **Add Workflow To Applications** action to add Workflow support to the application(s)

- 3 Click **New Row**. The Row Details opens.
- 4 Enter values in the following fields:
 - ▼ **Application** — Enter the application that should display the button.
 - ▼ **Process Name** — If the button is for a specific process, enter the process name. If you are creating a single button for all active processes, leave this field empty.
 - ▼ **Sequence** — Enter a number that indicates the order, from left to right, that Maximo should display the Workflow buttons in the toolbar. If you exceed the number of icons that can fit on the toolbar, the sequence number determines the order that each process appears in the menu.
 - ▼ **Description** — Enter a name for the button. Maximo displays the button description when a user moves the cursor over the button.
 - ▼ **Toolbar Icon** — Enter the file name of the image that should appear in the toolbar as the **Route** button. For example, nav_icon_route.gif.
 - ▼ **Active Icon** — Enter the file name of the image that should appear in the toolbar to indicate that the record is under the control of the Workflow process. For example, nav_icon_route_active.gif.
- 5 Click **OK**. Maximo adds the icon(s) to the application's toolbar.
- 6 Click **Save Process**.

Modifying Workflow Toolbar Buttons

You can modify the toolbar button(s) associated with an application at any time during the design process, or after a process has been activated.

To modify a Workflow toolbar button, complete the following steps:

- 1 In the Workflow Designer application, display a process record.
- 2 From the Select Action menu, select **Edit Workflow GO Buttons**. Maximo displays the Edit Workflow GO Buttons dialog box. Applications that are associated with the object and support Workflow are listed in the Toolbar Buttons for <object name> table window.
- 3 To delete a toolbar button, click **Mark Row for Delete**.
- 4 To modify a toolbar button, select a row and click **View Details** and modify the values in the following fields as needed:
 - ▼ **Application** — Application that displays the button.
 - ▼ **Process Name** — If the button is for a specific process, enter the process name. If you are creating a single button for all active processes, leave this field empty.
 - ▼ **Sequence** — Number that indicates the order, from left to right, that Maximo should display the Workflow buttons in the toolbar. If you exceed the number of icons that can fit on the toolbar, the sequence number determines the order that each process appears in the menu.
 - ▼ **Description** — Name of the button. Maximo displays the button description when a user moves the cursor over the button.
 - ▼ **Toolbar Icon** — File name of the image that should appear in the toolbar as the **Route** button. For example, nav_icon_route.gif.
 - ▼ **Active Icon** — File name of the image that should appear in the toolbar to indicate that the record is under the control of the Workflow process. For example, nav_icon_route_active.gif.
- 5 Click **OK**. Maximo modifies the applications toolbar button(s).
- 6 Click **Save Process**.

Managing Active Workflow Processes

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Each time a record is routed into a Workflow process, Maximo creates an active instance of the process, and assigns it a unique identifying number.

You use the Workflow Administration application to view and manage active instances of Workflow processes. The Workflow Administration application contains a single table window, which contains a row for each record that is currently under the control of a Workflow process. You can see which version of a revised process was used to create each instance, the person ID of the individual who routed each record into Workflow, and the date and time that the process was initiated.

You use the Processes table window to view, modify, and stop active process instances. When a record leaves the control of Workflow, Maximo removes the entry from the Processes table window. Using the Workflow Administration application you can

- ▼ View Workflow assignments
- ▼ Reassign Workflow assignments
- ▼ Delete Workflow assignments
- ▼ Stop active processes, removing the record from the control of the process.

Managing Records in a Processes

When a record is routed into a Workflow process, Maximo creates an active instance of that process, and then generates assignments based on the information contained in the process. You use the Workflow Designer application to create, enable, and activate Workflow processes. You can use the Workflow Administration application to view and modify Workflow assignments, but you cannot create assignments using this application.

The Workflow Administration Application

The screenshot shows the Maximo Workflow Administration application interface. At the top, there is a navigation bar with the Maximo logo, a 'Select Action' dropdown, and several utility links: 'Bulletins: (2)', 'Go To', 'Lit. Reports', 'Start Center', 'Profile', 'Sign Out', and 'Help'. Below the navigation bar is a 'Processes' section with a 'Filter' icon and a 'Download' button. The main content is a table with the following columns: Process, Rev., Description, Owner Table, Owner Description, WF ID, Originator, and Start Time. The table contains four rows of data, with the first row highlighted in yellow.

Process	Rev.	Description	Owner Table	Owner Description	WF ID	Originator	Start Time
WOSTATUS	1	Work Order Status Cycle	WORKORDER	Site BEDFORD, Work Order 1000	184	WILSON	10/28/05 4:46 PM
WOSTATUS	1	Work Order Status Cycle	WORKORDER	Site BEDFORD, Work Order 1001	185	WILSON	10/28/05 4:47 PM
WOAPPROVE	1	Work order approval process	WORKORDER	Site BEDFORD, Work Order 1002	186	WILSON	10/28/05 4:48 PM
WOAPPROVE	1	Work order approval process	WORKORDER	Site BEDFORD, Work Order 1004	187	WILSON	10/28/05 4:48 PM

Note the **View/Modify Active Assignments** and **Stop Process** buttons to the right of each row in the table window.

Viewing Active Task Assignments

You use the Workflow Administration application to view and manage active instances of Workflow processes.

When a record is routed into a Workflow process that includes task nodes Maximo generates task assignments based on the information contained in the process record. You can view and manage task assignments for individuals and groups using the Workflow Administration application.

To view active task assignments for a process, complete the following steps:

- 1 If necessary, you can use the table filter to locate a process instance.
- 2 In the Processes table window, click the **View/Modify Active Assignments** button. The View Active Assignments dialog box appears, allowing you to view all active task assignments for the record.
- 3 Click **OK** to close the dialog box.

Modifying Task Assignments

You can use the Workflow Administration application to delete or reassign a Workflow task assignment.

Reassigning an Assignment

Sometimes a Workflow task that has been assigned to an individual or group needs to be reassigned to someone else. You can use the Workflow Administration application to reassign Workflow task assignments.

To reassign an assignment, complete the following steps:

- 1 If necessary, you can use the table filter to locate a process instance.
- 2 In the Processes table window, click the **View/Modify Active Assignments** button. The View Active Assignments dialog box appears.
- 3 To modify an assignment, click the **Reassign Assignment** button. The Reassign dialog box appears.
- 4 In the **Person** field, enter a value or click **Select Value**.
- 5 If appropriate, enter a message in the **Memo** field. The new assignee can view this message in the Complete Workflow Assignment dialog box.

- 6 If appropriate, you can have Maximo send one or more notifications about the reassignment.
 - a Click **New Row**.
 - b Select one of the following options:
 - 1 In the **Communication Template** field, enter a value or click **Detail Menu** to select an option and retrieve a value.
- OR
- 1 In the **Send To** field enter a person identifier, or click **Detail Menu** to select a person record.
 - 2 In the **Subject** field, enter a subject for the e-mail message.
 - 3 In the **Message** field, enter the text of the e-mail message.
- 4 Click **OK** to close the Reassign dialog box.
 - 5 Click **OK** to close the View Active Assignments dialog box.

Deleting an Assignment

Maximo requires that all task nodes have at least one task assignment. If a task node has two or more task assignments, you can delete assignments. You cannot delete the last active assignment for a given task.

Deleting an assignment changes the status of the task assignment record from ACTIVE to INACTIVE.

To delete active assignments, complete the following steps:

- 1 If necessary, you can use the table filter to locate a process instance.
- 2 In the Processes table window, click the **View/Modify Active Assignments** button. The View Active Assignments dialog box appears.
- 3 To delete an assignment, click the **Delete Assignment** button. Maximo changes the status of the task assignment to INACTIVE and removes the assignment record from the View Active Assignments dialog box.
- 4 Click **OK** to close the View Active Assignments dialog box.

Stopping an Instance of a Workflow Process

When you route a record into a Workflow process, Maximo creates an active instance of that process to manage that individual record. You can use the **Stop Workflow** action in an application to stop the Workflow process for a particular record. Administrators can use the Workflow Administration application to view and stop Workflow processes for records for any Workflow-enabled application.

NOTE When you stop a Workflow process, you are only stopping the single instance of the Workflow process that controls a particular record. To deactivate a Workflow process you must use the Workflow Designer application.

When you stop a process instance Maximo performs the following tasks:

- ▼ removes the record from the control of the Workflow process
- ▼ writes a transaction to the record's Workflow history. Workflow history remains with a record permanently, even after the record has left the control of Workflow.
- ▼ sends any specified notifications to past and/or current assignees. You can use a communication template to create a notification, or type the subject, message, and role recipients manually.

To stop a Workflow process instance, complete the following steps:

- 1** In the Workflow Administration application, select the active process instance that you want to stop.
- 2** Click the **Stop Process** button. The Stop Workflow dialog box appears.
- 3** You can specify that Maximo should send a notification to one or more assignees indicating that the record was removed from Workflow. You can use a communication template to create a notification, or specify the subject, message, and recipients.
- 4** Click **OK** to close the Stop Workflow dialog box. Maximo removes the record from Workflow and sends the specified notifications.

Managing Workflow Assignments

Appendix

A Workflow process is a record that determines how other Maximo records are managed and processed at your company. A Workflow process map consists of decision points (known as nodes), and connecting lines (also known as action lines) between the decision points. Maximo can use the information in a Workflow process to automatically direct a record to the individuals who must act on that record, and then guide them through their interaction with the record.

This appendix describes the components of a Workflow process that are visible to a Maximo user, for example, the Complete Workflow Assignment dialog box. It also describes the Workflow actions and buttons that appear in a Maximo application that has been Workflow-enabled.

Understanding User Interactions with Workflow

As a Maximo user you might be responsible for deciding whether to route a record into a Workflow process. You use the **Route Workflow** button or action to initiate a Workflow process for a record. If there are two or more active processes for an application, you might have to decide which Workflow process the record should be routed into. Your Workflow administrator also can configure Maximo to automatically route records into a Workflow process.

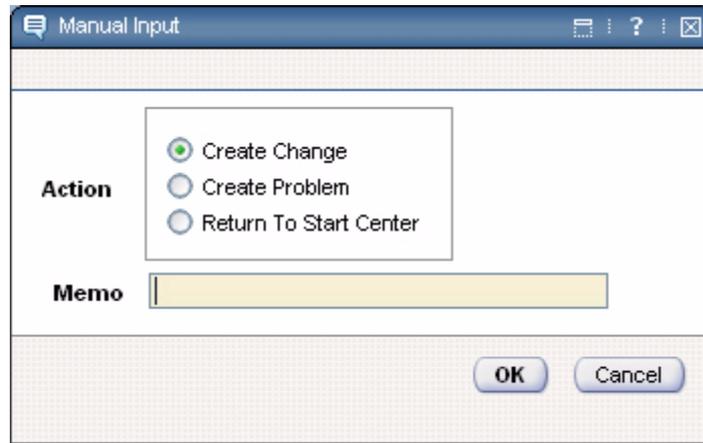
When a record is under the control of a Workflow process, Maximo might present you with one of the following types of Workflow user interactions:

- ▼ Manual Input dialog boxes
- ▼ Interaction message dialog boxes
- ▼ Complete Workflow Assignment dialog boxes

Understanding Manual Inputs

A Workflow process might require that a user make the decision about what action to take regarding the record. When Maximo encounters a Manual Input node in a Workflow process, it displays a Manual Input dialog box that contains a list of options. These options allow you to select what happens to the record, for example, having Maximo perform an action, change the record's status, or create a related record.

Example Manual Input Dialog Box



To enter manual input, complete the following steps:

- 1 Select an action in the Manual Input dialog box.
- 2 If appropriate, you can enter a **Memo**. Maximo will add the memo to the record's Workflow history. The next person in the process flow can view your memo in the Earlier Memos table window in the Complete Workflow Assignment dialog box.
- 3 Click **OK**.
- 4 Click the **Route** button in the toolbar or select the **Route Workflow** action from the Select Action menu to complete your input.

Understanding Interactions

Selecting an option in a Manual Input dialog box might display a second dialog box containing instructions. Your Workflow administrator might have designed the Workflow process to guide you through your interaction with the record. For example, the process might prompt you to enter data in one or more fields, or to select an action from the Select Action menu of the application.

When Maximo encounters an Interaction node in a Workflow process, Maximo can perform any of the following actions:

- ▼ Display an application tab with instructions for adding or modifying data.
- ▼ Display instructions to perform a particular application action.
- ▼ Automatically trigger an action from the toolbar or Select Action menu.
- ▼ Automatically trigger a process, for example, another Workflow process.

When Maximo displays a Workflow message dialog box you should follow the instructions in the message dialog box.

Understanding Task Assignments

A Workflow process might require that someone review and approve a record. When Maximo encounters a Task node in a Workflow process, it generates task assignments. A **task assignment** is a record that has been directed to you for action. You can receive notifications of an assignment via e-mail and in your Workflow Inbox.

When you receive an assignment in your Inbox or in an e-mail message you have two options.

- ▼ You can click the link to the record to view the record.
- ▼ You can click the **Route** button to complete the assignment.

Example Complete Workflow Assignment Dialog Box

The screenshot shows a dialog box titled "Complete Workflow Assignment". It contains the following elements:

- Task:** A text field with the value "Review this WO for level 1 approval".
- Action:** A group box containing two radio buttons:
 - Send the Work Order on to next Approval
 - Cancel this work order
- Memo:** An empty text area.
- Earlier Memos Table:** A table with columns "Memo", "Person", and "Transaction Date". The table is currently empty, displaying "...No rows to display...".
- Buttons:** "OK", "Reassign", and "Cancel" buttons at the bottom right.

You complete a task assignment using the Complete Workflow Assignment dialog box. You can view memos entered by individuals who have previously reviewed the record, and write memos to individuals who might review the record after you. Task assignments can have a time limit. If the assignment is not completed within the specified time limit, Maximo can escalate the record.

For instructions for completing a task assignment, see "Completing Assignments," on page A-8.

Understanding Escalations

An **escalation** is a mechanism for automatically monitoring time sensitive records, which can take actions or send notifications when a record reaches a defined escalation point. Your Workflow administrator can specify that a task assignment has a time limit. If the assignment is not completed within the specified time limit, Maximo can trigger an escalation for the record.

Maximo does not have one standard escalation. Your administrator creates custom escalation records that trigger a variety of actions and/or notifications. For example, an escalation might automatically approve or cancel a record, or reassign the task assignment. An escalation might generate a reminder notification to the assignee regarding the task assignment, or send a notification to the assignee's supervisor that the assignment has not been completed.

Understanding Notifications

A **notification** is an e-mail message that is automatically generated by a Workflow process. You might receive a notification for any of the following reasons:

- ▼ to update you on the status of a record that you created, or that was created on your behalf.
- ▼ to notify you of assignments performed by other users, for example, workers that you supervise.
- ▼ to notify you of a task assignment or reassignment.
- ▼ to notify you that Maximo has escalated a record.

Other Maximo users also can be notified of your interactions with a record in a Workflow process, for example, if you approve or reject a record.

Using the Workflow Inbox

Workflow processes are designed to mirror the business processes at your company. A Workflow process can route a record to your Workflow Inbox when you need to make a decision or perform a task regarding the record.

The Workflow Inbox is one of the portlets that might appear on your Start Center. If your company has implemented Maximo's Workflow feature, Maximo displays a list of your task assignments in your Inbox. Maximo displays the number of records in your Inbox in the top left corner of the portlet.

The Workflow Inbox/Assignments Portlet

Inbox / Assignments (2)			
Next Assignment Due: 10/28/2005 6:48:37 PM			Refresh
<u>Description</u>	<u>Due Date</u>	<u>Priority</u>	<u>Route</u>
Review this WO for level 1 approval	10/28/05 6:48 PM		
Review this WO for level 1 approval	10/28/05 6:48 PM		

1 to 2 of 2

You use the Workflow Inbox to review, route, and complete your task assignments. A task assignment is a record that Maximo has routed to you for action, based on the information contained in a Workflow process. Records displayed in your Workflow Inbox are assigned to you and you must complete the assignment before the record can move to the next step in the process.

NOTE The description that appears in the Inbox portlet is the description of the step from the Workflow process, not the description of the record. For example, the description for a purchase order task might be "Supervisor approval."

Configuring the Workflow Inbox

If you have security permissions to do so, you can configure the portlets that Maximo displays on your Start Center, including configuring the Workflow Inbox.

To configure your Workflow Inbox, complete the following steps:

- 1 Click the **Edit Portlet** button (pencil icon) in the Inbox/Assignments header. Maximo displays the Inbox/Assignments Setup application.
- 2 You can perform the following actions in the Inbox/Assignments Setup application:
 - ▼ Change the **Display Name** of the portlet.
 - ▼ Indicate how many **Rows to Display** in the portlet.
 - ▼ Select the columns that are displayed in the portlet and modify their **Descriptions**.
 - ▼ Indicate the order that Maximo should display the columns by entering a value in the **Order** column.
- 3 Click **Finished**. Maximo makes the changes to the Inbox/Assignments portlet.

Managing Your Workflow Assignments

There are several different actions that you can perform from the Workflow Inbox/Assignments portlet on your Start Center. You can view, sort, route, or reassign records.

Viewing Records

The **Description** column in the Workflow Inbox displays instructions from the Workflow process that should describe what action you are expected to perform to complete a task assignment, for example, "approve or reject record." If you need to view the record before taking action, you can click the **Description** for the assignment, and Maximo will open the associated application and display the record. You can view and modify the record, and perform any required actions that are not controlled by the Workflow process.

You can update the list of records in your Inbox by clicking the Refresh link.

Sorting Records

As with all records in a table window, you can click any underlined column heading in the Workflow Inbox to sort the records in the column. For example, if you wanted to complete your task assignments based on when they are due you could sort by the **Due Date** column.

Completing Assignments

Each assignment in your Inbox has a **Route** button that you use to complete your assignment.

To complete a task assignment, complete the following steps:

1 Select one of the following choices:

- ▼ If you are viewing the assignment in your Inbox, click the **Route** button for the record.
- ▼ If you are viewing the assigned record in the application, click the **Route** button in the application toolbar.

Maximo displays the Complete Workflow Assignment dialog box.

2 Select an action. If you do not have security authorizations to both actions, Maximo might display only one option.

3 If appropriate, you can enter a **Memo**. Maximo will add the memo to the record's Workflow history. The next person in the process flow can view your memo in the Earlier Memos table window in the Complete Workflow Assignment dialog box.

4 Click **OK**. Maximo closes the Complete Workflow Assignment dialog box.

Reassigning Records

If necessary, you can reassign a task assignment to another individual. For example, if you have to make a decision whether to approve a replacement part for a work order, and a co-worker has more experience with the type of repair, you might forward the task assignment to them and include a note asking for their opinion.

To reassign a task assignment, complete the following steps:

1 Click the **Route** button for the record your Workflow inbox. If you are viewing the assigned record in an application, you can click the **Route** button in the application toolbar. Maximo displays the Complete Workflow Assignment dialog box.

2 If appropriate, you can enter a **Memo**. Maximo will add the memo to the record's Workflow history.

- 3 Click **Reassign**. Maximo displays the Reassign dialog box.

Reassign Dialog Box

Reassign

You have chosen to reassign this task to someone else. Please choose a person and optionally enter a memo. To send a notification that this assignment has been reassigned, enter notifications.

Reassign to:

Person *

Memo

Communication Template	Send To	Subject
...No rows to display...		

New Row

OK **Cancel**

- 4 Enter a **Person** or click **Select Value**.
- 5 If appropriate, you can enter a **Memo**. Maximo will add the memo to the record's Workflow history.
- 6 If appropriate, click **New Row** to create an e-mail notification of the reassignment. You can use a communication template to create a notification, or specify the subject, message, and role recipients manually.
- 7 Click **OK**. Maximo routes the task assignment to the selected individual(s) and sends any specified notifications.

Workflow-Enabled Applications

When the Workflow Administrator activates a Workflow process, Maximo adds Workflow toolbar buttons and Select Action options to the application.

When a record is under the control of a Workflow process, Maximo disables the **Change Status** action and button because the process controls status changes until the record leaves the process.

Understanding the Workflow Toolbar Buttons

Your Workflow administrator can configure the application to display one or more Workflow buttons in the toolbar, depending on the number of active processes that exist for the application. You use these toolbar buttons to route a record into a Workflow process.

The following table shows the two standard Workflow toolbar buttons. Your Workflow administrator can customize Workflow toolbar buttons, and create additional toolbar buttons if more than one process is available for an application.

Icon	Function
	Indicates that the application is Workflow-enabled, but that the current record is not in Workflow.
	Indicates that the current record is under the control of a Workflow process.

Understanding the Workflow Actions

When a Workflow process record is activated for a type of Maximo record, Maximo automatically adds Workflow actions and buttons to the application used to create and manage those records. There are six actions available from the Workflow menu:

- ▼ Route Workflow
- ▼ Stop Workflow
- ▼ View Workflow History
- ▼ View Workflow Assignments
- ▼ View Workflow Map
- ▼ Workflow Help

Route Workflow

You can route a record into a Workflow process manually using the **Route Workflow** action or toolbar button.

To route a record into Workflow, complete the following steps:

- 1 In a Workflow-enabled application, display the record that you want to route into a Workflow process.
- 2 Click the **Route** button in the application toolbar.
- 3 If there are two or more active processes for the application, select a process from the **Process** menu in the Start Workflow dialog box.
- 4 If appropriate, enter a **Memo**.
- 5 Click **OK**. Maximo routes the record into the Workflow process, and changes the Workflow toolbar icon to indicate that the record is under the control of Workflow.

Stop Workflow

You can stop the Workflow process for a record by selecting **Workflow > Stop Workflow** from the Select Action menu.

To remove a record from Workflow, complete the following steps:

- 1 In a Workflow-enabled application, display the record that you want to remove from Workflow.
- 2 From the Select Action menu, select **Stop Workflow**.
 - ▼ If there are multiple active Workflow instances, Maximo displays the Active Instances dialog box. Click a process name to select it, then click **Stop**. Maximo displays the Stop Workflow dialog box.
 - ▼ If there is a single active Workflow instance, Maximo displays the Stop Workflow dialog box. The Assignees table window displays all persons with current task assignments.
- 3 If appropriate, you can create an e-mail notification. Maximo automatically defaults to the WFSTOP communication template. You can use this communication template to create the notification, or specify the subject, message, and role recipients manually.
- 4 Click **OK**. Maximo removes the record from Workflow, and sends any specified notifications.

View Workflow History

For auditing purposes Maximo maintains a record of all records that are routed through a Workflow process. You can view the Workflow History for a record by selecting **Workflow > View Workflow History** from the Select Action menu.

The View Workflow History dialog box shows a list of all *user* initiated actions in the Workflow process, for example, routing a record into a Workflow process, or completing an assignment. Because some transactions are performed automatically by Maximo, they are not displayed in this dialog box even though they are recorded in the record's Workflow History in the database.

The processes table window includes the name of the Workflow process, the type of transaction, a description of the action that took place, the date the action occurred, and the person ID of the individual who initiated the action.

NOTE If the record has been routed through more than one Workflow process, Maximo sorts the Workflow History by process name, then by transaction date.

View Workflow Assignments

You can view the Workflow assignments for a record from within a Workflow-enabled application by selecting **Workflow > View Workflow Assignments** from the Select Action menu. The View Workflow Assignments dialog box lets you perform the following tasks:

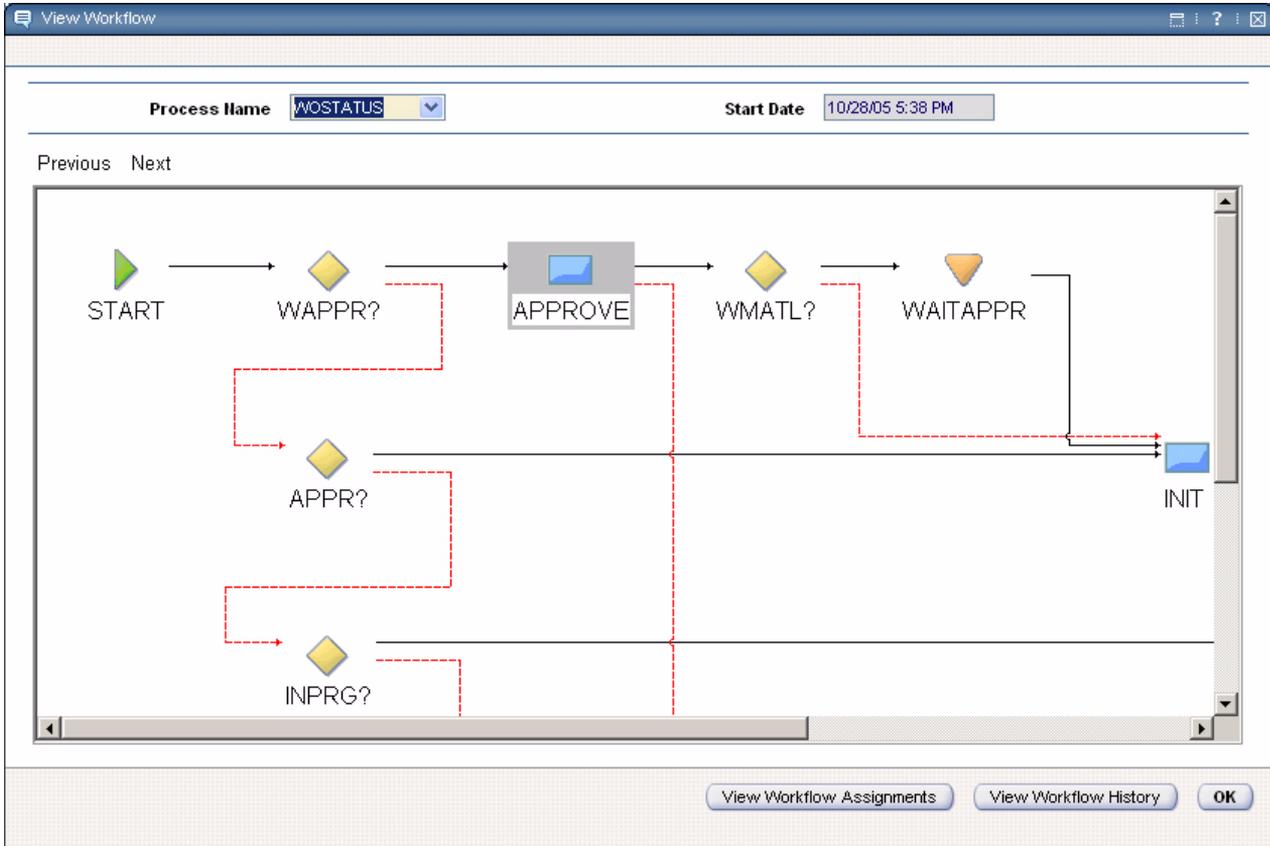
- ▼ view a list of the active Workflow assignments for the record
- ▼ view the Workflow History for a record.
- ▼ view the Workflow Map for any processes that are currently managing the record.

View Workflow Map

A Workflow process consists of decision points (known as nodes), and connecting lines between the decision points. The nodes indicate points in a process where a decision is made, and the connection lines show the path that the record takes after a decision point. The Workflow Map shows a picture of a Workflow process. The record's current location in the process is highlighted by a box around the node. The Workflow Map lets you see where your assignment falls in the context of the process as a whole.

You can view a visual representation of a Workflow process by selecting **Workflow > View Workflow Map** from the Select Action menu of any Workflow-enabled application.

View Workflow Map Dialog Box



To view the Workflow Map, complete the following steps:

- 1 Select **Workflow > Workflow Map** from the Select Action menu of any Workflow-enabled application. You also can access the Workflow Map from the View Assignments dialog box.
- 2 If there are multiple Workflow processes for the application, select the process from the **Process Name** menu.
- 3 Click **OK** to close the Workflow map.

Workflow Help

By default Maximo displays the Workflow Help dialog box every time you view an assignment from your Inbox.

To prevent Maximo from displaying the Workflow Help dialog box every time you view an assigned record, clear the **Show this help when launching records from the Inbox?** check box in the Workflow Help dialog box.

To access the Workflow Help dialog box, select **Workflow > Workflow Help** from the Select Action menu of any Workflow-enabled application.

You can find additional Workflow Help in the following places:

- ▼ In the index of the Main Maximo help.
- ▼ In the How Do I topics of most application help.
- ▼ In the *Maximo User's Guide*.

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maximo enterprise suite

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Multisite Administrator's Guide

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make it *all* count

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About This Guide

This section summarizes the guide and how it can help you as a Maximo® administrator. It also provides information on other MRO Software resources available to you, such as additional documentation and support.

Why Read This Guide?

Setting up a multisite implementation of Maximo involves planning and strategizing regarding how to integrate Maximo's architecture with the structure of your business practices. This guide provides an overview of Maximo's multisite capabilities, reviews some multisite topics you should think about as you set up the environment, and presents several scenarios as examples of how Maximo can meet particular needs.

Audience

This guide is designed for the system administrator, network administrator, and database manager of Maximo.

How to Use This Guide

The *Maximo Enterprise Suite (MXES) System Administrator's Guide* and the associated help systems for Maximo's administrative applications provide the basic information for administering Maximo and using the applications. You use the *MXES Multisite Administrator's Guide* as an addition to those other sources—to plan how to set up Maximo to work with your multisite environment.

Related Documentation

You can find more information regarding Maximo in the following documents:

Document	Description
<i>MXES Installation Guide</i>	Describes how to install and configure software for Maximo Enterprise Suite, the application server, and Actuate®.

Document	Description
<i>MXES System Administrator's Guide</i>	Describes administrative level applications and tasks, such as those involving security and database administrations. Provides information on setting up and configuring Maximo, including managing the Application Server.
<i>MXES Workflow Implementation Guide</i>	Describes how to implement and use Workflow in Maximo.
<i>MXES Enterprise Adapter System Administrator's Guide</i>	Describes how to configure and use the Maximo Enterprise Adapter.
<i>MXES Finance Manager's Guide</i>	Describes Maximo's financial transactions and how to set up General Ledger accounts.
<i>MXES Report Administration and Development Guide</i>	Describes how to design and administer Maximo reports using Actuate.
<i>MXES Reconciliation Module Implementation Guide</i>	Describes how to set up and use the Reconciliation Module to reconcile data in the Assets module and Deployed Assets module.
<i>MXES Project Manager User's Guide</i>	Describes how to use and integrate Maximo Project with Maximo.
<i>MXES User's Guide</i>	Provides an overview of the Maximo end user applications, and describes how the Maximo applications interact with each other.
Help	Provides step-by-step procedures for each Maximo application.

Support

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Overview

1

Large businesses, government agencies, and other types of enterprises often have multiple facilities. Some customers install a separate instance of Maximo and the Maximo database at each facility. However, these different facilities often have common business practices or share common data, and separate databases do not meet the needs of the business or public enterprise.

There is increasingly a need to centralize data and software management even when an enterprise is spread over multiple locations. Maximo's multisite functionality provides large enterprises a way to standardize and share certain kinds of data between facilities while keeping other kinds of data, such as work management data, unique to a particular site. The multisite capability also allows you to selectively give users access to data at different sites.

What is Multisite in Maximo Enterprise Suite (MXES)

A multisite environment in Maximo includes the following properties:

- ▼ Users access Maximo via a Web browser—they can be at any site, not just where Maximo is installed.
- ▼ All sites use the same Maximo database.
- ▼ All sites use the same instance of Maximo running on an application server.
- ▼ Different sites keep certain of their operations separate, according to the needs of their business practices and the constraints of Maximo's architecture.

Rather than implementing multiple instances of Maximo at different sites, a company installs Maximo once, has multiple sites access it, and still maintains site-specific independence for certain kinds of data. For example, different sites can run Maximo using the same application server and the same Maximo database while keeping their work order and inventory records separate.

The basic units of a multisite environment are **organizations** and **sites**. An enterprise can have multiple organizations; each organization can have multiple sites.

It is important to understand that organizations and sites are Maximo entities designed to accommodate many different kinds of business practices. They do not necessarily correspond to physical sites or facilities.

Organizations

An Organization is typically a financial entity within an enterprise in which all financial transactions are maintained in one base currency. Each organization maintains its own chart of accounts, which is available to all sites belonging to that organization.

In a large enterprise, multiple business functions can also be configured as different organizations. For example, a company can define two organizations: one to maintain the company’s own assets, and another to maintain the assets of its clients.

Sites

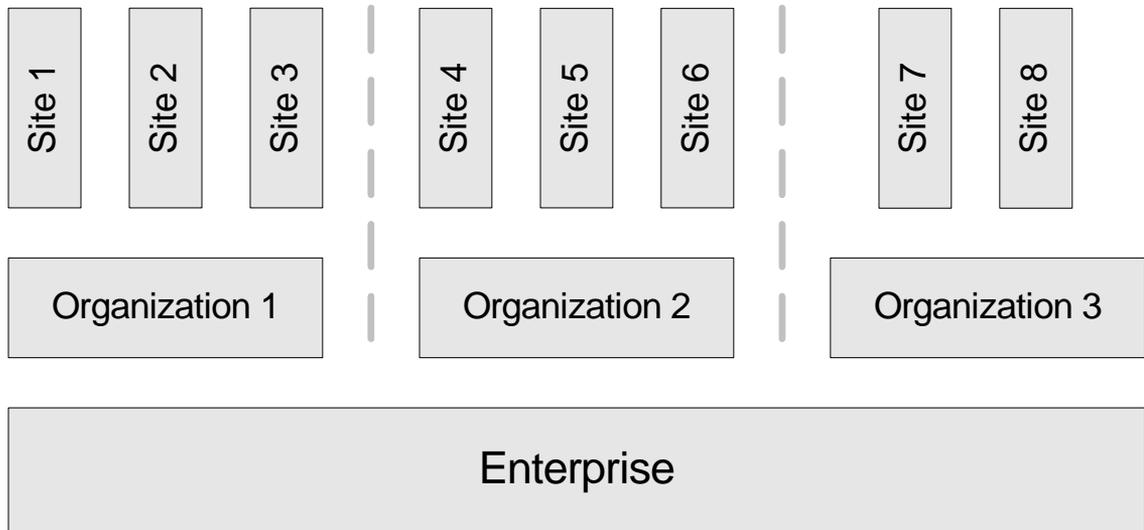
A site is typically a facility in an organization where work management activities are performed. These activities include managing assets and physical locations through preventive maintenance schedules and work orders; managing inventory in storerooms; processing stock replenishment; and other supply chain related activities

Because a site is an entity you create within Maximo, it may or may not correspond to a physical site. The following may help illustrate this:

- ▼ Two sites might correspond to two different facilities in two different countries.
- ▼ Two sites might correspond to two subdivisions within the same large facility at a single location—subdivisions you want to keep separate for business reasons.
- ▼ Two or more facilities (physical locations) might be considered a single site in Maximo because they all use the same data (work orders and PMs, for example) that Maximo treats as site-level data.

The following figure illustrates the basic multisite concept:

Example of a Basic Multisite Configuration



It is important also to know what multisite in Maximo is *not*. It is *not* intended to duplicate the standard organizational structure within a company (CEO, Vice Presidents, middle management, and various other levels generally used for reporting purposes). Reporting applications in Maximo are all at the enterprise level. You tailor Maximo reports to fit your company’s

reporting requirements. Furthermore, in Maximo, you can not simply move a site from one organization to another. You can, however, change reports to reflect management changes.

When Do You Use Multisite?

You might implement Maximo's multisite features for a variety of reasons. First, you must decide whether you want to set up multiple organizations. Then, for each organization, you must decide whether to set up multiple sites.

The following examples illustrate some typical multisite situations.

Separate Organizations

- ▼ Your enterprise has multiple legal entities, each of which maintains its own general ledger accounts. You define each legal entity as an organization.
- ▼ You have multiple businesses, for example, a utilities operations and a fleet of vehicles. The maintenance operations are independent of each other and have their own charts of accounts. You create two organizations, one for the utilities and one for the fleet operations.
- ▼ You use Maximo to maintain both EAM assets and IT assets. These assets are maintained by two different departments, each having a unique set of general ledger accounts and cost centers. You create two organizations, one for EAM assets and one for IT assets.

Separate Sites

You typically create multiple sites within an organization when you want the work management to be separate—*independent sequence of work orders, separate assets and inventory, separate PMs, and so forth.*

- ▼ You have a North American organization with facilities in three cities, each with independent maintenance operations. You set up three sites within the North American organization.
- ▼ You have a service enterprise that maintains assets in several countries and sites. Even though you deal in multiple currencies, you use one general ledger system with a single base currency. You create a single organization and make each facility a separate site.
- ▼ In one of your organizations you have maintenance operations in five facilities in five different locations, but three of the facilities use the same inventory, work orders, and so forth. You create three sites in Maximo, one of which serves for the three locations that use the same inventory and work orders.

The above examples illustrate just a few of the considerations to keep in mind in setting up a multisite environment. What you can and cannot do in Maximo is determined by Maximo's architecture and the way it stores data for the various applications. The next chapter presents this information in detail.

NOTE You do not have to set up a multisite environment. If your business is relatively small, with a single GL accounting system, and you have no specific reason for setting up a multisite environment, then the best solution may be to create a single organization with a single site, one company set, and one item set—the minimum requirements for implementing Maximo.

Multisite Architecture

2

The most significant aspect of Maximo's multisite architecture is how Maximo stores an application's data relative to the following four levels:

- ▼ enterprise
- ▼ set
- ▼ organization
- ▼ site

Enterprise

The enterprise level (sometimes referred to as system level) encompasses all of Maximo. A single installation, or instance, of Maximo comprises one enterprise. An enterprise can have multiple organizations, and each organization can have multiple sites.

Enterprise-level data is unique for all of Maximo, which means there can only be one record with that ID for that application across all organizations and sites. It also means that enterprise-level data is available to all organizations and sites. For example, the People application is an enterprise-level application. Therefore, person records are unique at the enterprise level and all organizations and sites can access them.

Set

The set level is a special category below the Enterprise level, but above the Organization level, which allows multiple organizations to share item data and vendor information. The set level includes two kinds of sets: item and company (for vendor information).

An enterprise can have multiple item and company sets. Each organization uses only one company set and one item set, but you can assign the same set to multiple organizations, thereby allowing those organizations to share the item data or vendor information.

Organization

Organizations and sites are the two categories you use most often in setting up a multisite environment. They correspond to logical divisions within the company and determine how data is shared or not shared.

An organization contains one or more sites. If an application is at the organization level, then all sites within that organization access and use the same data from that application. For organization-level applications, different organizations can maintain separate data.

For example, Chart of Accounts is an organization-level application. Two organizations can each maintain independent chart of accounts systems. The corollary is that different organizations can use the identical GL account code to refer to different accounts. For example, account code 2000-300-400 might identify a tax debit account in one organization and an expense account in another organization.

Site

A site is a division within an organization that maintains certain kinds of data independently from other sites. For example, Assets is a site-level application. The same asset number might identify a pump at one site and a computer at another site. Site-level applications primarily involve work management activities.

You can also use sites in administering security. You can give users different rights at different sites. For example, a user with management responsibility at one site might need full rights to Work Order Tracking and other work management applications at that site. The same user might only need to view how work is being performed at a second site. Therefore, you grant that user read-only access to the relevant applications at the second site.

Data Sharing

The basic concept of data sharing in Maximo is embodied in the Maximo Applications and Multisite Architecture table, later in this section. For each application, you see the level at which Maximo stores the data.

- ▼ Data stored at the site level is unique at the site level. Depending on the application, data may be accessible from other sites.
- ▼ Data stored at the organization level is unique at the organization level and can be made available to all sites within that organization, and in some cases to sites in other organizations.
- ▼ Data stored at the set level is available to all organizations (and their included sites) for which the company or item set has been specified.
- ▼ Data stored at the enterprise level is unique at the enterprise level and is available to all organizations and sites.

In the table, several applications show multiple levels of data storage. As discussed later in this chapter, those applications allow you to choose the level at which you want the data to apply.

While data may, for example, be available to all sites within an organization, this does not necessarily mean that users at one site will automatically have access to all the data. In setting up security and user privileges, an administrator has additional flexibility in determining what data users access. For example, an administrator specifies a default insert site for a user and can further specify that for that user only the records for the default insert site be displayed.

The table lets you view the relationships of applications within the various modules. For example:

- ▼ All of the Administration, Configuration, Security, and Reporting applications are at the enterprise level (though there are options for site and organization specificity within Domains).
- ▼ In the Financial module, currency codes are at the enterprise level, but exchange rates and GL accounts (Chart of Accounts) are all at the organization level. You establish currency codes for the whole enterprise, but each organization maintains its own exchange rates and GL accounts.

The following Maximo Applications and Multisite Architecture table shows the data storage level for each Maximo application and several Select Action menu items. The sequence of modules and applications follows the sequence on the Maximo Go To menu. For each application, the table specifies the level at which records are defined and at which the records are unique. For example, the table indicates that the Assets application is a site-level application. Therefore, assets are defined at the site level and the asset identifiers are unique at that level.

Maximo Applications and Multisite Architecture

Module / Application	Enterprise					Notes
		Sets		Org.	Site	
		Comp.	Item			
Administration						
Organizations	●					
Classifications	●			●	●	Exists at enterprise level but can be restricted to a particular organization or site.
Bulletin Board	●					
Communication Templates	●					
Calendars	●					
Sets	●					
Work View	●					
Report Administration	●					
Deployed Assets	●					All applications listed under Deployed Assets are defined at the enterprise level.
Reconciliation	●					All applications listed under Reconciliation are defined at the enterprise level.

Module / Application	Enterprise					Notes
	Sets				Site	
	Comp.	Item	Org.			
Assets						
Assets					●	Though assets are defined at the site level, a user can issue items from a storeroom located in one site to an asset located in another site. The user must have access to both sites, and the two sites must belong to the same organization.
Locations					●	Though locations are defined at the site level, a user can issue items from a storeroom located in one site to a location in another site. The user must have access to both sites, and the two sites must belong to the same organization.
Meters	●					Items, assets and locations defined in Maximo can access all the meters defined in the Meters application.
Meter Groups	●					Items, assets and locations defined in Maximo can access all meter groups defined in the Meter Groups application.
Condition Monitoring					●	Condition monitoring points are defined against an asset or location and hence are accessible only in the site where the asset or location is defined.
Failure Codes				●		The problems, causes, and remedies associated with failure codes are also defined at the organization level and are unique at that level.
Deployed Assets	●					All applications listed under Deployed Assets are defined at the enterprise level.
Configuration						
Workflow	●					All applications listed under Workflow are defined at the enterprise level.
Database Configuration	●					
Escalations	●					
Cron Task Setup	●					

Module / Application	Enterprise					Notes
	Sets				Site	
	Comp.	Item	Org.	Site		
E-mail Listener Configuration	•					
Domains	•			•	•	Domains are defined at the enterprise level, but individual values can be restricted to an organization or site.
Contracts						
Purchase Contracts				•		Though purchase contracts are defined at the organization level, you must explicitly specify the sites to which a purchase contract applies using the Authorize Sites action. The sites must belong to the organization in which the contract is created or to an organization that uses the same item set and company set as the organization in which the contract is created.
Lease/Rental Contracts				•		Though lease/rental contracts are defined at the organization level, you must explicitly specify the sites to which a lease/rental contract applies using the Authorize Sites action. The sites must belong to the organization in which the contract is created or to an organization that uses the same item set and company set as the organization in which the contract is created.
Labor Rate Contracts				•		Labor rate contracts are accessible to all the sites in the organization in which the contract was created.
Master Contracts				•		Though master contracts are defined at the organization level, you must explicitly specify the sites to which a master contract applies using the Authorize Sites action. The sites must belong to the organization in which the contract is created or to an organization that uses the same item set and company set as the organization in which the contract is created.

<i>Module / Application</i>	Enterprise					Notes
	Sets				Site	
	Comp.	Item	Org.	Site		
Warranty Contracts				●		Though warranty contracts are defined at the organization level, you must explicitly specify the sites to which a warranty contract applies using the Authorize Sites action. The sites must belong to the organization in which the contract is created or to an organization that uses the same item set and company set as the organization in which the contract is created.
Terms and Conditions				●		Terms and conditions are accessible to all sites in the organization in which the terms and conditions were created.
Financial						
Currency Codes	●					All sites and organizations in Maximo can access the currency codes.
Exchange Rates				●		Exchange rates are accessible to all sites in the organization in which the exchange rates were defined.
Chart of Accounts				●		GL Accounts are accessible to all sites in the organization in which the GL accounts were defined.
Cost Management					●	
Integration						
Integration Objects	●					
Integration Interfaces	●					
External Systems	●					
Inventory						
Item Master			●			Items are defined at the item set level and the identifiers are unique at that level. An organizations can use only one item set, and all sites in the that organization can access all the items defined in that item set.

<i>Module / Application</i>	Enterprise					Notes
	Sets					
	Comp.	Item	Org.			
			Site			
Service Items			●			Service Items are defined at the item set level and the identifiers are unique at that level. An organizations can use only one item set, and all sites in that organization can access all the service items defined in that item set.
Tools			●			Tools are defined at the item set level and the identifiers are unique at that level. An organizations can use only one item set, and all sites in that organization can access all the tools defined in that item set.
Stocked Tools					●	Tools can be transferred from a storeroom in one site to a storeroom in another site, provided the two sites belong to the same organization or the organizations of the two sites use the same item set.
Inventory					●	Items in a storeroom are defined at the site level. Items can be transferred from a storeroom in one site to a storeroom in another site, provided the two sites belong to the same organization or the organizations of the two sites use the same item set.
Issues and Transfers					●	
Condition Codes			●			All condition enabled items in an item set can use the codes.
Storerooms					●	
Planning						
Job Plans	●			●	●	Job plans can be defined at the enterprise level, organization level or site level. When a job plan is defined at the enterprise level, the identifier is unique at that level and there cannot be a job plan at the site level or the organization level with the same identifier. Similarly, when a job plan is defined at the organization level, the identifier is unique at that level and there cannot be a job plan at the site level within that organization with the same identifier.
Safety Plans					●	

Module / Application	Enterprise					Notes
	Sets				Site	
	Comp.	Item	Org.	Site		
Routes					●	Only assets and locations that belong to a route's site can be part of that route. Any specified job plans must either belong to the route's site or be at the enterprise level.
Preventive Maintenance						
Preventive Maintenance					●	
Master PM	●					PM records from any site can be associated with a master PM.
Purchasing						
Purchase Requisitions					●	<p>You can create purchase requests (both internal and external) for storerooms that belong to the site in which you create the request.</p> <p>When you create an internal PR, you can request items from a storeroom belonging to a different site than the one in which you create the PR, provided the two sites are in the same organization or the organizations for the two sites use the same item set.</p>
Purchase Orders					●	<p>You can create purchase orders (both internal and external) for storerooms that belong to the site in which you create the purchase order. For an external PO, you can request items for storerooms in multiple sites, provided the PO site and all the storeroom sites belong to the same organization.</p> <p>When you create an internal PO, you can request items from a storeroom belonging to a different site than the one in which you create the PO, provided the two sites are in the same organization or the organizations for the two sites use the same item set.</p>
Receiving					●	
Invoices					●	
Request for Quotations					●	

<i>Module / Application</i>	Enterprise					Notes
	Sets				Site	
	Comp.	Item	Org.			
Companies				●		Company records are defined at the organization level. However, they are unique at the company set level because a company record must exist in the Company Master application before it can be defined for an organization.
Company Master		●				Company master records are defined at the company set level and are unique at that level.
Terms and Conditions				●		
<i>Reporting</i>						
KPI Manager	●					
Report Administration	●					
<i>Resources</i>						
People	●					
Person Groups	●			●	●	Person group records are defined at the enterprise level and the identifiers are unique at that level. Person groups contain people records, which can be restricted to a site or an organization.
Crafts				●		
Labor				●		
Qualifications				●		
<i>Safety</i>						
Hazards				●		The Precautions associated with the hazards are defined at the site level
Precautions					●	
Lock Out / Tag Out					●	
Safety Plans					●	

Module / Application	Enterprise					Notes
	Sets				Site	
	Comp.	Item	Org.			
Security						
Security Groups	●					
Users	●					
Self Service						
Desktop Requisitions					●	All applications listed under Desktop Requisition are defined at the site level.
Service Requests	●			●	●	Transactions can reside at enterprise, organization, or site level. This applies to all applications listed under Service Requests.
Service Desk						
Service Requests	●					Service requests are defined at the enterprise level. The requested service can specify an asset or location that belongs to any site. The service request can also be handled at any site, not just the site specified for the asset or location.
Incidents	●					Incidents are defined at the enterprise level. The incident can specify an asset or location that belongs to any site. The incident can also be handled at any site, not just the site specified for the asset or location.
Problems	●					Problem records are defined at the enterprise level. The problem can specify an asset or location that belongs to any site. The problem can also be handled at any site, not just the site specified for the asset or location.
Changes					●	
Releases					●	
Activities					●	
Solutions	●					
Ticket Templates	●					Ticket templates can contain job plans that can be from any level.

<i>Module / Application</i>	Enterprise					Notes
	Sets				Site	
	Comp.	Item	Org.			
<i>Service Management</i>						
Service Level Agreements	●					SLA records can be defined at the enterprise level, organization level or at the site level. The SLA identifier is unique at the enterprise level.
Service Catalog			●			
<i>Work Orders</i>						
Work Order Tracking					●	
Labor Reporting					●	
Quick Reporting					●	
Assignment Manager					●	
Service Requests	●			●	●	Transactions can reside at enterprise, organization, or site level.
<i>Action Items</i>						
Commodity Codes			●			
Conversion Values			●			
Tax Codes				●		
Units of Measurement	●					

Multisite Data Sharing and Transactions

This chapter describes how data can be shared across organizations in a multisite environment, including how transactions are affected by the multisite architecture.

Data Sharing Across Organizations

You can configure a multisite implementation so that item data and vendor information can be shared across organizations.

Items

You use the Item Master application, which stores data at the set level, to specify a unique ID and description for an item; to assign several properties to the item, such as a commodity group, lot type, and whether the item is a rotating one; and to add the item to the inventory of one or multiple sites by using the **Add Items to Storeroom** action.

When you create an Item Master record, it becomes part of the item set for the organization to which your default insert site belongs. The items are unique within the set, and because you can assign the same item set to multiple organizations, you can use the same item definitions for all sites within those organizations.

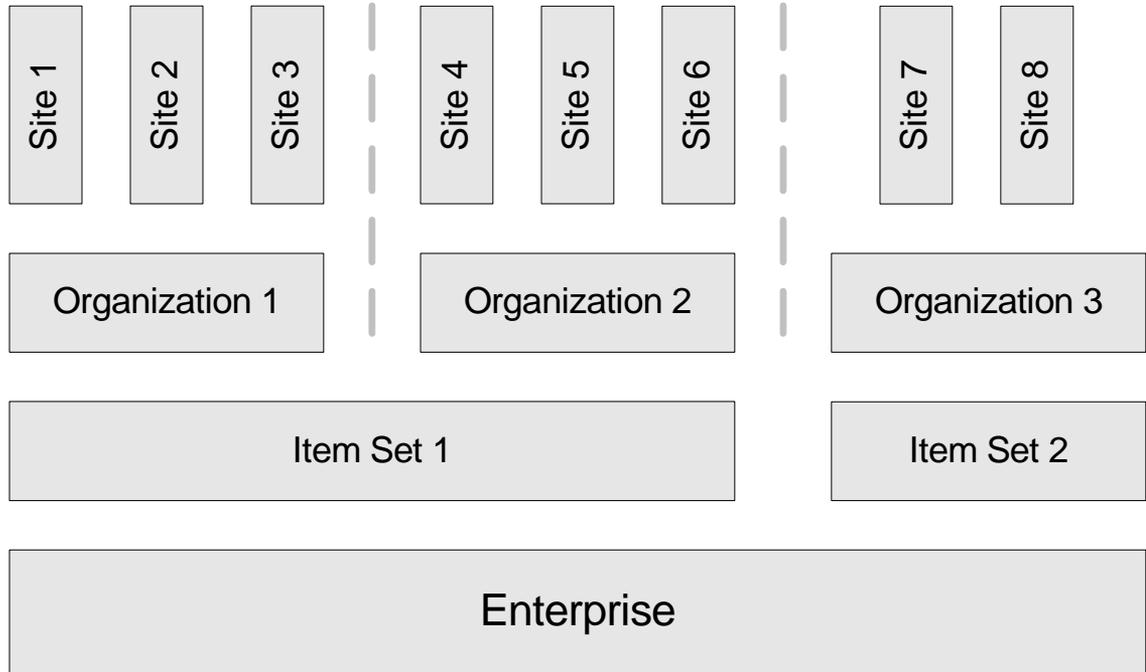
Using item sets provides the following benefits:

- ▼ You can transfer items across organizations.
- ▼ You can standardize your item definition so that all organizations and the sites they include share the same item catalog and item assembly structure.
- ▼ The Item Master application provides an item catalog from which to set up inventory at multiple sites.

If one or more organizations in your enterprise requires its own item definition, you can create multiple item sets. You can assign a separate item set to each organization, or to each group of organizations that you want to share the same item definition.

The following figure illustrates an example of an enterprise with three organizations and eight sites. Two organizations, and their six sites, share the same item set. The third organization has its own item set.

Multisite Configuration With Multiple Organizations Sharing One Item Set



Service Items and Tools

Service Items and Tools records are also stored at the item set level. If, for example, item set 1 is specified as the item set for organization 1, then service items and tools will also be unique to set 1 and can be shared by any organizations that have set 1 specified as their item set.

Vendors

The Company Master application, in which you maintain a master list of vendors, stores data at the company set level. The companies—the vendors you do business with—are unique within the company set, and one or more organizations can share the same set.

Using company sets provides the following benefits:

- ▼ You can standardize your list of approved vendors.
- ▼ You can create global contracts that can be shared by multiple organizations.

The relationship between the Company Master and Companies applications is similar to, but not identical to, the relationship between the Item Master and Inventory applications. In the Company Master application, you create a catalog of companies and you associate individual companies with specific organizations using the **Add Company Master to Organization** action. In the Companies application, which is at the organization level (not site, as with Inventory), a user accesses the vendor information associated with their organization.

The Companies and Company Master records have many fields in common; a user can edit these fields in the Companies application without changing the values in the Company Master application. For example, while the Ship Via field in the Company Master record might be one shipping vendor, one of the

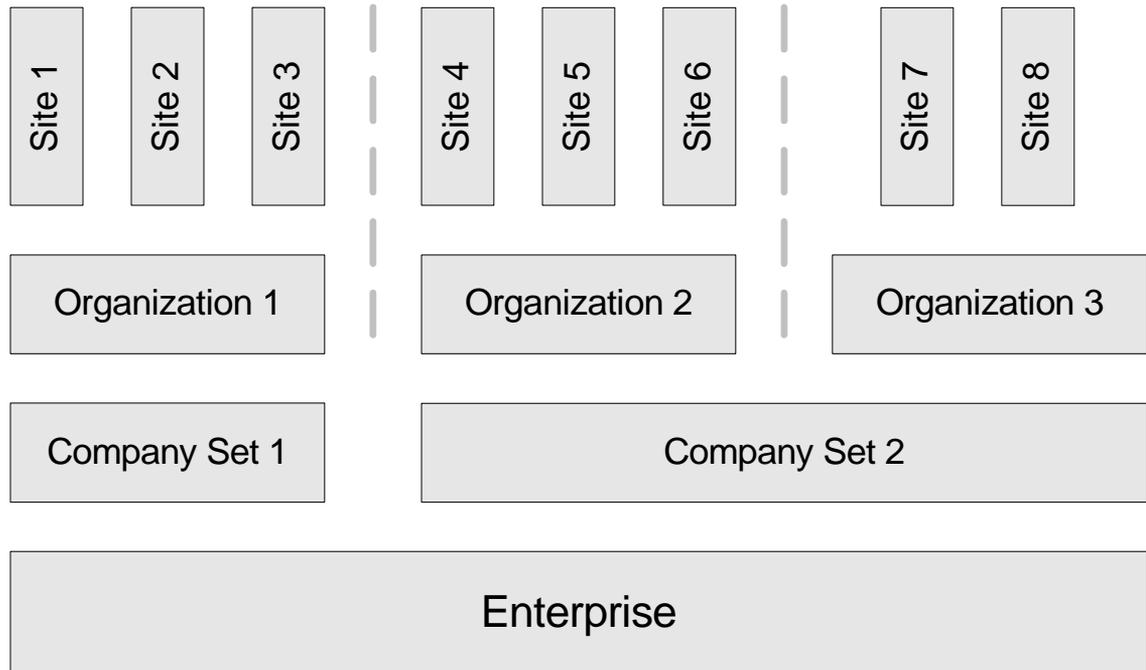
organizations using that company set might want to specify a different vendor.

In the Sets application, when you create a company set, you have the option of selecting the **Automatically Add Companies to Company Master** check box. By default, this check box is cleared, and users must enter new companies in the Company Master application. However, if you want users to be able to enter new companies in the Companies application, select the check box and Maximo will automatically add a record in the Company Master application.

You apply a company set to one or more organizations. If an organization requires its own list of vendors and contracts, you can create a separate company set for it.

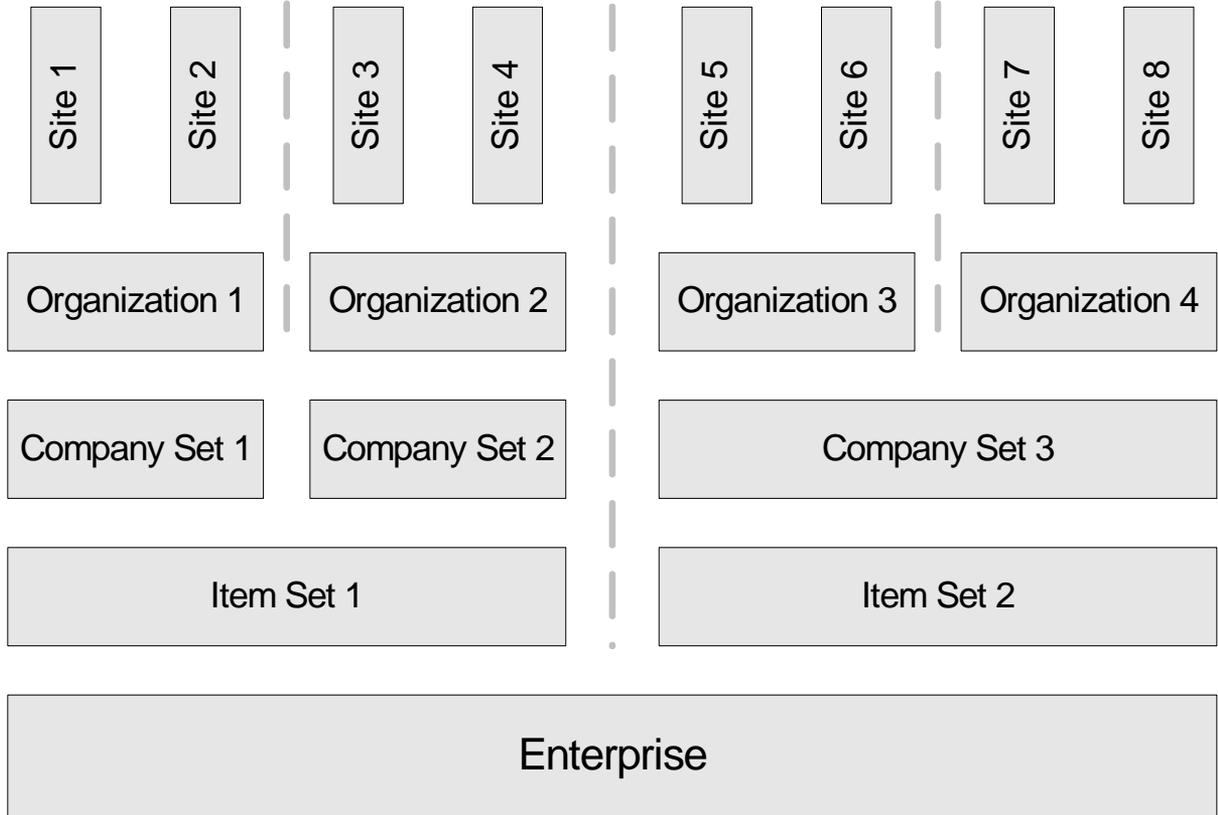
The following figure illustrates an example of an enterprise with three organizations and eight sites. Two organizations, and their five sites, share the same company set. The third organization has its own company set.

Multisite Configuration With Multiple Organizations Sharing One Company Set



Item and company sets are independent of each other. The following figure illustrates such an example. There are four organizations and eight sites. Organizations 1 and 2 share Item Set 1; Organizations 3 and 4 share Item Set 2. Organizations 1 and 2 each have their own company set. Organizations 3 and 4 share Company Set 3

Multisite Configuration Illustrating Use of Both Item and Company Sets



Selective Data Sharing

Some applications provide you a choice of what level to store the data at, and thereby a choice of how you want to share the data. Generally, the record allows you to specify organization or site. These applications are:

- ▼ Job Plans
- ▼ Classifications
- ▼ Person Groups
- ▼ Domains

Job Plans

Some enterprises require their personnel to follow standard operating procedures when performing maintenance. If you have a centralized engineering department that creates these operating procedures for optimal maintenance, then you might want the sites to access a common job plan.

In Maximo, you can create enterprise-level job plans that all organizations and sites can access. You can also create job plans that are organization- or site-specific.

When you create enterprise-level job plans, you also have the option of specifying organization- or site-specific tasks, labor, materials, services, and tools. Organization-specific tasks, labor, and so forth are copied only to those work orders that are created in a site belonging to that organization. Site-specific tasks, and so forth are copied only to those work orders created at that site.

The option to choose enterprise, organization, or site works as follows. When you create a new job plan, you can specify an organization, a site, or neither. If you specify neither, the job plan is enterprise-level. If you specify an organization, the job plan is available to all sites within the organization. If you specify site, the job plan is available only to that site (Maximo automatically enters the parent organization in the Organization field).

NOTE If you specify a site, the job plan can not be accessed by other sites; if you specify an organization, the job plan can not be accessed by other organizations.

Classifications

By default, classification records are at the enterprise level and can be accessed by all organizations and sites. However, when you add a new classification record, you have the option of specifying an organization or site—but only if the **Items** check box in the Use With section is not selected. Any classification used with items must be at the enterprise level.

You can similarly add child classifications in the Children table window. If the parent classification is enterprise-level, you can restrict the child classification to an organization or site. But if the parent classification is restricted to an organization or site, then all the children must be restricted to the lowest level of the parent classification. For example, if the parent classification is restricted to an organization, a child classification can be further restricted to a specific site. If the parent classification is restricted to a site, then all the children must be restricted to that site.

Domains

The Domains application enables you to create several kinds of domains, including value lists and crossover fields. By default, domains apply at the enterprise level and all sites can access them. You have the option of applying domain values to a particular organization or site. The synonym domain works differently than other domain types when you specify an organization or site for a domain value:

- ▼ For a synonym domain, if you add a new value and specify an organization or site, the records in that organization or site that access that domain will show the new value as well as the existing enterprise-level values. This behavior occurs because synonym domains are already part of Maximo and have existing business rules. You cannot add new synonym domains, just new synonym values.
- ▼ For other domain types, once you specify an organization or site for one value in a domain, records in that organization and/or site will no longer have access to values in that domain that have *no* organization or site specified. Therefore, the best practice for non-synonym domains is to either leave the **Organization** and/or **Site** fields empty for all values in a domain (users in all organizations and sites can access them) or specify an organization and/or site for all values in the domain (only users in the specified organizations and/or sites can access them).

Person Groups

Person Groups apply at the enterprise level and can be accessed by all sites, but you can restrict individual persons in the group to particular organizations or sites. When you add a person to a person group, you can specify an organization or site for that person. You can add multiple rows for the same person to specify multiple sites or organizations, but if you do, you must use multiple sites *or* multiple organizations, not both.

For information on data transfer in the Service Requests, Incidents, and Problems applications, refer to the next section, Multisite Transactions.

Multisite Transactions

Purchase Requisitions

You can create a purchase requisition at one site that requests items from a storeroom at a different site. The storeroom site must belong to the same organization as the requesting site, or the requesting site and the supplying site must belong to organizations that share the same item set.

Purchase Orders

You can create an internal purchase order at one site that requests parts from a storeroom at a different site. The storeroom site must belong to the same organization as the requesting site, or the requesting site and the supplying site must belong to organizations that share the same item set.

To facilitate centralized purchasing, Maximo allows you to create a purchase order at one site that requests items from a storeroom at a different site. The storeroom must belong to a site that is in the same organization as the site in which you create the purchase order.

Asset Moves

You can move assets from one site to another. The destination site can belong to a different organization if the asset is nonrotating.

If the asset is rotating, the organizations for the originating and destination sites must share the same item set. If the site to which you want to move an asset already has an asset with the same asset identifier, Maximo prompts you to assign a new asset identifier to the asset you are moving.

Issues

You can issue an item from a storeroom in site A, for example, to a work order created in Site B. When performing this transaction you must have access to both sites and the storeroom. The two sites must belong to the same organization.

If you need to issue an item to a site in a different organization, you must use Maximo's internal transfer capability to transfer the item and then issue the item.

Work Planning

On the Work Order Tracking Plans tab, you can specify the storeroom from which to obtain an item. The storeroom site can be different than the work order site providing that both sites belong to the same organization and that you have access to both sites.

4

Multisite Options

In addition to creating organizations and sites, you use the Organizations application to set a variety of multisite options. These options primarily specify business rules for how an application functions, but also include some default settings and values.

If you are on the List tab in the Organizations application (no organization selected), the only Select Action menu item for setting options is System Settings. To specify other options from the Select Action menu you must first select an organization.

Rules for how an application functions are not necessarily related to the level at which an application stores data. An application might be site-level in terms of data storage, but the settings you specify for how it functions might apply at the organization level. For example, though Work Order Tracking is a site-level application in terms of data storage, the choices you make with the Edit Rules action (under Work Order Options) apply to using Work Order Tracking at all sites within the organization you selected from the List tab.

The Organizations Help system describes the procedures for using each of the Select Action menu items. This chapter describes the levels at which the various options take effect—enterprise, set, organization, or site.

Select Action Menu Items and the Levels to Which They Apply

With the exceptions of the System Settings action and some of the Autonumber Setup actions, all the Select Action options you set in the Organizations application apply to either the organization or site level. You can tell the level from their corresponding dialog boxes as follows:

- ▼ If the dialog box does not display a list of sites to select from, then the settings apply at the organization level, specifically to the organization you selected from the list tab. You can select a different organization and specify different settings. The settings apply to all sites within the selected organization.
- ▼ If the dialog box provides a list of sites to select from, then the settings you specify apply only to the selected site. The dialog box displays all the sites for the selected organization and you can specify different settings for different sites.

The following table summarizes this information for all the Organizations options.

Organizations Options and the Levels to Which They Apply

Select Action Menu Items	Enterprise					Notes
	Sets					
	Company	Item	Org.			
				Site		
Word Order Options						
Work Type				•		
Edit Rules				•		
Other Organization Options				•		
Site Options					•	
Inventory Options						
Inventory Defaults				•		
Reorder				•		
Inventory Costs					•	
Asset Options				•		
Drilldown Options				•		
PM Options					•	
Safety Plan Options					•	
Purchasing Options						
PO Options				•		
Contract Options				•		
Tax Options				•		
PO Labor Options				•		
Labor Options				•		
SLA Options					•	
Workflow Options					•	
E-Commerce Setup					•	
Autonumber Setup						
System Level	•					
Set Level		•	•			
Organization Level				•		
Site Level					•	
System Settings	•					

5

Strategies and Scenarios

The preceding chapters detailed the concepts and architecture behind Maximo's multisite feature. This chapter presents some scenarios that may more closely reflect real-life situations with your own enterprise.

Scenarios

The following scenarios illustrate multisite environments and how you might create sites, organization, and sets in Maximo to reflect the needs of the enterprise.

Two Organizations Reflecting Two Charts of Accounts

Enterprise Configuration

The relevant enterprise factors are the following:

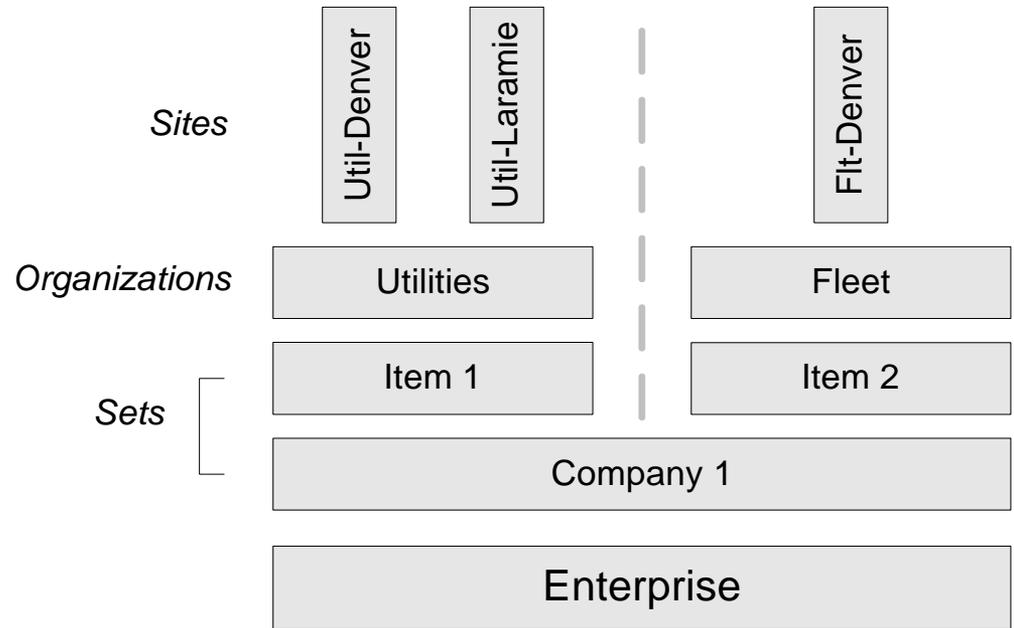
- ▼ Your enterprise comprises two distinct business operations run from a central location in Denver, Colorado, each with its own Chart of Accounts: a utilities operation and a fleet of vehicles.
- ▼ The Utilities operation also has a unit in Laramie, Wyoming.
- ▼ All units use the same list of vendors.
- ▼ The utilities and fleet operations use different items and storerooms.

Maximo Configuration

You accommodate your enterprise structure in Maximo as follows:

- ▼ You create two organizations: Utilities and Fleet
- ▼ The Utilities organization has two sites: Util-Denver and Util-Laramie.
- ▼ Utilities and Fleet use the same company set but separate item sets.

Multisite Configuration With Two Organizations Reflecting Separate Charts of Accounts for Utilities and Fleet



Four Organizations With Separate Maintenance and IT Operations

Enterprise Configuration

The relevant enterprise factors are the following:

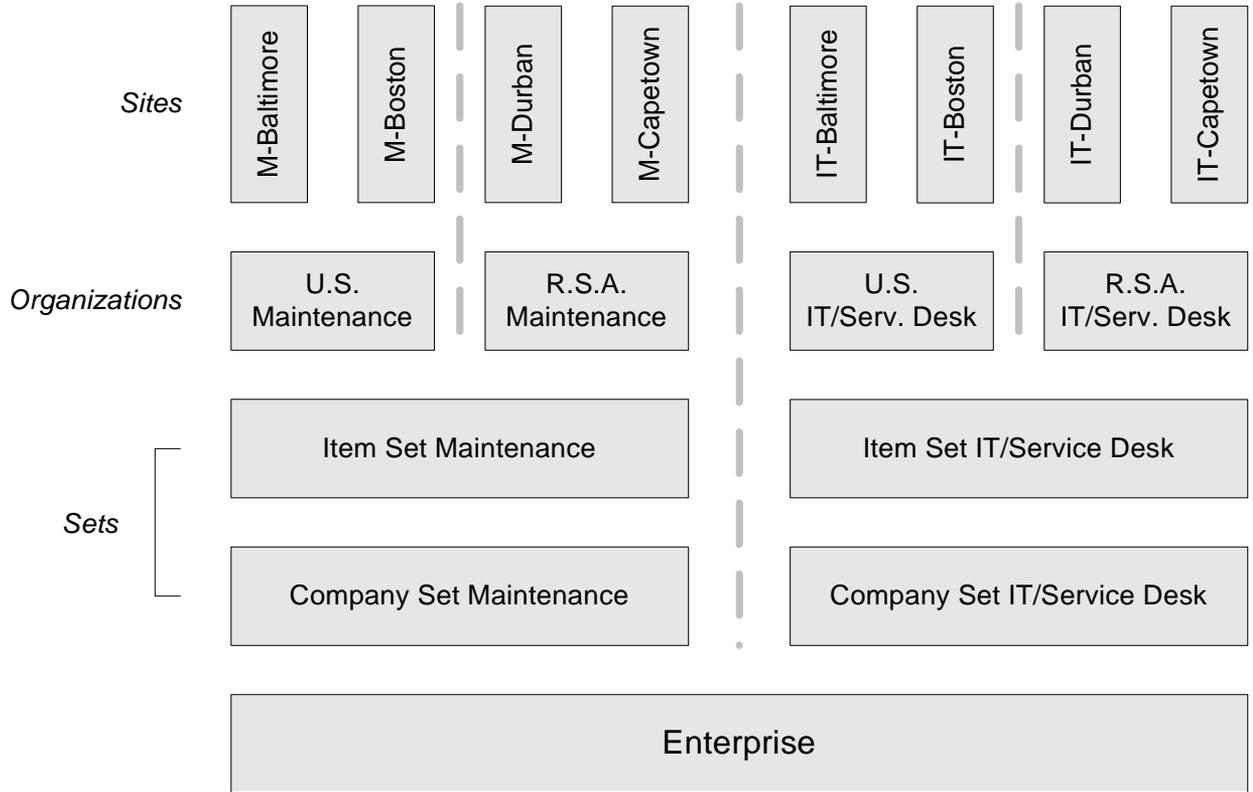
- ▼ You have production facilities in the United States and the Republic of South Africa, each with two locations or units that maintain separate work orders.
- ▼ In both the United States and South Africa you have separate maintenance and IT/service desk operations, each with its own GL chart of accounts covering both local facilities.
- ▼ You want to maintain two sets of item definitions, one for maintenance operations and one for the IT/Service Desk departments.
- ▼ You also use different sets of vendors for maintenance and for IT/Service Desk, and you want to be able to create global contracts so that, for example, the South African and United States maintenance facilities can buy from the same vendors.

Maximo Configuration

You accommodate your enterprise structure in Maximo as follows:

- ▼ You define four organizations: U.S. Maintenance, R.S.A Maintenance, U.S. IT/Service Desk, and R.S.A. IT/Service Desk. Each covers two facilities.
- ▼ You create one maintenance item set to cover both maintenance organizations, and one IT/Service Desk item set to cover both IT/Service Desk organizations.
- ▼ Similarly, you create separate company sets for maintenance and IT/Service Desk.

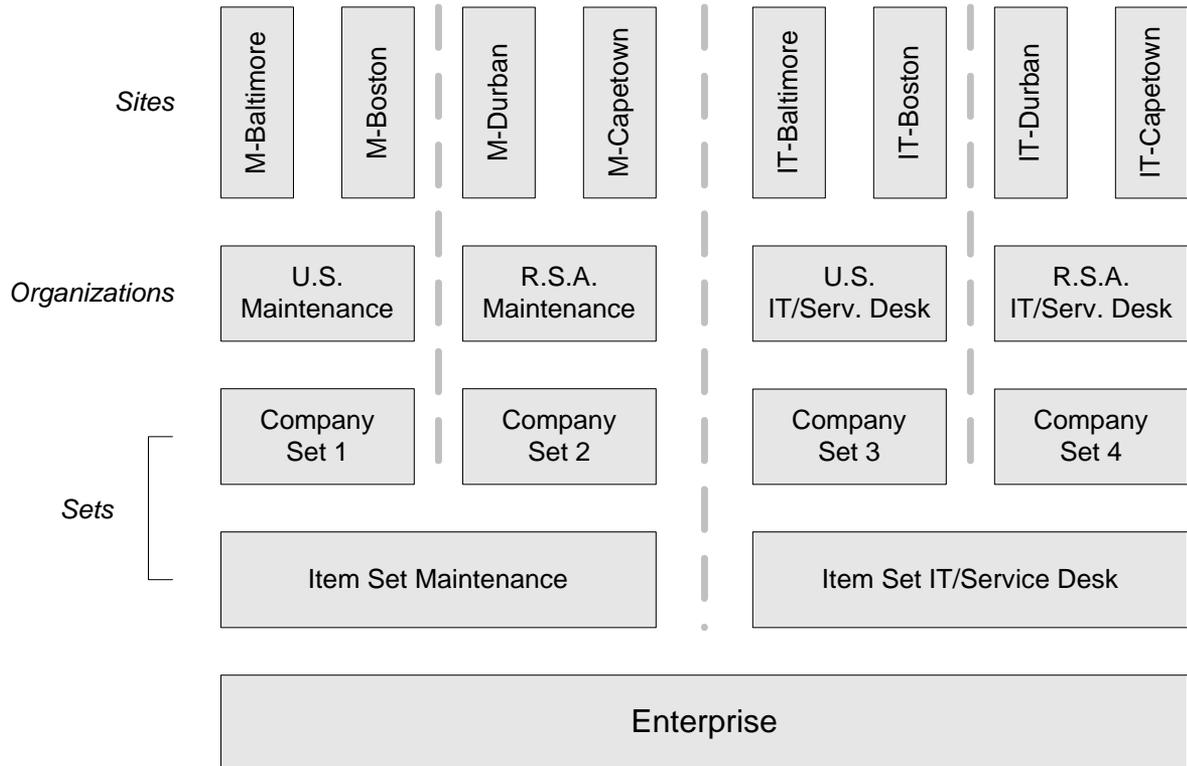
Multisite Configuration With Four Organizations Reflecting Separate Maintenance and IT Operations



Four Organizations Using Local Vendors

This scenario is the same as the previous, except that each organization uses separate vendor lists. For example, the maintenance operations in the United States and South Africa each use local vendors. In Maximo you create separate company sets for each organization.

Multisite Configuration With Four Organizations Using Local Vendors



maximo enterprise suite

Release 6.0
October 2006

System Administrator's Guide

mro software™

make it *all* count

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About This Guide

Audience

This guide helps system administrators, network administrators, and database managers set up and configure Maximo, including managing the Application Server.

Online Help System

The Help system is the primary source of procedural topics for using each Maximo application.

The User's and Administrator's guides expand on the Help, providing conceptual information on subjects not addressed in Help.

Related Documentation

You can find more information regarding Maximo Enterprise Suite in the following documents:

Document	Description
<i>Maximo[®] Installation Guide</i>	Describes how to install and configure software for the following: <ul style="list-style-type: none">▼ application server▼ Maximo[®] Enterprise Suite▼ Actuate[®]
<i>Maximo[®] Multisite Administrator's Guide</i>	Describes how to configure Maximo for a Multisite implementation.
<i>Enterprise Adapter System Administrator's Guide</i>	Describes how to configure and use the Maximo Enterprise Adapter.
<i>Maximo[®] Finance Manager's Guide</i>	Describes Maximo's financial transactions and how to set up General Ledger accounts.
<i>Maximo[®] Report Administration and Development Guide</i>	Describes how to design and administer Maximo reports using Actuate.

Document	Description
<i>Maximo User's Guide</i>	Provides an overview of the Maximo end user applications, and describes how the Maximo applications interact with each other.
<i>Workflow Implementation Guide</i>	Provides information about using Maximo Enterprise Suite to plan, design, build, test, implement, and manage Workflow processes.
Help	Provides step-by-step procedures for each Maximo application.

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▼ <http://www.mro.com>

Support Online Web Site

MRO Software, Inc. users with a valid Annual Customer Support Plan (ACSP) can obtain product support online at <http://support.mro.com>.

The Support Online site includes information on product releases, software patches, and documentation updates. With an active MRO ACSP agreement, you can access the [Support Online Knowledge Base](#).

NOTE To create a Support Online user account, you need your MRO Software product serial number.

Maximo Overview

Maximo Release 6.0 is based on Web architecture and consists of several component servers. You access Maximo applications using the IE browser.

Maximo 6.0 Components

Application Server

Maximo is built using J2EE technology, which requires a commercial application server. Maximo uses the BEA WebLogic or the IBM WebSphere application server.

These servers run Maximo Applications using JSP, XML, and Maximo application-specific business components.

Maximo renders the UI via XML, which lets you create common data formats and share the format and data. The XML code contains tags that reference each control in the UI. The attribute values passed to controls in each XML tag determine the controls' look and behavior.

The XML code is stored in the database, not within files. When accessing an application within Maximo, the application server loads the XML from the database, and based on the tags, renders the UI code sent to the client (IE Browser). Because the database stores the UI data, any localizable text such as field labels, messages, and dialogs are also stored in the database.

The Maximo Application also installs the Active Portal, which lets you use the Web to access reports in your Encyclopedia volume and the Management Console. This web-based capability lets you deploy and test reports on an Encyclopedia volume. You access reports using the IE browser to access the Encyclopedia volume through Active Portal.

Actuate Server

Actuate's Information Delivery Solution lets you create, manage, and deliver reports.

Recommendation

Install the Actuate iServer on a separate server on the network to provide:

- ▼ A server-based system to generate, manage, and deliver interactive, actionable electronic reports
- ▼ Data in multiple formats including DHTML, PDF, XLS
- ▼ Open-security folder integration to leverage existing e-business platform security service

Database Server

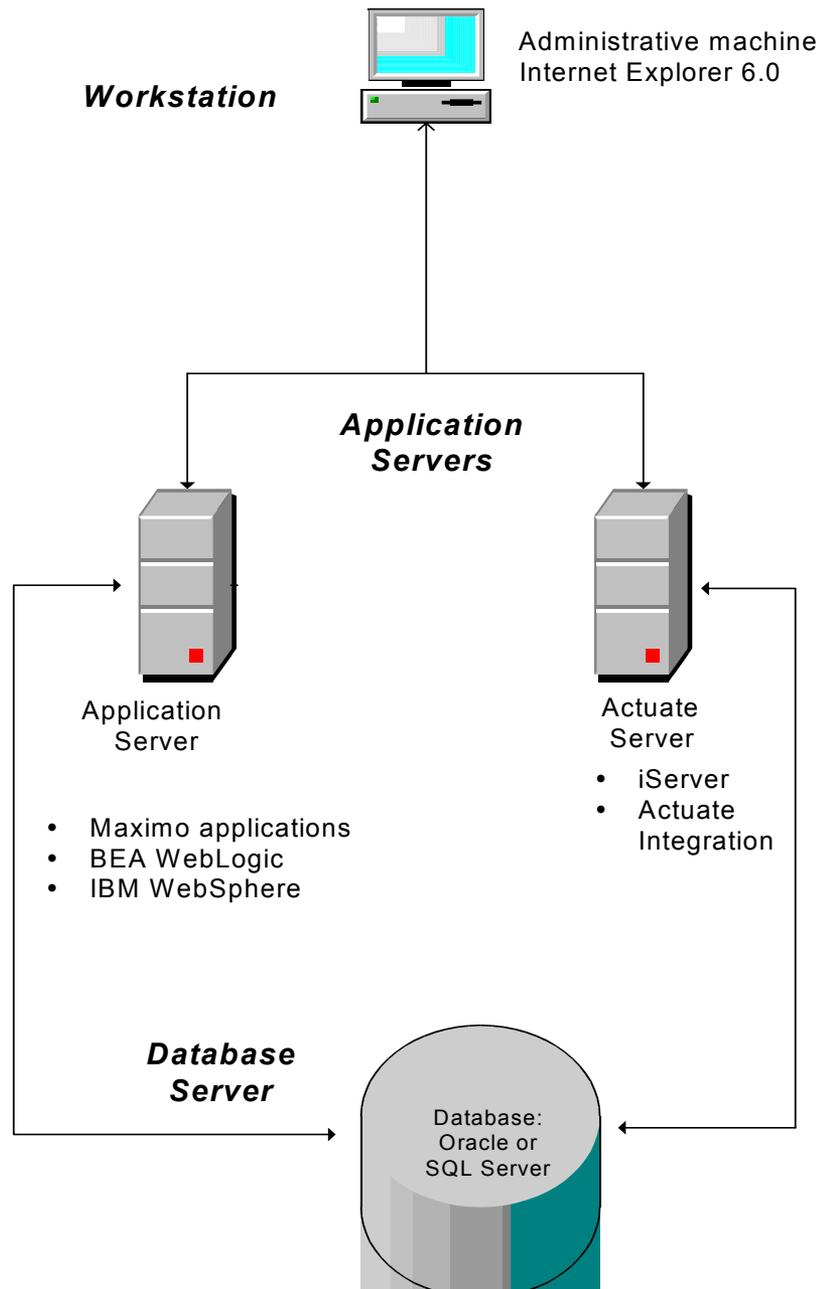
Maximo Release 6.0 supports:

- ▼ Oracle 9.2.0.6 (9i), or 10.1.0.3 (Standard or Enterprise Edition).
- ▼ Microsoft® SQL Server 2000, Service Pack 4

System Requirements

Requirements for Maximo depend on your operating system, database platform, and site configuration. See the *Maximo Installation Guide* for minimum and recommended configurations for the components used in running Maximo, including Actuate.

Typical Maximo Network Configuration

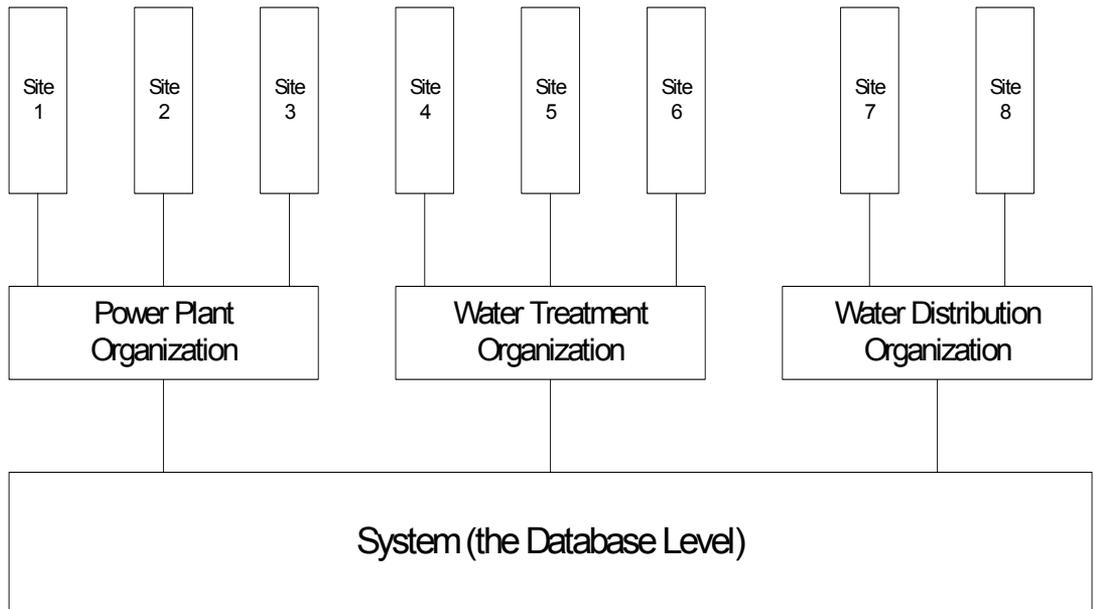


System, Organization, and Site Levels

These terms have special meaning in Maximo.

For example, a utility company owns several power plants, 3 water treatment plants, and 2 water distribution system.

- ▼ **System-Level** refers to the entire company.
- ▼ The company's **Organizations** are grouped into power plants, water treatment, and water distribution facilities.
- ▼ Each organization has several **Sites**, which track inventory separately.



Creating Maximo Settings

You must create settings used throughout the Maximo applications, including System, Organization, Site, and Security settings.

System Settings

You configure system-wide settings to create and activate Organizations, and must define at least one item in each of these steps.

Application	Description
Database Configuration	Provides options for configuring your Maximo database:
Sets	<p>Lets you create:</p> <ul style="list-style-type: none"> ▼ Item sets: groups of items that are shared between Organizations to enable things such as inventory sharing. <p>In this part of the application, you name and define sets. You do not add items here.</p> <ul style="list-style-type: none"> ▼ Company sets: groups of vendors that are shared between Organizations. <p>In this part of the application, you name and define sets. You do not add vendor companies here.</p>
Currency Codes	Lets you define the currencies you and your vendors use. Define codes and descriptions in this part of Maximo, and define exchange rates later, if applicable.
Organizations	<p>Lets you define Organizations and Sites. Many Organizations and Sites within them can share a single Maximo database. You must have at least 1 Organization and 1 Site to use Maximo.</p> <ul style="list-style-type: none"> ▼ Autonumber Setup <p>This action lets you specify autonumber seeds and prefixes for record IDs that are unique at the System level.</p>

Organization Settings

These applications let you configure organization-wide settings and create Sites. Several of the Organization options below have defaults; you must verify that they correspond to your business rules.

Application	Function
Chart of Accounts	<p>Defining GL Accounts and configuring rules surrounding GL Account code validation</p> <p>Most companies import their GL Account codes and use this application to view the import and configure the validation rules. Configure additional Chart of Accounts options through Database Configuration.</p>
Exchange Rates	Configuring and administering exchange rates for currencies you and your vendors use

Creating Maximo Settings

Application	Function
Calendars	Defining your company's calendars, holidays, shifts, and work periods. This data is used for scheduling in other areas within Maximo.

Tab in the Organization application	Function
Addresses	Configuring addresses for your company
Site Setup	Creating Sites. You must have at least one Site to use Maximo. You can set additional administrative options for each Site in a different part of the application.

Action in the Organization application	Function
Work Order Options	Configuring the options that your Organization uses for Work Orders (examples: prompts for failure and downtime, rules for editing)
Inventory Options	Configuring the options that your Organization uses for Inventory (examples: breakpoints, negative balances, reorder rules)
Drilldown Options	Configuring the appearance of drill-down menus
Safety Plan Options	Specifying that Maximo displays the work asset's hazards in the Select Hazards dialog box
PO Options	Configuring PO options for your Organization (example: how Purchase Requisitions are converted to Purchase Orders)
Contract Options	Associating terms and conditions with contract types
Tax Options	Configuring tax options for your Organization, including how multiple taxes are calculated
PO Labor Options	Configuring options for your organization's rules for outside labor costs including reporting of actuals and requirements for POs
Labor Options	Configuring options for your organization's rules for labor costs including reporting of actuals and requirements for POs
Workflow Options	Configuring options for your Organizations rules for workflow including reporting of automated generation of Work Orders and Purchase Orders
Autonumber Setup	Configuring auto-numbering for items that are numbered at the Organization level, such as Assets, to facilitate moves from one Site to another. For example, you can configure starting numbers and prefixes.

Site Settings

You can configure Site-level settings for Maximo. Most options have defaults, but you must verify that they correspond to your business rules. You control many additional options from individual applications.

Action in the Organization application	Function
Work Order Options	Configuring the Site-level settings for Work Orders (example: numbering for tasks)
Inventory Options	Configuring the Site-level settings for inventory (example: how costs are calculated at issue)
PM Options	Configuring how your Sites schedule Planned Maintenance (example: scheduling by priority or frequency, or how far in advance to generate Work Orders)
	NOTE The majority of Maximo functions at the Site level, so you control most site-specific configuration within individual Maximo applications, for example, Work Orders and Purchasing.
SLA Options	Setting SLA options
E-Commerce Setup	Configuring vendor information for your Sites and the vendors they do business with through e-Commerce, if you are implementing the e-Commerce Adapter
Autonumber Setup	Configuring auto-numbering for items that are numbered at the Site level, such as Work Orders. For example, you can configure starting numbers and prefixes.
	By default, Sites inherit auto-numbering from the parent Organization. You can change the default.

Security

This contains the definitions of the User community for Maximo and their levels of access. For more information about Groups and Users settings, see Chapter 2, "Maximo Security," on page 2-1.

Groups	A Group defines levels of access to Maximo applications and data.
Users	A User record defines how Maximo looks and behaves for this User. The record must have an associated Person record; you can maintain both from the User application.
	A User must be a member of at least one Group to access Maximo applications. Users need not be given access to any Sites in their Groups to access data in System-level applications.

Using Maximo Applications

Applications work at different levels in the system. For example, Security works at the System level; Exchange Rates work at the Organization level.

System-Level Applications

Administration Module

- People
- My Profile
- Users
- Roles
- Application Setup
- Currency Management
- Organizations
- Database Configuration
- Workflow Designer
- Workflow Roles
- Workflow Actions
- Workflow Assignment
- Administration Console
- Escalations
- Sets

Contracts Module

- Service Level Agreements
 - Master Contracts
 - Purchase Contracts
 - Service and Warranty Contracts
 - Lease and Rental Contracts
 - Labor Contracts
 - Software Contracts
-

Resources Module

Bulletin Board

Reminders

Classification Catalog

Communication Templates

Service Desk Module

Incident

Problem

Service Request

Customer Survey

Guides and Interviews

Ticket Templates

Knowledge Base Articles

Work Order Module

Self-service Service Request

Organization-Level Applications

Assets Module

Meters

Meter Groups

Failure Codes

Resources Module

Labor

Crafts

Crew Management

Qualifications

Companies

Tools

Budget Tracking

Plans Module

Master Job Plan

Safety Hazards

PM Module

Master PM

Administration Module

Chart of Accounts

Calendar

Address

Exchange Rates

Work Order Module

Labor Reporting

Site-Level Applications

Work Orders Module

Work Order Tracking

Quick Reporting

Change

Release

Purchasing Module

Purchase Requisitions

Request for Quotation

Purchase Orders

Receiving

Invoices

Desktop Requisitions

Assets Module

Assets
Locations
Condition Monitoring
Deployed Assets
Reconciliation
Fusion
Asset Initialization

Inventory Module

Inventory
Issues and Transfers
Storerooms

Plans Module

Job Plans
Routes
Safety Plans
Safety Precautions
Lock Out / tag Out

PMs Module

Preventive Maintenance

Item Set-Level Applications

Inventory Module

Item Master
Service Commodities
Service Items

Company Set-Level Applications

Resources Module

Company Master

Maximo Security

2

This chapter discusses Maximo's new security features and services.

- ▼ Adding and Managing Users
- ▼ Security Groups
- ▼ User Security Profiles

Before implementing your organization's security infrastructure, create a strategy for building security profiles.

Adding and Managing Users

Maximo's new Security module lets you manage users, access rights, passwords, and display a hierarchical view of the users' security profiles. The profile, sorted by site, provides a list of authorizations and settings users have after all their security groups are combined.

Newly installed Maximo databases contain these user IDs, which are members of the specified security group:

User ID	Description	Security Group
MAXADMIN	<ul style="list-style-type: none">▼ Limited access to the database▼ System access to create users and groups▼ After creating users and groups, this user can add sets, currencies, organizations, and GL accounts	MAXADMIN
MAXREG	User ID to create self-registered users	MAXREG
MXINTADM	User ID used by integration objects	MAXADMIN

The default password for each of the above is the same as the User ID (for example, maxadmin is both the User ID and default password). To enhance security of these users, modify the password of each in Maximo.

You can also use maximo.properties to change these values:

- ▼ mxe.adminuserid=add the new user to replace maxadmin
- ▼ mxe.system.reguser=add the new user to replace maxreg
- ▼ mxe.system.regpassword=add the changed password to replace maxreg

Changing the Database User Password

If you use Maximo to change the password of the database user, you must also enter the new password in the `maximo.properties` file. The property name for the database user is `mxe.db.user`.

If you make modifications to `maximo.properties`, you must rebuild the EAR file. For information on editing this file, see “The Maximo.Properties File” on page B-1.

Administrative Users

In Maximo, the difference between administrators and users is flexible. You can grant any Maximo user access to any system or application functionality; there are no restrictions. For simplicity, these definitions are used:

User Type	Description
Administrative user	<ul style="list-style-type: none"> ▼ Full or restricted access to the Security Groups and Users application ▼ Responsible for implementing and maintaining security services (adding users, building profiles) or general site administration
Regular user	Logs into the system to use the product

System users

System user IDs such as `MAXADMIN` and `MAXREG` are required for Maximo to run properly; you cannot delete them. `MAXADMIN` and `MAXREG` are included in the sample Maximo database provided.

To create a system user, check the **System Account?** box in the User tab of the Users application.

To delete a system user, clear the checkbox, click **Save**, and delete the user.

Regardless of the size of your organization, some administrative users may require access to specific administrative applications:

Applications for Maximo administration	
Organizations	Cron Task Setup
Calendars	Screen Designer
Classifications	Workflow Designer
Sets	Currency Codes
Integration	Exchange Rates
Database Configuration	Chart of Accounts
Domains	Users
Application Designer	Security Groups

- NOTE** Some sites may assign administrative functions to regular users such as supervisors or line managers, especially in the areas of IT asset management and Service Desk operations. They are not considered administrative users of Maximo.

Using the Default Insert Site

You must assign each new user a default insert site for inserting records. The new security architecture lets users log in once and view records they have access to, spanning sites and organizations.

- NOTE** Users can change their assigned default insert site to a different site that they have access to, using the Profile navigation link in the Maximo navigation bar.

Suppose you are managing a group of users with these security settings:

- ▼ Access to the Assets application
- ▼ Access to multiple sites
- ▼ Bedford is the default insert site
- ▼ Query Uses Default Insert Site setting is enabled

When they log into the Assets application, they only see asset records from the Bedford site. If Query Uses Default Insert Site is disabled, they see asset records for all sites they have been granted access to in their profiles.

- NOTE** Query Uses Default Insert Site is a display filter that shows users only records from their default insert site. To let users view records for all sites they have access to, clear this setting or clear the filter.

People and Labor

People and Labor are also personal records. You create a person record using the People application, or it is sometimes automatically generated.

A person record:

- ▼ Must exist for every individual before you can create other records. When you create a user or labor record, you must choose a person record to associate with it.
- ▼ Contains personal, employee, and workplace information about an individual, including:
 - ▼ Name, employee status, and address
 - ▼ Job title, code, department, supervisor, and E-mail address
 - ▼ Person's work site, location, time zone, ship and bill to address, and language
 - ▼ Workflow, work order, significant dates, and procurement card information

- NOTE** For users who share the same Maximo database in different time zones, include the user's time zone to ensure the correct date/time stamp appears with records the user adds or updates.

The records required depend on the user’s function.

User’s Function	Types of Records Required
Contractor to whom you assign work	<ul style="list-style-type: none"> ▼ Person ▼ Labor
Manager who approves POs, but to whom you don’t assign work	<ul style="list-style-type: none"> ▼ Person

Managing Users

Maximo adds new users to a default security group, DEFLTREG, which you can configure with limited authorizations and privileges.

The User Name:

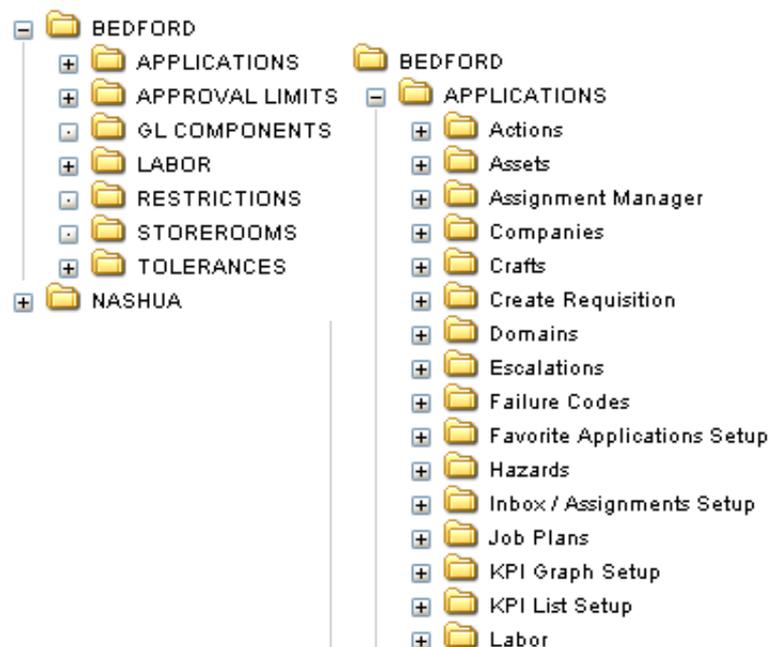
- ▼ Defaults to the User ID you entered when creating users.
- ▼ Is the user’s login name for Maximo.
- ▼ Is case-sensitive.

The User ID must be unique for all User records in Maximo. To remember it easily, you can change the User Name to an employee number or e-mail address.

You must specify users’ default insert sites and storerooms.

When adding or updating users, you must assign them to one or more security groups. The combination of groups determines users’ profiles (set of authorizations and privileges across sites and organizations).

The Security Profile tab shows the user’s profile after the system combines all the user’s security groups. Sorted by site, the profile is an expandable tree structure of the user’s virtual profile:



Maximo updates these tables when you create a user.

Database Table	Description
MAXUSER	Updates new user data.
PERSON	Updates new person data (if the system needs to create a person for the new user).
PHONE	Stores all user phone information including home, work, cell, pager, and so on and indicates which number to call first (primary).
EMAIL	Stores all user E-mail addresses including home, work, and alternates and indicates which address to e-mail first (primary).
GROUPUSER	Updates relationships between security groups and users.
USERPURGL	(Optional) Stores the default purchasing GL account for new users.
GRPREASSIGNAUTH	(Optional) Stores the name of the user as a person with authority to add and remove new users to a security group.
MAXUSERSTATUS	Shows the user's current status such as Active or Blocked, and stores history of user status modifications.
PASSWORDHISTORY	Stores the user's current password, and stores history of password modifications. Information in the Password column is encrypted, but other columns such as USERID and DATE are not (if you enabled Password Duration).

Users Menu

Use this menu to change these user actions:

- ▼ Workflow
- ▼ Change Status
- ▼ View History
- ▼ Database Access (you can hide this option)
- ▼ Change Password
- ▼ Set Password Hint
- ▼ Set Security Profile
- ▼ Authorize Group Reassignment
- ▼ Security Controls
- ▼ Change Person
- ▼ Duplicate User
- ▼ Delete User

Workflow

In the Security Groups application, you can configure the Users application to use Workflow to process self-registered Maximo users. If you enable Workflow, these options are available:

- ▼ Start/Continue Workflow
- ▼ Stop Workflow
- ▼ View Workflow History
- ▼ View Workflow Map

See the *Maximo Workflow Designer Implementation Guide*.

Change Status

Use this menu item lets you change the status of one or more users simultaneously.

For example, select a group of users from the List tab and update their status, or choose a single user from the List tab to change that person's status.

User Status	Description
Active	Active users of Maximo.
Inactive	Inactive user record. Administrators can change the status to Inactive.
Blocked	Only the system can block user records, for example, when users enter too many incorrect passwords during login.
Deleted	The system deletes user records, but retains basic information. When you enable login tracking, this prevents the ID from being reused. Deleted users do not appear in the Maximo UI.
Newly Self-Registered (NEWREG)	The MAXVAR variable sets this status. When set, new self-registered users are placed into Workflow for approval. This status cannot be manually selected.

If you change a user's status to inactive during their current work session, this change goes into effect immediately with the next action the user tries to perform in the application.

For example, if you change user Joe Smith's status to inactive while he is logged in, the next time he attempts to save changes or access another application, he is logged out. If he attempts to log in again, a message tells him his user ID is inactive.

There is a dynamic relationship between Person, User and Labor status:

- ▼ Setting a Person's status to inactive sets that person's User and Labor status (if not already inactive) to inactive.
- ▼ Setting a Person's status to active does not affect the status of the person's Labor or User records.
- ▼ Inactive Person records cannot be assigned to active User records.

View History

This menu item displays a date and time stamp whenever administrative users change the user's status.

- ▼ For example, an administrative user changes a user's status to inactive. The administrator's name appears in the Changed By field.
- ▼ The Change Status menu item lets administrative users change the status for a selected group of users using Maximo's enhanced search capabilities.

Database Access

This menu item lets you create, update, or delete a native database user ID; this is the only place in Maximo where you can do so. Users who work with reporting tools or require access to database tables require a database user ID. Maximo can also use database user IDs that were created by a database administrator using SQL or Oracle database tools.

NOTE You cannot use Maximo to create an operating system ID for databases that require one on the database server.

When creating or updating a database user ID, you must explicitly grant users access to Maximo's tables by clicking the Object Name search icon and selecting a table object. You must specify the level of access (Read, Insert, Update, or Delete).

To delete database user IDs, click **Drop Database User**.

NOTE Before you can create database users with the Database Access action, you must run a script to enable the Database Access menu item (letting Maximo give database access to Maximo users in the Security application). You must do so when you first install Maximo (before you create the Maximo instance).

To enable the Database Access menu item:

- 1 Open the createMAXIMOES.sql script in <c:>\maximo\tools\maximo\EN in a text editor.
- 2 Uncomment these lines (these are standard grants Maximo requires to create users):
 - grant create user to MAXIMO;
 - grant drop user to MAXIMO;
 - grant create session to MAXIMO with ADMIN OPTION;
 - grant alter user to MAXIMO;

NOTE In the grants above, MAXIMO represents the user defined in maximo.properties as mxe.db.user.

- 3 Open a SQL editor and run the above lines so Maximo can create database users.

During installation, the createMAXIMOES.sql script provides these standard grants:

- create user maximo identified by maximo;
- alter user maximo default tablespace maximo quota unlimited on maximo;
- alter user maximo temporary tablespace temp;
- grant create trigger to maximo;
- grant create session to maximo;
- grant create sequence to maximo;
- grant create synonym to maximo;
- grant create table to maximo;
- grant create view to maximo;
- grant create procedure to maximo;
- grant alter session to maximo;
- grant execute on ctxsys.ctx_ddl to maximo;

Change Password

This menu item:

- ▼ Lets administrative users limit passwords for regular user IDs and for database user IDs.

By default, when you create users or when a person self-registers, Maximo sets the FORCEEXPIRATION flag in the MAXUSER table to 1 (Yes). This setting forces users to change their passwords after they log in the first time.

To avoid forcing users to change their passwords after initial login, disable the forced expiration feature by clearing the **Password Should Expire After First Log On** box in the Change Passwords dialog box (default = checked).

- ▼ Lets you synchronize passwords for regular user IDs and database user IDs by checking the **Synchronize Passwords** box (default = clear).

You may want to synchronize passwords if you lack a database administrator but occasionally need an administrative user to access Maximo's tables and columns to create reports.

A synchronized database password's format is limited by what the database supports, but does not have to adhere to Maximo's password criteria. For example, you cannot create a database password with special characters (Maximo supports this feature, but Oracle and SQL server do not).

Set Password Hint

This menu item lets administrators force users to specify a password hint question (default = Maiden name of mother).

Users who forget passwords and call administration for help must provide correct answers to verify their identity. Then the administrator can reset the password.

You can specify additional password hint questions by adding new values to the PWHINTQUESTION domain ID in the Configuration > Domains application.

Set Security Profile

This menu item lets you update some profile settings for a group of users returned in a result set using the search criteria on the List tab. You can, for example, add or delete security groups for a set of users simultaneously.

The User Count field displays the number of users in your result set. The Group Action box displays these options:

Option	Description
Add	Adds all groups selected in the dialog box to the result set of users.
Remove	Deletes all groups selected in the dialog box from the result set of users.
Replace	Replaces all security groups for users in the result set with the groups selected in the dialog box.

Checkbox	Description
Edit (select for Default Insert Site, Storeroom Site, and Default Storeroom)	Lets you update the default insert site and storeroom values for the same set of users.
Use Default Insert Site as a Display Filter?	Lets you filter the records displayed to users, who can only view records from the default site. If cleared, Maximo displays records in all sites and organizations the user has access to.

A confirmation message displays only the number of records updated.

For example, if you were adding the BEDFORDSITE security group to a result set of 20 users and 3 of those users already have that security group, a confirmation message such as this appears:

```
BEDFORDSITE group added to 17 of 20 users.
```

Authorize Group Reassignment

This menu item lets you give a selected user the authority to assign or remove users to one or more security groups that you specify in the Authorize Group Reassignment dialog box.

For example, administrative users with access to the Security Groups application can create a new security group. The administrative users must first be given Authorize Group Reassignment authority before adding users to the security group.

Security Controls

This menu item lets you specify these system-wide security defaults:

▼ Default security group assigned to new users (Default =DEFLTREG)

You can enter any security group in the New User Group field to be the default registration group for new users.

▼ Default user status for self-registered users (Default =NEWREG)

The security status you assign to self-registered users determines whether the system enables workflow for new, self-registered users.

In the New User Defaults section of the Security Controls dialog box, you can specify a self-registration user status:

Status	User can log in	Workflow is enabled
NEWREG		✓
ACTIVE	✓	
INACTIVE		

You can assign the ACTIVE status as the default for user self-registration, for example, to let self-registered users immediately use the system.

You cannot assign the NEWREG status to new users that you create through the Users application. NEWREG is reserved for users that are created through self-registration.

Users placed in the new user default group acquire the application access and permissions configured for that group.

NOTE Administrative users can create new users, but are not authorized to delete DEFLTREG from a user's security profile because it is the default group for self-registered users (as defined by NEWUSERGROUP in the Maximo variable table, MAXVAR).

To have delete permission for users within a group, open your user record and add the group to your Authorize Group Reassignment list.

▼ Enable or disable login tracking

You can enable login tracking and specify the number of login attempts before the system blocks users from logging in. Users with blocked IDs must contact a system administrator to reset the status to Active.

Maximo's login tracking capabilities:

- Track historical data on who has attempted to login to Maximo.
- Trace issues or problems back to a logged-in user.
- Provide statistical analysis of user login history.

▼ Password requirements

You can configure password settings in the Security Controls dialog box. Defaults are based on values in the MAXVAR table.

Password Setting	Description	Value in the MAXVAR table
Password Lasts this Number of Days	Specifies the number of days a password is in effect before it must be modified.	PASSWORDDURATION
Days Before Password Expires to Warn User	Specifies when to notify users that a password is about to expire. The value in days is subtracted from the PASSWORDDURATION setting.	PASSWORDWARNING
Days Before Previously Used Password Can Be Used Again	Specifies the number of days that must pass before users can reuse a changed or expired password.	PASSWORDTHRESHOLD
Minimum Password Length	Specifies the minimum length of a password (1–35 characters).	PASSWORDMINLENGTH
Numeric Character Required?	Specifies whether a password must contain at least one numeric character.	PASSWORDNUM
Special Character Required?	Specifies whether a password must contain at least one special character. Valid values: !@#\$%^&*()_+ \ [] {} ; : / ? > <	PASSWORDCHAR

A message appears under these conditions:

Condition	Message
If users enter incorrect user IDs or passwords	User ID and password are not valid. Please try again.
If both these conditions are true: <ul style="list-style-type: none"> ▼ Login tracking is enabled ▼ The threshold for login attempts is exceeded 	Your User ID has been blocked from the system. Please contact your System Administrator.
If inactive users attempt to log in	Your User ID is not currently active. Please contact your System Administrator.

Change Person

This menu item lets you select a different person record to associate with a selected user record. You cannot assign a person to multiple users.

Duplicate User

This menu item lets you rapidly create multiple user records by duplicating some data from an existing user record.

You can enter an existing Person ID as the new user ID. If you enter a new user ID, you can create a new Person ID or associate the user ID with an existing Person ID.

When you duplicate a record, Maximo populates these visible and hidden fields. This table indicates where the field data defaults from.

Field Name	Table.Column Name	Comment
User	MAXUSER.USERID	Enter a unique value for the new user.
Password	MAXUSER.PASSWORDINPUT	Enter a password for the new user ID.
Type	MAXUSER.TYPE	Defaults from duplicated user.
User Name	MAXUSER.LOGINID	Defaults to user value. Use this name to log into Maximo.
Confirm Password	MAXUSER.PASSWORDCHECK	Verify user password by reentering a second time.
Status (User)	MAXUSER.STATUS	Defaults from duplicated user.
Person	MAXUSER.PERSONID	Does not default. Select an existing person or create one.
Status (Person)	PERSON.STATUS	Defaults based on Person record.
First Name	PERSON.FIRSTNAME	Defaults based on Person record.
Last Name	PERSON.LASTNAME	Defaults based on Person record.
Supervisor	PERSON.SUPERVISOR	Defaults based on Person record.
Workflow Delegate	PERSON.DELEGATE	Defaults based on Person record.

Field Name	Table.Column Name	Comment
Primary E-mail	EMAIL.EMAILADDRESS	Defaults based on Person record.
Display Name	PERSON.DISPLAYNAME	Defaults based on Person record.
Primary Phone	PHONE.PHONENUM	Defaults based on Person record.
Phone Number Type	PHONE.TYPE	Defaults based on Person record. The user's primary phone type (e.g., work).
Address	PERSON.STREET	Defaults based on Person record.
City	PERSON.CITY	Defaults based on Person record.
State/Province	PERSON.STATEPROVINCE	Defaults based on Person record.
Zip/Postal Code	PERSON.POSTALCODE	Defaults based on Person record.
Memo	MAXUSER.MEMO	Defaults from duplicated user.
Default Insert Site	MAXUSER.DEFSITE	Defaults from duplicated user.
Storeroom Site	MAXUSER.STOREROOMSITE	Defaults from duplicated user. (Storeroom location)
Default Storeroom	MAXUSER.DEFSTOREROOM	Defaults from duplicated user. (default storeroom)
Language	PERSON.LANGUAGE	Defaults from new person.
Locale	PERSON.LOCALE	Defaults from new person.
Time Zone	PERSON.TIMEZONE	Defaults from new person.
Uses Default Insert Site as a Display Filter?	MAXUSER.QUERYWITHSITE	Defaults from duplicated user.
System Account?	MAXUSER.SYSUSER	Defaults from duplicated user. Identifies whether this is a system user that cannot be deleted.
Password Expiration Date	MAXUSER.PWEXPIRATION	Defaults from duplicated user.
Non-displayed Fields	MAXUSER.FORCEEXPIRATION	Default = Y.
	PERSON.WFMAILELECTION	Default =Never.
	PERSON.TRANSEMAILELECTION	Default = Always.
	PERSON.LOCTOSERVREQ	Default = Y.
	PERSON.ACCEPTINGWFEMAIL	Default = Y.

Delete User

This action lets you delete Maximo users from the system, including the users' Login IDs. The system deletes all user records associated with user IDs, except the one in the MAXUSER table, whose status changes to Deleted.

NOTE To prevent a user from logging in, instead of deleting the user, you can change the user's status from Active to Inactive using the Change Status action.

If the user you are deleting also has a database user ID, you may delete it at the same time.

You cannot delete a user ID if:

- ▼ The user's Person ID is named directly on an assignment for an active workflow process.
- ▼ The user ID is the "run as user ID" for an active Cron Task instance.
- ▼ The user has a system account and is responsible for running Maximo.

Maximo deletes the user record and that person can no longer log in. You cannot reuse the user ID, which Maximo retains in a history list.

User Self-Registration

New users can self-register from the Welcome to Maximo login page by clicking the register now link. They register quickly with minimal information.

This sequence describes the self-registration process.

- 1 The system assigns self-registered users to a default security group (DEFLTREG), but nothing else until their registration request is routed to an administrator via workflow (if enabled) for approval.
- 2 The administrator assigns approved self-registered users to appropriate security group(s) and notifies users that they can use the system. Rejected users are instructed to contact their supervisor for assistance.

NOTE Administrative users can designate and configure any security group to replace the default group in the Security Groups or Users application by updating the Default Group for New Users field in Security Controls.

You can, for example, configure the access rights and privileges of the default group for self-registered users to reflect your company's business rules.

- 3 Approved users are instructed to complete the registration process by entering more information in the My Profile menu bar item.
- 4 Users create a self-registration request, providing this information:

Required

Optional

First Name	Supervisor
Last Name	Default Insert Site
User ID	Default Storeroom
Password	Primary Phone
Confirm Password	Language
Primary E-mail	Local
	Time Zone
	Additional Information

- 5 The system creates Person and User records for users, and defaults additional registration information which is hidden from users.

Hidden Field	Default
User Status	Based on the REGSTATUS setting in the MAXVAR table
Person ID	User ID
User Name	User ID
Force Password Expiration	Y for users created through the Users application or via self-registration, and when an administrator manually modifies a user's password
Query with Site	Y
Person Status	Active
Transaction Notifications	Never
Workflow Notifications	Process
Accepting Workflow E-mail	Y

Security Groups

Security groups let administrative users manage user authorizations and access rights to sites, applications, storerooms, labor, GL components, and other aspects of your organization.

Users added to security groups acquire the configured attributes of that group. For example:

Implementation	Example
Simple	Create one security group that provides the rights and privileges needed for each type of user in your organization.
Complex	Design a strategy for creating security groups and assigning users that reflect the security requirements and business rules of your organization and is easy to maintain.
Multinational, global enterprise	Create an implementation team and a strategic plan for building security profiles that meet the needs of users in multiple organizations worldwide.

You assign users to one or more groups, which can have differing levels of access. Depending on the combination of security groups, users can view all the data within a company independent of their site and organization. You can combine security groups to create a virtual profile for each user that meets the security requirements of almost any organization.

A new Maximo database contains these default security groups:

Group	Description
MAXADMIN	Members (including default users MAXADMIN and MXINTADM) have enough access to the system to create users and groups.
MAXREG	<ul style="list-style-type: none"> ▼ Contains one default user called MAXREG that is used for self-registration of new users. ▼ Provides self-registered users enough access to complete a self-registration form.
DEFLTREG	Default group for new users.
	<p>NOTE A system administrator can configure a different default security group for self-registered users, or can increase the privileges of the default group.</p> <p>By default, the DEFLTREG security group has limited access to Maximo.</p>

Administrators must expressly grant access rights to applications through security groups. For Maximo to function properly, each new security group includes READ and SAVE access to the Change Password application, and READ access to the Start Center application.

New users must have these grants in at least one of their assigned security groups to log into the system (via Start Center) and to change passwords when first logging into the system (if the administrator requires).

The administrator can remove these grants from security groups, if not required. For example, the administrator can keep grants in groups controlling application access, but remove them from groups controlling site, labor, and other access.

NOTE Modifications in security group permissions take effect the next time the user logs in.

When you create a security group, Maximo creates a record in MAXGROUP.

Database tables store the group settings:

Setting	Database Table
Site Access	SITEAUTH and MAXGROUP
Application Authorizations	APPLICATIONAUTH
Purchasing Limits	MAXGROUP
Invoice Tolerances	MAXGROUP
Start Centers	MAXGROUP
GL Component Authorizations	GLAUTH and MAXGROUP
Labor Authorizations	LABORAUTH and MAXGROUP
Storeroom Authorizations	LOCAUTH and MAXGROUP
Group Restrictions	GROUPRESTRICTION
Users	GROUPUSER

Security Group Types

When you create security groups, you select a group type, using the Independent of Other Groups? option:

Type	Example
Independent	The access rights and grants in this group cannot be combined with those from other groups.
Non-independent (default)	The access rights and grants in this group are combined with those from other non-independent groups that are common to a given user.

See “Combining and Merging Security Group Types” on page 2-23.

Security Groups Tabs

The Security Groups application contains tabs that let you create, search, and configure settings for security groups.

Searching Security Groups

Tab	Description
List	<p>Displays a list of security groups created for your system. For each group, you can view:</p> <ul style="list-style-type: none"> ▼ Whether the group is authorized for all sites, storerooms, and labor. ▼ Whether the group is independent of other groups. <p>See “Advanced Searches” on page 2-19.</p>
Group	Displays the security group’s name, description, start center template ID, and a Y/N checkbox indicating whether this group’s attributes can be combined with other groups.
Sites	Displays sites explicitly authorized for this group. To automatically authorize this group for all sites and organizations, check the box (the table window becomes read-only).
Applications	Displays the applications assigned to this group with the appropriate level of access (typically Read, Insert, Save, and Delete). The bottom pane shows all options available for the application.
Storerooms	Displays the storerooms assigned to this group, including their names, descriptions, and site locations. To automatically authorize this group for all storerooms, check the box (the table window becomes read-only).
Labor	<p>Displays the labor authorizations for this group. The bottom of the screen displays individual labor records with labor codes, display names and organizations. Checkboxes let you authorize specific sets of labor, including:</p> <ul style="list-style-type: none"> ▼ Authorize Group for All Labor? (If selected, the other checkboxes and table window record become read-only.) ▼ Authorize Group for Labor in Their Same Crew? ▼ Authorize Group for Labor in Their Same Person Group? ▼ Authorize Group for Labor They Supervise? ▼ Authorize Group for Their Own Labor?
GL Components	<p>Displays GL component types that the group has the authorization to change using the Select GL Account dialog box. Maximo builds this list dynamically from the GLCONFIGURE table. To automatically authorize this group to change all GL component types, check the box (the table window becomes read-only).</p> <p>You modify and configure GL components using Database Configuration.</p>
Limits and Tolerances	<p>Displays approval limits and tolerances in base currency for the group’s members at an organizational level.</p> <ul style="list-style-type: none"> ▼ Enter approval limits for purchase requisitions, purchase orders, material receipts, invoices, and contracts. ▼ Enter upper and lower tolerances in base currency amounts or percentages for invoices, taxes and services. ▼ Add null values for unlimited limits and tolerances.

Tab	Description
Restrictions	<p>Displays restrictions in the form of SQL statements that let you further grant or restrict access to Maximo's features, functions, and data.</p> <p>For example, you can specify a table entity like MAXGROUP, then place a restriction of GROUPNAME='TESTGROUP.' Group members can access the Security Groups application, but only manipulate the group called TESTGROUP.</p>
Users	<p>Displays information about group members, including user name, display name, and user status and type. Users can be members of groups but have an inactive status.</p>

Advanced Searches

For advanced searches of your security groups, use these options in Advanced Search under the List tab:

▼ More Search Fields

This dialog box provides a template of searchable fields related to these security group categories: Group Information, Sites, Applications, Labor, and Limits.

- ▼ To search for particular records, enter field values in the template.
- ▼ To filter searches, enter more values or search criteria in the template.

The template's field values map to Maximo TABLE.COLUMN data:

Field Name	TABLE.COLUMN
Group	MAXGROUP.GROUPNAME
Description	MAXGROUP.DESCRPTION
User	GROUPUSER.USERID
Site	SITEAUTH.SITEID
Application	APPLICATIONAUTH.APP
Option	APPLICATIONAUTH.OPTIONAME
Storeroom	LOCAUTH.LOCATION
PO Limit	MAXGROUP.POLIMIT
PR Limit	MAXGROUP.PRLIMIT
MR Limit	MAXGROUP.MRLIMIT
Invoice Limit	MAXGROUP.INVOICELIMIT
Contract Limit	MAXGROUP.CONTRACTLIMIT
Labor	LABORAUTH.LABORCODE
Independent of Other Groups?	MAXGROUP.INDEPENDENT
Authorize Group for All Sites?	MAXGROUP.AUTHALLSITES

Field Name	TABLE.COLUMN
Authorize Group for All Storerooms?	MAXGROUP.AUTHALLSTOREROOMS
Authorize Group to change All GL Component Types?	MAXGROUP.AUTHALLGLS
Authorize Group for All Labor?	MAXGROUP.AUTHLABORALL
Authorize Group for Their Own Labor?	MAXGROUP.AUTHLABORSELF
Authorize Group for Labor in Their Same Crew?	MAXGROUP.AUTHLABORCREW
Authorize Group for Labor They Supervise?	MAXGROUP.AUTHLABORSUPER
Authorize Group for Labor in Their Same Person Group?	MAXGROUP.AUTHPERSONGROUP
Start Center Template Organization	MAXGROUP.SCTEMPLATEID
GL Component	MAXGROUP.LIMITORGID
	GLAUTH.GLACCOUNTFIELD

▼ **Where Clause**

This dialog box lets you search the Maximo database for particular records by entering a standard SQL Where Clause statement. For example:

GROUPNAME="MAXREG"

To display the record for the Self-Registration security group, click **Find**.

▼ **View Search Tips**

This dialog box displays online Help for Advanced Search, including More Search Fields and Where Clause.

Security Groups Actions

This menu lets you perform group-specific functions such as duplicating and deleting security groups. You can also use the Security Controls action to enable system-wide login tracking and specify password requirements.

Overriding Password Duration

This action lets you update the system defaults for password duration and password expiration warning for a selected group.

Setting Security Controls

This action lets you specify system-wide defaults for these types of security controls:

- ▼ Default security group for new users
- ▼ Default user status for self-registered users
- ▼ Tracking user login attempts
- ▼ Specifying password configuration settings, including:
 - Number of days you can use a password before expiration
 - Number of days before password expiration to notify users of its expiration
 - Number of days that must pass before you can reuse a previously expired password
 - Minimum length of a password
 - Whether a password must contain a numeric character
 - Whether a password must contain a special character

See “Security Controls” on page 2-10.

Duplicate Group

This menu item opens a new record under the Group tab that duplicates the header information. Specify a new group name, description, and whether the group is independent.

Maximo duplicates this information:

- ▼ Sites
- ▼ Authorizations for Applications, Storerooms, Labor, and GL Components
- ▼ Limits and tolerances
- ▼ Group restrictions

NOTE Users are not duplicated into the new group. You must specifically give yourself group reassignment authority (Users > Select Action > Authorize Group Reassignment) to add members to the new group.

Delete Group

This menu item lets you delete a selected group unless:

- ▼ It has members.
- ▼ It is specified as the default group for self-registered users in the MAXVAR table (NEWUSERGROUP).

User Security Profiles

A profile is a virtual view of a user's authorizations, privileges, and settings within Maximo. Users inherit the access rights and privileges associated with assigned security groups. Maximo builds and maintains a profile for all users in the system that actively tracks a user's membership in groups.

The Users application has a Security Profile tab that displays a hierarchical view of a users' profiles by site. Click each site within a user's profile to display information about a user's access and rights within the site for:

- ▼ Applications
- ▼ Approval Limits
- ▼ GL Components
- ▼ Labor
- ▼ Restrictions
- ▼ Storerooms
- ▼ Tolerances

By default, new users do not have access to Maximo's applications and database. Administrative users with access to the Users and Security Groups applications can create security groups and assign users to them.

Security groups have attributes or settings that let you define sites, applications, menu options, and other rights that users can acquire through group membership. Assign users to one or many groups, which can have differing levels of access, to build a security profile.

Your organization's business rules determine how you combine the various security groups to build an individual user's profile. For example, the security profiles for a member of a maintenance crew and the purchasing manager of your company may be different.

You build a profile by assigning users to groups in the Security Groups application. The profile represents the totality of a user's access rights and privileges based on the combination of all the user's assigned groups.

You can configure a group to specify one or more of these types of settings:

- ▼ Site Access
- ▼ Authorizations for Applications, Storerooms, Labor, and GL Components
- ▼ Purchasing Limits
- ▼ Invoice Tolerances
- ▼ Start Centers
- ▼ Group Restrictions

The system grants or restricts a user's application access by checking the user's profile (the combination of all groups) to determine the user's maximum level of access. If a user does not have access to the Purchasing application, for example, that application does not appear.

Within an application, you can restrict the Select Action options that appear for a user. For example, give administrative users access to the Users application to create and manage user groups, but not the ability to grant database access.

NOTE Group restrictions override access rights granted when combining groups.

The concept of combined security groups and a derived security profile lets administrators manage the security infrastructure within or across organizations.

Combining and Merging Security Group Types

You can assign users to both independent and non-independent groups. See "Security Group Types" on page 2-17.

Depending on the types of groups users belong to, the system generates the profiles by combining, merging, or combining and merging a user's security groups:

Method	Description
Merge (independent groups)	Merges the settings/sites for all independent groups.
Combine (non-independent groups)	Combines the settings/sites of non-independent groups with the settings/sites of other non-independent groups.
Merge and combine (both types of groups)	Merges all independent groups with the settings/sites results set derived from combining all non-independent groups.

To exclude a group from combining its settings/sites with other groups, make it an independent group. The settings for an independent group only apply to sites specified for that group.

Security settings in the Users and Security Groups applications are at the system level, except Approval Limits and Tolerances, which are organizational level settings.

Assigning Applications to Groups

The level of the application (system, set, organizational, or site) controls the impact and availability of applications and options, and the amount of data users see:

Application Level	Example
System-wide	If you give users access to a system-level application, like Currency, any modifications a user makes in that application have a system-wide impact.
Organizational	If you add EURO as a currency, it is available for all organizations and sites. If you modify an application at the organizational level, that modification applies to all sites in the organization.
Site	If a user makes modifications within a site-level application, like Assets, modifications are limited to that site.

For example, site-level applications display data for specific sites; organizational applications display data for all sites within an organization.

System-level applications

System-level applications		
<u>Administration</u>	<u>Integration</u>	<u>Resources</u>
Bulletin Board	Integration Interfaces	People
Classifications	External Objects	Person Groups
Communication Templates	External Systems	<u>Service Desk</u>
Organizations	<u>Security</u>	Service Requests
Report Administration	Users	Incidents
Sets	Security Groups	Problems
<u>Configuration</u>	<u>Contracts</u>	Activities
Application Designer	Master Contracts	Solutions
Cron Task Setup	Purchase Contracts	<u>Service Management</u>
Database Configuration	Lease/Rental Contracts	Service Level Agreements
Domains	Labor Rate Contracts	<u>Service Requests</u>
E-mail Listener	Warranty Contracts	Create Service Request
Escalations	Terms and Conditions	View Service Requests
Workflow	<u>Planning</u>	Search Solutions
<u>Financial</u>	Ticket Templates	
Currency Codes	<u>Reporting</u>	
	KPI Manager	
	Report Administration	

Set-level applications

<u>Inventory</u>	<u>Service Management</u>
Item Master	Service Catalog
Condition Codes	
Service Items	
Stocked Tools	
Tools	

Organizational-level applications

Administration

Calendars

Financial

Chart of Accounts

Exchange Rates

Assets

Failure Codes

Meters

Meter Groups

Preventive Maintenance

Master PM

Resources

Labor

Crafts

Qualifications

Safety

Hazards

Work Order

Labor Reporting

Site-level applications

Administration

Deployed Assets

Reconciliation

Work View

Financial

Cost Management

Assets

Assets

Locations

Condition Monitoring

Deployed Assets

Computers

Network Printers

Network Devices

Desktop Requisitions

Create Requisitions

View Requisitions

View Templates

View Drafts

Inventory

Inventory

Storerooms

Issues and Transfers

Planning

Job Plans

Safety Plans

Routes

Preventive Maintenance

Preventive Maintenance

Purchasing

Purchase Requisitions

Request for Quotation

Purchase Orders

Receiving

Invoices

Companies

Company Master

Terms and Conditions

Safety

Safety Plans

Precautions

Lock Out/Tag Out

Service Desk

Changes

Releases

Work Order

Work Order Tracking

Quick Reporting

Assignment Manager

When you build security profiles from independent groups, which are merged rather than combined, users' authorizations and privileges are cumulative.

For example, two independent groups provide read access to the Work Orders application at the Nashua site and read, insert, and save access to Work Orders at the Bedford site. After adding access and authorizations, users can:

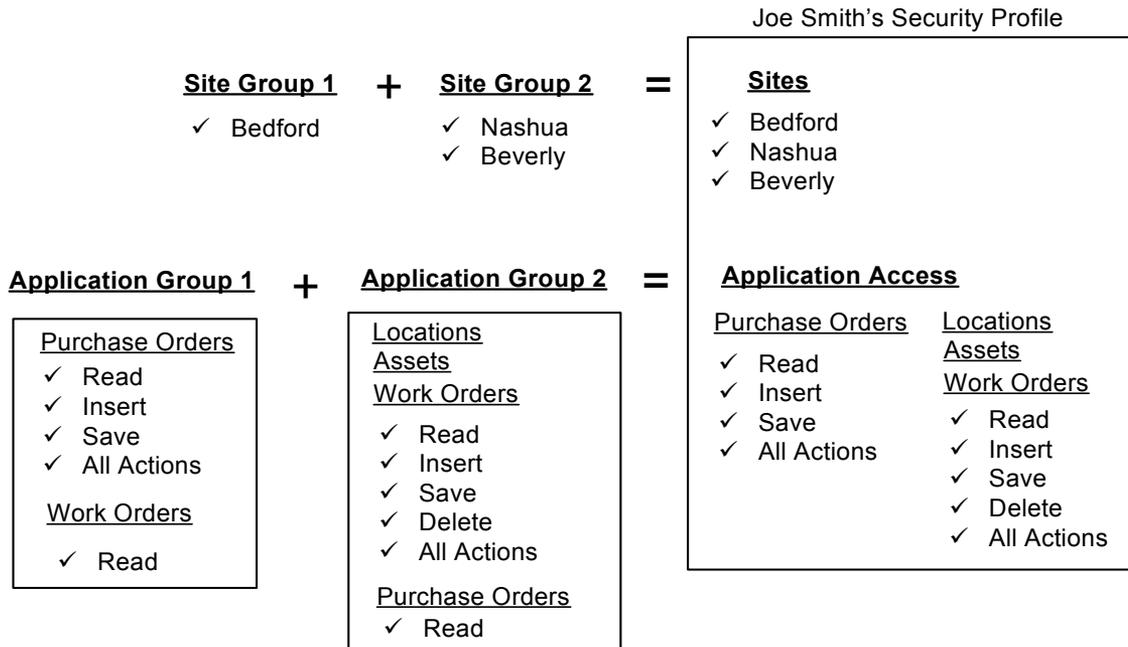
- ▼ Read work orders at the Nashua site, and
- ▼ Read, insert, and save work orders at the Bedford site.

These non-independent groups are combined, for example, for Joe Smith:

Group Names	Group Settings
Site Group 1	Bedford
Site Group 2	Nashua, Beverly
Application Group 1	<ul style="list-style-type: none"> ▼ Work Orders (Read) ▼ Purchasing (Read, Insert, Save, All Actions)
Application Group 2	<ul style="list-style-type: none"> ▼ Work Orders (Read, Insert, Save, Delete, All Actions) ▼ Assets (Read, Insert, Save, Delete, All Actions) ▼ Locations (Read, Insert, Save, Delete, All Actions) ▼ Purchasing (Read)

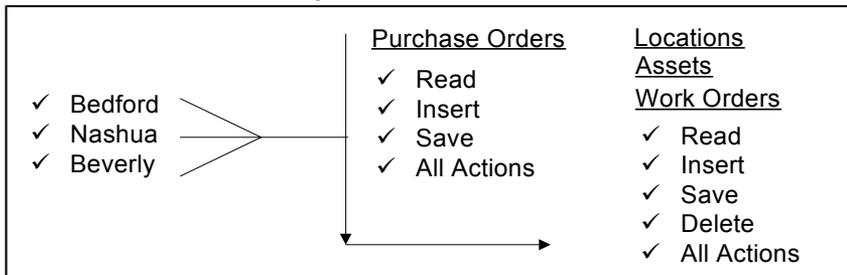
Here is Joe Smith's security profile after the system combines the application and site access granted by his membership in the non-independent groups.

Example: Combining Non-Independent Groups



Joe Smith's Security Profile, which Maximo builds from his membership in Application Groups 1 and 2 and Site Groups 1 and 2, gives him access to Purchase Orders (Read, Insert, Save, All Actions) and Locations, Assets and Work Orders (Read, Insert, Save, Delete, and All Actions) in the Bedford, Nashua, and Beverly sites.

Joe Smith's Security Profile

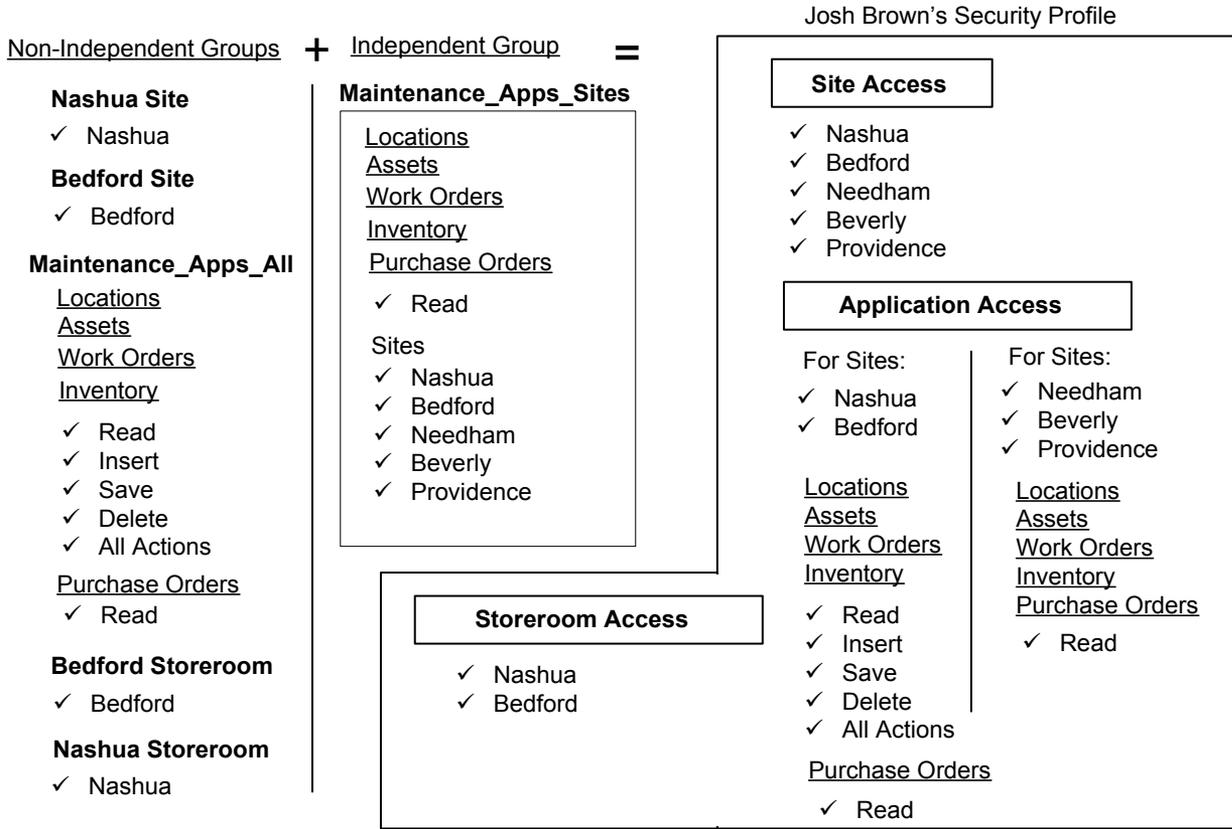


Suppose Josh Brown is the Maintenance Supervisor for the Nashua and Bedford sites of ACME Corporation, and he is a member of independent and non-independent groups. The independent groups, for example, provide Read access to some applications at other sites within the organization.

This table and diagram show Josh Brown's security profile, which is a combination of independent and non-independent groups.

Group Names	Group Settings	Independent?
Nashua Site	Nashua	N
Bedford Site	Bedford	N
Maintenance_Apps_All	Locations, Assets, Work Orders, and Inventory (Read, Insert, Save, Delete, All Actions) Purchase Orders (Read)	N
Bedford Storeroom	Bedford	N
Nashua Storeroom	Nashua	N
Maintenance_Apps_Sites	Locations, Assets, Work Orders, Inventory, and Purchase Orders (Read) Nashua, Bedford, Needham, Beverly, and Providence sites	Y

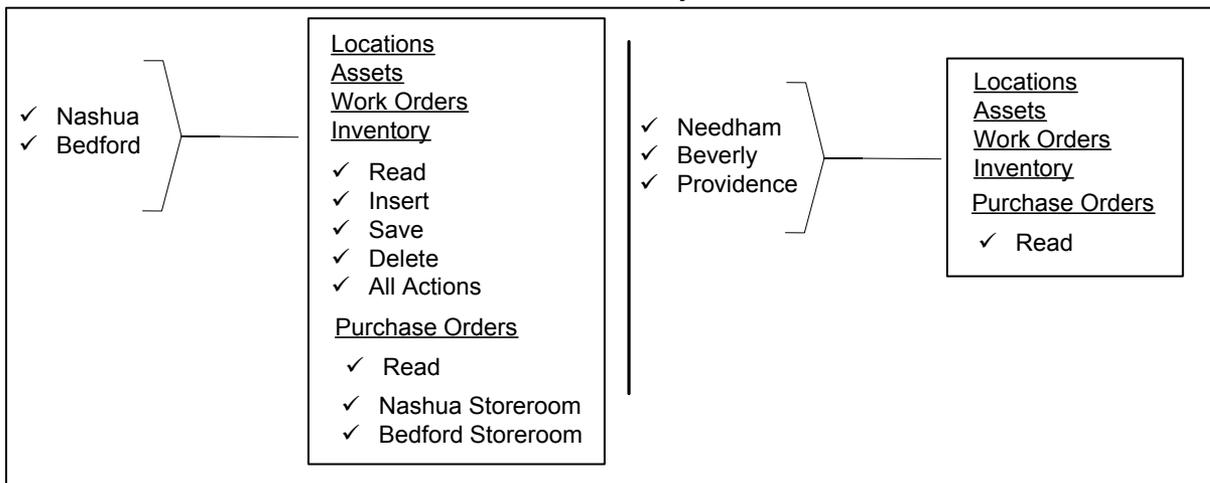
Example: Security profile with non-independent and independent groups



Josh Brown, Maintenance Supervisor for the Nashua and Bedford sites of ACME Corp, also requires Read access to maintenance applications at the Needham, Beverly, and Providence sites.

Josh Brown's Security Profile, which Maximo builds from his membership from a collection of non-independent (for Nashua and Bedford) and independent groups (for Nashua, Bedford, Needham, Beverly, and Providence), gives him full access rights (Read, Insert, Save, Delete, and All Actions) for maintenance applications in Nashua and Bedford, but Read only access to maintenance applications in Needham, Beverly, and Providence. His storeroom access is limited to the Nashua and Bedford sites.

Josh Brown's Security Profile



Josh Brown's security profile gives him full access rights to Work Orders, Assets, Locations and Inventory within the sites that he supervises. He has read-only rights to the same applications in sites where he does not supervise.

Rules for Combining and Merging Groups

When combining or merging groups to create a user's profile, the system checks whether there are any rules that affect the selection or usage of security settings and authorizations.

Password Duration and Warning

You set these values using the Security Controls action from the Users or Security Groups application. Password Duration and Password Warning are site-independent. The system applies the greatest value (in days) from the user's groups. For example:

Group	Password Duration	Password Warning
A	60	5
B	90	10
Resulting profile	90	10

Sites

The Authorize Group for all Sites flag on the Sites tab in the Security Groups application gives any members of this group access to all sites in the system. Otherwise, the system tracks which unique sites a user has access to via group membership and the accumulation of sites is included in the user's profile.

Application Authorization

Authorizations depend on security group type:

Group Type	Application Authorizations
Independent	Authorizations apply exclusively to sites or organizations associated with the group.
Non-independent	Authorizations for all non-independent groups apply to the accumulation of sites specified for all non-independent groups.

Access to the administrative applications, Users and Security Groups, is site-independent when you do not specify a site. You can modify site administration by specifying a site or sites for the group that grants access to the administrative applications.

The accumulation of all unique application authorization records across security groups becomes the access list of Application Authorizations in the user's profile.

The system populates the Action and Go To Menus with all options and applications granted to a user, regardless of site or organization. You can grant a user the Change Status menu item for purchase orders in Bedford, but not Nashua, and the menu item appears in the user's Bedford and Nashua records.

In the preceding example, if the user attempts to change the PO status for a Nashua record, a message appears denying authorization to the record's site or organization, even if you granted the user the ability to read PO records in Nashua.

If a profile contains application authorizations but no sites, the user can access the applications but not view or insert records, except for the Users and Security Groups applications.

To view a list of all Maximo applications sorted by level, either System, Organizational, Site, or Set, see the Maximo applications tables on page 25.

Storeroom Authorization

Authorizations depend on security group type:

Group Type	Application Authorizations
Independent	Authorizations apply exclusively to sites or organizations associated with the group.
Non-independent	Authorizations for all non-independent groups apply to the accumulation of sites specified for all non-independent groups.

The Storerooms tab for Security Groups lets you authorize a group for all the storerooms for all sites associated with that group.

If any of the user's groups grants access to all or specific storerooms at a given site, the profile reflects the maximum amount of storeroom access:

Group	Access
A	All storerooms at a given site
B	Only one storeroom at that site
Resulting profile	All storerooms at that site

NOTE A user must have access to a storeroom and its site before the system adds the storeroom authorization to the profile.

You can give a user access to the Users and Security Groups applications, but not to storeroom records. In this example, the user has access to the administrative applications that let the user check the security group boxes that authorize access to all storerooms, but not add specific storerooms records using the New Row function.

The accumulation of all unique storeroom authorization records across security groups becomes the access list of Storeroom Authorizations in the user's profile.

Labor Authorization

The Labor tab in the Security Groups application lets you authorize a group and users who belong to the group, for these labor types:

- ▼ All labor in an organization
- ▼ All labor in the same crew as the user
- ▼ All labor in the same Person Group as the user
- ▼ All labor that the user supervises
- ▼ Only the user's own labor records
- ▼ Individual labor records listed in the table window (LABORAUTH table)

If any of the user's groups grants access to all or specific labor options, the user's profile reflects the maximum amount of labor access.

The ORGID access for the Labor application depends on the sites granted to the user's security groups. If a group has access to a certain site, the group has access to that site's organization.

NOTE A user must have access to all or a subset of labor and a site in the labor's organization before the system adds the labor authorization to the user's profile.

You can give a user access to the Users and Security Groups applications but not grant that user access to labor records. In this example, the user has access to the administrative applications that let the user check the security group boxes that authorize access to all labor, but not add specific labor records using the New Row function.

The accumulation of all unique labor authorizations across security groups becomes the complete list of Labor options available in the user's profile.

Labor is an organizational-level application, so any user who has access to Labor via a security group can view data for all sites in an organization, regardless of the site access granted by the group.

GL Components

This tab lets you authorize a group to modify some or all of the GL components for sites and their organizations by checking an individual component, such as Cost Center, or checking the **Authorize Group to Change All GL Component Types?** box to authorize the group to change all GL components.

If any of the user's groups grants authorization to modify all or specific GL components, the user's profile reflects the maximum amount of GL component authorization.

Group	Access
A	Modify one GL component
B	Modify all GL components
Resulting profile	Modify all GL components

If you do not check the **Authorize Group to Change All GL Components?** box and do not authorize individual components for the group, a user cannot modify GL components.

Approval Limits and Tolerances

This tab lets you specify a group's limits and tolerances.

You can specify these approval limits:

- ▼ Purchase Requisitions (PR)
- ▼ Purchase Orders (PO)
- ▼ Material Receipts (MR)
- ▼ Invoice
- ▼ Contract

The accumulation of all unique limits and tolerance authorizations across security groups becomes the complete list of limits and tolerance authorizations available in the user's profile. The limits and tolerances you specify for a group are at the organizational level, but users inherit authorizations for only the sites they have access to.

Example 1 - PR Limits

User	Group	PR Limit
1	A	\$5,000
1	B	\$10,000
Resulting profile		\$10,000 for all sites the user can access if they are in the same organization

Example 2 - PR Limits

If the security profile grants User 1 access to two different organizations with different limits and tolerances in each organization, the user inherits the appropriate limits and tolerances for each site the user has access to in each organization.

User	Group	PR Limit
1	A	\$5,000 for sites in the Eagle NA organization
1	B	\$10,000 for sites in the Eagle SA organization
Resulting profile		<ul style="list-style-type: none"> ▼ \$5,000 for sites the user has access to in Eagle NA, and ▼ \$10,000 for sites the user has access to in Eagle SA

You can specify a group's tolerances (an upper and lower value and an upper and lower percent for each type):

- ▼ Invoice
- ▼ Tax
- ▼ Service

Example - Approval Limits

If the user's groups give different approval limit values for the same limit, the user's profile reflects the highest value.

User	Group	Invoice Approval Limit
Joe Black	A	\$1,000
Joe Black	B	\$5,000
Resulting profile		\$5,000

Example - Invoice Amount Tolerance

If different values exist for the same tolerance type, user's profile reflects the higher value.

User	Group	Upper Invoice Amount Tolerance
Joe Black	A	\$10
Joe Black	B	\$15
Resulting profile		\$15

Example - Tolerances or Limits in Different Organizations

If different values exist for the same tolerance type but the groups that grant the tolerance amount have sites in different organizations, the user's profile reflects the higher value for sites within the same organization.

User	Group	Upper Invoice Amount Tolerance
Joe Black	A	\$10 for sites in EagleNA
Joe Black	B	\$15 for sites in Eagle SA
Resulting profile		<ul style="list-style-type: none"> ▼ \$10 for sites the user has access to in Eagle NA, and ▼ \$15 for sites the user has access to in Eagle SA

Restrictions

Group restrictions apply exclusively to the sites associated with that group. This tab lets you use a SQL expression tool to restrict a group's access to table data.

If a group contains more than one restriction for an entity (table/view), the system concatenates the restrictions using the AND operator.

The accumulation of all group restrictions across security groups becomes the complete list of restrictions available in the user's profile. Based on group combinations, the system builds the user's access and authorizations, then appends any restrictions you create for a group.

Group restrictions supersede access and authorizations granted by the user's profile.

User	Group	Access to People
1	A	Full
1	B	Restricted (via Group Restrictions)
Resulting profile		Restricted

Site Administration

Administrative users with access to the Users and Security Groups applications, require the ability to manage:

- ▼ Groups related to specific sites
- ▼ Maximo users who reside in one or more sites

Administrative users must be familiar with rules governing site administration and the functionality in the Users and Security Groups applications when planning the security infrastructure for their organizations.

User Site Administration

Administrative users with access to the Users application for a specific site (e.g., Bedford), can manage (create users, configure password settings and so on) all users whose security profiles specify that site.

NOTE Users with access to the Users application without any sites specified in their security profiles can manage all users in all sites.

Here are 3 sample users and their security settings:

User ID	Application Access	Site Access
Wilson	Users and Security Groups	Bedford
Winston	N/A	Bedford
Smith	N/A	Nashua

Wilson (the administrative user) can:

- 1 Manage Winston, but not Smith.
- 2 Manage all users who are in the Bedford site.
- 3 Add security groups to users where the group has Bedford specified as a site.

Determining a user's site access for management purposes can come from independent or non-independent groups:

User	Group	Specified Sites
Wilson	Group or combination of groups	None
Wilson	Independent group	One
Resulting profile		Access to manage all users.

User	Group	Specified Sites
Wilson	Group or combination of groups	None
Wilson	Other groups (independent or non-independent)	Yes
Resulting profile		Access to manage all users.

User	Group	Specified Sites
Wilson		Multiple
Wilson	Independent group	One
Resulting profile		Access to users from the one site.

- ▼ If Wilson has access to multiple sites, but you only want him to manage users from one site, assign him to an independent group with just the User application and the specific site.

Group Site Administration

Administrative users with access to the Security Groups application for a specific site (for example, Bedford), can manage (create, duplicate or delete) all groups whose security profiles specify that site.

- NOTE** Users with access to the Security Groups application without any specified sites in their profile can manage groups that also have no site specified.

Consider this logic and use caution when planning for site administration and giving individuals the administrative privileges to manage security groups for one or more sites within an organization.

Wilson’s security profile contains:

- ▼ Access to the Security Groups application.
- ▼ Access to the Bedford site, via an independent group that grants access to Security Groups, or in a separate non-independent group.

Therefore, Wilson can:

- ▼ Create groups for the Bedford site.
- ▼ Add or remove users, whether or not the users already have the Bedford site specified in their security profile, from groups that have the Bedford site.
- ▼ Make changes to any groups with the Bedford site, but not all sites or no sites.

Wilson cannot:

- ▼ Create groups for the Bedford site that have access to all sites (Enabling the **Authorize Group for All Sites?** flag).
- ▼ Make changes to any groups, including adding or removing users that have enabled the **Authorize Group for All Sites?** setting or that have no sites.

Basic Rules for the Users and Groups Applications

- ▼ If the Administrative user is in a group that has this application (Users or Groups) and all sites, everything is allowed.
- ▼ If the Administrative user is in an independent group that has this application (Users or Groups) and no sites, everything is allowed.
- ▼ If the Administrative user is in a non-independent group that has all sites, everything is allowed.

If the Administrative user does not have everything allowed, then access is allowed as follows:

- ▼ For the User application, the user to be maintained has all sites or no sites, or has a site that is allowed for the Administrative user.
- ▼ For the Security Groups application, the group to be maintained has no sites, or has a site that is allowed for the Administrative user.

Building Security Profiles: Examples

These examples illustrate some approaches for constructing security profiles for small to larger organizations.

Example 1

- ▼ Worker Group
- ▼ Management Group

Simple profiles constructed from a collection of security groups that contains sufficient application and site access rights and privileges for all workers and management in the XYZ company.

The profiles' construction shows how you can combine groups to restrict access to applications and limits and tolerances. The worker security profile, for example, does not provide access to Purchase Requisitions and Financials and does not provide a purchase limit.

Example 1 – Single Organization with Worker and Management Security Profiles

Example: Single organization with security groups that provide sufficient application, site and storeroom access and privileges for all users in XYZ company.

Worker and Management Groups for XYZ company

Worker Group

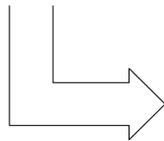
<u>Sites</u>	<u>Inventory</u>	<u>Assets</u>	<u>Labor Reporting</u>	<u>Work Orders</u>
✓ All sites	✓ Read	✓ Read	✓ Read	✓ Read
	✓ Insert	✓ Insert	✓ Insert	✓ Insert
<u>Storerooms</u>	✓ Save	✓ Save	✓ Save	✓ Save
✓ All storerooms	✓ Delete	✓ Delete	✓ All Actions	✓ All Actions
	✓ All Actions	✓ All Actions		

Management Group

<u>Sites</u>	<u>Inventory</u>	<u>Work Orders</u>	<u>Labor Reporting</u>
✓ All sites	✓ Read	✓ Read	✓ Read
	✓ Insert	✓ Insert	✓ Insert
<u>Storerooms</u>	✓ Save	✓ Save	✓ Save
✓ All storerooms	✓ Delete	✓ All Actions	✓ All Actions
	✓ All Actions		
<u>Purchasing Limit</u>	<u>Assets</u>	<u>Purchase Requisitions</u>	<u>Financials</u>
✓ \$10,000	✓ Read	✓ Read	✓ Read
	✓ Insert	✓ Insert	✓ Insert
	✓ Save	✓ Save	✓ Save
	✓ Delete	✓ All Actions	✓ Delete
	✓ All Actions		✓ All Actions

Security Profile for all Workers

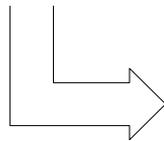
✓ All Workers



<u>Application Access</u>		<u>Sites</u>
<u>Inventory</u>	<u>Work Orders</u>	✓ All sites
<u>Assets</u>	<u>Labor Reporting</u>	
✓ Read	✓ Read	<u>Storerooms</u>
✓ Insert	✓ Insert	✓ All storerooms
✓ Save	✓ Save	
✓ Delete	✓ All Actions	
✓ All Actions		

Security Profile for all Management

✓ All Management



<u>Application Access</u>		<u>Sites</u>
<u>Inventory</u>	<u>Work Orders</u>	✓ All sites
<u>Assets</u>	<u>Labor Reporting</u>	
<u>Financials</u>	<u>Purchase Requisitions</u>	<u>Storerooms</u>
✓ Read	✓ Read	✓ All storerooms
✓ Insert	✓ Insert	
✓ Save	✓ Save	<u>Purchasing Limit</u>
✓ Delete	✓ All Actions	✓ \$10,000
✓ All Actions		

Example 2

This sample organization uses a mix of non-independent security groups, a type of group picklist, dedicated to individual security categories such as application access, site access, storeroom access, and approval limits.

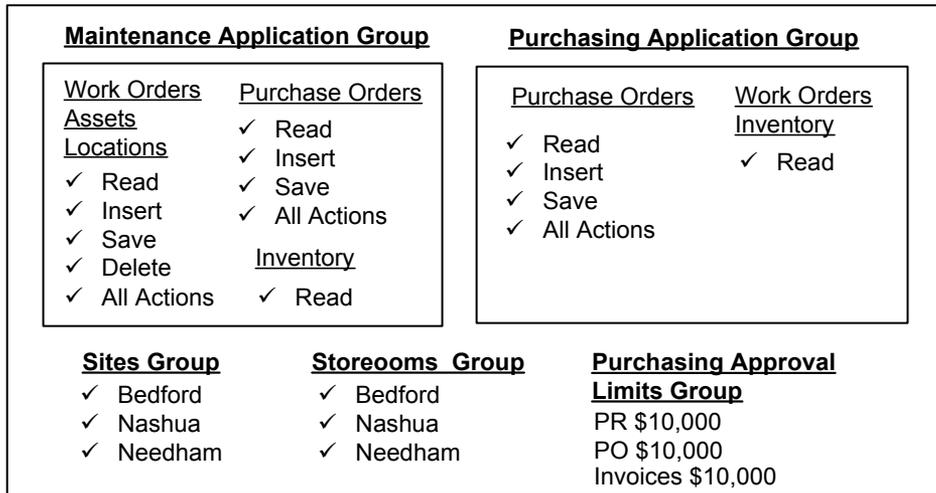
The application groups, for example, are for specific functional areas within the company such as Maintenance and Purchasing.

When you add users to a related set of security groups, the system builds security profiles for these users that provide the access rights and privileges they need to perform their job responsibilities within a specific functional area of the organization.

Example 2 – Single Organization with Mixed Security Groups

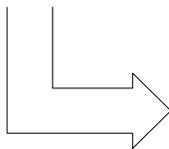
Example: Single organization with a mix of non-independent security groups dedicated to individual group categories like application, site and storeroom access. Security profiles reflect functional areas within the company, like Maintenance and Purchasing, as you add users to groups that provide the required access and privileges needed to perform specific job responsibilities.

Mixed Non-Independent Security Groups for XYZ Company



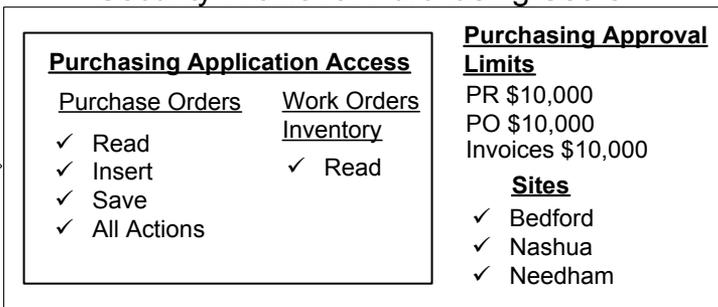
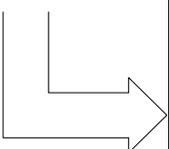
Security Profile for Maintenance Users

✓ Maintenance users



Security Profile for Purchasing Users

✓ Purchasing users



Example 3

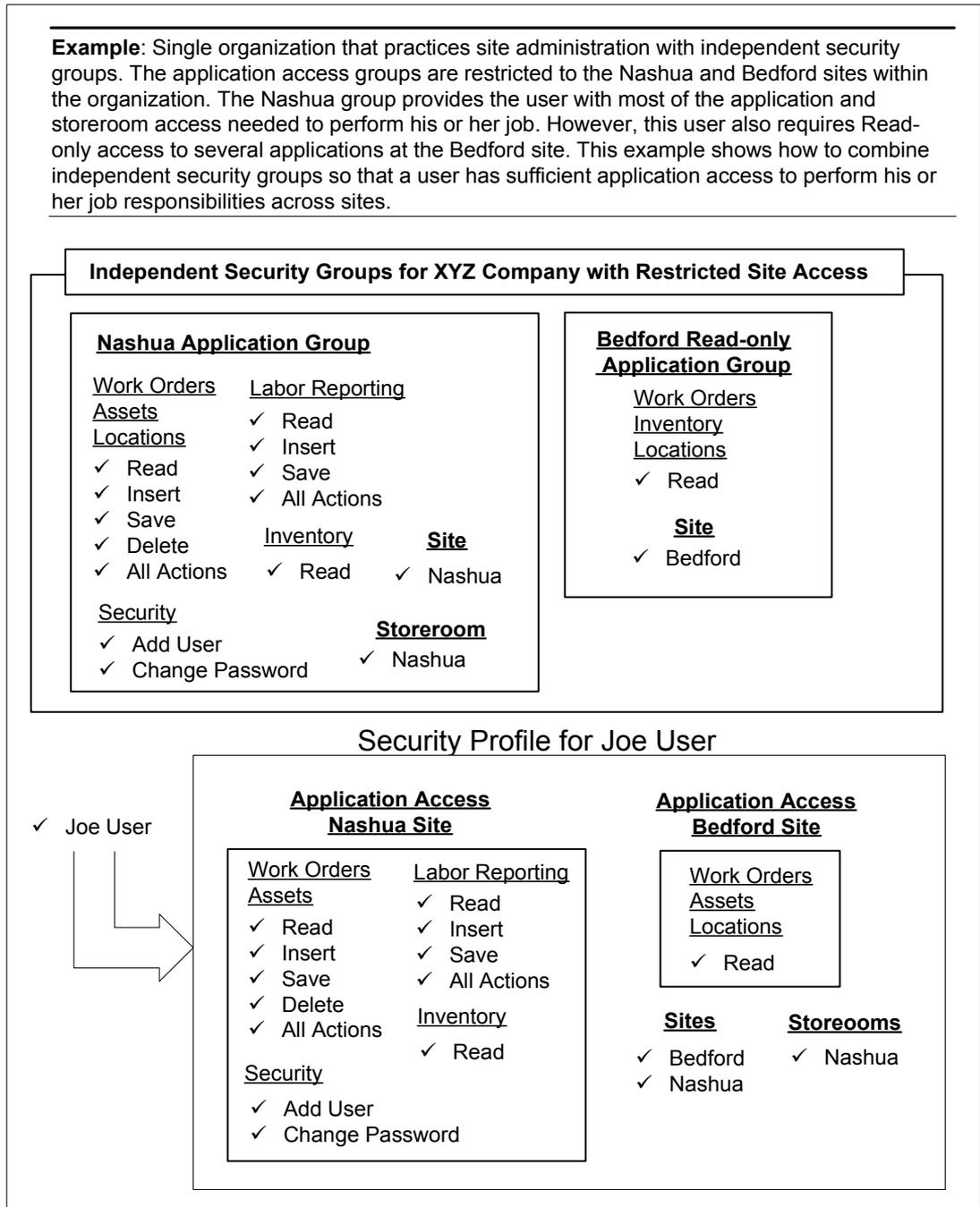
This sample contains a single organization and independent security groups. The organization employs site administration so each site group is limited to an individual site within the organization.

To provide read-only application access at a different site for an employee, add the user to that site group and to an application access group that provides read-only access to certain applications.

In this example, the user works in Nashua and has the most privileges and broadest range of application access. To provide access to Bedford and still maintain site administration, add the user to the Bedford site group and the read-only application group.

Example 3 – Single Organization with Independent Security Groups using Site Administration

Example: Single organization that practices site administration with independent security groups. The application access groups are restricted to the Nashua and Bedford sites within the organization. The Nashua group provides the user with most of the application and storeroom access needed to perform his or her job. However, this user also requires Read-only access to several applications at the Bedford site. This example shows how to combine independent security groups so that a user has sufficient application access to perform his or her job responsibilities across sites.



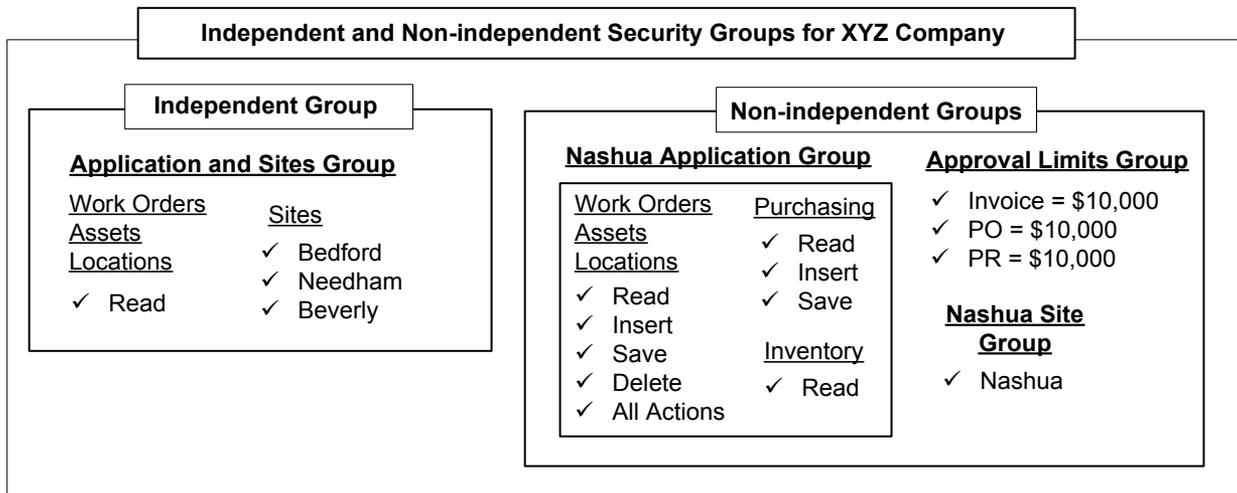
Example 4

This profile is built from independent and non-independent groups. The user's membership in 1 independent site and read-only application group provides restricted, read-only access to several applications at remote sites.

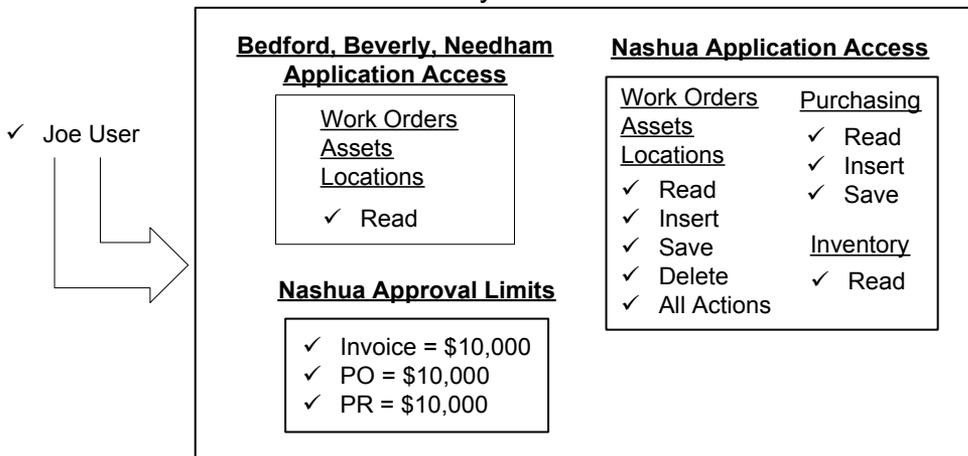
Membership in the non-independent groups provides sufficient application access rights and approval limits to perform the user's job responsibilities at the user's primary work site.

Example 4 – One Organization with Independent and Non-Independent Security Groups

Example: Single organization that practices site administration with independent and non-independent security groups. The independent group provides the user with read-only application access at several remote sites. The non-independent groups provide the user with all the application access and approval limits he needs to perform his job responsibilities at his primary site.



Security Profile for Joe User



Example 5

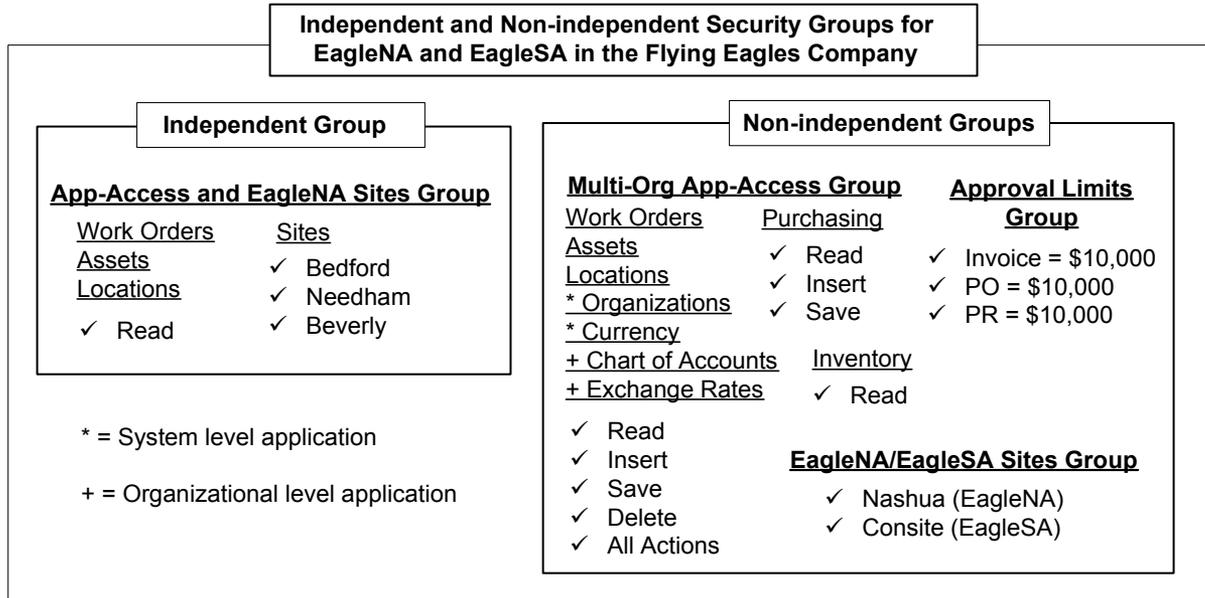
This profile is for a user in a multi-organizational implementation (EagleNA and EagleSA) and is a member of these security groups:

- ▼ 3 non-independent security groups, including a cross-organizational site group, give the user the same application access and approval limits at separate sites within different organizations (EagleNA/EagleSA).
- ▼ 1 independent site and read-only application access group that provides application access for several sites within a single organization (EagleNA).

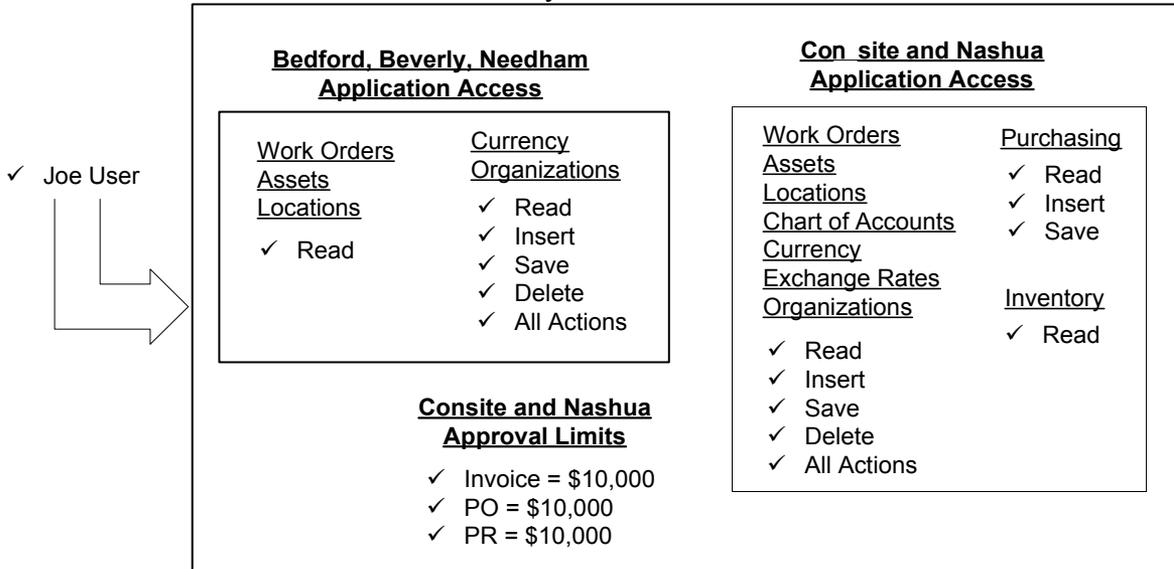
This example illustrates how user access to organizational and system level applications applies to all sites within an organization and within the system.

Example 5 – Multi-Organization with Independent and Non-Independent Security Groups

Example: Multi-organizational Maximo implementation that uses independent and non-independent security groups to provide the user with read-only access to certain applications at several sites in one organization (EagleNA) and more robust application access at two other sites that reside in separate organizations (EagleNA and EagleSA). This example also includes some system and organizational-level applications, like Currency and Exchange Rates, that provide system-wide (all sites) and organization-wide (all sites in an organization) access.



Security Profile for Joe User



These business rules apply to applications flagged with these symbols:

* System-level application whose authorization automatically applies to all sites in the system.

+ Organizational-level application whose authorization automatically applies to all sites in the organization.

NOTE If a Sites group contains sites from 2 organizations and you combine non-independent groups, any organizational level applications within the security profile are available to the user(s) across all sites spanning both organizations.

Security Mechanisms

This chapter discusses the following security mechanisms:

- ▼ Authorization
- ▼ Application Server Security
- ▼ Configuring Maximo
- ▼ Synchronization
- ▼ Encryption
- ▼ SSO

Authorization

Maximo determines where users can go and what they can do. This is called *authorization*.

The process is as follows:

- 1 You place users in security groups.
- 2 The combination of these groups represents users' security profiles.
- 3 Users acquire the authorizations and rights of the security groups they belong to.
- 4 Users' security profiles determine their maximum rights and privileges.

Application Access

Users have four types of access to an application:

- ▼ Read
- ▼ Insert
- ▼ Save
- ▼ Delete

You can grant users specific options within an application. For example, you may grant managers rights to read work order histories, costs and warranties, but *not* to insert work orders or service requests.

NOTE You must minimally grant users read access to applications. You must configure each application for read access so administrative users can select additional application access options.

All applications and their corresponding access options appear in the SIGOPTION table, which contains these types of column information:

- ▼ Application Option Description
- ▼ Application Option Name
- ▼ Visible
- ▼ Also Grants
- ▼ Also Revokes
- ▼ Prerequisite

The Visible setting (Y or N) indicates whether you can select the option from the Applications authorization tab in the Security Groups application. If an option is not visible, it is granted with another option. These standard Maximo options are not visible:

- ▼ Clear
- ▼ Bookmark
- ▼ Next
- ▼ Previous
- ▼ Viewhist
- ▼ Drilldown

For example, when you select READ, the system grants the invisible CLEAR, BOOKMARK, NEXT, PREVIOUS, VIEWHIST, and DRILLDOWN options. The READ option alone does not provide useful functionality.

The Also Grants, Also Revokes, and Prerequisite values indicate inter-relationships between options.

Example

- ▼ If you select the INSERT option for an application, Maximo Also Grants the SAVE option.
- ▼ If you deselect the SAVE option, Maximo Also Revokes the INSERT, DUPLICATE, and DELETE options.

Standard access options are typically associated with Prerequisite, Also Grants, and Also Revokes options:

Standard Prerequisite	Prerequisite
All Options	Read
Duplicate	Insert
Delete	Save

Standard Also Grants	Also Grants
Insert	Save
Read	Clear, Bookmark, Next, Previous, Viewhist, Drilldown

Standard Also Revokes	Also Revokes
Read	All Options
Save	Insert, Duplicate
Insert	Duplicate

NOTE These inter-relationships are generally true, but individual applications sometimes vary. To view option access information for a specific application, use a SQL editor to search the SIGOPTION table.

Group Access

A group's application access is linked to its site access. You can give a group access to:

- ▼ All sites
- ▼ Specific sites
- ▼ No sites

With Security Groups, you can set access to Storerooms, Labor, GL Components, and Approval Limits and Tolerances. When creating a security group, these quick pick options are available on different tabs:

- ▼ Access to all storerooms
- ▼ Access to all GL segments
- ▼ Access to all sites
- ▼ Access to all labor
- ▼ Access to all labor in your crew
- ▼ Access to all labor in your person group
- ▼ Access to all labor you supervise
- ▼ Access to your own labor

Users

After setting up application access and group access, you grant individual users access to Maximo. This process is discussed in the Security chapter. For more information, see “Administrative Users” on page 2-2.

Authentication

Saying *who* you are is identification, and proving it is authentication. There are three separate ways to authenticate Maximo users, but they all share a common trait. Authentication is *always* provided by a user ID and password.

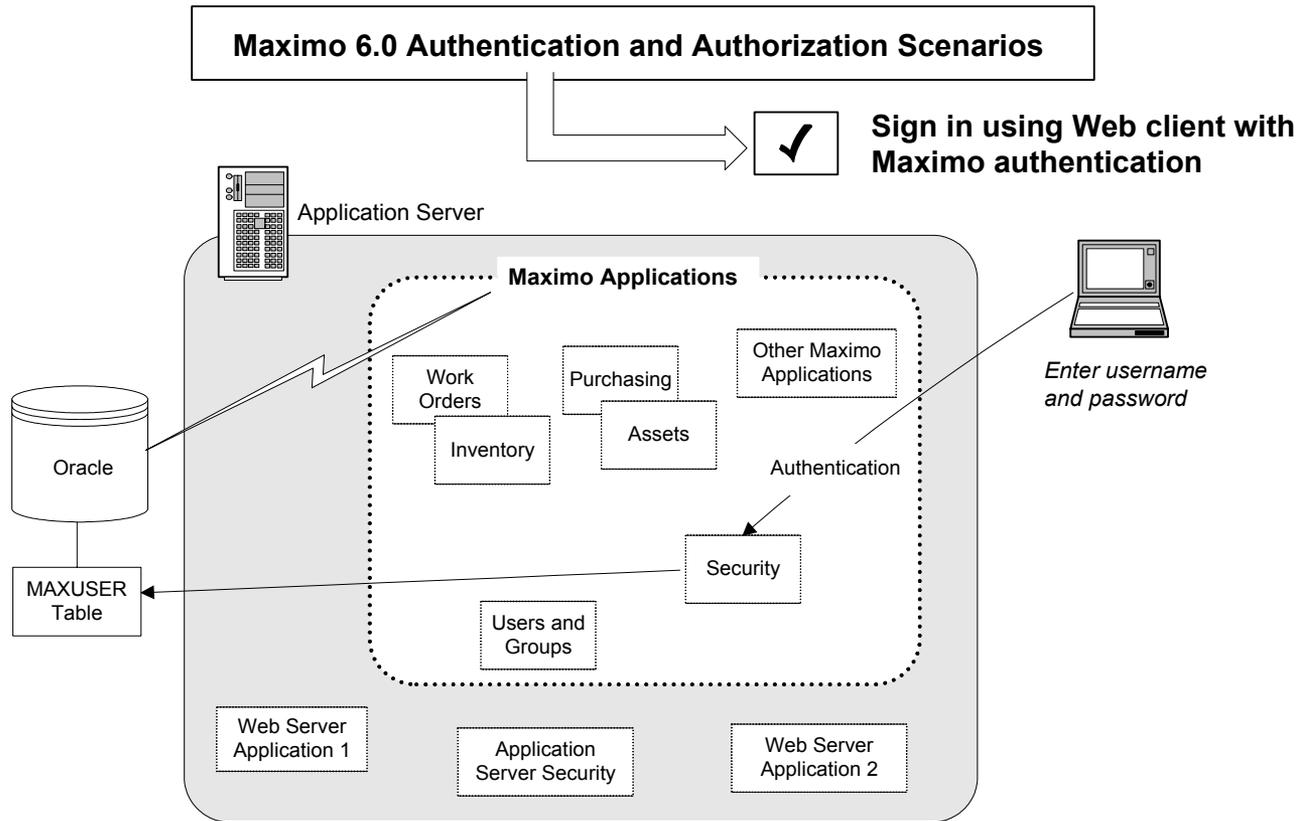
You can authenticate Maximo users through:

- ▼ Native Maximo Authentication
- ▼ Application Server Authentication

Native Maximo Authentication

This is the most common way to authenticate application access.

- 1 At Maximo’s Web client login screen, users enter a Login ID (in the User Name field) and password.
- 2 Maximo security services validate users’ credentials against the Maximo database. This uses Java encryption to check the user in the Maximo schema/database.
- 3 The system checks users’ security profiles. Based on the authorizations they contain, the system grants users access to Maximo’s applications.



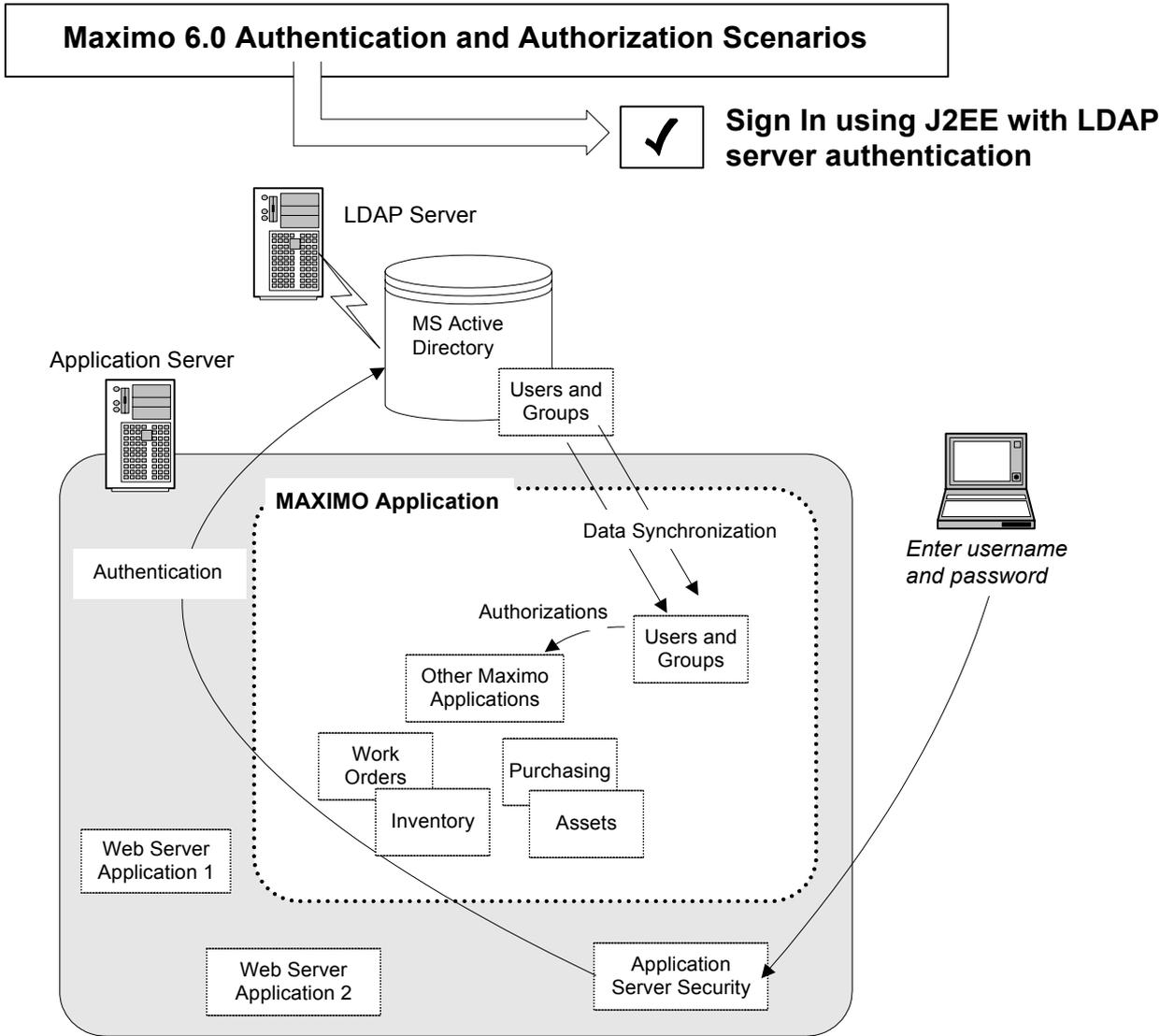
Maximo security services load at system startup, and perform these actions:

- ▼ Verify Login ID (blocked or inactive).
- ▼ Authenticate Login ID and updates password history (if configured).
- ▼ Establish user's default insert site, organization, and Person ID.
- ▼ Establish the user's language, locale, time zone, and Start Center ID.
- ▼ Look for any workflow assignments in the user's inbox (if workflow is enabled).

Application Server Authentication

Maximo is built using J2EE technology, which requires a commercial application server. Maximo uses the BEA WebLogic or the IBM WebSphere application server.

You can use application server security with an external authentication mechanism, such as an LDAP (Lightweight Directory Access Protocol) server, to authenticate users. LDAP is a set of protocols for accessing information directories.



Managing Security Roles

Use these roles to manage Maximo security.

Application server	Security role	Description
WebLogic	Supports both Global and Scoped roles.	Global - applies to all resources within a security realm (i.e. the entire Server domain).
	By default, WebLogic uses Scoped roles. You can change to Global roles using the Administration Console.	Scoped - Applies to a specific instance of a resource deployed in a security realm.
WebSphere	Supports only Scoped roles.	Map the Scoped roles to individual non-nested groups.
		WebSphere cannot authenticate users in nested Groups.

WebLogic: for more information see:

- <http://e-docs.bea.com/wls/docs81/secwlrsec/secroles.html#1217798>
- <http://e-docs.bea.com/wls/docs81/secwlrsec/types.html#1213777>

WebSphere: for more information see:

- <http://publib.boulder.ibm.com/infocenter/ws51help/index.jsp>

Application Server Security

This section applies to both WebLogic and WebSphere. Before configuring Maximo for application server security:

- ▼ look at the Considerations listed below
- ▼ review the “Preliminary Tasks” on page 3-8
- ▼ configure the application server security, either WebLogic on page 3-8 or WebSphere on page 3-12.

Considerations

- 1 The application server is configured to authenticate against a LDAP server user registry.

Maximo supports integration with Microsoft Active Directory LDAP server, and lets you move LDAP server data into Maximo database tables.

- 2 Add and delete users and groups from the LDAP server, but provide authorization from Maximo.
- 3 Configure all Maximo application-specific authorization rules for users and groups using Maximo security module applications. In Maximo, disable:
 - ▼ Password Information in Start Center
 - ▼ Change Password application
 - ▼ Self-Registration
 - ▼ Users application
 - ▼ Security Groups are limited to Administrators assigning Maximo permissions restrictions
- 4 LDAP server users and groups are moved into Maximo database tables to identify users as Maximo users, and provide user details in Maximo applications.

Users and groups deleted from the LDAP server are not deleted from Maximo database tables; audits may exist for users or groups.

- 5 If user accounts are disabled from LDAP server, it takes several minutes for the application server to expire the user’s cached information (depending on cache expiration settings).
- 6 Before users can access Maximo:

- a The application server authentication must be passed.
 - b Users' identities must exist in Maximo database tables.
 - c Users must have authorization for the application.
- 7 Application servers use Roles to identify users and groups with access to Maximo. All roles configured in an application are mapped to users or groups using application server-specific deployment descriptors or application server-provided administrative tools.

By default, Maximo includes a security role, `maximouser`, mapped to the `maximousers` group, which identifies users with access to Maximo. You can change this role mapping to any user(s) or group(s) in the LDAP server.

Preliminary Tasks

This section applies to both WebLogic and WebSphere. These tasks fall outside the Maximo environment. Before configuring Maximo to use Application Server and LDAP security, you must:

- ▼ Create the User Directory.
- ▼ Install and configure Active Directory.
- ▼ Create an Organizational Unit (OU) for Maximo.
- ▼ Create a group called `maximousers`, under the Maximo OU.
- ▼ Create administrative users in Maximo's Active Directory, and assign them to an OU. Maximo requires these administrative users.
 - `MAXADMIN`
 - `MAXREG`
 - `MXINTADM`
- ▼ Assign these administrative users to the `maximousers` group.

Configuring WebLogic Security for Active Directory

Before configuring Maximo to use BEA WebLogic and LDAP security:

- 1 Log in to the WebLogic Server Console.
- 2 In the left pane, navigate to the Security > Realms > myrealm > Providers > Authentication folder.
- 3 Click **ActiveDirectoryAuthenticator**.

ActiveDirectoryAuthenticator    

Connected to : qa23 :7001 | You are logged in as : weblogic | [Logout](#)

Configuration

General | Active Directory | Users | Groups | Membership | Details

The Active Directory Authentication provider allows you to access an external Active Directory LDAP store. This page allows you to define the general configuration of this Active Directory Authentication provider.

Name: ActiveDirectoryAuthenticator
The name of this Active Directory Authentication provider.

Description: Provider that performs LDAP authentication
A short description of this Active Directory Authentication provider.

Version: 1.0
The version number of this Active Directory Authentication provider.

 **Control Flag:** 
Specifies how this Active Directory Authentication provider fits into the login sequence. (See the online help for details.)

4 On the General tab, set the **Control Flag** field to **REQUIRED**. Click **Apply**.

5 On the Active Directory tab, modify these fields:

Host - Enter the LDAP server's machine name or IP address.

Principal - Example:

CN=Administrator,CN=Users,DC=Eagle,DC=maximo,DC=com

Credential - Enter a password.

6 On the Users tab, make these modifications:

▼ In the **User Base DN** field, select an OU containing your users (example: MAXUSERS):

ou=MAXUSERS,dc=eagle,dc=maximo,dc=com

NOTE If you do not use Active Directory, skip this step.

▼ In the **User Name Attribute** field, enter:

sAMAccountName

▼ In the **User From Name Filter** field, enter:

(&(sAMAccountName=%u)(objectclass=user))

7 Click **Apply** and continue.

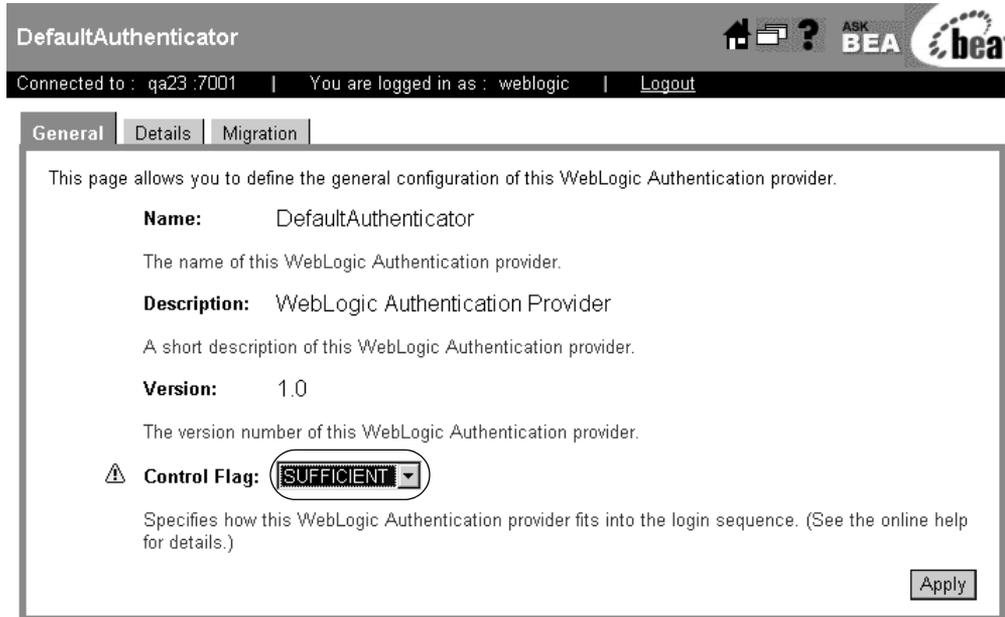
- 8 On the Groups tab, edit the **Group Base DN** field. Point to the same OU as in the previous step:

ou=MAXUSERS,dc=eagle,dc=maximo,dc=com

Click **Apply**.

Do not edit the Membership or Details tabs.

- 9 From the left pane of the WebLogic Server Console, click **DefaultAuthenticator**.



- 10 On the General tab, set the Control Flag to **SUFFICIENT**. Click **Apply**.

This let administrators access WebLogic using the WebLogic account.

- 11 To verify the users are synchronized to WebLogic, go to **Security > Realms > myrealm > Users**.

Check for errors and make sure the users you created in the Active Directory OU appear as WebLogic users. If errors appear return to “Preliminary Tasks” on page 3-8, then rework this procedure.

This Users page displays key information about each user that has been configured in this security re:

[Configure a new User...](#)

Filter By:

User	Description	Provider	
weblogic	The default administration user	DefaultAuthenticator	
mxuser		ActiveDirectoryAuthenticator	
maxadmin		ActiveDirectoryAuthenticator	
liberi		ActiveDirectoryAuthenticator	

12 To verify the groups are synchronized to WebLogic, go to **Security > Realms > myrealm > Groups**.

The groups you created in the Active Directory OU appear as WebLogic groups:

This Groups page displays key information about each group that has

[Configure a new Group...](#)

Filter By:

Group	
Administrators	Administrators can view and modify all res
Deployers	Deployers can view all resource attributes
Monitors	Monitors can view and modify all resource
Operators	Operators can view and modify all resourc
maximousers	

13 Start the WebLogic application server.

NOTE If the changes do not take effect immediately, try:

- ▼ clicking **Accept** twice
- ▼ restarting the WebLogic server

Configuring WebSphere Security for Active Directory

Before configuring Maximo to use IBM WebSphere and LDAP security:

- 1 Login to the WebSphere Console.
- 2 In the left pane, navigate to the Security > Global security folder.

On the Configuration tab, under the User Registries heading, click **LDAP**.

- 3 On the Configuration tab, edit these fields:

- ▼ In the **Server user ID** field, enter the user id that runs the WebSphere Distributed Application Server for security purposes. For example:

```
<principal>cn=devadmin,cn=users,dc=maximodev,dc=mro,dc=com</principal>
```

- ▼ In the **Server user password** field, enter a password.
- ▼ In the **Type** field, enter Active Directory.
- ▼ In the **Host** field, enter the machine name or IP address of the LDAP Server.
- ▼ In the **Base distinguished name (DN)** field, enter Distinguished name of the directory service which indicates the starting point for LDAP searches in directory service. For example:

```
<basedn>ou=Bedford,dc=maximodev,dc=mro,dc=com</basedn>
```

- ▼ In the **Bind distinguished name (DN)** field, enter a distinguished name for the application server, which is used to bind to the directory service. For example:

```
<principal>cn=devadmin,cn=users,dc=maximodev,dc=mro,dc=com</principal>
```

- ▼ Enter a bind password
- ▼ Click **Apply**.

- 4 On the Configuration tab, under the Additional Properties heading, click **Advanced Lightweight Directory Access Protocol (LDAP) user registry settings**. Edit these fields:

NOTE If you do not use Active Directory, skip this step.

- ▼ In the **User filter** field, enter:

```
(&(sAMAccountName=%u)(objectCategory=person)(objectClass=user))
```
- ▼ In the **User ID map** field, enter:

```
sAMAccountName
```
- ▼ Click **OK**.

- 5 Return to the Configuration tab, edit the following fields:

- ▼ In the **Enable global security** field – check box.
 - ▼ In the **Enforce Java 2 security** field– uncheck box.
 - ▼ In the **Active User Registry** field, select Lightweight Directory Access Protocol (LDAP) user registry.
 - ▼ Click **OK**.
- 6 If validation occurs, click **Save** under the message box to save the configuration changes.
 - 7 Complete the tasks in “Configuring Maximo” on page 3-14, then return to this procedure.
 - 8 In the left pane, navigate to the Applications > Enterprise Applications folder. Click **Maximo**.
 - 9 On the Configuration tab, under the Additional Properties heading, click **Map security roles to users/groups**.
 - 10 Select maximouser, then do one of the following:
 - ▼ click **Look up users** if you want to give individual users access to the Maximo application.
 - ▼ click **Look up groups** if you want to give groups and users in groups access to the Maximo application.
 - 11 For the Search String, do one of the following:
 - ▼ for individual users, search on **max*** for maximouser or ***** for all users. Move Maximo users from the Available list to the Selected list by clicking the >> button.
 - ▼ for groups, search on **max*** for maximouser groups or ***** for all users. Move Maximo user groups from the Available list to the Selected list by clicking the >> button.

This will authenticate users into the system. Click OK upon completion.
 - 12 Click **OK** again.
 - 13 Click **Save** under the message box to save the Enterprise Application configuration changes.
 - 14 Click **Save** again to save the Enterprise Application configuration changes.
 - 15 Click **OK** to synchronize changes with nodes.
 - 16 In the left pane, navigate to the Servers> Application servers folder. Click **maximoserver** and start the server.

Configuring Maximo

To configure Maximo to use application server security:

- 1 To enable application server authentication, edit `maximo.properties`, located in the `<Maximo root> applications\maximo\properties` folder.

Uncomment **`mxe.useAppServerSecurity`**. Change the value to `true`. When it looks like this example, save your changes.

```
// Enable the following setting if MAXIMO application is
// configured to use
// Application Server provided security. The default is to use
// MAXIMO security
// and the value is false. Setting this value to true implies
// that the
// MAXIMO security should be disabled. MAXIMO application would
// not work correctly
// if this setting is set to true and MAXIMO application is not
// configured to
// use Application Server security. The default value is false,
// if not set.
```

```
mxe.useAppServerSecurity=true
```

- 2 To enable application server login, edit the **`web.xml`** file, in this folder:
`<Maximo root>applications\maximo\maximouiweb`
`\webmodule\WEB-INF`

Set the `useAppServerSecurity` environment entry to **`true`**, as in this example:

```
<env-entry>
  <description>Indicates whether to use Application
  Server security or not</description>
  <env-entry-name>useAppServerSecurity</env-entry-
  name>
  <env-entry-value>true</env-entry-value>
```

3 In the same **web.xml** file, uncomment these lines:

```

<!--
  <security-constraint>
    <web-resource-collection>
      <web-resource-name>MAXIMO UI pages</web-resource-
name>
      <description>pages accessible by authorised users</
description>
      <url-pattern>*/</url-pattern>
      <http-method>GET</http-method>
      <http-method>POST</http-method>
    </web-resource-collection>
    <auth-constraint>
      <description>Roles that have access to MAXIMO UI</
description>
      <role-name>maximouser</role-name>
    </auth-constraint>
    <user-data-constraint>
      <description>data transmission gaurantee</
description>
      <transport-guarantee>NONE</transport-guarantee>
    </user-data-constraint>
  </security-constraint>

  <login-config>
    <auth-method>BASIC</auth-method>
    <realm-name>MAXIMO Web Application Realm</realm-name>
  </login-config>
-->

```

4 In the same **web.xml** file, change the welcome screen to direct traffic into the `webclient\login\login.jsp`, not to `index.html`:

```

<!-- The welcome-file-list contains an ordered list of welcome
files
elements. -->
<welcome-file-list>
<!-- The welcome-file element contains file name to use as a
default
welcome file, such as index.html -->
<welcome-file>/webclient/login/login.jsp</welcome-file>
</welcome-file-list>

```

5 Modify the **ldapsynch.xml** file in the `<Maximo root>` `applications\Maximo\properties` folder, to synchronize the Directory Server users and group data into Maximo database tables.

Modify these parameters, using this information. See “Configuring Maximo” on page 3-14.

Parameters	Definition or Example
<host>	The machine name or IP address of the LDAP server
<port>	for example: 389 The standard port number for Directory Server is 389
<principal>	for example: CN=Administrator,CN=Users,DC=eagle,DC=maximo,DC=com
<credential>	enter a password
<user><basedn>	for example: OU=MAXUSERS,DC=eagle,DC=maximo,DC=com
<group><basedn>	for example: OU=MAXUSERS,DC=eagle,DC=maximo,DC=com
<filter>	(&(objectCategory=person)(objectClass=user))
<attributes> <attribute>	<sAMAccountName>
<datamap> <table name="Maximo table">	<keycolumn name="USERID" type="UPPER"> sAMAccountName</keycolumn> MAXUSER.USERID is mapped to sAMAccountName from Directory Server.

Maximo is enabled to use application server security.

6 Build the Maximo EAR file:

- ▼ Open a Command Prompt. Change directory to your <Maximo root>\deployment folder, for example:

C:\Maximo\deployment

- ▼ Type **buildmaximoear**. Press **Enter**.

7 Deploy the EAR file in the appropriate application server.

- ▼ For WebLogic, see “Deploying EAR Files” on page 25-9.
- ▼ For WebSphere, see “Deploying EAR Files” on page 27-13.

8 Modify your Actuate Reporting Server to use Application Server Security:

- a**
- Open the
- `rsse_maximo.properties`
- file in the following directory:

```
<Actuate_home>\iserver\bin\com\actatue\ExternalText\
```

- b**
- Set the
- `ldap.enabled`
- property to true:

```
ldap.enabled=true
```

- c**
- Modify the
- `rsse_maximo.properties`
- file by using the settings in the
- `ldapsynch.xml`
- file that you modified in step 5. Refer to the following table:

<code>rsse_maximo.property</code>	<code>ldapsynch.xml</code>
<code>ldap.context.factory</code>	<code>com.sun.jndi.ldap.LdapCtxFactory</code>
<code>ldap.provider.url</code>	<code>ldap://<server host>:<port number></code> where <ul style="list-style-type: none"> ▼ <i><server host></i> is the name of the LDAP server. ▼ <i><port number></i> is the LDAP server's port number.
<code>ldap.user.basedn</code>	<code>user.basedn</code>

- d**
- Save and close the
- `rsse_maximo.properties`
- file.

- e**
- Stop the Process Management Daemon (PMD) Service.

- f**
- Restart the PMD Service.

NOTE For information about starting the PMD Service, refer to your *MXES Installation Guide*.

- g**
- Log in to Management Console as Administrator or through an administrator account. Verify that you can access your reports in Maximo.

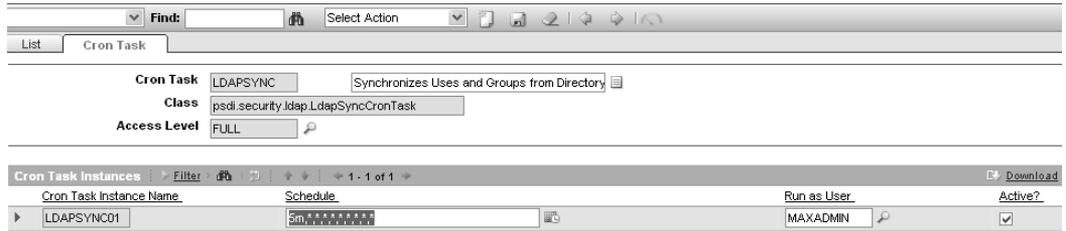
Synchronization

Synchronization keeps data in Maximo up-to-date with data in Active Directory. It is important to note that information moves in one direction only — from Active Directory to Maximo.

- ▼ First you create users and groups in Active Directory.
- ▼ When they are synchronized to Maximo, you can assign them to Maximo groups.

In the following procedure, you set up a cron task to synchronize data.

- 1 Log into Maximo as an administrative user. Open the Cron Task Setup application.
- 2 Set the LDAPSYNC Cron Task to **Active**. Set a schedule.



Let the cron-task to run, to synchronize all the users and groups from LDAP Directory Server into Maximo database tables.

NOTE If synchronization fails, the ldapsync.xml file settings are incorrect. Edit the file to correct the settings, then rebuild and redeploy the Maximo EAR file.

- 3 Verify this screen opens when you log into Maximo.



Data Mappings

The LDAP server maintains an attribute list for each user or group. Each attribute has an associated data type, which you can query the server to see. The LDAPSYNC cron task only supports string or character data retrieval from the LDAP server.

The data mappings in **ldapsync.xml** map LDAP attributes to Maximo table columns. For the LDAPSYNC cron task to create a new database record, all the required columns must contain data. If all the required column data cannot be obtained from the LDAP Server, you must specify default values.

To fill in default values for columns the value must be enclosed inside {} brackets; for example {ABC}, will fill in the value ABC in the column. Note that the value is case sensitive.

The synchronization task also supports special substitute values to automatically generate unique ids and system dates. To generate unique id for a column, use the notation {;uniqueid} and to generate system date use the notation {;sysdate}.

Synchronization tips

This section contains synchronization tips. As stated before, information moves in only one direction — from Active Directory to Maximo.

Deleting users and groups

Deleting Users and Security Groups on the Active Directory server does not delete them in Maximo. This is for audit purposes of clients in regulated industries.

Disabling user accounts

Disabling a user account in Active Directory does not disable it in Maximo. You must manually disable it in Maximo.

If synchronization fails

If fields do not synchronize Active Directory to Maximo:

- 1 Check the ldapsync.xml file for typographical errors. If this does not fix the problem, continue with step 2.
- 2 Enable the attributes in the LDAP global catalog. You can install the Active Directory schema snap-in to set up a LDAP global catalog.

Renaming groups or users

Renaming a group or user in Active Directory does not rename it in Maximo. Maximo cannot identify the object if the object's primary name has changed, so a new object is created instead.

Instead of renaming a group or user, delete it and create a new one.

Full name differs from user logon name

The application server synchronizes on cn (common name), which is the Full Name field in Active Directory.

To synchronize from the User logon name and log in to Maximo, the user name attribute must be correctly mapped in ldapsync.xml and the application server.

Encryption

Maximo utilizes new data types, Crypto and CryptoX, for encrypting passwords and other types of confidential information.

Data Type	Data Stored	Algorithm
CryptoX	User passwords	<ul style="list-style-type: none"> ▼ One-way encryption ▼ Stores password in encrypted format (cannot be decrypted or displayed) ▼ Internally, Maximo uses the encrypted version
Crypto	Information you want to decrypt for display	<ul style="list-style-type: none"> ▼ Two-way encryption ▼ Information can be decrypted and displayed to users

Maximo uses Sun's Java Cryptography Extension (JCE) to perform encryption. This technology can utilize variables (e.g., Provider, Mode, Padding, Key and Spec) to transform the input data into encrypted data. By default, Maximo uses the DESede algorithm and its defaults for the other values. Crypto and CryptoX use the DESede encryption algorithm.

Modifying Encryption Settings

In the maximo.properties file, you can configure encryption data types options to be consistent with industry and government guidelines:

- ▼ Key
- ▼ Mode
- ▼ Padding
- ▼ Spec

Encryption Property Name	Settings for JCE and DESede
mxe.security.crypto.key mxe.security.cryptox.key	Length must be a multiple of 24
mxe.security.crypto.mode mxe.security.cryptox.mode	CBC: Cipher Block Chaining Mode CFB: Cipher Feedback Mode ECB: Electronic Codebook Mode OFB: Output Feedback Mode PCBC: Propagating Cipher Block Chaining
mxe.security.crypto.padding mxe.security.cryptox.padding	NoPadding PKCS5Padding
mxe.security.crypto.spec mxe.security.cryptox.spec	Length must be a multiple of 8

Using Encryption

You can encrypt files to provide additional security. The files listed below reside in the `<Maximo root> \applications\Maximo\properties` folder.

Files you can encrypt	Properties you can encrypt
maximo.properties	<ul style="list-style-type: none"> ▼ mxe.db.password ▼ mxe.system.regpassword ▼ mxe.report.bo.rptServerLogonPass <p>Located in <code>additionalmaximo.properties</code> by default — you must copy it into <code>maximo.properties</code> before you can encrypt it.</p>
ldapsync.xml	<p>The credential attribute. For example:</p> <pre><credential>password</credential></pre>

When you encrypt a file, it leaves behind the unencrypted original. For security purposes, store the unencrypted original somewhere outside the Maximo file structure.

- 1 Use a text editor to modify `maximo.properties` or `ldapsync.xml`.
- 2 Open a command shell and navigate to `<Maximo root> \tools\maximo` folder.
- 3 Type **encryptproperties** to run the batch file. The old files are renamed with an ***_orig** extension:
 - ▼ `maximo.properties_orig`
 - ▼ `ldapsync.xml_orig`
- 4 Confirm that the new file contains an encryption string at the very end.
- 5 Store the unencrypted originals—the ones with the ***_orig** extension—somewhere outside the Maximo file structure.

Encrypting additional properties

You can encrypt additional properties — in addition to the ones listed above.

- 1 Open `encrypt.properties` in a text editor.
- 2 Add the additional properties you want to encrypt.
- 3 Run the encryption procedure listed above.

NOTE The additional encrypted properties must be decrypted wherever they are used in the application. Your development team is responsible for this customizing.

Editing encrypted files

If you want to edit a file that you already encrypted, follow this process:

- ▼ Delete the encrypted `maximo.properties` and `ldapsync.xml` files.
- ▼ Restore the unencrypted originals back into the `<Maximo root>\applications\Maximo\properties` folder.
- ▼ Remove the `_orig` extensions from both files.
- ▼ Make your changes, then re-encrypt the files.

SSO

Single sign on (SSO) is an authentication process that permits a user to enter one name and password in order to access multiple applications. When a user begins a session, the single sign on application authenticates the user to access all of the applications that they have been given rights to on the server. This eliminates the need to enter multiple passwords when the user switches applications during a particular session.

NOTE MRO Software has developed Maximo with the flexibility to integrate with SSO systems, but we do not provide software or support for an SSO system.

Maximo can participate in an SSO environment when you enable application server authentication. Both BEA WebLogic and IBM WebSphere support an SSO environment. Various vendors provide SSO platforms that are compatible with BEA WebLogic and IBM WebSphere.

Configuration for a single sign on system depends on your implementation. For more information about how to configure your specific SSO environment so that Maximo can participate, refer to the documentation for your SSO platform and your application server.

NOTE In order for Maximo reports to function, you must also configure your report server to support an SSO environment.

4

Database Configuration

You use the Database Configuration application to create or modify the objects and attributes that Maximo applications use, and customize the database.

On each client, use the Windows Control Panel Regional Settings application to specify formatting for date/time fields and numeric data, including amount fields such as currency settings.

NOTE This application's online Help contains information that is not included in this chapter.

Data Dictionary

The structure of a relational database is stored in the database's Data Dictionary.

CAUTION User error can corrupt Maximo's data dictionary. The only way to recover is to restore from a backup. Back up your data often.

Database structure lets you interpret data, and to see patterns and trends. When you know how your data is structured, it makes it easier to retrieve.

Table Name	List includes
MAXOBJECT	All Maximo objects. Links an object to its table or view.
MAXTABLE	All Maximo tables.
MAXVIEW	All Maximo views.
MAXATTRIBUTE	All attributes of an object. A table or view attribute depends on the object's attributes.
MAXVIEWCOLUMN	All view columns.
MAXRELATIONSHIP	All relationships defined on objects.
MAXSEQUENCE	All sequences used in Maximo. In SQL server, the sequences are internally generated from this table, but Oracle and DB2 use database sequence generators.
MAXSYSINDEXES	All indexes used in Maximo.

The Database Configuration Menu

Menu Item	Description
Delete Object	Marks the object for deletion. Objects are not deleted until you apply configuration changes.
Apply Configuration Changes	Changes are written to a secondary table until you apply them. You must shut down the application server and run configdb from the command line. See “Configuring the Database” on page 4-21.
Discard Configuration Changes	Discards changes that are not applied. The content of the Configuration objects, which holds the changes until they are applied, is cleared and reloaded with active Metadata values.
Delete Backup Tables	If applicable, the dialog box presents a list of backed up objects. You can select backup objects to delete, but cannot reconfigure the database until all are deleted.
Update Statistics	Improves database performance by reorganizing indexes.
Refresh Index Tables	Checks the database indexes and reloads into Maximo’s index metadata.
Field Length and Format	Used to view or change the amount field format, (length and decimal precision) and the Integer and Smallint fields.
GL Account Configuration	Specifies the GL account code format, including component field lengths and types, and Delimiters.
Manage eSig Actions	Enables eSignature on actions within an application. Lists applications and associated actions.
Add to Bookmarks	Lets you access the current record later from the List tab.
Run Reports	Lists the available reports. Select a report title and set parameters, then click Submit .

Reserved Words for Oracle Version 9.2

For the latest list, see Oracle's Website and search for reserved words.

NOTE In addition to these reserved words, Oracle uses system-generated names beginning with "SYS_" for implicitly generated schema objects and subobjects. Oracle discourages you from using this prefix in the names you explicitly provide to your schema objects and subobjects to avoid possible conflict in name resolution.

Attributes whose input values need to be verified as not a reserved word are checked against the native database. If the check generates an error, Maximo concludes that it is a reserved word.

ACCESS	IDENTIFIED	RAW
ADD *	IMMEDIATE *	RENAME
ALL *	IN *	RESOURCE
ALTER *	INCREMENT	REVOKE *
AND *	INDEX	ROW
ANY *	INITIAL	ROWID
AS *	INSERT *	ROWNUM
ASC *	INTEGER *	ROWS *
AUDIT	INTERSECT *	SELECT *
BETWEEN *	INTO *	SESSION *
BY *	IS *	SET *
CHAR *	LEVEL *	SHARE
CHECK *	LIKE *	SIZE *
CLUSTER	LOCK	SMALLINT *
COLUMN	LONG	START
COMMENT	MAXEXTENTS	SUCCESSFUL
COMPRESS	MINUS	SYNONYM
CONNECT *	MLSLABEL	SYSDATE
CREATE *	MODE	TABLE *
CURRENT *	MODIFY	THEN *
DATE *	NOAUDIT	TO *
DECIMAL *	NOCOMPRESS	TRIGGER
DEFAULT *	NOT *	UID
DELETE *	NOWAIT	UNION *
DESC *	NULL *	UNIQUE *

DISTINCT *	NUMBER	UPDATE *
DROP *	OF *	USER *
ELSE *	OFFLINE	VALIDATE
EXCLUSIVE	ON *	VALUES *
EXISTS	ONLINE	VARCHAR *
FILE	OPTION *	VARCHAR2
FLOAT *	OR *	VIEW *
FOR *	ORDER *	WHENEVER *
FROM *	PCTFREE	WHERE
GRANT *	PRIOR *	WITH *
GROUP *	PRIVILEGES *	
HAVING	PUBLIC *	

* These words are also ANSI-reserved.

Reserved Words for SQL Server

Microsoft® SQL Server™ 2000 uses reserved keywords for defining, manipulating, and accessing databases. They are part of the grammar used by SQL Server to parse and understand Transact-SQL statements and batches.

Although it is syntactically possible to use SQL Server reserved keywords as identifiers and object names in Transact-SQL scripts, this can be done only using delimited identifiers.

For the latest list, see http://msdn.microsoft.com/library/default.asp?url=/library/en-us/tsqlref/ts_ra-rz_9oj7.asp.

ADD	EXCEPT	PERCENT
ALL	EXEC	PLAN
ALTER	EXECUTE	PRECISION
AND	EXISTS	PRIMARY
ANY	EXIT	PRINT
AS	FETCH	PROC
ASC	FILE	PROCEDURE
AUTHORIZATION	FILLFACTOR	PUBLIC
BACKUP	FOR	RAISERROR
BEGIN	FOREIGN	READ
BETWEEN	FREETEXT	READTEXT

BREAK	FREETEXTTABLE	RECONFIGURE
BROWSE	FROM	REFERENCES
BULK	FULL	REPLICATION
BY	FUNCTION	RESTORE
CASCADE	GOTO	RESTRICT
CASE	GRANT	RETURN
CHECK	GROUP	REVOKE
CHECKPOINT	HAVING	RIGHT
CLOSE	HOLDLOCK	ROLLBACK
CLUSTERED	IDENTITY	ROWCOUNT
COALESCE	IDENTITY_INSERT	ROWGUIDCOL
COLLATE	IDENTITYCOL	RULE
COLUMN	IF	SAVE
COMMIT	IN	SCHEMA
COMPUTE	INDEX	SELECT
CONSTRAINT	INNER	SESSION_USER
CONTAINS	INSERT	SET
CONTAINSTABLE	INTERSECT	SETUSER
CONTINUE	INTO	SHUTDOWN
CONVERT	IS	SOME
CREATE	JOIN	STATISTICS
CROSS	KEY	SYSTEM_USER
CURRENT	KILL	TABLE
CURRENT_DATE	LEFT	TEXTSIZE
CURRENT_TIME	LIKE	THEN
CURRENT_TIMESTAMP	LINENO	TO
CURRENT_USER	LOAD	TOP
CURSOR	NATIONAL	TRAN
DATABASE	NOCHECK	TRANSACTION
DBCC	NONCLUSTERED	TRIGGER
DEALLOCATE	NOT	TRUNCATE
DECLARE	NULL	TSEQUAL
DEFAULT	NULLIF	UNION
DELETE	OF	UNIQUE

DENY	OFF	UPDATE
DESC	OFFSETS	UPDATETEXT
DISK	ON	USE
DISTINCT	OPEN	USER
DISTRIBUTED	OPENDATASOURCE	VALUES
DOUBLE VARYING		OPENQUERY
DROP	OPENROWSET	VIEW
DUMMY	OPENXML	WAITFOR
DUMP	OPTION	WHEN
ELSE	OR	WHERE
END	ORDER	WHILE
ERRLVL	OUTER	WITH
ESCAPE	OVER	WRITETEXT

The Object Tab

When you use the Database Configuration application, you interact at the business object level. Internally, the application determines the actions to take on the tables to support the business objects' needs.

A database table stores several objects; each has different business rules. For example, a Ticket table defines Incident, Problem, and Ticket business objects.

In addition, a business object can span more than one database table. Views represent objects that span multiple tables. See "Creating Views" on page 4-14.

With the business object layer, the system tables that you must not modify are hidden from the UI (you can look at them, however). Some tables contain modifiable columns, which display the appropriate attributes to correspond to those columns.

The Object tab lets you configure individual database objects.

The screenshot shows the 'Database Configuration' window with the 'Object' tab selected. The object name is 'ASSET' and the table name is 'The ASSET Table'. The configuration is divided into several sections:

- Details:** Service is 'ASSET', Description is 'Asset', Entity is 'ASSET', and Class is 'psdi.app.asset.AssetSet'. The Level is 'SITE'.
- Table:** Main Object? is checked, Persistent? is checked, User Defined? is unchecked, Imported? is unchecked, and Internal? is unchecked. Storage Partition is 'MAXIMO', Unique Column is 'ASSETUID', Language Table is empty, and Language Column is 'LANGCODE'. Add Rowstamp? is checked, Is Language Table? is unchecked, Is Audit Table? is unchecked, Text Search Enabled? is checked, and Restore Data is 'N'.
- View:** View? is unchecked, View Where is empty, Join to Object is empty, View Select is empty, Automatically Select? is unchecked, and View From is empty.
- Audit:** Audit Enabled? is checked, Audit Table is 'A_ASSET', E-audit Filter is empty, and E-signature Filter is empty.

Creating or Modifying an Object

Objects are tables or views; they can be persistent or non-persistent. You can create user-defined objects in addition to existing Maximo objects (typically for custom applications). You specify the number of columns and their attribute definitions.

MRO Software recommends you use an abbreviation of your organization as a prefix to any new object or attribute name, for example ACME_EXTRATABLE or ACME_MEMOFIELD. This prevents accidentally choosing a database reserved word and prevents conflicts with new standard names in an upgrade.

- 1 On the Maximo toolbar, click **New Object**, or select an object from the **List** tab.
- 2 Enter a name in the **Object** field. Enter a description.
- 3 To use Views, click the lookup and select a value in the **Extends Object** field.

When you tab out, **View?** becomes checked. If the view joins 2 tables, you can enter the name for the second one under **Join To Object**.

- 4 Complete the appropriate fields:

Field	Description / Procedure
Level*	Click the lookup and select a value. See “Site and Organization Types” on page 4-34.
Main Object?*	To make this a main object for workflow, check this box.

Field	Description / Procedure
Persistent?	<p>If the object is persistent, 3 attributes are automatically created: id, description and rowstamp (if selected).</p> <p>If the object is non-persistent, nothing is added for attributes, but you cannot configure the database without creating at least one attribute for the object.</p>
Storage Partition*	<p>If applicable to your database, click Detail and select a storage partition for the object.</p> <p>A database storage partition (tablespace in Oracle; segment in MS SQL Server) is the physical location where a database object (e.g., object) is located on a disk.</p> <p>The database administrator must configure the value list DBSTORAGEPARTITION to include a valid list of tablespaces/segments available to Maximo. (For example, avoid creating objects in the SYSTEM tablespace.)</p>
User Defined? (appears only for existing objects)	<p>The object is a regular Maximo object (User Defined = 0) or was created by an administrator (User Defined = 1).</p> <p>If this box is checked, the Imported field indicates whether the object was defined using the Database Configuration application (Imported = 0) or defined by some other means (Imported = 1).</p>
Unique Column	<p>This is the name of the attribute that will be created as a unique identifier on a persistent object.</p> <p>It is used in indexing.</p>
Language Table	<p>To enable this object for multiple languages, specify a value. The convention is L_<tablename>.</p> <p>See “Configuring Maximo With Multiple Languages” on page A-1.</p>
View (in the View section)	<p>Click View. You can edit the Where clause, Join to Object, Select Clause, Auto Select, and From Clause fields.</p> <p>See “Creating Views” on page 4-14.</p>

Field	Description / Procedure
Audit Enabled? (in the Audit section)*	<p>Check to enable electronic audit records. You can:</p> <ul style="list-style-type: none"> ▼ Edit the default Audit Table name and the E-audit filter field. ▼ Enter the E-signature filter field regardless of the Audit setting. <p>See “Electronic Signatures and Audit Records” on page 4-24.</p>
Text Search Enabled?*	Select to enable text search on the object. You can use this with text search on attributes.

*Fields you can modify in existing Maximo objects

5 Click **Save Object**.

Object	Status Field
New	To Be Added
Modified	To Be Changed

The object is not modified, or the table or view is not created until you configure the database. See “Configuring the Database” on page 4-21.

Deleting User-Defined Objects

You cannot delete Maximo objects from the database, but you can delete user-defined objects. This also deletes associated indexes and relationships.

- 1 Select the object from the **List** tab.
- 2 Choose **Select Actions > Delete Object**.

A message explains that any data in the object will be deleted and asks whether to continue. The Status field reads “To Be Deleted.”

- 3 Configure the database. See “Configuring the Database” on page 4-21.

NOTE If the object is imported, only the Maximo Metadata is deleted. The base table is not deleted. The metadata exists in Maximo (maxattribute, etc.) and in the DBMS (Oracle metadata, for example).

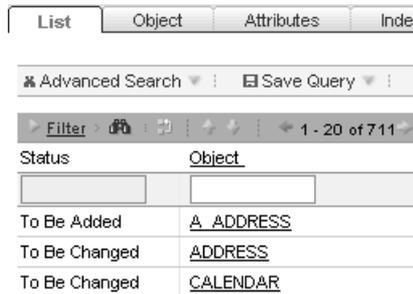
Saving Changes to the Database

You must save changes, but they do not take effect until you configure the database. You can finish modifying all relevant tabs, then configure the database.

Saving stores your changes in temporary database configuration objects but does not implement them in the database. Before configuring the database,

you can close and reopen the Database Configuration application without losing saved changes.

A secondary table stores pending changes, which also appear in the Status field. You cannot query on Status.



The Attributes Tab

Each database record contains multiple attributes. For example, the ASSET object contains ASSETID, DESCRIPTION, and GLACCOUNT. You can use the Attributes tab to modify existing attributes or add new attributes to the database record.

Maximo Data Types

Every attribute has an associated data type.

Value	Description
ALN	Alphanumeric characters, mixed case. Maximum length = 4000 characters.
AMOUNT	Decimal number, used for currency
BLOB	(Binary Large Object) Maximum length = 32,000 characters. Stores .jpgs, movies, or pdfs in single records inside the database instead of in external files.
CLOB	(Character Large Object) Maximum length = 32,000 characters. Advantage: it can be text indexed.
CRYPTO	Encrypted binary. Encrypts data in the database and on the screen. Used for passwords.
CRYPTOX	Encrypted binary (one-way). Encrypts data in the database, but leaves it readable on the screen. Used for password hints.

Value	Description
DATE	Date only
DATETIME	Date and time
DECIMAL	A number including an integer and a fraction that consists of a fixed number of digits called the scale.
DURATION	Displays as 1:30 = 1.5 hours
FLOAT	Numbers with fractional portions with variable precision.
GL	General Ledger account. An ALN that Maximo uses for GL Accounts. Use this type for GL Accounts.
INTEGER	Integer number
LONGALN	Long Alphanumeric. Oracle LONG is a character type whose max length = (2**31)-1, but in Maximo, only 32767. Has many limitations, including not searchable. Replace it with CLOB in applications.
LOWER	Lowercase characters
SMALLINT	Small integer
TIME	Time only
UPPER	Uppercase characters
YORN	Yes or No (1 or 0 in the database)

Modifying Attributes

Before modifying an attribute, verify whether it was created by MRO Software or someone at your site (the **User Defined?** box is checked). You cannot delete attributes created by MRO Software.

Attributes created by MRO Software have more restrictions on modifications than user-defined attributes. Some restrictions depend on whether text search is enabled for the object, or on the data type.

For example, certain data types have a set value for the length, scale, dates, or integers. The memo field is a regular ALN and you can make it anything you want.

The rules governing modifications are complex, and vary by attribute.

- 1 Click the Attributes tab > **View Details** icon.

The Attributes Tab

The screenshot shows the 'Database Configuration' window in Maximo. The 'Details' tab is active, displaying the following fields:

Attribute	ASSETNUM	Title *	Asset
Description *	Asset Number	Class	pscli.app.asset.FidAssetChild
Type *	UPPER	Domain	
Length *	12	Default Value	
Scale	0	Alias	ASSETNUM
Required?	<input checked="" type="checkbox"/>	Status	

The 'Advanced' tab is also visible, showing the following fields:

Entity	ASSET	Persistent?	<input checked="" type="checkbox"/>	Audit Enabled?	<input type="checkbox"/>
Column	ASSETNUM	Must Be?	<input type="checkbox"/>	Multilanguage Supported?	<input type="checkbox"/>
Same as Object		Positive?	<input type="checkbox"/>	Multilanguage in Use?	<input type="checkbox"/>
Same as Attribute		User Defined?	<input type="checkbox"/>	E-signature Enabled?	<input type="checkbox"/>
Autonumber	ASSETNUM	Can Autonumber?	<input checked="" type="checkbox"/>	Primary Column	2
Search Type	WILDCARD	Long Description Owner?	<input type="checkbox"/>	Attribute #	1
		Sequence		Next Sequence Number	

A 'New Row' button is located at the bottom right of the form.

- 2 Go to the relevant row of the table window and change the attribute definition as needed. Attribute definitions include those in the figure, above.

See Field Help (Alt+F1) for information on the attribute definitions. Some are read-only, depending on values in other fields.

- 3 Save your changes.
- 4 Shut down the Maximo Application Server. Configure the database and restart Maximo.

See “Configuring the Database” on page 4-21.

NOTE If you plan to install the Maximo Navigator (formerly called Illustrated Parts Catalog), do not exceed the field lengths for the following columns. Otherwise, data synchronization may fail.

Table.Column	Maximum Length
item.itemnum	60
item.description	250
item.stocktype	20
asset.eqnum	15
asset.description	50
asset.location	40
inventory.modelnum	60
inventory.manufacturer	40

Adding Attributes to Maximo Objects

MRO Software recommends you use an abbreviation of your organization as a prefix to any new object or attribute name, for example ACME_EXTRATABLE or ACME_MEMOFIELD. This prevents accidentally choosing a database reserved word and prevents conflicts with new standard names in an upgrade.

NOTE New attributes are accessible in the UI by first adding them to the respective application using the Application Designer functionality of MXES. Application Designer is found under Configuration module of MXES.

- 1 Select the object from the List tab.
- 2 Click the Attributes tab > **New Row**.
- 3 Enter a name.
- 4 (Optional) Add information to the Description field.
- 5 Select a data **Type** from the lookup list.
- 6 Continue modifying fields as needed. Use the field help if necessary. Some fields are read-only, depending on values in other fields.
- 7 Save your modifications. The object's status is "To Be Changed" until you configure the database.

See "Configuring the Database" on page 4-21.

Deleting User-Defined Attributes from the Database

You can delete attributes from user-defined objects, and user-defined attributes from Maximo objects.

NOTE Before deleting a user-defined attribute, use the Indexes tab to see whether the attribute is used by an index. If so, delete the index. You can recreate the index without the attribute you deleted.

- 1 Select the object from the List tab.
- 2 Click the Attributes tab.
- 3 In the Attributes table window, click the appropriate row.
- 4 Click the **trash icon**.

The Status field in the table window displays “Delete.”

- 5 Save the record.
- 6 Configure the database. See “Configuring the Database” on page 4-21.

Creating Views

Tables can contain many columns and rows. Relevant information may include:

- ▼ Only some of the columns
- ▼ Only rows that satisfy a certain condition
- ▼ Some columns of one table and some columns of a related table

To filter data, you can create a view: a subset of a database that an application can process. It may contain parts of one or more tables.

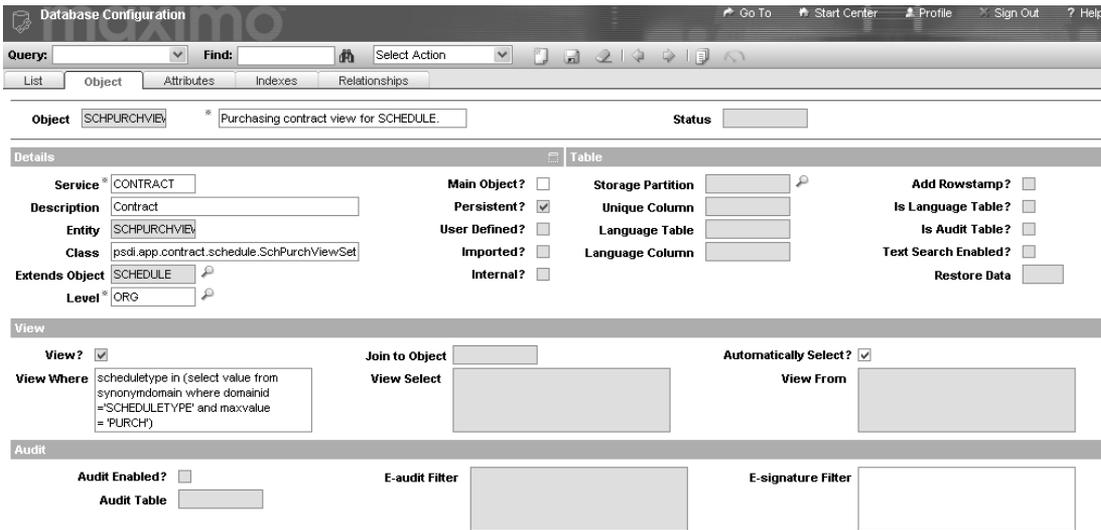
A view does not contain data. Instead, it is a definition that sits in the data dictionary, along with a database query that retrieves its data. Thus a view can contain data from more than one object, row, or attribute.

When you fetch the data from a view, the database pulls the necessary records based on the WHERE clause and returns the data.

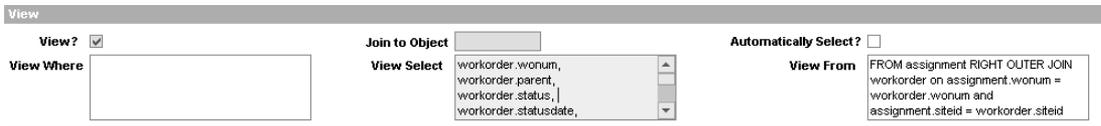
Attributes are loaded when you create a view object.

Purpose

Since views are stored as named queries, you can use them to store frequently used, complex queries. Run the queries using the view’s name in a simple query.

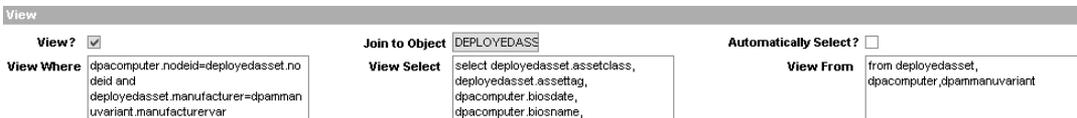


The view above is a subset of a table. Automatically Select is enabled. This applies the “choose all columns of the table” clause to all the columns of the single object. By default, the View Select and View From fields are blanked out.



The figure above does not contain a WHERE clause and Automatically Select is disabled. Therefore the view is created from all columns specified in the View Select field using the FROM clause in the View From field.

View Select is optional; when it is not specified, all columns in both tables are included.



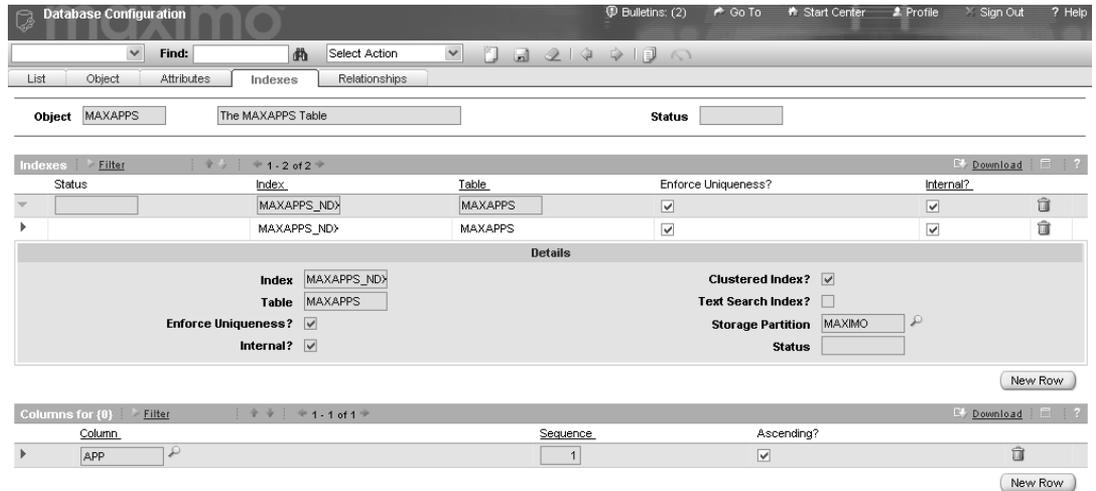
The View in the figure above is created from the objects listed in the View From field: DEPLOYEDASSET, DPRCOMPUTER, and DPAMMANUVARIANT.

In this example, the Extends Object is the primary table connected to the view. Space can become an issue; a database query’s length is ≤ 4000 characters.

Indexes Tab

Use the Indexes tab to create new indexes for the selected object, and to display or delete (drop) existing indexes.

NOTE With inherited objects, you can never use the Indexes tab.



Use indexes to optimize performance for fetching data. They provide pointers to locations of frequently accessed data. You can create an index on the columns in an object that you frequently query.

Table window	Description
Indexes	Shows indexes associated with the object
Columns	Shows the columns in the selected index

To view an existing index definition, select it from the Indexes table window. Database Configuration displays the columns included in the index in the Columns table window.

NOTE You cannot redefine existing indexes. You must delete them and recreate their definitions.

The Database Storage Partition field lets you select a storage partition for an index.

Creating an Index

- 1 In the List tab, select the object for which you want to create an index.
- 2 Click the Indexes tab.

NOTE You can create indexes for audit objects; however, they should not be unique indexes.
- 3 Click **New Row** in the Indexes table window.
- 4 Enter a name.
- 5 To make the data in the indexed attribute(s) unique, check the **Enforce Uniqueness** box.
- 6 If applicable to your database, click **Detail** in the **Storage Partition** field and select a storage partition for the index.
- 7 For SQL Server only (optional): check the **Clustered Index** box to create a clustered index.

A clustered index determines the physical order of data in a table. It is analogous to a telephone directory, which arranges data by last name. Because it dictates the physical storage order of the data in the table, an object can contain only one clustered index.

NOTE On SQL Server, you cannot enable text searching for indexes.

- 8 To add a attribute to the index, click **New Row** in the Columns table window.
- 9 Use **Select Value** to add a column.
- 10 To make indexes in ascending order, check the **Ascending** box. The Columns table window displays the attribute you added. The order in which you add columns determines their sequence.
- 11 To add columns, click **New Row**.
- 12 Save the record.
- 13 Configure the database. See “Configuring the Database” on page 4-21.

Deleting an Index

- 1 Use the List tab to select the relevant object, then click the Indexes tab.
- 2 From the Indexes table window, select the appropriate index.
- 3 Click the **trash icon**.

The Status field in the table window displays “Delete.”
- 4 Save the record.
- 5 Configure the database. See “Configuring the Database” on page 4-21.

Refreshing Index Tables

You can define indexes via the back end to test for improved performance before defining indexes as Maximo metadata. SQL Server can add indexes to an object depending on usage, and after building them, you can update the Maximo metadata. Then, refresh your index tables.

The Refresh Index Tables menu item looks at the indexes defined on the native database, then loads the actual index into Maximo.

- 1 Choose **Select Action > Refresh Index Tables**.
- 2 To refresh the index metadata, click **OK**.

Database Relationships

Database relationships are associations between tables, which is similar to family relationships:

Type of relationship	Description	Analogy
One-to-one	Both tables can have only one record on each side of the relationship. Each primary key value relates to only one (or no) record in the related table. Most one-to-one relationships are forced by business rules and do not flow naturally from the data. Without such a rule, you can usually combine both tables without breaking any normalization rules.	Spouse + spouse If you are married, you and your spouse each have one spouse.
One-to-many	The primary key table contains only one record that relates to none, one, or many records in the related table.	You + parent You have only one mother, but she may have several children.
Many-to-many	Each record in both tables can relate to any number of records (or no records) in the other table. These relationships require a third table, called an associate or linking table, because relational systems cannot directly accommodate the relationship.	Siblings If you have several siblings, so do they.

Relationships Tab

Use this tab to define SQL for joins, to create relationships between parent and child objects. Use a JOIN to link data from multiple objects; in Maximo, the parent is the existing object and the child is the object you are creating.

For example, Parent = MAXUSER, Child = SITE, and Name = DEFSITE means maxuser exists and you want to get the site for the user's default site:

```
siteid = :defsite
```

This means site.siteid = maxuser.defsite. When the SQL is executed, the value of the parent's attribute replaces anything preceded by a colon.

Relationship tab

The screenshot shows the 'Database Configuration' interface. At the top, there's a search bar with 'Find:' and a 'Select Action' dropdown. Below that, the 'Object' is set to 'WORKORDER' and the 'Status' is empty. The main area displays a table of relationships. The table has columns for 'Relationship', 'Child Object', 'Where Clause', and 'Remarks'. The 'ASSETTRANS' relationship is highlighted. Below the table, a 'Details' section provides more information for the selected relationship.

Relationship	Child Object	Where Clause	Remarks
ACTIVEASSETMETER	ASSETMETER	active=yes and assetnum=assetnum and site	Relationship to the ASSETMETER table, used to
ACTIVELABTRANS	LABTRANS	refwo=:wonom and siteid=:siteid and timerstal	Relationship to the LabTrans table, used to find
ACTIVELOCATIONMETER	LOCATIONMETER	active=yes and location=:location and siteid=:s	Relationship to the LOCATIONMETER table, use
ALLASSET	WORKORDER	(wonom=:wonom or wonom in (select wonur	
ALLASSETS	ASSET	siteid=:siteid	
ALLOCATION	WORKORDER	(wonom=:wonom or wonom in (select wonur	
ALLOCATIONS	LOCATIONS	siteid=:siteid	
ANCESTORS	WOANCESTOR	wonom = :wonom and ancestor != :wonom anc	Relationship to the WOAncestor table, used to
ASSET	ASSET	assetnum = :assetnum and siteid=:siteid	Relationship to the Asset table, used to find the
ASSETAUTOATTRUPDATE	AUTOATTRUPD	wonom=:wonom and asset=:assetnum and sit	
ASSETLOCCOMM	ASSETLOCCOM	commodity=:commodity and assettype is null	
ASSETLOCCOMMGRPVIEW	ASSETLOCCOM	commoditygroup = :commoditygroup and asset	
ASSETMOVEDFLT	ASSETMOVEDF		Relationship to the workorder's assetmovedflt
ASSETSPEC	ASSETSPEC	assetnum=:assetnum and siteid=:siteid	
ASSETTRANS	ASSETTRANS	wonom=:wonom and siteid=:siteid	Relationship to the ASSETTRANS table, used to

Details	
Relationship	ASSETTRANS
Where Clause	wonom=:wonom and siteid=:siteid
Child Object*	ASSETTRANS
Remarks	Relationship to the ASSETTRANS table, used to find all assettrans records for a work order. (assettrans.wonom = workorder.wonom). This resulting set will contain zero or more objects.

Creating a Relationship Between Parent and Child Objects

- 1 Use the List tab to select the appropriate parent table.
- 2 Click the Relationships tab.
- 3 Click **New Row**.
- 4 Enter a name in the **Relationship** field.
- 5 Create a **Where Clause**.
- 6 Select a **Child Object**.
- 7 (Optional) Enter **Remarks**.
- 8 Save the record.

NOTE If the relationship involves a new table or column, you must configure the database. See “Configuring the Database” on page 4-21.

Deleting a Relationship

- 1 Use the List tab to select the appropriate object. Click the Relationships tab.
- 2 Select the appropriate relationship.
- 3 Click the **trash icon**.
- 4 Save the record.

Configuring the Database

WARNING Always back up your data before configuring the database.

When modifying the database (examples: creating or deleting objects, attributes, or indexes), changes are stored in secondary tables and do not take effect until you configure the database. Maximo restores the backup tables as part of configuration.

Consideration

You cannot configure the database if the schema owner differs from the database user, as in the following example:

```
mxe.db.schemaowner=MAXIMO
mxe.db.user=MAXIMO_USR
```

If you have this problem, here is the fix:

- ▼ modify maximo.properties so that the schema owner and database owner are the same
- ▼ configure the database
- ▼ modify maximo.properties to return the original settings

How to configure the database

- 1 Shut down your application server and wait 1 minute before configuring the database. (The application server session timestamp updates every 60 seconds.) Otherwise, a message may appear:

```
"MXServer is running. It must be shut down to run ConfigureDB."
```

- 2 Open a command prompt and change directory to:

```
<Maximo home directory>\tools\maximo
for example: C:\maximo\tools\maximo
```

- 3 Do one of the following:
 - ▼ To configure the database and restore backup tables, type **configdb**.
 - ▼ (Optional) To avoid restoring backup tables, edit the batch file (ConfigDB.bat file in the \tools\maximo folder):

NOTE Be careful; sometimes the data in the temp tables (XX+tablename) must be modified before restoring.

```

ConfigDB.bat - Notepad
File Edit Format Help
timestamp + ".log".
REM                                     (Also see -d parameter for logfile
directory.)
REM -p (password)                       Password for database connection.
REM                                     If not specified, uses mxs.db.password
property, or "maximo".
REM -r                                   Call RestoreFromBackup immediately after
ConfigDB ends without error.
REM                                     Care should be taken when using this param,
as there are occasions when
REM                                     the data in the temp tables (XX+tablename)
must be modified before
REM                                     attempting the Restore.
REM -u (username)                       Username for database connection.
REM                                     If not specified, uses mxs.db.user property,
or "maximo".

call commonEnv.bat

@..\java\jre\bin\java -classpath %MAXIMO_CLASSPATH%
psdi.configure.ConfigDB -l -e -r
-k..\..\applications\maximo\properties %1 %2 %3 %4 %5 %6
    
```

- a Remove the **-r** parameter.
- b Save your changes.
- c Return to the command prompt and type **configdb**.

To restore backup tables later, see “Restoring Backup Tables” on page 4-22.

- 4 If configuration errors occur, work directly in the database to resolve them. Consult the log files for troubleshooting:

<Maximo home directory>\tools\maximo\log

for example: C:\maximo\tools\maximo\log

- 5 After configuration completes, start the application server.

NOTE If backup tables were created, delete them before reconfiguring the database.

Restoring Backup Tables

You need this procedure only if you avoided backing up files during configuration. See “Configuring the Database” on page 4-21.

- 1 Open a command prompt and change directory to:

<Maximo home directory>\tools\maximo

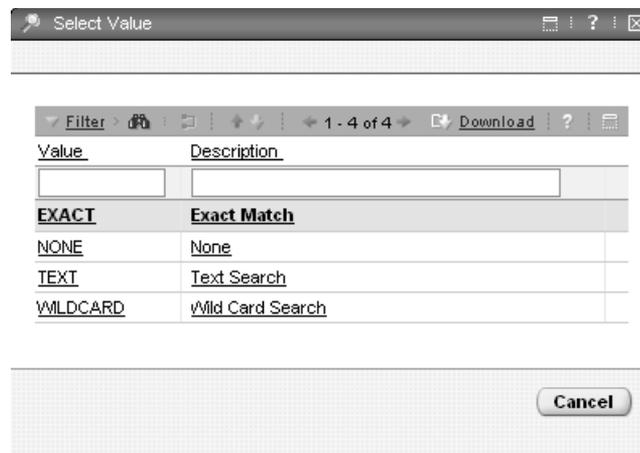
- 2 Run **restorefrombackup**.
- 3 Start the application server.

Text Search

If an object is enabled for text search, Maximo provides full text search on its attributes.

Type of search	Entry required
Exact match	=
Wildcard	% (example: %value%)
Full text	Any combination of the words in the text search

The Text Search dialog box is accessible from the Search Type field on the Attribute tab.



NOTE Text search is only allowed for ALN fields, and is designed to search long descriptions or fields that are long data types.

Full text search is language-specific text search (not string search). Maximo indexes words, not parts of words. For example, the result is not 'part' if you search for 'par'.

Maximo also performs stem search. For example, searching for 'service' returns 'servicing' and 'serviced.'

You must flag text search on the object and appropriate attributes. For example, in the ASSET table, the description and long description fields are text search-enabled.

Electronic Signatures and Audit Records

These features provide an additional level of security control and auditing capability within Maximo.

The person(s) responsible for electronic records' content can control system access:

Method	Description
Security Groups and Users applications > Security Controls > Login Tracking	Controls the number of allowed login attempts and displays the users' current login status
Electronic signatures	Requires that the person saving a record, changing a record, or accessing a specific menu item is the person who logged in
Electronic audit records	Records and audits changes to records, keeps copies of the changes, producing an audit trail

Function

Electronic Signature

Provides unique identifiers of users who changed database records or performed actions. The Electronic Signature Authentication dialog box records Maximo user names and full user names.

The **full user name** corresponds to the **Displayname** attribute in the Person object. When you add a user in Maximo, you must associate a Person record. For example, two workers are named John Smith; their full names are John Allen Smith and John B. Smith.

After enabling electronic signature for a database attribute, the process works as follows:

- ▼ When users try to save a change in a field that uses this database attribute, or the system performs an implicit save (example: you click **OK** on the Change Status page in Work Order Tracking), Maximo displays the Electronic Signature Authentication dialog box (see the following section).
- ▼ Users must complete appropriate fields in the Authentication dialog box, choose **Select Actions > Manage eSig Actions** and **Save** (or another option).

All authentication attempts are saved in the LOGINTRACKING object, but authentication must be successful before Maximo saves the application data.

After enabling electronic signature for a menu item, the process works as follows:

- ▼ If users access the menu item's page, Maximo displays the Electronic Signature Authentication dialog box when users leave that page and dialog box.
- ▼ Users must complete appropriate fields in the Authentication dialog box, and authentication must be successful before continuing with the selected action.

During authentication, the LOGINTRACKING object records:

- User name (login ID).
- Full user name (the person's display name).
- Date and time of the attempt.
- Whether the authentication was successful.
- Application name where the electronic signature was invoked.
- Reason for the change (as entered on the Electronic Signature Authentication dialog box).
- Unique transaction identifier.
- Key value(s) columns for the record.

Electronic Audit Records

After enabling electronic audit records for a database attribute, the process works as follows:

- ▼ Each time users add, delete, or modify an attribute's value using a Maximo application and saves the change, Maximo writes an audit record to the audit object corresponding to the regular database object.
- ▼ The audit record includes:
 - Copy of the changed data.
 - Maximo user name of the user who made the change.
 - Identifier indicating whether the change was an insert, update, or delete.
 - Current date and time of the transaction.
 - Rowstamp.
 - Unique e-Audit transaction ID.
 - Unique e-Sig transaction ID if electronic signature is enabled.
 - The key value(s) columns for the record, even if those columns are not e-Audit enabled (example: the work order number is recorded even when another attribute in the WORKORDER object triggers the electronic audit).

Implementation

Using electronic signatures and audit records involves:

- ▼ Login Tracking
- ▼ Electronic Signature
- ▼ Electronic Audit

Define electronic signatures and audit records at the system level (when you enable them, they apply to all organizations and sites).

Enabling Login Tracking

Login tracking (which you can use independently of electronic signature) lets you specify the number of allowed login attempts and block further attempted logins by a user who exceeds that number. It also lets you track the number of login attempts and view a user's current login status.

You must enable login tracking to use electronic signature.

- 1 Log in as an administrative user. Open the Security Group application or the User application.
- 2 Choose **Select Actions > Security Controls**.

The screenshot shows a 'Security Controls' dialog box with several sections:

- New User Defaults:** 'New User Group' is set to 'DEFLTREG' and 'Initial Self-Registered User Status' is set to 'NEWREG'.
- Login Tracking:** 'Login Tracking?' is checked, and 'Login Attempts' is set to 10.
- Password Requirements:** 'Password Duration', 'Password Warning', and 'Password Threshold' are empty. 'Password Minimum Length' is set to 6. 'Numeric Character Required?' and 'Special Character Required?' are unchecked.

Buttons for 'OK' and 'Cancel' are at the bottom right.

- 3 Check the **Login Tracking?** box.
- 4 Specify the number of login attempts allowed (default = 3).
- 5 Click **OK**.

Enabling Electronic Signature and Electronic Audit Records on Database Attributes

You can enable these features independently of one another.

- 1 In Database Configuration, select the appropriate object.
- 2 On the Object tab, go to the **Audit** section.
- 3 To activate electronic audit records, check the **Audit Enabled** box.

The **Audit Table** field defaults to A_ and the name of the selected database object (example: A_WORKFLOW). You can specify a different name.

- 4 On the Attributes tab, select the appropriate attribute.
- 5 In the Advanced table window, check the **E-signature Enabled?** box.

- For each appropriate attribute, check the **Audit Enabled?** box.

Any transaction that involves this database attribute will be recorded in the electronic audit object.

- Choose **Select Actions > Manage eSig Actions**. Select the application and options for actions, then click OK.
- Save the record.
- Configure the database. See “Configuring the Database” on page 4-21.

To refine the types of records subject to electronic signature and audit records using the e-Audit/e-Sig Filters, see “The E-audit and E-signature Filters” on page 4-27.

Enabling Electronic Signature for Accessing Specific Menu Items

- Choose **Select Actions > Manage eSig Actions**.
- Select the application, for example, Assignment Manager.
- For the appropriate action, check the **E-signature Enabled?** box.

When you select **ESIG Enabled?**, it applies across all groups, to all users.

NOTE You can enable e-signature for all Signature Security menu items. However, a pop-up dialog is generated *only* when you change, update, or delete a record.

- Save the record.

The E-audit and E-signature Filters

To refine the types of information that require these features, use the E-audit Filter and the E-signature Filter on the Audit section of the Object tab.

The screenshot displays the 'Database Configuration' application window. The 'Object' tab is selected, showing details for the 'WORKORDER' table. The 'Audit' section at the bottom is expanded, showing the following configuration:

- Audit Enabled?**
- Audit Table:** A_WORKKORDE
- E-audit Filter:** WORKTYPE = 'PM'
- E-signature Filter:** (Empty)

Other visible fields in the 'Details' section include:

- Service:** WORKKORDER
- Description:** Work Order
- Entity:** WORKKORDER
- Class:** psdl.app.workorder.WVOSet
- Extends Object:** (Empty)
- Level:** SITE
- Main Object?**
- Persistent?**
- User Defined?**
- Imported?**
- Internal?**
- Storage Partition:** MAXIMO
- Unique Column:** WORKKORDERID
- Language Table:** (Empty)
- Language Column:** LANGCODE
- Add Rowstamp?**
- Is Language Table?**
- Is Audit Table?**
- Text Search Enabled?**
- Restore Data:** N

- 1 In the Attributes tab, enable the appropriate database columns for electronic signature and/or audit records.
- 2 In the Objects tab, select the database object.

For example, to use these features on work orders of type PM only, enable the appropriate database columns in the WORKORDER object.

NOTE You can use the electronic signature filter on only the main object in an application. For example, in Work Order Tracking, you can use it only on the WORKORDER object.

- 3 In the **E-audit Filter** field, enter the Where clause that restricts the types of records to use for electronic audit records.

Enter only the part of the command following “Where,” but precede it by a colon (:). The filter assumes the “Select * From *OBJECTNAME*” phrase when you specify the object in the Object field.

For example, to restrict audit records to PM work orders, specify WORKORDER in the Object field and enter this in the **E-audit Filter** field:

```
:WORKTYPE = 'PM'
```

NOTE If you enable a table for e-audit but do not flag individual fields, the audit record will contain *only* key field information.

- 4 In the **E-signature Filter** field, enter a Where clause that restricts the types of records to use for electronic signature.
- 5 Save the record.
- 6 Configure the database. See “Configuring the Database” on page 4-21.

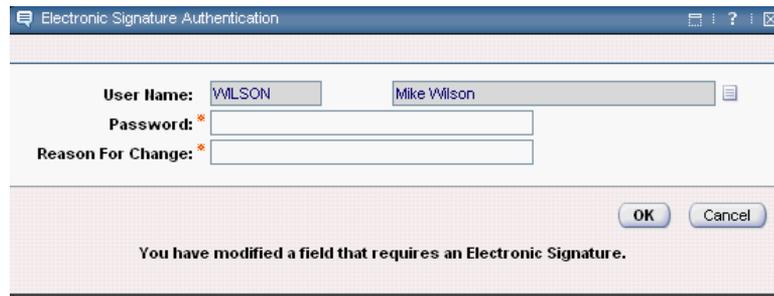
Creating a Drop-Down List for the Reason for Change Field

Electronic signatures are enforced by requiring users to complete fields in an Electronic Signature Authentication dialog box, which includes a **Reason For Change** field. See the Electronic Signature Authentication Dialog Box.

- ▼ To make the **Reason For Change** field let users enter free-form text, no further steps are required.
- ▼ To make the Reason For Change field require users to choose from a set of values that you establish, you must first add values to the CHANGEREASON domain. See “Adding Values to the Reason For Change Domain” on page 4-30.

The Electronic Signature Authentication Dialog Box

When users perform actions for which electronic signature is enabled, the Electronic Signature Authentication dialog box appears.



Users must complete required fields and click **OK**. Authentication must be successful before continuing.

By default, this dialog box includes:

Field	Description
User Name (required)	Maximo login ID
full user name (unlabeled)	Read-only, from the DISPLAYNAME attribute in the PERSON object
Password (required)	
Reason for Change*	Enter ≤ 50 characters

*Required by default. To customize Webpage components, see the MRO Software Design Studio.

Adding Values to the Reason For Change Domain

- 1 Open the **Domains** application.
- 2 Search for and open the CHANGEREASON domain.

The screenshot shows the 'ALN Domain' configuration window. At the top, there are three fields: 'Domain' with the value 'CHANGEREASC', 'Data Type' with 'ALN', and 'Length' with '50'. To the right is a search box containing 'eSignature Reason for Change'. Below these fields is a table with columns 'Value', 'Description', and 'Organization'. A 'Filter' button and a 'New Row' button are also present. The table has one row with empty input fields for 'Value' and 'Description'. Below the table, there are additional input fields for 'Value *', 'Description', 'Organization', and 'Site'.

- 3 Click **New Row** and enter text in the Value and Description columns for each value you want in your CHANGEREASON value list.

For this value list only:

- Users cannot see this, and these values are not written to the database.
- The text you enter in the Description attribute (≤ 30 characters) is the value users see when they use the list.

Suppose you want users to see a value list containing only Change to Record and Delete Record; enter:

CHANGE Change to Record
 DELETE Deleted Record

Users will not see CHANGE or DELETE.

- 4 Save the record.

NOTE Do not assign this value list to a database object and attribute. The connection to the database for this value list is already present in Maximo.

General Ledger Account Configuration

Each GL account code consists of several components (segments). In the Database Configuration application, you define the account code's format. In the Chart of Accounts application, you specify the valid components for use in Maximo. See "Chart of Accounts" on page 7-1.

For easy identification, use Delimiters to separate components when they display. For example, use hyphens to separate components: 6100-400-SAF. Maximo writes delimiters to the database.

For any account code, you can:

- ▼ Define ≤ 20 components.
- ▼ Restrict the number of characters in a component's field.
- ▼ Include a total of ≤ 254 characters/digits.

Component Sequence

Account components display in a sequential format, with the leftmost component in the string representing the highest level. For example, the MAXDEMO database includes:

- ▼ Component 1 = Cost Center
- ▼ Component 2 = Activity
- ▼ Component 3 = Resource
- ▼ Component 4 = Element

Since account components are concatenated, with the highest level at the left, account 6100-350-SAF is represented:

component 1	component 2	component 3	component 4
6100	350	SAF	
Cost Center	Activity	Resource	Element

Changing Component Values

Changing the length of the component values can result in invalid GLs. If you change the length, you must manually change the values to fit the new length.

For example, in maxdemo the cost center component length is 4, the resource and activity component lengths are both 3, and the element component is 10. When you add in the 3 delimiters, the length of the GL is 23.

If you change the cost center component length to 3 and the activity component length to 4, the total length remains 23 and no configuration is required. However, the GL is now invalid, because the cost center component length was shortened to 3 but has a 4 digit value (in this example) of 6000.

Required Versus Optional

Type of component	Requires a value for the account to be fully defined	On-screen display
Required	✓	Unknown values not specific to required components contain placeholder characters.
Optional		<p>Any unknown optional components do not display.</p> <p>In the demo database, the fourth component is optional (most account codes consist of the first 3 components).</p> <ul style="list-style-type: none"> ▼ It does not require any characters. ▼ No accounts have been assigned to it in Chart of Accounts, so it does not appear as part of the GL Account.

Your GL system has rules regarding whether an account is acceptable when partially defined.

- ▼ Fully defined (fully specified) account
 - ▼ Has no unknown values (placeholders) in required components
 - ▼ Example: 6100-350-SAF is fully defined
- ▼ Partially defined (partially specified) account
 - ▼ Contains placeholders in some required component(s)
 - ▼ Example: 6100-???-SAF (the required Activity component is not specified and therefore contains placeholder characters)

Specifying the GL Account Formats

- ▼ For a general discussion of account code formats, see “General Ledger Account Configuration” on page 4-31.
- ▼ To create individual GL accounts, see “Chart of Accounts” on page 7-1.

- 1 Choose **Select Actions > GL Account Configuration**.
- 2 Click **New Row**.

Component	Length	Type	Required?	Screen Delimiter
▶ COST CENTER	4	INTEGER	<input checked="" type="checkbox"/>	-
▶ ACTIVITY	3	ALN	<input checked="" type="checkbox"/>	-
▶ RESOURCE	3	ALN	<input checked="" type="checkbox"/>	-
▶ ELEMENT	10	ALN	<input type="checkbox"/>	
▶			<input type="checkbox"/>	

Component* **Required?**
Length* **Screen Delimiter**
Type* **GL Order***

New Row

OK Cancel

- 3 Complete the fields for each component (≤ 20 components).

Note the following:

Field	Description
Component	Enter a name.
Type	Characters are numeric (INTEGER) or alphanumeric (ALN).
Required?	You must enter optional components at the end of the sequence. If you enter a required component after an optional one, an error message appears when you save.
Screen Delimiter	Separates this component from the next one. Can be any keyboard character. <ul style="list-style-type: none"> ▼ You can use delimiters between some components and not others, and different delimiters between different components. ▼ The delimiter cannot be the same as the placeholder, and is always written to the database.
GL Order	<p>NOTE If you change the delimiter of the GL account <i>after</i> entering data, the data becomes invalid and you must manually update it.</p> <p>Determines the component's sequence in the account code.</p>

Site and Organization Types

Maximo contains several new SITEORGTYPES, in addition to the standard SYSTEM, SITE, ORG, and ORGSITE.

Security Issues

Security is applied to all SITEORG types. For certain SITEORG types you can restrict the result set by appending a condition to the WHERE clause. For example, site type could be:

```
"siteid=..."
```

Definitions

Type	Definition, Example
SYSTEM	<p>A system-level object/object.</p> <p>Its security restrictions are applied at the application/object level (in the specific system-level mboaset).</p>
SYSTEMORG	<p>A system-level object with org as an optional value.</p> <p>These applications are treated like System-level applications, but can ask the Profile for Orgs.</p> <pre>orgid is null or orgid = ...</pre>
SYSTEMSITE	<p>A system-level object/object with site as an optional value.</p> <p>Used by the Ticket application and other future System applications with an optional Site.</p> <p>These are treated like System-level applications, but can ask the Profile for a list of Sites.</p> <pre>siteid is null or siteid = ...</pre>
SYSTEMORGSITE	<p>A system-level object/object, but optionally the record could be linked to an org or a site.</p> <p>Used by the Job Plan application and other future System applications with an optional Orgs and/or Sites.</p> <p>These are treated like System-level applications, but can ask the Profile for a list of Orgs or Sites.</p> <pre>(siteid in null or siteid = ...) and (orgid is null or orgid = ...)</pre>

Type	Definition, Example
SYSTEMAPPFILTER	Used for Users and Groups. Treated like System-level applications, but can ask the Profile for a list of Sites and Orgs in the context of an application so the app can filter data. Filtering will be required for site-level administration of users and groups.
ORG	An organizational-level object/object. The framework applies security for this type. <code>orgid = ...</code>
ORGSITE	Treated like Org-level applications but can ask the Profile for Sites. <code>(siteid is null or siteid = ...) and orgid = ...</code>
ORGAPPFILTER	Used for Contracts so the Contract application can filter on its special object rather than using standard security. This and other applications developed as this type are treated as System-level but can ask the Profile for a list of Sites in the context of an application so the application can filter data.
SITE	Site level object. <code>siteid = ...</code>
SITEAPPFILTER	Site-level object with application filtering. Reserved for future objects.
ITEMSET	Item sets. Framework adds the required security restriction. Itemsetid must exist in the user's insert organization.
COMPANYSET	Company set. Framework adds the required security restriction. Companysetid must exist in the user's insert organization.

SQLTimeout Setting (SQL Server only)

This setting in the MAXVARS table specifies the amount of time, in seconds, to wait when retrieving query results before issuing a SQL timeout error (default = 30).

Valid values:

0 = infinite wait for lock

any value between 1 and 1800 seconds

For example, to increase the timeout to 3 minutes (180 seconds), run this SQL command:

```
update maxvars set varvalue='180' where varname='SQLTIMEOUT';
```

5

Bulletin Board

Use this application:

- ▼ To create and view messages, in an electronic board, regarding critical problems and incidents
- ▼ To broadcast information throughout the enterprise

You can specify the date and time for messages to appear on the Bulletin Board, as well as a date and time for deletion.

The List and Bulletin Board tabs let you:

- ▼ Search Maximo for bulletin board records
- ▼ Create and post message records

Viewing Messages

You can view messages from:

Start Center	The Bulletin Board area displays all Bulletin Board messages.
Any Maximo application	The Bulletin Board icon (in each application's menu bar) indicates whether you have messages.

- ▼ Click a message to display or collapse its details.

A list of messages displays, with the most recent message at the top, including the date and time they were posted.

Creating Messages

Only users granted Bulletin Board access can create and post messages. This minimizes ticket creation and duplication.

- 1 On the Maximo toolbar, click **New Message**.

The screenshot shows the 'Bulletin Board' form in Maximo. It includes a 'List' button and a 'Bulletin Board' tab. The form contains the following fields:

- Message ID ***: A text box containing the value '1003'.
- Subject ***: An empty text box.
- Message**: A large empty text area for the message content.
- Post Date ***: A date and time picker showing '2/1/05 4:32 PM'.
- Expiration Date ***: An empty date and time picker.
- Posted By**: A dropdown menu showing the user 'WILSON'.

- 2 Complete the fields. Note the following:

Field	Description
Post Date	The date and time for message appearance (Default = current date and time)
Expiration Date	The date and time for message removal

- 3 Click **Save Message**.

See “Designating Audiences for Messages” on page 5-3.

Duplicating Messages

A duplicate contains the same values except for the Message ID, Post Date, and Expiration Date fields.

- 1 In the Bulletin Board application, display the appropriate message.
- 2 Choose **Select Action > Duplicate Message**.
- 3 Modify the values.
- 4 Click **Save Message**.

Deleting Messages

When you delete expired messages, they are removed from the Maximo database.

- 1 In the Bulletin Board application, display the appropriate record.
- 2 Choose **Select Action > Delete Message**. A confirmation appears.
- 3 Click **Yes**.

Designating Audiences for Messages

Messages can designate an audience (an organization, site, or person group). Otherwise, any Maximo user can view them.

- 1 In the Bulletin Board application, display the appropriate message.
- 2 Click a tab: Organizations, Sites, or Person Groups.



- 3 Determine the audience type:

Type	Procedure
Multiple audiences	<ol style="list-style-type: none"> a In the appropriate tab, click Select Organizations, Select Sites, or Select Groups. The appropriate dialog box opens. b Make selections. c Click OK.
Single audience	<ol style="list-style-type: none"> a Click New Row in one of the tabs. The Row Details open. b Complete the fields.

- 4 Click **Save Message**.

6

Communication Templates

Use this application:

- ▼ To create and manage generic communication templates that Maximo users can leverage to standardize frequently used e-mail communications (notifications).

For example, service desk agents can create and send e-mail from the Ticket applications (Service Requests, Incidents, and Problems), using standardized information from predefined communication templates.

Recipients can respond, and agents can view the 2-way dialog from the Ticket applications' Communication Log.

- ▼ To create e-mail notifications for use with the workflow and escalation processes.
- ▼ To associate file attachments or document folders to templates. Maximo searches the template when a service desk user applies it to a ticket.

When communications are sent, Maximo attaches any files in associated document folders with those included in the template.

The application contains:

Tab	Function
List	Search Maximo for template records
Communication Template	Create, view, or modify a template
Recipients	Associate the recipient for a template
Attachments Folders	Associate attachment folders with a template

Using Templates for Notifications

Workflow

When workflow administrators design a workflow process including e-mail notifications, they can:

- ▼ Create the notification
- ▼ Apply a communication template and modify or complete the notification

For workflows, create templates with role-based recipients. Maximo resolves the role (example: Purchasing Manager) to an individual, a person group, or e-mail address.

Example

Create a workflow process for purchase requests (PRs):

- 1 A Maximo user submits a request for a laptop. The request enters workflow and waits for approval from an immediate supervisor.
- 2 The supervisor approves the PR. Maximo routes the PR to Finance.
- 3 When approved, Maximo sets the status to approved and notifies the user of the approval.

You can create a template for PR approvals or rejections, which Maximo can send as the request flows through the workflow.

Escalations

When you use Escalations to create an escalation, you can add one or more notifications that Maximo sends when it finds records meeting the condition(s) an escalation point defines.

Example

A service desk agent does not complete assignments within 6 hours. Configure Maximo to escalate the assignment to the supervisor (by changing the owner via an action) and notify the supervisor.

Notifications

E-Mail notifications include:

- ▼ Template ID
- ▼ Role or recipient name
- ▼ Subject
- ▼ Message

If information is sent repeatedly, create a template and attach it as a notification:

- ▼ On a node in a workflow process
- ▼ On an escalation

Use Workflow or Escalations to create:

Type of notification	Description
Free-form	<ul style="list-style-type: none"> ▼ Created without using a communication template ▼ Contain only a subset of the features available in a communication template <p>Maximo generates a template ID for it, but you cannot reuse it as a template.</p>
Template-based	<ul style="list-style-type: none"> ▼ Created by applying a communication template ▼ Leverage all the features of a communication template, including attachments <p>Maximo defaults the values in the Role/Recipient, Subject, and Message fields from the template. You cannot modify them using Workflow or Escalations.</p>

Using Substitution Variables

When creating a template, you can leverage substitution variables in the **Subject** and **Message** fields in the e-mail notification. Maximo resolves the substitution variables that display in the Select Fields dialog box based on the Maximo business object you select in the **Applies To** field.

Example

If the template applies to the object ASSET, the list of variables you can choose from are the column names from the database table/view and the relationship names related to the ASSET object (database table/view).

When Maximo users apply templates and create notifications, Maximo replaces substitution variables from templates with corresponding values from records that generate notifications.

If the template's subject line reads:

```
Your Incident ID# is :TICKETID
```

then the ticket number from the incident record replaces TICKETID.

Example: Using substitution variables in the Message field

In the **Subject** or **Message** field, add a space before the substitution variable. Maximo replaces it with a colon and then the variable. The output is formatted correctly. You must insert a space after variables in the **Subject** or **Message** field if more text or other variables follow.

```
Your Incident #:TICKETID was opened on :REPORTDATE. The person
assigned to work on your issue is :OWNER. You will be contacted
on or before :TARGETSTART.
```

```
Please review these details and contact us if any information is
incorrect.
```

```
Phone: :AFFECTEDPHONE
```

```
Problem Description: :DESCRIPTION
```

NOTE You can also use dot notation with relationships in substitution variables, such as: rel1. rel2. fieldname.

Templates Included in Maximo

These templates support notifications in the E-mail Listener Configuration, Escalations, Workflow, Service Requests, and Incidents applications.

Type of template	Description
for the Maximo database	You can modify, but not delete these; their respective notification functionality requires them.
for the MAXDEMO database	You can modify or delete these. Use these in your test environment to practice adding and managing templates.

For example, E-mail Listener uses several error notification templates. If Maximo encounters an error while staging inbound e-mail records, it sets the record's status to ERROR and sends an error notification (based on a template) to the system administrator defined in E-mail Listener.

If you did not define an e-mail address, Maximo writes an error to Maximo.log if logging is enabled for this application. The type of error determines the error notification Maximo sends.

Creating a Template

When you create a template, choose a value in the **Accessible From** field to define from where in Maximo the template is accessible.

Possible values:

Value	Description
ALL	<ul style="list-style-type: none"> ▼ Available to Maximo users from the Create Communication action in other applications ▼ Available for use with workflow and escalation processes
APPS	<ul style="list-style-type: none"> ▼ Available to Maximo users from the Create Communication action in other applications ▼ Not accessible from the Escalations and Workflow applications
ESCALATION	Available for use only with escalation functionality
WORKFLOW	Available for use only with workflow functionality

You must change the status of a communication template to **ACTIVE** before it can be used in a workflow or escalation process.

- 1 From the Communication Templates application, click **New Communication Template** on the Maximo toolbar. The new record displays, with a status of **INACTIVE**.
- 2 Complete the fields. Note the following:

Field	Description
Template	If empty, enter a name or identifier.
Long Description	For entering additional information
Applies To	<ul style="list-style-type: none"> ▼ Type a value. ▼ Click Select Value to choose a Maximo business object.
Accessible From	<ul style="list-style-type: none"> ▼ Type a value. ▼ Click Select Value to choose from where the template will be made available to Maximo users.

- 3 (Optional) Attach files to the template.

4 Complete the details:

Field	Description
Template Details table window > Send From	Enter an e-mail address.
Reply To	Enter the e-mail address to reply to an address different from the sender's.
Subject, Message	▼ Enter the subject or message. ▼ To view a list of substitution variables and return one to the subject line, click Detail Menu .

5 (Optional) To add recipients, use the Recipients tab.

NOTE Add at least one recipient if you are using the template for workflow or escalation. If not, Maximo cannot send e-mail notifications.

6 (Optional) Associate attachment folders to the template.

7 Click **Save Communication Template**.

Adding Recipients to a Template

You can add recipients to communication templates. There are four types: Role(s), Person(s), Person Group(s), and E-mail(s). You can add one or more recipients from each category, and you can add more than one types of recipient.

NOTE Add at least one recipient if you are using the template for workflow or escalation. If not, Maximo cannot send e-mail notifications.

You do not need to add a recipient if you are using the template for tickets or work orders.

1 From the Communication Templates application, open or create a communication template.

2 Click the Recipients tab.

3 Click **Show Table**. The table window expands.

- 4 Add recipients:
 - ▼ For e-mail: To add a single recipient, click **New Row**. In the **E-Mail** field, enter an e-mail address. You cannot add multiple recipients for e-mail.
 - ▼ To add a single recipient, click **New Row**. In the **Role**, **Person**, or **Person Group** field:
 - ▼ Enter a value or click **Detail Menu** and select a value.
 - ▼ To create recipients, go to the Roles, People, or Person Groups application. Click **OK**.
 - ▼ To add multiple recipients, click **Select Roles**, **Select People**, or **Select Groups**. In the dialog box that opens, select recipients. Click **OK**.
- 5 Select **To**, **cc**, or **bcc** for each recipient.
- 6 For Person Groups: To avoid sending communications to the whole group, clear the **Broadcast?** option.

Maximo evaluates all group members' calendars and sends the communication to the first available person according to the calendar and shift. If no one is available, Maximo sends the communication to the default person in the person group.
- 7 Click **Save Communication Template**. Recipients display in the Template Details table window on the Communication Template tab.

Associating Attachments to a Template

Attaching files directly

When users create communications based on this template, Maximo attaches this set of files.

- 1 From the Communication Templates application, open or create a communication template.
- 2 On the Communication Template tab, click **Attachments**. Select an option:
 - ▼ Add New Attachments > Add New File
 - ▼ Add New Attachments > Add New Web Page
 - ▼ Add from Library

Maximo displays the attachment(s) in the Attachments table window.

- 3 Click **Save Communication Template**.

Associating document folders

Maximo resolves the contents at runtime and attaches folders when communications are sent.

- 1 From the Communication Templates application, open or create a template.
- 2 Click the Attachment Folders tab. The Maximo business object to which the template applies determines which document folders display in the Folders table window.

NOTE These folders are defined in the originating application. For example, if your template applies to incidents, a Maximo user associated these document folders in the Incidents application or in an application that is linked to the Incidents application.

- 3 Check the **Send with Communication?** box in the row of the document folder(s) to associate with the template. When e-mail communications based on this template are sent, Maximo attaches any files that exist in the folder(s).

- 4 Click **Save Communication Template**.

Modifying a Template

You do not need to inactivate the template before modifying it.

- 1 From the Communication Template application, display the appropriate template record.
- 2 Edit fields as needed.
- 3 When all edits are made, click **Save Communication Template**.

Changing a Template's Status

Possible statuses:

Status	Description
INACTIVE	The status of new templates When you no longer use a template, set its status to INACTIVE or delete it.
ACTIVE	When the template is ready, change the status to ACTIVE. Maximo users can apply only ACTIVE templates to a ticket record.

- 1 From the Communication Templates application, display a template.
- 2 On the Maximo toolbar, click **Change Status**. The Change Status dialog box opens.
- 3 In the **Status** field, select a status from the list. Maximo displays the date and time of the change in the **Status Date** field.
- 4 Click **OK**.

Duplicating a Template

Maximo duplicates all information, but inserts a new template ID and sets the status to INACTIVE.

- 1 From the Communication Templates application, display the appropriate template.
- 2 Choose **Select Action > Duplicate Template**. Maximo displays the new template record.
- 3 On the Communication Template tab, if the **Template** field is empty, enter a value.
- 4 Modify the template.
- 5 Click **Save Communication Template**.

7

Chart of Accounts

Use this application to:

- ▼ Create general ledger (GL) account codes and components.
- ▼ Define financial periods.
- ▼ Create default GL accounts

NOTE This application's online Help contains information on using menu items, and other topics not included in this chapter.

Tasks in other applications

First, specify the **format** of GL account codes (number and length of components, Delimiters, etc.) using the GL Account Configuration action in Database Configuration.

Define tax codes, rates, and dates using **Purchasing Options > Tax Options** in the Organizations application.

Appendix A in the *Maximo Finance Manager's Guide* includes a table listing Maximo's GL database columns by application and table. It includes information such as whether an account must be fully defined for Maximo to validate it.

About GL Account Codes

GL account codes typically include components (segments) separated by delimiters.

Example

6000-200-350

A component without a value is represented by placeholder characters.

Example

6000-???-350

You define the code's format in Maximo:

Application	Description
Database Configuration > GL Account Configuration	Define the number, length, and data type of components, whether the components are required, and delimiters
Organizations > System Settings	Specify placeholder characters

Use Chart of Accounts to define components' values, then link component values to create GL account codes for financial tracking.

Specify the validation rules for the codes Maximo users can enter: any combination of component values or only codes stored in Chart of Accounts.

Standard Accounting Functions

This application lets you create default GL accounts and resource codes for many standard accounting functions. You typically create accounts and resource codes within Maximo to correspond with accounts you use in your external accounting system.

See the General Ledger Accounts chapter in the *Maximo Finance Manager's Guide*.

Merging GL Accounts

In some instances, a GL account field may not be uniquely specified (example: a GL account for a location and another for an asset). Generating transactions such as work orders often requires choosing defined account component values, and Maximo invokes a set of rules to handle them.

GL accounts are merged component by component. Defined components supersede undefined components. Suppose the first components of 2 account codes are 6000 and ????. The merged first component is 6000.

See the *Maximo Finance Manager's Guide*.

GL Accounts Table Window

You can add or modify GL accounts and account components, and create default accounts.

The screenshot shows the Maximo 'Chart of Accounts' window. It displays two tables. The first table, titled 'Organizations', lists three organizations: EAGLENA (EAGLE Inc. North America), EAGLESA (Eagle South America, Inc.), and EAGLEUK (European Headquarters of Eagle, Inc.). The second table, titled 'GL Accounts for EAGLENA', lists 16 GL accounts with columns for GL Account, Description, Type, and Active? status. All accounts are of type 'EXP' and are active.

Organization	Description	Active?
EAGLENA	EAGLE Inc. North America	Y
EAGLESA	Eagle South America, Inc.	Y
EAGLEUK	European Headquarters of Eagle, Inc.	Y

GL Account	Description	Type	Active?
6000-200-000	Environ+Needham+General	EXP	Y
6000-200-200	Environ+Needham+Item	EXP	Y
6000-200-300	Environ+Needham+Labor	EXP	Y
6000-200-350	Environ+Needham+Contract Labor	EXP	Y
6000-200-400	Environ+Needham+Tool	EXP	Y
6000-200-450	Environ+Needham+Leased Tool	EXP	Y
6000-200-SAF	Environ+Needham+Safety	EXP	Y
6000-200-SUP	Environ+Needham+Supervisor	EXP	Y
6000-229-000	Noise Reduction+Needham+General	EXP	Y
6000-229-200	Noise Reduction+Needham+Item	EXP	Y
6000-229-300	Noise Reduction+Needham+Labor	EXP	Y
6000-229-350	Noise Reduction+Needham+Contract Labor	EXP	Y
6000-229-400	Noise Reduction+Needham+Tool	EXP	Y
6000-229-450	Noise Reduction+Needham+Leased Tool	EXP	Y
6000-229-SAF	Noise Reduction+Needham+Safety	EXP	Y
6000-229-SUP	Noise Reduction+Needham+Supervisor	EXP	Y

Typically, GL accounts are downloaded from the GL chart of accounts established in your accounting system, but you can create them in Maximo, at the organization level. Each organization has its own chart of accounts system.

The GL Component Maintenance dialog box lists all valid components listed on or added to the GL Accounts tab. See “Creating or Modifying a GL Component Value” on page 7-5 before continuing.

Downloading Account Codes from an Accounting System

Maximo provides a generic financial API (Application Programming Interface) and several product-specific APIs that let Maximo interface with financial software (Oracle Financials, PeopleSoft, and SAP), which you must purchase separately. See your Maximo sales representative. Creating your own API for your financial system is possible.

Creating or Modifying GL Account Codes

Create GL account codes by linking established component values, which may have been downloaded from the accounting system.

- 1 Open the Chart of Accounts application.
- 2 In the organizations list, select the appropriate organization. Its associated GL accounts display in the GL Accounts table window.

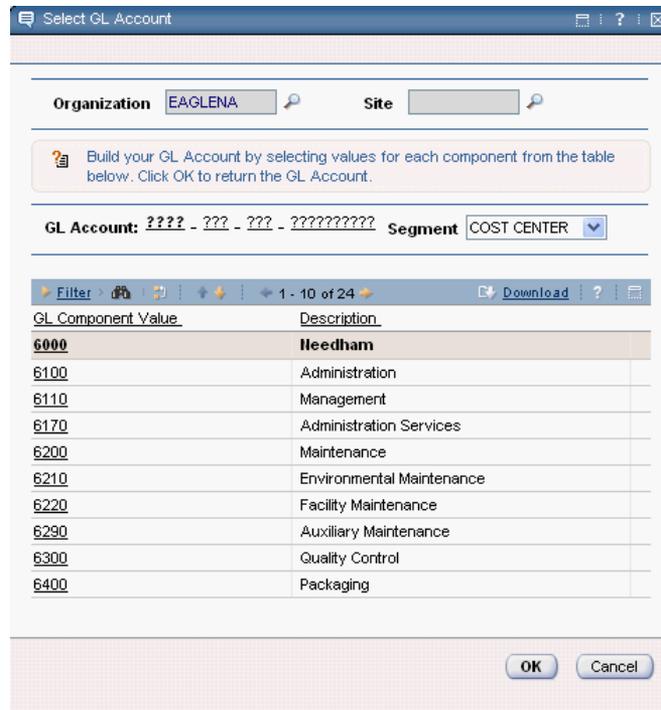
To modify...

- 3 To modify a code:
 - a Find the appropriate one. To filter your search, click **Filter**.
 - b Click **View Details**. The Row Details open.

NOTE You can edit the **GL Account Description**, **Type**, and **Active?** fields directly in the table window.

To create...

- 4 To create a code, click **New Row**. The Row Details open.
- 5 In the **GL Account** field, click **Select Value**.



The **GL Account Code** field displays placeholder characters (example: ????) in all components. The **Segment** field's value matches the highlighted component in the **GL Account** field.

The GL Component Value column displays the first component's values.

- 6 Select a value. It appears in the first component in the **GL Account** field. The values for the second component display.

- 7 Select a value for subsequent components until you have defined all required components.

NOTE You can navigate between lists of component values by selecting a component from the Segment list or clicking in the appropriate component in the **GL Account** field.

- 8 Click **OK**.

- 9 Enter or modify the description in the **GL Account Description** field. To enter additional information, click **Long Description**.

- 10 If your organization uses account type codes, enter a code in the **Type** column (default length = 3).

Type is a user-defined value. Most accounting systems at a minimum have type codes for assets, liabilities, expense, and income. (Type is not the data field type, for example, integer or alphanumeric.)

The **Active?** box is checked by default, meaning the account code can be used on new Maximo records.

- 11 (Optional) To prevent users from using this account code, clear the check box.

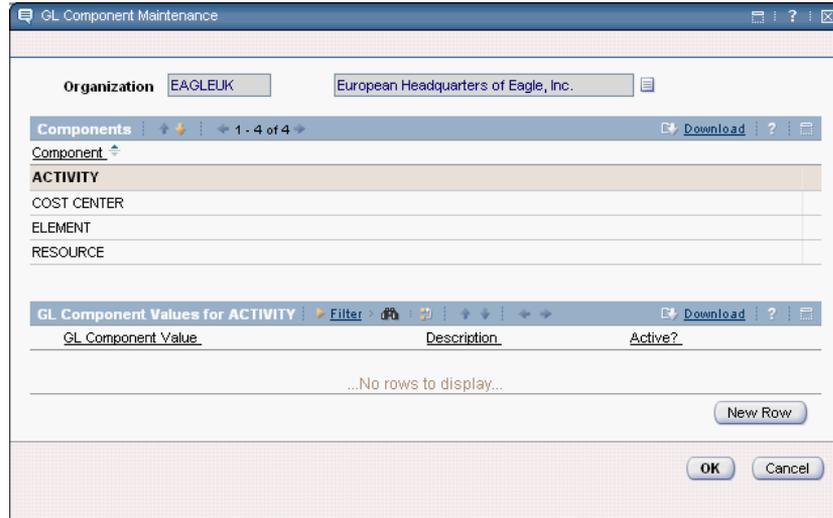
NOTE If you inactivate an existing code, existing Maximo records are not modified.

- 12 Click **Save GL Account**.

Creating or Modifying a GL Component Value

You define valid component values for codes which appear in a list. For example, the GL Account code 6000-200-300 consists of 3 components, with values 6000, 200, and 300.

- 1 Open the Chart of Accounts application.
- 2 In the organizations list, select the appropriate organization.
- 3 Choose **Select Actions > GL Component Maintenance**.



- 4 In the Components table window, select the appropriate component.
The GL Component Values table window displays existing values.

To modify...

- 5 To modify a value:
 - a Click **Filter** to filter your search. Select a value.
 - b Click **View Details**. The Row Details open.

To create...

- 6 To create a value:
 - a Click **New Row**. The Row Details open.
 - b In the GL Component Value field, enter a value.

NOTE You specify the format of GL account codes using the GL Account Configuration action in Database Configuration. If the value does not fit the format, you receive an error message.

Suppose the component requires integers with a maximum length of 4. You can enter 123, or 1223, but not A223 or 12345.

- 7 Complete or modify the **Description** field.
- 8 (Optional) To inactivate the component value, clear the **Active?** box. The value will not appear in the Select GL Account dialog box.
- 9 Click **Close Details**.
- 10 Click **OK**.

Inactivating Values

If you inactivate a component value, all GL account codes with that component value become inactive.

Suppose an active Resource component's value is 888. You inactivate component value 888, close Chart of Accounts, and reopen it. The GL Accounts that use 888 for the Resource component are inactive.

NOTE When you inactivate a GL component's value, no change is made to the GL accounts on existing records that use that value. Suppose a work order uses a cost center value of 6250, which you inactivate. The work order still uses cost center value 6250.

Reactivating Values

If you reactivate Resource component 888, Maximo asks whether to reactivate the corresponding account codes.

Updating the Database

Update your database, one organization at a time, after modifying a default GL Account or resource code.

CAUTION Ensure that no one is using Maximo when you update the database.

- 1 Open the Chart of Accounts application.
- 2 In the Organizations table window, select the appropriate organization.
- 3 Choose **Select Actions > Update Database**.



- 4 In the Update Database section, select the type of update, which determines the data that Chart of Accounts overwrites:

Type	Description
Overwrite Blank Accounts Only	<p>Overwrites only affected GL Account fields that are currently blank.</p> <p>Suppose you created a new account code for an existing item type's GL account field.</p> <p>The item's GL Account field is overwritten only where it is blank, but not where a GL account was entered.</p>
Overwrite Accounts With Old Defaults	<p>Overwrites blank fields and GL account fields that have the previous GL account.</p> <p>Suppose an item type had a GL account code associated with it in Chart of Accounts. This code was inserted on item records that used the item type. On some records, the account code was changed.</p> <p>The records in which the account code was subsequently changed are not overwritten.</p>
Overwrite All Accounts	<p>Overwrites all relevant GL Account fields in Maximo records.</p> <p>Suppose an item type has a GL account code associated with it in Chart of Accounts.</p> <p>All blank GL Account fields for that item type and all existing GL Account fields for items of that type, including ones that were subsequently changed, are overwritten.</p>

- 5 Click **OK**.

NOTE Historical records are not updated.

Defining Financial Periods

NOTE For Maximo to validate the data against financial periods, ensure the **Validate Financial Periods** box is checked in the Validation Options dialog box.

You must define at least one financial period. Maximo adds a financial period stamp to all transactions when they are generated. The transactions must occur during an open, valid financial period.

The requirements of the accounting system you use with Maximo determine the period's format.

- 1 Open the Chart of Accounts application.
- 2 In the Organizations table window, select the appropriate organization.
- 3 Choose **Select Actions > Financial Periods**.

The Financial Periods dialog box displays the organization's periods sequentially by date, with the most recent period at the top.

Period	From	To	Accounting Close Date	Actual Close Date	Closed By
200612	11/30/06	12/31/06			
200611	10/31/06	11/30/06			
200610	9/30/06	10/31/06			
200609	8/31/06	9/30/06			
200608	7/31/06	8/31/06			
200607	6/30/06	7/31/06			
200606	5/31/06	6/30/06			
200605	4/30/06	5/31/06			

4 Click **New Row**. The Row Details open.

5 Complete the fields:

Field	Description
Period	Enter a name or number. The accounting system you use with Maximo may determine the format.
From	If no periods exist, Maximo inserts the current date. Default time = 12:00 a.m. If periods exist, Maximo inserts the date shown in the most recent period's To field. Enter a start date or click Select Date .
To	Enter the end date or click Select Date . NOTE Maximo prevents time gaps and overlaps between contiguous periods. If you change an existing period's date, Maximo resets surrounding dates. You can enter a new financial period that starts after the To date of the most recent period.
Accounting Close Date	(Optional) enter a closing date (the date after which no further transactions can be charged to the accounting period). Click Select Date and Time . Suppose an Accounting Period X is: 2/1/05 – 3/1/05, with an Accounting Close Date of 3/15/05. A transaction can be reported and charged until 3/14/05.
Actual Close Date	Do not complete this field now.

6 Click **Close Details**.

7 Click **OK**.

Closing Financial Periods

An authorized user may close financial periods.

- 1** Open the Financial Periods dialog box. Find the row with the financial period.
- 2** Enter a date in the **Actual Close Date** field. This date cannot precede the date in the **Accounting Close Date** field.

When the cursor moves out of the field, Maximo inserts the user's name in the **Closed By** field.

Maximo no longer accepts financial transactions that users attempt to log for closed periods.

Cost Management

Use this application with your project pricing system to track project costs and manage budgets. Using Work Order Tracking, you can assign and link work orders to projects.

After you assign the work order, the project name can appear in other Maximo applications but only in read-only format. To change the project or task that owns the work order, you must use the Work Order Tracking application.

Unhiding the Cost Management Menu Item

- 1 Open Security Groups.
- 2 Select a group to grant access to Cost Management.
- 3 In the **Applications** tab, find **Cost Management**.
- 4 Enable the **Read**, **Insert**, **Save**, and **Delete** fields.
- 5 Save the record.

NOTE To use this application, use Application Designer to add the **Project** and **Task** fields to the Work Order tab in Work Order Tracking.

Creating or Modifying a Project

NOTE To modify these settings, select the project from the List tab.

- 1 Click **New Project** on the Maximo toolbar.
- 2 Complete the fields. Note the following:

Field	Description
Project	Enter a name.
Is Chargeable?	Lets you charge costs to the project (default = checked)
Parent Project	Enter a value or click Select Value to choose one.
Value	Enter the project's budget.
Status	Enter a value or click Select Value to choose one. (Default = APPR)
	NOTE If you modify the project's status, you must update each task's status manually.

- 3 To add tasks to the project, in the Tasks table window, click **New Row**. The Row Details open.
- 4 Enter a task identifier in the **Task** field.
- 5 Complete the remaining fields.
- 6 To modify tasks, click **View Details**.
- 7 Click **Save Project**.

Assigning a Work Order to a Project or Task

Ensure the following:

- ▼ The project or task is approved (its Status in Cost Management = APPR).
- ▼ The **Is Chargeable?** box must be checked.
- ▼ The Start Date must be today or later.

- 1 Create a project in Cost Management.
- 2 In Work Order Tracking, select the appropriate work order.
- 3 From the Work Order tab, click **Select Value** next to the **Project** field.
- 4 To select a project, click **Select Record**.
- 5 (Optional) To select a task:
 - a Click **Select Value** next to the **Task** field.
 - b Click **Select Record**.
- 6 Click **Save Project**.

Deleting a Project or Task

Before deleting a parent project or task, clear the **Parent Project** field on all child projects or tasks, or delete the child projects or tasks.

- 1 In Cost Management, display the appropriate record.
- 2 Choose **Select Action > Delete Project**.

9

Currency Codes

Use this application to define currency codes and specify which codes can be used in Maximo. A currency code is a short, user-defined value that you create to represent a currency, for example, CND for the Canadian dollar.

First create a currency code, then specify the base currency and set up the exchange rate.

After establishing active currency codes:

- ▼ Use them wherever Currency fields appear (Purchase Requisitions, Purchase Orders, Invoices, and Companies).
- ▼ Use other applications for currency administration:
 - ▼ **Organizations:** specifies an organization's base currency.
 - ▼ **Exchange Rates:** specifies exchange rates between currencies.

Currency Codes Tab

Use this tab to define and manage currencies. When you enter purchase requisitions, purchase orders, and invoices in a foreign currency, Maximo uses the current (active) exchange rate to calculate the base cost in your company's currency.

The screenshot displays the Maximo Currency Codes application. At the top, there is a navigation bar with 'Start Center', 'Go To', 'Sign Out', and 'Help' options. Below this is a search bar with 'Query:' and 'Find:' fields, and a 'Select Action' dropdown. The main area contains a table with the following data:

Currency	Description	Active?
CND	Canadian Dollar	<input checked="" type="checkbox"/>
GBP	British Pound Sterling	<input checked="" type="checkbox"/>
PESO	Chilean Pesos	<input checked="" type="checkbox"/>
YEN	Japanese Yen	<input checked="" type="checkbox"/>
DINAR	Kuwaiti Dinar	<input checked="" type="checkbox"/>
SND	Singapore Dollar	<input checked="" type="checkbox"/>
BOLIVAR	Venezuelan Bolivar	<input checked="" type="checkbox"/>
RAND	South African Rand	<input checked="" type="checkbox"/>
USD	United States of America Dollar	<input checked="" type="checkbox"/>
AUD	Australian Dollar	<input checked="" type="checkbox"/>

Below the table, there are input fields for 'Currency*' (YEN), 'Description' (Japanese Yen), and 'Active?' (checked). A 'New Row' button is located at the bottom right of the interface.

Creating a Currency Code

Maximo stores currency codes at the system (database) level. All organizations can use them and add new ones.

- 1 Open Currency Codes.
- 2 Click **New Row**.
- 3 Complete the fields. Note the following:

Field	Description
Currency Code	Enter the code value (example: CND = Canadian dollar)
Long Description	To enter additional information
Active?	Makes the currency available in Maximo (default = checked)

- 4 Click **Save Currency Code**.

Modifying a Currency Code

- 1 Open Currency Codes.
- 2 In the table window, find the row with the appropriate record.

You can edit directly in the table window or click **View Details** to edit in the Row Details section.
- 3 You can only modify the description and the **Active?** checkbox's setting.
- 4 Click **Save Currency Code**.

Deleting a Currency Code Record

You cannot proceed if any of these conditions is true:

- ▼ The currency code is used in any Currency field on any record (unless the status is Closed or Cancelled).
- ▼ The currency is used in an active exchange rate in the Exchange Rate application.
- ▼ The currency is specified as an organization's base currency.
- ▼ The currency code is referenced in any of these tables (unless the records are flagged as History or Inactive):
 - PO
 - PR
 - COMPANY
 - INVOICE
 - MATRECTRANS
 - MATUSETRANS
 - SERVRECTRANS
 - INVOICETRANS
 - RFQVENDOR

- 1 Open Currency Codes.
- 2 Find the row containing the currency code.
- 3 Click **Mark Row for Delete** (the trash icon). To cancel a deletion, click **Unmark Row for Delete**.
- 4 Click **Save Currency**.

Maximo deletes from the Exchange Rate application the rows that use the deleted currency code.

10

Sets

Use this application to create a framework for sharing item and vendor data across organizations.

Maximo:

- ▼ Associates item and company records with a category called sets.
- ▼ Stores item and company records at the organization level.
- ▼ Stores sets at the database level.

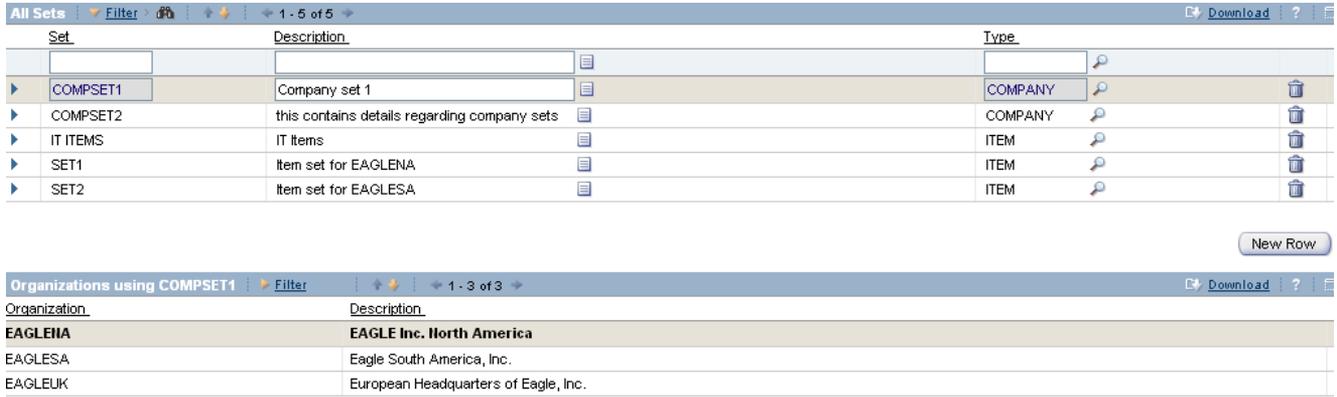
Type	Description
Item set	<p>Lets organizations choose from a common set of items.</p> <p>Unique identifiers are required:</p> <ul style="list-style-type: none">▼ For each item set▼ For each item in the set <p>Items you create are cataloged into the item set associated with the same organization your default insert site belongs to.</p>
Company set	<p>Ensures that all sites and organizations use consistent names for vendor businesses.</p> <p>Lets you consolidate vendor reporting and share pricing information when purchasing products or services, to negotiate the best prices with vendors.</p>

Sets and Organizations

Before creating any organization, you must create at least one item set and one company set.

- ▼ You must associate each organization with exactly one company set and exactly one item set.
- ▼ You can create an unlimited number of sets.
- ▼ Multiple organizations can use the same item set or company set.

Table windows



- ▼ **All Sets:** defines sets.
- ▼ **Organizations using...:** displays the sets associated with organizations.

Creating a Set

- 1 Open the Sets application.
- 2 In the All Sets table window, click **New Row**. The Row Details open.



- 3 Complete the fields. Note the following:

Field	Description
Set	Enter a name. It must be unique for all types of sets.
Long Description	To enter additional information
Type	Enter ITEM or COMPANY, or click .
Automatically Add Companies to Company Master? (Company sets only)	<ul style="list-style-type: none"> ▼ Checked: Maximo creates a company master record whenever users add a company in the Companies application. Master records contain the company's default contact, purchasing, e-commerce, payment details, etc. ▼ Cleared: Users must add companies in the Company application.

4 Click **Save Sets**.

Until you assign the set to an organization, no rows appear in the Set application's Organizations Using table window when you select a set in the All Sets table window.

Modifying a Set

1 In the All Sets table window, find the row containing the appropriate record. To narrow your search, click **Filter**.

2 Click **View Details**.

You can only modify:

- a company set's description and type
- an item set's description

3 Click **Save Sets**.

Deleting a Set

You cannot delete an item or company set if it is associated with an organization.

1 Find the row containing the appropriate record.

2 Click **Mark Row for Delete**.

- You can mark multiple rows.
- To cancel a deletion, click **Unmark Row for Delete**.

Set	Description	Type
COMPSET1	Company set 1	COMPANY
COMPSET2	this contains details regarding company sets	COMPANY
IT ITEMS	IT Items	ITEM
SET1	Item set for EAGLENA	ITEM
SET2	Item set for EAGLESA	ITEM

3 Click **Save Sets**.

Exchange Rates

Use this application to enter, view, and modify currency exchange rates.

When a user enters an amount in a foreign currency, Maximo finds the active exchange rate and calculates the cost in your company's base currency.

Maximo stores exchange rates at the organization level. Therefore, each organization defines its own exchange rates. Currency codes are stored at the system level and are available to all organizations.

Use other applications for currency administration:

- ▼ **Currency Codes:** defines currency codes
- ▼ **Organizations:** specifies an organization's base currency

Rules and Logic

2 Currencies

Defining exchange rates implies inverse relationships. When Maximo does not find defined rates for a given date, it verifies whether inverse relationships are defined and uses them to calculate rates.

For example, if the rate from currency A to B is 4.0, then the rate from currency B to A is 0.25 (if 1 A = 4 B, then 1 B = 0.25 A).

If you specify only an A to B rate, and the cost of a PO item is in currency B, users can specify currency A on a PO and Maximo converts to currency B.

3 Currencies

Maximo can calculate rates when 2 currencies are independently defined relative to a third.

For example, with these defined rates:

- ▼ A to C
- ▼ B and C

Maximo can calculate:

- ▼ A to B
- ▼ B to A

If 1 A = 2 C and 1 B = 4 C, then B is twice the value of A.

Therefore, 1 B = 2 A and 1 A = .5 B:

Relationship	Value
A to C	2.0
B to C	4.0
A to B	0.50
B to A	2.0

NOTE One currency must be the Base 1 currency.

Entering Exchange Rates

- 1 Open the Exchange Rates application.
- 2 In the Organizations table window, select an organization. To narrow your search, click **Filter**.

The Exchange Rates table window displays all defined rates for the selected organization.

The screenshot displays the Maximo Exchange Rates application. The top window shows the 'Organizations' table with 'EAGLENA' selected. The bottom window shows the 'Exchange Rates for {0}' table with columns for 'Convert from Currency', 'Convert to Currency', 'Exchange Rate', 'Active Date', and 'Expiration Date'. A 'New Row' button is visible at the bottom right.

Convert from Currency	Convert to Currency	Exchange Rate	Active Date	Expiration Date
AUD	USD	0.6016000	1/1/03	12/31/03
BOLIVAR	USD	0.0034500	3/3/99	12/31/02
BOLIVAR	USD	0.0006000	1/1/03	12/31/03
CND	USD	0.7480000	11/15/98	11/23/98
CND	USD	0.7320000	11/24/98	12/2/98
CND	USD	0.7568000	12/3/98	12/11/98
CND	USD	0.7456000	12/12/98	12/31/02
CND	USD	0.6794000	1/1/03	12/31/03
DINAR	USD	3.3372000	3/3/99	12/31/02
EUR	USD	1.0713000	1/1/03	12/31/03

When you enter PRs, POs, and invoices in a foreign currency, Maximo uses the exchange rate to calculate the base cost in your company's currency.

- 3 Click **New Row**. The Row Details open.

4 Complete the fields. Note the following:

Field	Description
Convert from Currency	<p>The currency to convert</p> <ul style="list-style-type: none"> ▼ Enter a currency code. ▼ Click .
Convert to Currency	<p>The currency Maximo uses when users enter the currency listed in the Convert from Currency field</p> <ul style="list-style-type: none"> ▼ Enter a currency code. ▼ Click .
Exchange Rate	<p>The multiplier Maximo uses when calculating a conversion:</p> $(\text{Convert From Currency}) \times (\text{Exchange Rate}) = \text{Convert To Currency}$ <p>It can have ≤ 7 digits (default) after the decimal point.</p> <p>For example:</p> <ul style="list-style-type: none"> ▼ Convert from Currency = Canadian dollar (CND) and ▼ Convert to Currency = U.S. dollar (USD) and ▼ Exchange Rate = .7500000 <p>Maximo converts a value of \$100 CND to \$75 USD</p>
Active Date Expiration Date	<p>The start and end dates for this exchange rate</p> <ul style="list-style-type: none"> ▼ Enter a date. ▼ Click .

5 Click **Save Exchange**.

Maximo inserts the row in the table, grouping it with other currency pairs of the same kind, if present.

Properties

- ▼ You can define multiple rates between the same 2 currencies (A to B, for example). Dates cannot overlap.
- ▼ On any given date you can define only 1 exchange rate between 2 currencies (the date fields do not include time of day).
- ▼ If there is a gap between rate periods for a currency pair, for example, a month when no rate is specified, Maximo finds no exchange rate.

Modifying Exchange Rates

Exchange rates fluctuate. You can:

- ▼ Insert an exchange rate row in the table window

Enter as many rows for a single currency as needed.

- ▼ Modify an existing rate

Periodically modify rates that span significant date ranges.

- 1 In the Organizations table window, select the appropriate organization.
- 2 In the Exchange Rates table window, find the appropriate row. To narrow your search, click **Filter**.
- 3 Click **View Details**. The Row Details open.

NOTE You can edit some fields directly in the table window.

- 4 You can only modify the **Exchange Rate** and **Memo** fields, not the dates.
- 5 Click **Save Exchange**.

Deleting Exchange Rates

NOTE You cannot delete exchange rates if they are used on PO, invoice, inventory record, PR, material requisition, or labor records (unless the status is Closed or Cancelled).

- 1 In the Organizations table window, select the appropriate organization.
- 2 In the Exchange Rates table window, find the appropriate row. To narrow your search, click **Filter**.
- 3 Click **Mark Row for Delete**.
 - You can mark multiple rows.
 - To cancel a deletion, click **Unmark Row for Delete**.
- 4 Click **Save Exchange**.

Converting Foreign Currencies to Base Currencies

When you specify a foreign currency on a PR or PO, Maximo calculates 3 values:

- ▼ Total Cost, expressed in the foreign currency
- ▼ Total Base Cost, expressed in your company's base currency (Base 1)
- ▼ Total Base 2 Cost, expressed in your company's second base currency (Base 2)

Example

Your base currency is USD. Your second base currency is CND. You enter a PR for gaskets, to be ordered from a French company (using Euros).

- 1 On the PR tab, select EUR (Euros) in the Currency field.
- 2 On the PR Lines tab, enter:

Quantity: 25

Unit Cost: 1.23 (Euros)

Using the active exchange rates of 1.23059 USD and 1.5695 CND for the EUR, Maximo calculates and displays these values on the PR tab:

Total Cost: $(25 \times 1.23 \text{ Euros}) = \mathbf{30.75}$ (Euros)

Total Base Cost: $(30.75 \text{ Euros} \times 1.23059 \text{ USD}) = \mathbf{37.84}$ (USD)

Total Base 2 Cost: $(30.75 \text{ Euros} \times 1.5695 \text{ CND}) = \mathbf{48.26}$ (CND)

NOTE Base 2 currencies are optional. If you configure only 1 base currency in Organizations, no fields appear for a second one.

Configuring Multiple Base Currencies

These guidelines ensure that all appropriate currencies and exchange rates are in the system and that all affected applications perform the correct calculations.

- 1 In the Currency Codes application, create records as needed for the currency codes to use for Bases 1 and 2.

A Base 1 currency is established on installation. You can enter a currency record for Base 2. For example, create a currency record for Euros, to use for Base 2.

NOTE You can use an existing currency code as the Base 2 currency code.

- 2 In the Exchange Rates application, open the record for the Base 1 currency code. In the exchange table window, enter the Base 2 Currency Code in the **Convert To** field.

For example, if French Francs (FF) is the Base 1 currency code and EUR is the Base 2 currency code:

- a Enter FF in the **Convert From** field.
- b Enter EUR in the **Convert To** field.
- c Enter active and expiration dates for EUR.

- 3 You must enter rates for each transaction currency to be converted to the Base 2 currency code.

For example, if French Francs (FF) is the Base 1 currency code and EUR is the Base 2 currency code, and the transaction currency is DEM:

- a Retrieve the DEM record (so DEM is in the **Convert From** field).
- b Enter EUR in the **Convert To** field.
- c Enter valid active and expiration dates for EUR.

Maximo can now process transactions in 2 base currencies. You can create financial reports in both currencies.

Escalations

Use this application to monitor critical processes throughout your worksite, complete tasks on time, and comply with Service Level Agreements (SLAs).

You can use Escalations with any Maximo application. This chapter focuses on interacting with:

- ▼ Service Desk application

The Service Desk application lets you define SLAs (contracts between service providers and recipients).

Escalations determine how your worksite handles service request incidents, problems, and other service desk events, and ensure that service providers comply with SLAs by solving problems in a timely manner.

- ▼ Information Technology (IT) Asset Management applications

ITAM uses Escalations to monitor contracts, purchasing, and inventory.

To avoid penalties or costly lease extensions, define an escalation to alert managers 30 days before a lease contract expires on leased IT assets.

- ▼ Workflow processes

Escalate assignments when they expire in a recipient's Inbox.

Assignments appear in designated employees' Inbox when you assign specific steps in a workflow process. Assignments expire if not completed promptly. Upon expiration, escalate assignments to alternate users, to promote on-time task completion and prevent work backlogs.

NOTE This application's online Help contains information on using menu items, and other topics not included in this chapter.

For information on Service Desk, ITAM, or workflow processes, see Maximo online Help.

Escalation Components

Escalation object

Every escalation must apply to a Maximo Business Object (MBO).

A MBO (pronounced "may-bo") is a unit of Java code that executes a specific Maximo function and acts on the Maximo database table of the same name. Example: the PO MBO creates, approves, and cancels purchase orders. It updates the Maximo PO table.

When selecting an object for escalation, you can qualify the object by setting attribute values to define a filter. For example, you can build an escalation:

- ▼ To monitor Maximo invoices waiting approval for more than 2 days
- ▼ To notify the invoice's originator that its status remains unapproved

To filter the invoice records to records that are entered or waiting for approval, this escalation:

- 1 Monitors the INVOICE object.
- 2 Uses the STATUS attribute as a filter.
- 3 Specifies values for the attribute: STATUS='ENTERED' or STATUS='WAPPR'.
- 4 Sets a schedule to check the object.

Escalation point

Use an escalation point to implement escalation through a combination of measurement, action and notification. You can measure elapsed time against specific attributes of a selected Maximo object. In this example, 1 escalation point applies to 1 date-time attribute.

Actions

An action applies a modification to a Maximo object, and involves an update to an attribute or status. Use the Action application to define actions. You can associate multiple actions for each escalation point.

Notifications

Notifications are sent as e-mail messages:

Type of notification	Description
Free-form	Define in the Escalations application Store in the Communication Templates tables
Template-based	Define in the Communication Templates application

Example Incident Escalation

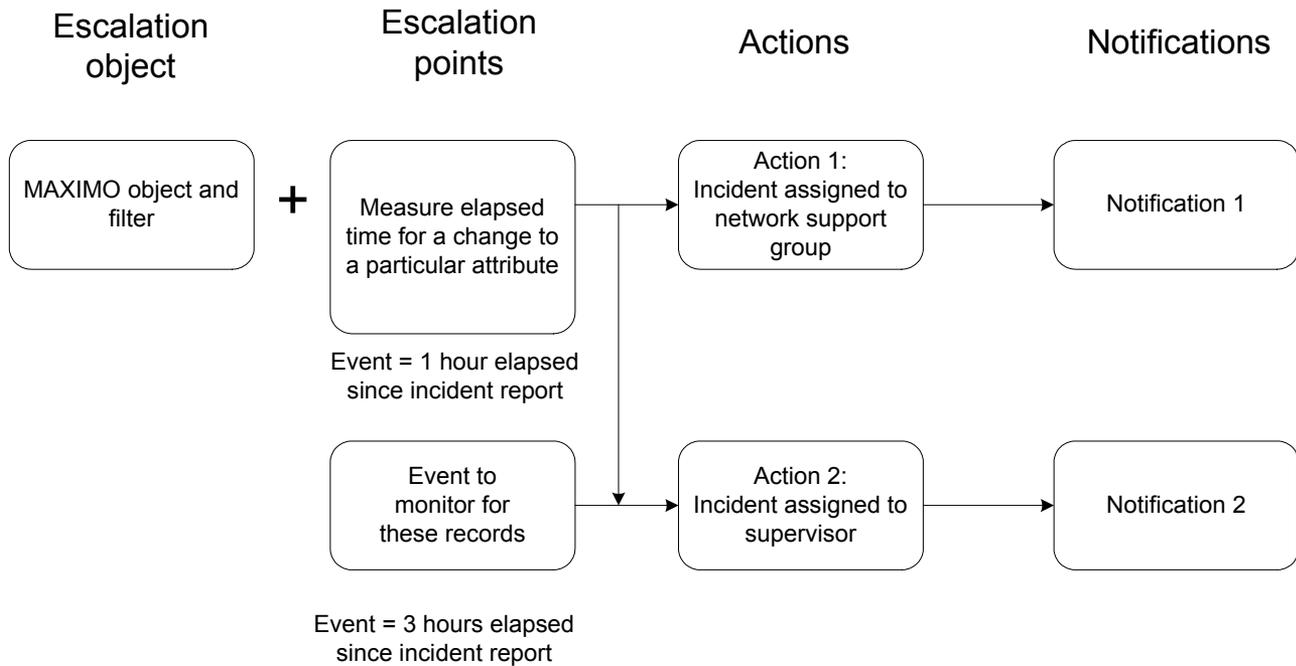
Suppose a Service Provider's SLA states that all network-related incidents with a high or very high priority are assigned within 1 hour of incident creation and resolved within 4 hours.

The network support group owns (default) all incident tickets related to network issues.

If incidents are not resolved within 3 hours, the Service Provider:

- ▼ Escalates priority to high,
- ▼ Passes ticket ownership to a Supervisor, and
- ▼ Sends an e-mail notification to people within the organization regarding a danger of SLA non-compliance.

This flowchart shows the relationships among incident escalation components.



Cron Tasks

Use Escalations with the Cron Task Setup application. A dedicated escalation Cron Task examines Maximo objects, identifies records for escalation in those objects, and executes actions and notifications against escalation records as needed. Administrative users can define polling time intervals or schedule condition evaluations.

Escalation and SLA Integration

Escalations help businesses comply with SLA commitments by proactively avoiding SLA violations:

- ▼ Each SLA has a one-to-one relationship with an escalation.
- ▼ Each commitment in an SLA maps to an escalation point in the corresponding escalation.
- ▼ After defining an SLA, you can define the corresponding escalation, and the SLA application populates escalation points (you can modify them).
- ▼ The SLA application contains an Escalation tab, providing a view into the corresponding escalation.

How Escalation Works

Maximo's application server contains an escalation engine, which:

- ▼ Drives the escalation process
- ▼ Leverages the Maximo Cron Task functionality
- ▼ Tests all active escalation definitions at a set schedule

To test escalations, the engine:

- ▼ Retrieves escalation definitions from the Maximo database and constructs appropriate SQL statements.
- ▼ Maximo executes SQL statements against target objects for the escalation.
- ▼ Maximo examines the results.
- ▼ If Maximo retrieves records as a result, the engine performs actions and notifications associated with escalation definitions.

Creating an Example Escalation

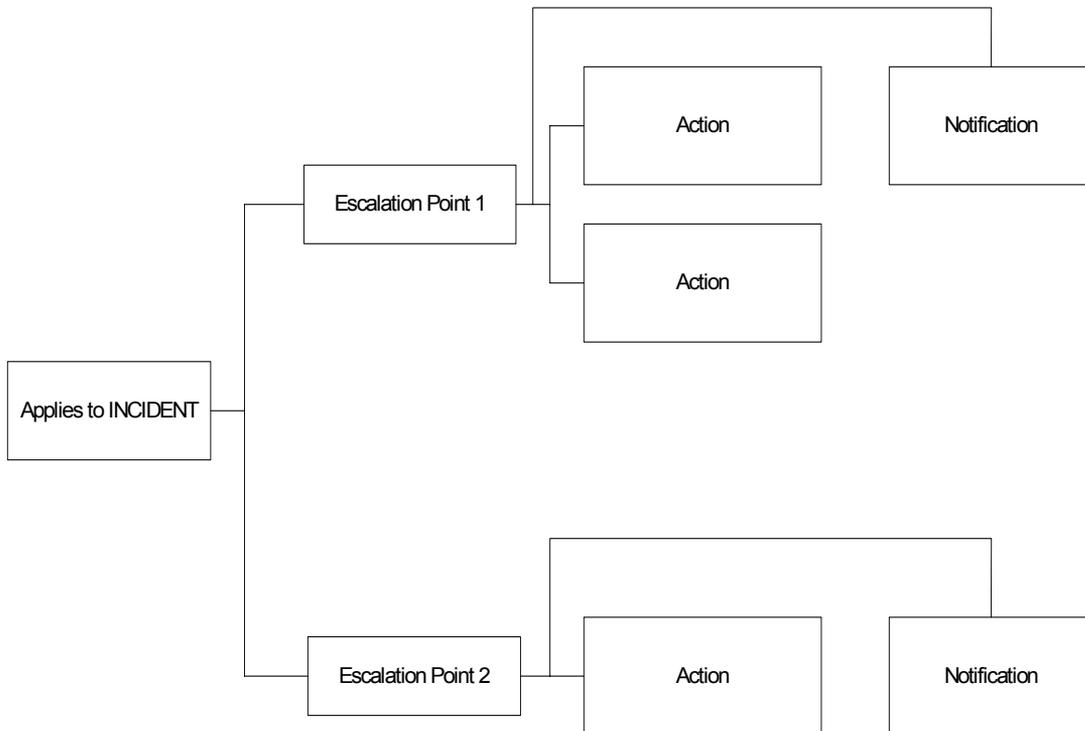
See “Example Incident Escalation” on page 12-2.

You create 2 escalation points, with actions and notifications for each. You apply the escalation to the INCIDENT object.

MRO recommends using the MAXDEMO database. It contains sample records for applications you can use for testing.

This flowchart shows the steps to create an escalation.

Define Escalation header	Define Escalation points	Define Actions	Define Notifications	Validation
--------------------------	--------------------------	----------------	----------------------	------------



When creating escalations, use this sequence of 9 tasks.

Use this example to gain experience with the Escalations application.

Task 1: Define the Escalation's Header Attributes

- 1 Open the Escalations application.
- 2 Click the **New Escalation** icon. The Escalations tab opens.
- 3 Enter these values:

Field	Description
Escalation	Clear the default and enter: ESC INC. This indicates that the escalation applies to incidents.
Description	Enter: Escalate incidents related to the network.
Applies To	<ul style="list-style-type: none"> ▼ Use the Select Value dialog box ▼ Enter: INCIDENT (indicates that the escalation targets records belonging to the Incidents application, and the Incident objects in the database)
Schedule	<ol style="list-style-type: none"> 1 Click Set Schedule. 2 Select "every 5 minutes." <p>Polls for records that meet the criteria the escalation points define</p> <p>NOTE To stop the polling at this interval, you must change the scheduling interval or deactivate the escalation.</p>
Condition	<ul style="list-style-type: none"> ▼ Enter: INTERNALPRIORITY > 5 AND COMMODITY='INFRASTR' ▼ Use the SQL Expression Builder to enter this information (see the Help within the dialog for instructions). <p>The escalation engine applies this SQL statement to INCIDENT records to obtain a subset of records. This condition retains only high-priority records that are not network-related.</p> <p>Since this escalation targets Service Desk agents and administrators, the internal priority associated with an incident is important.</p> <p>NOTE For this example, leave the Organization and Site fields blank. This escalation is system-level, and targets incidents reported at any site or organization.</p>

Task 2: Create Escalation Point A

This tests whether more than 30 minutes elapsed since someone reported the incident. By setting an elapsed time interval of 30 minutes, Service Desk staff can initiate action within the 1-hour SLA time limit.

If the incident meets this condition, the escalation engine triggers the associated actions and notifications.

- 1 In the Escalation Points table window, click **New Row**. The Details table window opens.
- 2 Enter these values:

Field	Value
Elapsed Time Attribute	<ul style="list-style-type: none"> ▼ REPORTDATE ▼ Use the Select Value dialog box
Elapsed Time Interval	30
Interval Unit of Measure	<ul style="list-style-type: none"> ▼ MINUTES ▼ Use the Select Value dialog box
Escalation Point Condition	<ul style="list-style-type: none"> ▼ STATUS='NEW' ▼ Use the SQL Expression Builder to enter this information (see the Help within the dialog for instructions).
Repeat	<p>Leave the checkbox clear.</p> <p>The escalation actions and notifications are triggered once for the escalation point.</p> <p>Checked = repeatedly triggers actions and notifications for the same escalation point.</p>

- 3 Click **Save Escalation**.

Task 3: Add the First Action for Escalation Point A

This action assigns ticket ownership to the Maintenance group.

- 1 From the Actions subtab, click **New Row**. The Actions table window opens.
- 2 In the **Actions** field, click **Detail Menu** and select **Go to Actions**. The Actions application opens.
- 3 Click **New Action** in the toolbar. The Action tab opens.
- 4 Enter these values:

Field	Value
Action	Clear the default. Enter: INC OWN.
Description	Enter: Assign incident to an owner group.
Object	INCIDENT
Type	SETVALUE
Value	'MAINT' (include single quotation marks)
Parameter/Attribute	OWNERGROUP

- 5 Click **Save Action**.

- 6 In the top-right corner of the Actions application, click **Return with Value**.

You return to the Escalations application, and the first row in the Actions tab contains the INC OWN action.

- 7 Click **Save Escalation**.

Task 4: Add the Second Action for Escalation Point A

This action sets the incident's Service Group to IT.

- 1 From the Actions tab, click **New Row**. The Actions table window opens.
- 2 In the **Actions** field, click **Detail Menu** and select **Go to Actions**. The Actions application opens.
- 3 Click **New Action** in the toolbar. The Action tab opens.
- 4 Enter these values:

Field	Value
Action	INC SETSVCGRP
Description	Enter: Set Service Group of Incident.
Object	INCIDENT
Type	SETVALUE
Value	'IT' (include single quotation marks)
Parameter/Attribute	COMMODITYGROUP

- 5 Click **Save Action**.
- 6 In the top-right corner of the Actions application, click **Return with Value**. You return to the Escalations application. The first row on the Actions subtab contains the INC SETSVCGRP action.

INC OWN executes, then INC SETSVCGRP. The numbers in the Actions tab's Sequence column indicate the order in which the actions run.

- 7 Click **Save Escalation**.

Task 5: Add a Notification for Escalation Point A

Notifications are sent as e-mail messages. Add a notification in Escalations and save it in the Communication Templates table:

- 1 On the Notifications tab, click **New Row**. The notification table window opens.
- 2 Click **Detail Menu** next to Templates, and select **Go to Communication Templates**. The Communication Templates application opens.

- 3 Click **New Communication Template** in the toolbar. The Communication Template tab opens.
- 4 Enter these values:

Field	Value
Template	INC OWNGRP
Description	Enter: Notification to owner group of incident.
Applies To	▼ INCIDENT ▼ Use the Select Value dialog box
Accessible From	ALL (default)
Send From (Template Details area)	maxadmin@mro.com (or another valid e-mail account)
Subject	Incident has been queued.
Message	Incident :ticketid has been queued. Its internal priority is :internalpriority.

- 5 Click the Recipients tab.
- 6 Click **Show Table** to open the Person Group(s) for Communication Template table window.
- 7 Click **Select Groups**. The Select Person Groups dialog box opens. You are sending a notification to the maintenance group.
- 8 Select MAINT. Click **OK**.
- 9 In the Person Group(s) for Communication Template table window, check the **To?** box.
- 10 Click **Save Communication Template**.
- 11 In the top-right corner of the Communication Templates application, click **Return with Value**.

You return to the Escalations application. The Notifications tab lists the notification.

- 12 Click **Save Escalation**.

Task 6: Create Escalation Point B

You must:

- ▼ Test the incident records selected through the application of the Escalation header condition, and
- ▼ Identify all records entered and assigned by Escalations more than 3 hours ago that still remain unresolved, and

- ▼ Create a condition to check elapsed time. It tests whether, 3 hours after being reported to the service desk, any incidents remain In Progress, Queued, or Pending. If so, escalate these incidents.
- 1 In the Escalations Points table window, click **New Row**. The Details table window opens.
 - 2 Enter these values:

Field	Value
Elapsed Time Attribute	<ul style="list-style-type: none"> ▼ REPORTDATE ▼ Use the Select Value dialog box
Elapsed Time Interval	180
Interval Unit of Measure	<ul style="list-style-type: none"> ▼ MINUTES ▼ Use the Select Value dialog box
Escalation Point Condition	<ul style="list-style-type: none"> ▼ STATUS='INPROG' OR STATUS='QUEUED' OR STATUS='PENDING' ▼ Use the SQL Expression Builder to enter this information (see the Help within the dialog for instructions).
Repeat	N (default)

- 3 Click **Save Escalation**.

Task 7: Add an Action for Escalation Point B

This action sets the incident's status to INC CHGPRT.

- 1 From the Actions subtab, click **New Row**. The Actions table window opens.
- 2 In the **Actions** field, click **Detail Menu** and select **Go to Actions**. The Actions application opens.
- 3 Click **New Action** in the toolbar. The Action tab opens.
- 4 Enter these values:

Field	Value
Action	INC CHGPRT
Description	Enter: Change priority to high.
Object	INCIDENT
Type	SETVALUE
Value	1
Parameter/Attribute	INTERNALPRIORITY

- 5 Click **Save Action**.
- 6 In the top-right corner of the Actions application, click **Return with Value**.

You return to the Escalations application, and the first row in the Actions tab contains the INC CHGPRT action.

- 7 Click **Save Escalation**.

Task 8: Add Notifications for Escalation Point B

- 1 On the Notifications tab, click **New Row**.
- 2 Click **Detail Menu** next to Templates, and select **Go to Communication Templates**. The Communication Templates application opens.
- 3 Click **New Communication Template** in the toolbar.
- 4 Enter these values:

Field	Value
Template	INC RES
Description	Enter: Notification to resolve incident.
Applies To	▼ INCIDENT ▼ Use the Select Value dialog box
Accessible From	ALL (default)
Send From (Template Details area)	maxadmin@mro.com (or another valid e-mail account)
Subject	Incident :ticketid requires immediate attention.
Message	Incident :ticketid has remained in status :status for the last 3 hours. It requires immediate attention. Its internal priority has been increased to :internalpriority.

- 5 Click the Recipients tab.
- 6 Click **Show Table** to open the Person(s) for Communication Template table window.
- 7 Click **Select People**. The Select People dialog box opens. You are sending a notification to John Hunter, the Service Desk supervisor.
- 8 Select HUNTER. Click **OK**.
- 9 In the Person(s) for Communication Template table window, check the **To?** box.
- 10 Click **Save Communication Template**.

- 11** In the top-right corner of the Communication Templates application, click **Return with Value**.

You return to the Escalations application. The Notifications tab lists the notification.

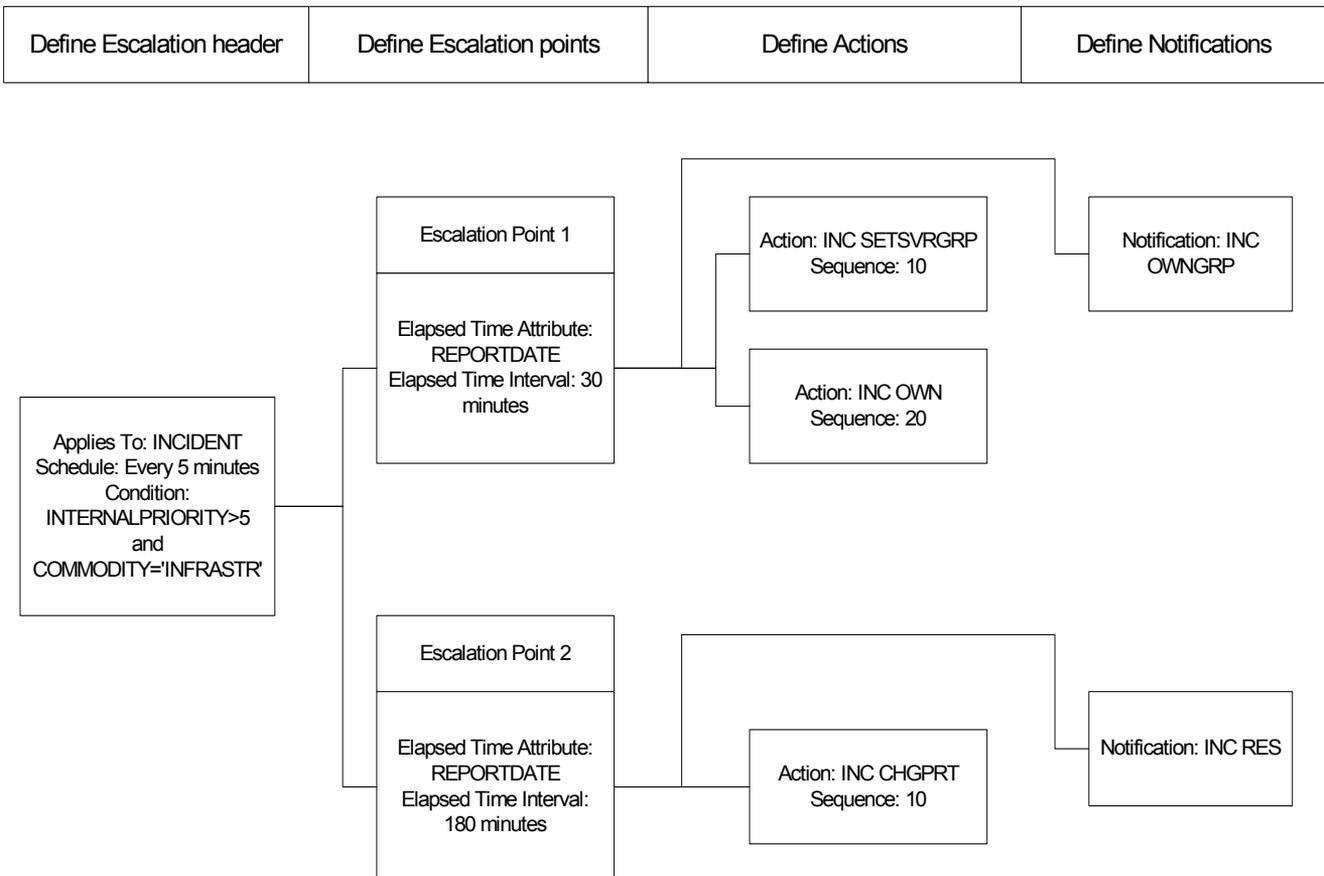
- 12** Click **Save Escalation**.

Task 9: Validate and Activate the Escalation

Ensure there are no SQL errors in the condition fields:

- 1** Choose **Select Action > Validate**.
 - a** If Maximo informs you that the validation failed, click **Maximize** to expand the Validation Results table window to view the error(s).
 - b** If the error is against the SQL statements you entered in the header's **Condition** field or in an escalation point's **Escalation Point Condition** field, correct the statement(s) and revalidate the escalation.
- 2** Click **Save Escalation**.
- 3** Choose **Select Action > Activate/Deactivate Escalation**. Maximo displays a message stating that escalation ESC INC is activated.

This flowchart shows the steps of the SLA escalation example.



Conditions for the Preceding Example

- ▼ The procedure describes only the logical sequence of steps needed to create and enable an escalation. Maximo triggers an escalation only when the escalation engine finds records it needs to escalate, based on conditions defined in the escalation's header attributes.
- ▼ To test the escalation:
 - Use the Incidents application and create incident records that can be used to meet the conditions identified in this escalation.
 - Use the Maximo Service Desk Incidents application and create incident records that Maximo can identify through this escalation.
 - MRO recommends using the MAXDEMO database. It contains sample records for applications you can use for testing.
- ▼ To receive notifications based on this escalation, enter valid e-mail addresses for your site.

NOTE Open the `maximo.properties` file, in the `<Maximo root> applications\Maximo\properties` folder. Ensure the `mail.smtp.host` value is set. It is the name of the host running the SMTP server. Your network administrator can provide this address. If you make modifications, you must rebuild the EAR file.

For information on editing this file, see “The Maximo.Properties File” on page B-1.

Enabling Logging for Escalations

Time drives escalations, and log files let you check whether escalation actions run according to schedule.

To enable logging on the escalation Cron Task, notification messages, and action messages, you must modify the `logging.properties` file. Default location:

`<Maximo_root> applications\Maximo\properties`

where `<Maximo_root>` is the folder where you installed Maximo.

1 Append these examples to your local file:

```
# Enable crontask for ESCALATION
log4j.logger.Maximo.crontask.ESCALATION=DEBUG, A2

# Enable the following for Notification messages on logger
log4j.logger.Maximo.service.SYSTEM.COMMTEMPLATE=INFO, A2

# Enable the following for Action messages on logger
log4j.logger.Maximo.service.SYSTEM.ACTION=INFO, A2
```

2 Save the modifications.

- 3 Rebuild the EAR file and restart the application server. See “Building EAR Files” on page 25-8.

Sample Escalation Log Messages

NOTE You must first enable logging.

Escalation start and finish

These messages indicate the escalation’s start and finish, including its name and time of execution.

```
21 Jul 2004 13:47:23:839 [DEBUG] Started Escalation task:
ESCALATION for instance: ESC INCID
```

```
21 Jul 2004 13:47:23:849 [DEBUG] Finished Escalation task:
ESCALATION for instance: ESC INCID
```

These statements appear in the log file if you place this statement in the properties file:

```
log4j.logger.Maximo.crontask.ESCALATION=DEBUG, A2
```

SQL statements constructed and executed

The escalation engine constructs and executes these SQL statements, which appear after the started escalation statement and before the finished escalation statement.

```
21 Jul 2004 13:47:23:839 [INFO] app (null) object (ESCALATION):
select * from escalation where crontaskname= 'ESCALATION' and
instancename= 'ESC INCID'
```

```
21 Jul 2004 13:47:23:839 [INFO] app (null) object
(ESCALATION):select * from escalation where crontaskname=
'ESCALATION' and instancename= 'ESC INCID'
```

```
21 Jul 2004 13:47:23:839 [INFO] app (null) object (ESCREFPPOINT):
select * from escrefpoin where escalation = 'ESC INCID'
```

```
21 Jul 2004 13:47:23:839 [INFO] app (null) object
(ESCREFPPOINT):select * from escrefpoin where escalation =
'ESC INCID'
```

```
21 Jul 2004 13:47:23:849 [INFO] app (null) object (INCIDENT)
:select * from incident where internalpriority>5 and
status='NEW'
```

```
21 Jul 2004 13:47:23:849 [INFO] app (null) object (INCIDENT)
:select * from incident where internalpriority>5 and
status='NEW'
```

These statements appear in the log file if you place this statement in the properties file:

```
log4j.logger.Maximo.sql=INFO, A2
```

Escalation engine identifies action group

Maximo logs these messages soon after an escalation begins and the associated actions are being executed.

The action group '1004' had member actions 'INC QUE' (queue incident) and 'INC SETOWN' (set owner of the incident).

```
19 Jul 2004 14:40:45:186 [INFO] Executing Action type = GROUP  
action=1004
```

```
19 Jul 2004 14:40:45:196 [INFO] Executing Action type =  
CHANGESTATUS action=INC QUE
```

```
19 Jul 2004 14:40:45:356 [INFO] Executing Action type = SETVALUE  
action=INC SETOWN
```

These statements appear in the log file if you place this statement in the properties file:

```
log4j.logger.Maximo.service.SYSTEM.ACTION=INFO, A2
```

Actions completed

Maximo logs these messages soon after an escalation begins and the associated actions end. You can write additional statements into the log file, including the notification's subject and body.

```
19 Jul 2004 14:40:45:867 [INFO] Sending Email from a  
communication template
```

This message and other associated communication template statements appear in the log file if you place this statement in the properties file:

```
log4j.logger.Maximo.service.SYSTEM.COMMTEMPLATE=INFO, A2
```

Escalations Included in Maximo

NOTE You must activate these escalations.

This escalation changes the status to the target invoice's status when invoices generated from a payment schedule reach a due date:

Escalation	Application
INVDUE	Invoice

These escalations change a contract's status to approved when its start date is reached:

Escalation	Application
MSTRCTREFF	Master Contracts
LEACTREFF	Lease Contracts
WARCTREFF	Warranty Contracts
PURCTREFF	Purchasing Contracts
LABCTREFF	Labor Contracts

E-mail Listener

Service Desk implementations use E-mail Listener Configuration application to receive and process Service Requests (SRs) via e-mail. E-mail Listener can monitor multiple e-mail accounts to retrieve messages. The application supports embedded and normal message attachments.

NOTE E-Mail Listener cannot process encrypted or digitally signed e-mail messages. Inform users of this limitation.

Configure E-mail Listener to check each account at a set interval. The listener identifies new SRs and updates to existing SRs, based on the message's subject line.

E-mail Listener includes a customizable workflow process that creates and updates SRs. The Service Desk's communication log captures all incoming communications E-Mail Listener receives.

Storing Attachments

E-mail Listener stores attachments from incoming e-mail on the Maximo server. You can view attachments via the Communication Log sub-tab in the Service Request application.

The mail server can control attachment size. Contact your mail server administrator regarding these controls, and to determine the file types allowed on E-mail Listener's mail server. Communicate this information to E-mail Listener users.

Attached Documents

Use Maximo's Attached Documents application to attach Word documents, PDF files, URLs, diagrams, pictures, and other types of documents to individual Maximo records. See "Attached Documents Administration and Configuration" on page 22-1.

Scenario

Suppose Sally tries to print a file and receives an indecipherable error message. She sends an e-mail and screenshot describing the problem to help@support.com, the company site for Service Desk e-mail requests. The E-mail Listener Configuration application retrieves Sally's message and creates an SR with identifier 123.

Frank, a Service Desk agent, reviews SR #123, searches the knowledge base and finds a solution. He opens the Communications Log (Service Request application > Log tab > Communication Log sub-tab) containing Sally’s initial e-mail, creates a new communication with the solution, and sends it to her.

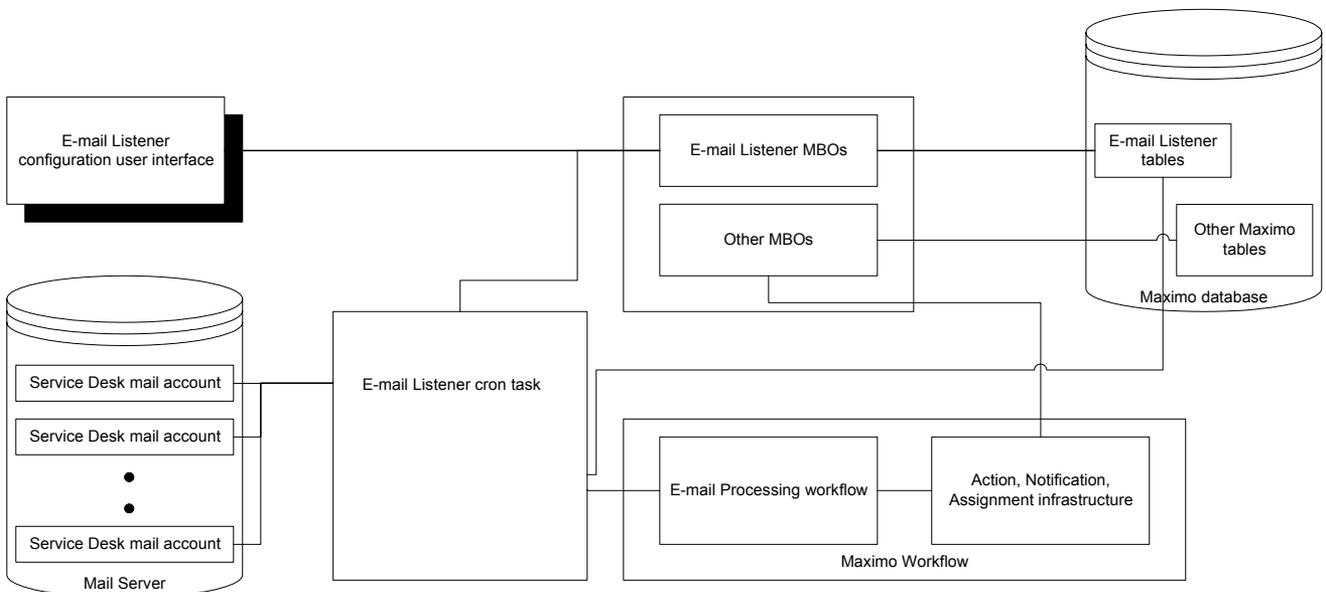
All details of the interaction between Frank and Sally are stored in the Communications Log for SR #123.

Components

E-Mail Listener’s components comprise:

Component	Purpose
E-mail Listener Configuration	The application used to create, modify and delete E-mail Listener configurations.
NOTE Prerequisite: configure mail servers and e-mail accounts.	
E-mail Listener Cron Task	Component that executes continuously on Maximo’s application server and leverages Maximo’s Cron Task infrastructure. This component encapsulates a staging process which processes inbound e-mail through a staging table.
E-mail Processing workflow	Workflow contains additional rules to process incoming e-mail. Action, assignment, and notification infrastructure in workflow can be leveraged.

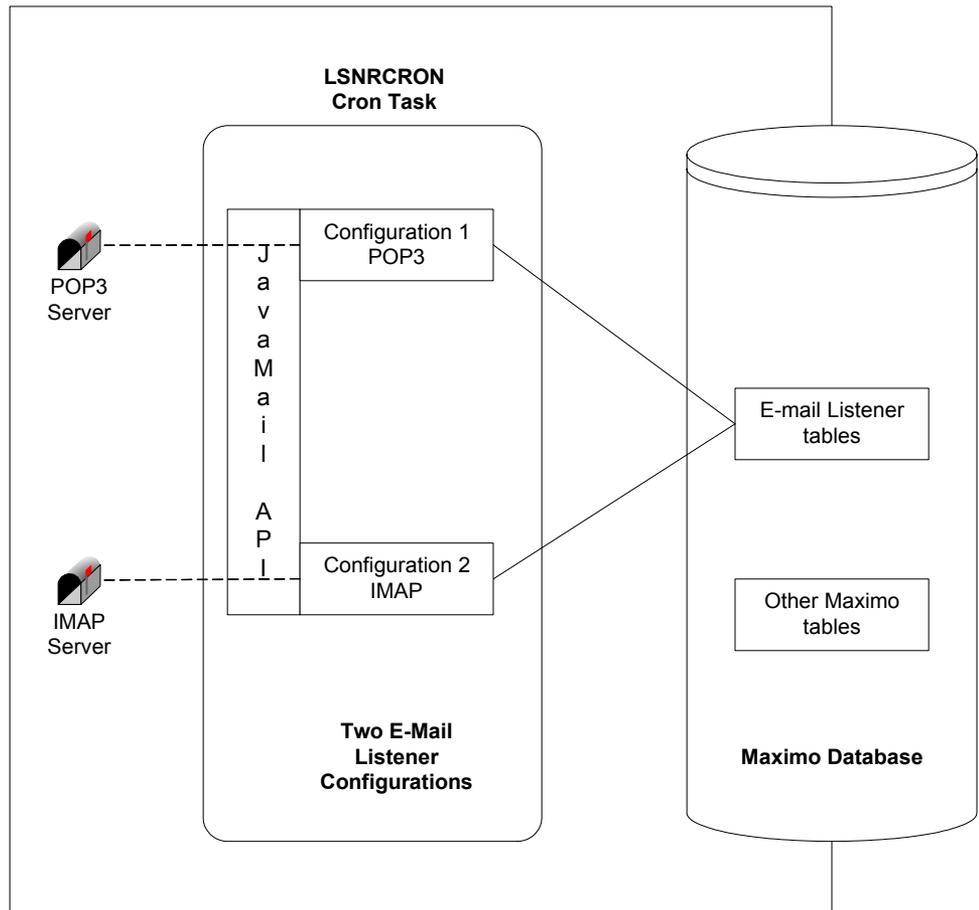
Relationship Among Components



Architecture

Each E-mail Listener configuration is associated with the E-mail Cron Task and a specific Cron Task instance. Each instance is created for each E-mail Listener configuration when that configuration is activated for the first time. See “Cron Task Setup” on page 16-1.

The polling frequency is associated with the individual Cron Task instance.



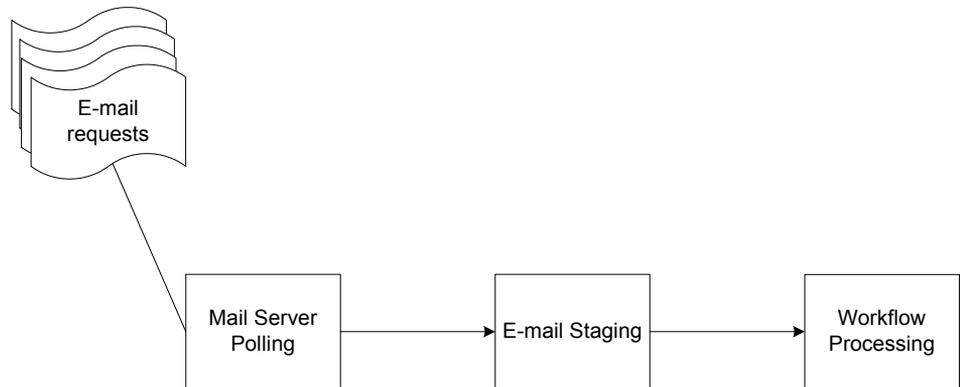
E-mail Listener supports POP3 and IMAP protocols. These protocols use the JavaMail API, which provides a platform- and protocol-independent framework to build mail and messaging applications.

How E-Mail Listener Works

These events occur when the mail server receives an incoming e-mail:

- 1 Mail server polling
- 2 E-mail staging, including:
 - ▼ extracting e-mail content, including attachments
 - ▼ storing content in staging tables and attached documents
 - ▼ launching workflow
- 3 Workflow processing, indicating whether the e-mail message is a new or updated SR:
 - ▼ New: create an SR and communication log
 - ▼ Updated: update the SR and create a communication log

High Level Overview



NOTE There is no automatic e-mail response to an incoming e-mail. The service desk agent can send a response, or you can build a different workflow process for E-mail Listener.

Polling

The Mail Server polling actions include these events:

- ▼ Polls the mail server at a specific frequency. See E-mail Listener online Help to use the Date Selector to set the schedule.

The **Schedule** field (5m = 5 minutes) determines the polling frequency.

- ▼ For any e-mail marked as read on the mail server, determine whether to delete the e-mail.
 - Yes: mark the e-mail as deleted on the mail server.
 - No: keep the e-mail on the mail server.

The e-mail deletion rules you define depend upon how the mail server manages the e-mail account. Configure deletion rules in the application's E-mail Deletion section.

Configure deletion rules in the E-Mail Deletion section

- ▼ For new e-mails on the mail server:
 - 1 Extract the header and message body for each e-mail.
 - 2 Extract any attachments.
 - 3 Move to e-mail staging.
 - 4 Mark e-mail as Read on the mail server.

Staging

Maximo stages e-mail messages to save all information required to process the e-mail and initiate workflow processing.

A Maximo staging table stores the attributes of an incoming e-mail message, including recipients (To, CC, BC), sender, subject, and message content.

This creates a record; workflow determines how to process it.

Workflow

Use Workflow to create a set of steps to guide records for your business process.

Maximo installs an Inbound E-mail Processing (IBEP) workflow; you can modify it or create a process. See the online Help for Workflow Designer. From Maximo, select **Configuration > Workflow > Workflow Designer**; click **Help**.

The IBEP workflow checks whether the e-mail is associated with an existing request.

- ▼ No: create an SR and Communication log entry.
- ▼ Yes: create a Communication log entry.

NOTE The IBEP workflow does not generate outbound e-mail notifications.

Customizing E-Mail Listener

The base implementation provides defaults for each listener configuration. You can customize E-mail Listener by specifying the Object Key Delimiter and providing your own Preprocessor implementation.

Object Key Delimiter

The **Object Key Delimiter** value identifies the incoming e-mail as an existing SR. To change the default (##):

- 1 Replace the value with other characters.

There are no restrictions, but the delimiter must be unique. MRO recommends infrequently used characters or symbols.

- 2 Place the delimiter before and after the SR ID (example: SR 1009 is represented as ##1009##).

Object Key Identifier

The record's ID is called the Object Key Identifier, which can be a sequence generated by Maximo (example: 1001, 1002, etc.).

Preprocessor

The default Preprocessor value is `psdi.common.emailstnr.Preprocessor`. This Java class:

- ▼ Executes on the server when the listener recognizes a new e-mail.
- ▼ Parses the Subject line based on the Object Key Delimiter's value, and adds a value to the E-mail Listener staging table's Object Key column.

The preprocessor indicates whether the e-mail is a new or updated SR:

- ▼ The Preprocessor class extracts the substring bounded by the delimiter characters.
- ▼ The preprocessor stores recognized substrings in the staging table's Object Key column. If no substring is recognized, the column is empty.

Customization Scenario

Other characters can represent the Object Key Delimiter. Suppose `+` is the delimiter, and a user sends an e-mail with this subject line: `"+1003+ Having problems with printer + network."`

The base preprocessor cannot identify the substring because the delimiter symbol occurs multiple times within the subject line.

To customize the preprocessor implementation:

- 1 Place the class file in Maximo's business objects folder.
- 2 Modify the `buildmaximoear.xml` file in the `<Maximo_root>\deployment` folder.
- 3 Rebuild Maximo's EAR file. See "Building EAR Files" on page 25-8.
- 4 Verify the business objects folder is included in the `businessobject.jar` file.

Customizing the Preprocessor

The base Preprocessor Java class implements a standard Java interface called the `LSNRPreprocessor`. Custom preprocessor implementations must include an implementation of the `LSNRPreprocessor` interface.

The preprocessor interface provided with Maximo includes these public methods:

- ▼ Boolean `isNewEmail` (String del, String subject)
- ▼ String `getObjectKey` (String del, String subject)

In the custom Java class, implement both methods. Each accepts 2 parameters:

- ▼ delimiter string
- ▼ subject line string

Method	Description	Base preprocessor implementation	Custom implementation
<code>isNewEmail()</code>	Returns a Boolean value indicating whether the e-mail is for a new or existing SR.	Checks whether the Object Key Delimiter string occurs exactly twice in the subject line string.	May provide different logic to determine the new or existing SR.
<code>getObjectKey()</code>	<ul style="list-style-type: none"> ▼ Returns a string that represents the SR ID, or ▼ Returns null, if no ID is found. 	Extracts the substring between the first and last occurrences of the delimiter string in the subject line.	May provide different logic to determine the SR ID.

Java requires that you declare the custom implementation at the beginning of the file. Example:

```
public class MyPreprocessor implements LSNRPreprocessor
```

Additional Tasks

See E-Mail Listener online Help for a description of the configuration process and instructions to activate a listener.

Errors

E-mail processing errors are written to the appropriate Maximo log file. Specify the Maximo log file on the server, and adjust the settings in the logging.properties file.

See “Bounced E-mail” on page 13-9.

Logging Properties File

NOTE Use logging E-mail Listener activity only for debugging, not in a production environment.

You can modify the logging.properties file to enable logging on E-mail Listener. Default location:

<Maximo_root> applications\maximo\properties

1 Open logging.properties and search for this string:

```
log4j.logger.maximo.crontask.EmailListnerCron=INFO
```

The string INFO indicates that the Maximo log records the maximum level of E-mail Listener data.

2 You can add one or both appenders:

Appender	Description
A1	Directs output to the console only
A2	Directs output to the log file only

NOTE After changing the logging.properties file, you must build a new maximo.ear file and restart the application server. See “Building EAR Files” on page 25-8.

Bounced E-mail

Outbound e-mail that cannot be delivered is termed bounced. Large volumes of bounced e-mail create excess network traffic and affect E-mail Listener's ability to process legitimate SRs.

The mail server generates and returns “delivery failed” messages to the E-mail Listener account specified in the **Send From** field, and E-Mail Listener treats these messages as SRs.

Recommended deployment option:

- 1 Create a dedicated e-mail account for bounced e-mail notifications to preserve the integrity of the primary E-mail Listener account.
- 2 Base any outbound e-mail notification on Communication Templates where the **Send From** field in the template specifies the dedicated bounced e-mail account.

An e-mail is generated and sent to that address.

A Java stack trace appends to the message, providing a snapshot of the threads and monitors in a JVM.

These communication templates are applied to e-mail sent to administrators to generate error-handling e-mails:

Template	Application
LSNRINVM	Whenever the inbound e-mail contains an empty subject line.
LSNRERROR	Whenever errors encountered during inbound e-mail staging.
LSNRCFGERR	Whenever a configuration error is encountered. Configuration errors includes incorrect values or parameters specified for an E-mail Listener configuration.
LSNRMAILER	Whenever there is an error accessing and retrieving e-mail from the configured mail server.
LSNRINBF	Whenever the staging table entry for an inbound e-mail cannot be created.
LSNRCONNF	Whenever there is a mail server connection error.

Calendars

Use the Calendars application to create and modify calendars associated with these Maximo records.

- ▼ Organizations
- ▼ People
- ▼ Labor
- ▼ Assets
- ▼ Locations
- ▼ Work Orders
- ▼ PMs
- ▼ Tools
- ▼ Service Level Agreements (SLAs)

Calendar records incorporate start and end dates, shift definitions, and non-working time. Holidays are examples of non-working time. Multiple records can reference a single calendar.

Typically you create calendars for organizations, but you can also make them site-specific. You may need multiple calendar definitions, for example:

- ▼ Corporate Calendar – includes standard shifts and holidays
- ▼ Asset Calendar – working time calendar for asset UPTIME

Exceptions to the Standard Calendar

Calendars are shared entities that set the standards for shifts and holidays, for example.

Information for individuals, such as vacation days, sick leave, personal time, and overtime, is not stored on the main calendar record. Use these applications and icons to enter exceptions to the standard calendar:

Application	Icon
People	Modify Person Availability
Assignment Manager	Modify Availability

Maximo combines the standard calendar assignments and the exceptions to determine a person's availability for a given day, shift, etc.

Shift Patterns

A shift defines working time without being date-specific. Choose the working days for the week, then designate the start and end times for work. For example, create a shift called First, with these properties:

- ▼ working days are Monday through Friday
- ▼ work starts at 7:00 a.m.
- ▼ work ends at 3:00 p.m.
- ▼ work hours for the day total 8

You can create special shift definitions that are atypical for your work site (example: a Saturday night or Holiday shift).

Once a shift is defined, you can apply it to a calendar. After creating a calendar, you can use it on person, location, asset, and other records to specify working time.

Sample shift patterns	Start day
7 days	Sunday
Multiple of 7 (example: 14, 21)	Monday
5 days	rotates

If the number is not a multiple of 7, the pattern does not repeat on the same days of the week. For example, with a 15-day pattern of 10 days on and 5 days off, the second instance of the shift starts on a different day than the first.

For all these cases, use the same procedure in the Define Patterns dialog box.

Creating a Calendar

- 1 Open the Calendars application. Maximo displays the List tab.
- 2 Your default insert site must be in the organization you want to create the calendar for. To verify or change the default:
 - a In the Maximo Bar, select **Profile > Default Information**. The **Default Insert Site** field displays the current default.
 - b To select a different site, click Select Value.
 - c Click OK.

3 Click the **New Calendar** icon.

4 Complete these fields:

Field	Action
Calendar	Enter a name.
Calendar Description	Enter a description.
	To enter additional information, click Long Description.
Start Date, End Date	Enter dates using the date selector.

5 Click **Save Calendar**.

To add shifts, see “Defining a Shift and Pattern” on page 14-4.

To add holidays and other non-working time, see “Defining Non-Working Time” on page 14-7.

Modifying a Calendar

- 1 From the List tab in the Calendars application, select a calendar. It opens on the Calendar tab.
- 2 Choose **Select Actions > Define/Apply Shifts**.

The screenshot shows the 'Define/Apply Shifts' dialog box. It is divided into two main sections: 'Shifts' and 'Shift Pattern'.

Shifts Table:

Shift	Description	Start Day	Days in Pattern	Action
<input type="checkbox"/> COMP1	Two Shift Operation	SUNDAY	7	🗑️
<input type="checkbox"/> DAY	Day Shift 0700 - 1500	SUNDAY	7	🗑️
<input type="checkbox"/> EVENING	Evening Shift 1500 - 2300	SUNDAY	7	🗑️

Buttons: Define Pattern, Apply Shift(s), New Row

Shift Pattern Table:

Sequence of Pattern Day	Description	Start Time	End Time	Work Hours
1	SUNDAY			
2	MONDAY	12:00 AM	12:00 AM	16:00
3	TUESDAY	12:00 AM	12:00 AM	16:00
4	WEDNESDAY	12:00 AM	12:00 AM	16:00
5	THURSDAY	12:00 AM	12:00 AM	16:00
6	FRIDAY	12:00 AM	12:00 AM	16:00
7	SATURDAY			

Buttons: OK, Cancel

3 In the Shifts table window, click in the row containing the shift.

4 Click **Define Pattern**. Modify the shift pattern.

5 Click OK.

6 In the Shifts table window, check the box in the row containing the shift.

- 7 Click **Apply Shift(s)**.
- 8 Click **OK**. The calendar reflects your changes.

Deleting a Calendar

You cannot delete a calendar if it is used on any of the following:

- ▼ an asset record
- ▼ an asset status
- ▼ a personal calendar
- ▼ a service level agreement
- ▼ a PM
- ▼ a job plan
- ▼ a location
- ▼ a work order

- 1 From the **List** tab in the Calendars application, select a calendar. You can delete only one calendar at a time.
- 2 Choose **Select Actions > Delete Calendar**.
- 3 At the confirmation message, click **Yes**.

Duplicating a Calendar

You can duplicate a calendar and modify the duplicate.

- 1 From the **List** tab in the Calendars application, select a calendar. It opens on the **Calendar** tab.
- 2 Choose **Select Actions > Duplicate Calendar**. The duplicate calendar opens.
- 3 In the **Calendar** field, enter a name.
- 4 Modify the description in the **Calendar Description** field.
- 5 Click **Save Calendar**.

NOTE After saving the new calendar, you can modify shift and non-working time information.

Defining a Shift and Pattern

- 1 From the **List** tab in the Calendars application, select a calendar.
- 2 Choose **Select Actions > Define/Apply Shifts**. The **Define/Apply Shifts** dialog box opens.

- 3 In the Shifts table window, click **New Row**.

See “Shift Patterns” on page 14-2.

- 4 Complete these fields:

Field	Action
Shift	Enter a name.
Shift Description	Enter a description.
Start Day	Enter a day to begin the pattern, or click Select Value.
Days in Pattern	Enter the number of days.

- 5 Click **Define Pattern**. The dialog box displays the days in the pattern.

Sequence of Pattern Day	Description	Start Time	End Time	Work Hours
3	TUESDAY			
4	WEDNESDAY			
5	THURSDAY			
6	FRIDAY			
7	SATURDAY			
1	SUNDAY			
2	MONDAY			

- 6 In the Shift Pattern table window, enter a start time, end time and work hours for each day in the pattern.

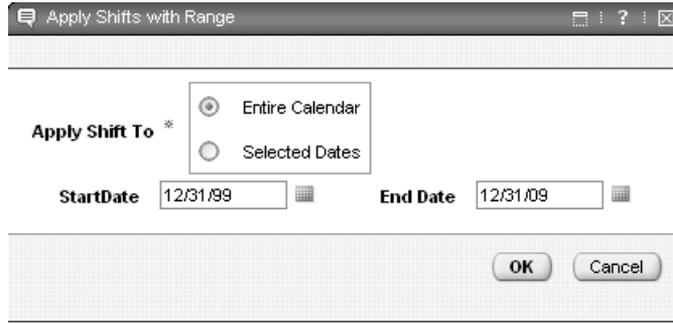
See “Defining the Hours in a Shift” on page 14-6.

- 7 Click **OK**. The details display in the Shift Pattern table window.

Applying a Shift to a Calendar

- 1 In the Shifts table window, check the boxes of one or more shifts.

- 2 Click **Apply Shift(s)**.



3 To select start and end dates, select an option:

Option	Result
Entire Calendar	The start and end dates reflect the dates specified for the calendar, but they are read-only.
Selected Dates	Maximo inserts the dates defined for the calendar. You can modify them only for a shorter period of time (as short as a single day).

4 Click **OK**.

Defining the Hours in a Shift

Specify hours for each day in the pattern.

1 Click **Define Pattern**. The Define Pattern dialog box opens.

2 Complete these fields:

Field	Action
Start Time, End Time	Enter start and end times (example: 10:00 AM and 6:00 PM).
Work Hours	Default = End Time – Start Time. You can enter a different value (example: work day = 8 hours, but only 7 are considered work hours).

3 Enter values for the remaining work days. To duplicate a working day's values in succeeding rows, click **Fill Out Work Days Data**.

4 Click **OK**. The details appear in the Shift Pattern table window.

Applying the Shift Pattern to the Calendar

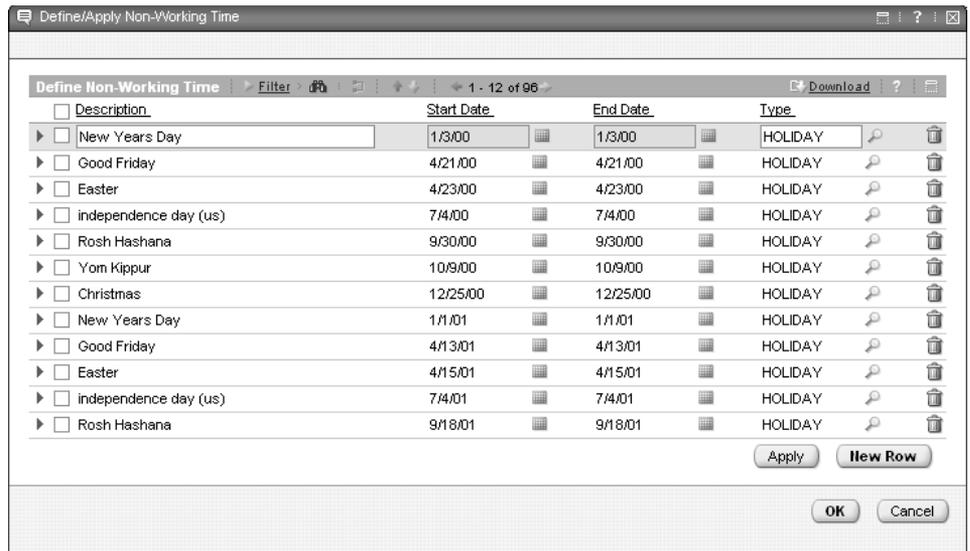
1 In the Shifts table window, check the boxes of one or more shifts.

- 2 Click **Apply Shift(s)**.
- 3 Click **OK**.

Defining Non-Working Time

You can define non-working time, such as holidays and shutdowns.

- 1 From the List tab in the Calendars application, select a calendar.
- 2 Choose **Select Actions > Define/Apply Non-Working Time**. The dialog box displays all the current non-working time.



- 3 Click **New Row**.
- 4 Complete these fields:

Field	Action
Description	Enter a description. Example: Winter Shutdown Week.
Start Date, End Date	Enter start and end dates. For single-day events, the start and end dates are identical.
Type	Click . Select from the list, including OTHER.

- 5 Click **Close Details**.

Applying Non-Working Time to a Work Period

- 1 In the Define/Apply Non-Working Time dialog box, check the boxes of one or more non-working times.
- 2 Click **Apply**.
- 3 Click **OK**. The dialog box closes.

Maximo inserts 0.0 hours on the Calendar work periods for the days you specified.

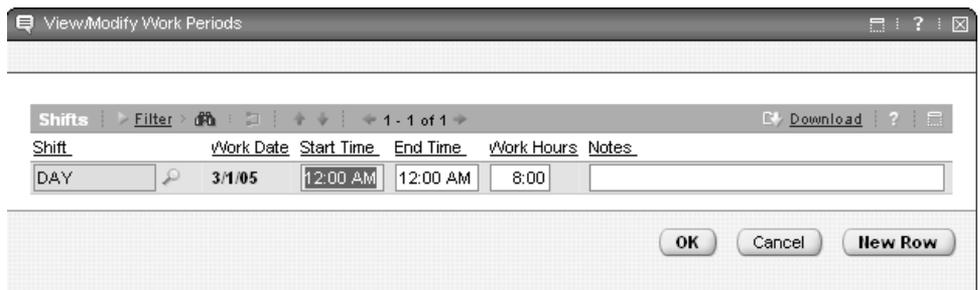
For example, if the shift normally has 8 hours of working time and you apply holiday non-working time, the calendar for that date displays 0 working hours.

Viewing and Modifying Work Periods

You can modify work periods for a given date.

- 1 From the Calendars application's List tab, select a calendar.
- 2 On the date you want to modify, click the hours value (example: 8:00 hours).

Maximo displays all shift information for that calendar for that day, including non-working time.



- 3 Modify the available fields.
- 4 (Optional) Add a shift for that date:
 - a Click **New Row**.
 - b In the **Shift** field, click **Select Value** and select a shift.
 - c Enter values in the available fields.
- 5 Click **OK**. The calendar reflects the changes.

NOTE You can use the Work Periods tab to modify work periods, line by line in a table window.

Classifications

You use the Classifications application to create detailed information about Assets, Locations, Items, Tickets, Work Orders, and Solutions, so you can retrieve them later.

Base your classification structure on how you currently group things in your business.

Upgrades

If you upgrade Maximo, the Classifications application replaces the Asset Catalog functionality. All previous Asset Catalog functionality migrates into the new Classifications functionality, and enhancements are added.

Before Creating Classifications

First, determine the information you want to retrieve. You must group things so you can do real statistical analysis later. To know how many customers complained about problem A versus problem B, you must classify problem A differently from problem B.

NOTE Only create classifications if you need to retrieve information.

Recommendation

Begin by breaking things into top-level categories such as:

- ▼ IT Assets
- ▼ Production Assets
- ▼ Facility Assets
- ▼ Fleet Assets

Work slowly from the top levels into the details. For example, under Fleet Assets, there are 18-wheel trucks and sales fleet cars, or you can categorize by maintenance group units.

You can use a visual tree control to classify things and search for classified things. You can create unlimited classification levels.

Best Practice

Build classifications top down, from Parent to Child levels. Do not try to create entire branches. Instead, work slowly from the top levels into the details.

Classification Standards

Maximo does not provide standard classifications. However, you can apply industry standards when creating classifications.

For example, standard VMRS codes exist for vehicle or fleet maintenance, and any mechanic who uses them knows that an oil change is code 42-3-2.

Contact the MRO professional services group or industry solutions group regarding material they compiled for creating classification standards.

Using Classifications

Maximo users can search classification structures and definitions of attributes to retrieve information.

Entity	Description
Classifications	Define at the system, site, or organizational level.
Items	Define at the system level only.

Service Management Examples

Example 1

A Service Desk organization creates a 4-level classification structure to categorize Tickets and Work Orders. This classification structure helps diagnose issues, categorize Work Orders, enhance reporting and other activities.

Example 2

A user contacts the Service Desk, requesting a Windows XP installation. An SR and Change Ticket are created. The change ticket is classified as NEW SW REQUEST>OPERATING SYSTEM>WINDOWS XP.

Defining Classifications

Define classifications so Maximo's search capability can find them.

What You Can Classify

- ▼ You can use attributes to classify and search for Items, Assets and Locations.
- ▼ You cannot use attributes to classify Work Orders, Tickets or Solutions.

Classification Structure

The structure consists of Parent/Child relationships between individual nodes.

In this example, Operating System represents an individual node with a unique identifying number 2010202, and resides at the end of the classification path 2\201\20102\2010202.

The screenshot shows a window titled "Classifications" with a "List" tab. It contains several input fields:

- Classification ***: 2010202
- Classification Path**: 2 \ 201 \ 20102 \ 2010202
- Parent Classification**: 2 \ 201 \ 20102
- Organization**: Request For Service \ IT \ New/Upgr Sftw \ Op
- Site**: (empty)

Another view of the classification structure is provided through the Select Parent Classification directory structure.

Select Parent Classification Directory Structure

The screenshot shows a dialog box titled "Select Parent Classification" with a tree view of classification nodes. The tree structure is as follows:

- 1: End User Issues
 - 2: Request for Service
 - 201: IT
 - 20101: New Asset
 - 20102: New/Upgrade Software
 - 2010201: Email
 - 2010202: Operating System
 - 2010203: CRM
 - 2010204: ERP
 - 2010205: Other
 - 20103: Move/Swap Asset
 - 20104: Return Asset
 - 20105: Hardware Configuration
 - 202: Facility
 - 203: Telco
 - 204: HR
 - 3: Request For Information
 - 4: Change

 A "Cancel" button is located at the bottom right of the dialog.

Attributes

Each classification node contains a list of attributes (characteristics of a classification object).

Example

Classification	Attributes
Truck	<ul style="list-style-type: none"> ▼ Horsepower ▼ Tire size ▼ Exterior color

Associate the attributes with the truck.

Sections

You can break attributes into sections. Sections are groupings of attributes, allowing the same attribute to be used multiple times.

Example

You define a pipe in Maximo as an Asset.

- ▼ The pipe is 80 feet (~25 m) long.
- ▼ It contains 10 sections of equivalent length.
- ▼ Its interior diameter tapers from one end to the other.

Because of this taper, the pipe's walls must be thicker at the narrow end to withstand the higher pressure.

Each section has a different average interior diameter and wall thickness, so the attribute is the interior diameter.

Integrating Classifications with Other Maximo Applications

- ▼ You can create classifications for Assets, Locations, Items, Tickets, Work Orders, and Solutions.
- ▼ You can search for classifications:
 - Use any application that contains an Asset, Location, Item, Ticket, Work Order, or Solution field.

For example, from a Work Order, you can search for pump related Items or toner cartridge related Solutions.

- Use the advanced search option on the List tab from Assets, Locations, Items, Tickets, Work Orders, and Solutions.

For example, you can use the List tab to generate a results set of work order records based on a classification.

You can use attributes to search for an Asset, Location, or Item (example: search for a blue car). You cannot use attributes to search for Tickets, Work Orders, or Solutions.

Creating Classifications

- 1 On the Maximo toolbar, click the **New Classification** icon.
- 2 From the **Classification** field:
 - ▼ Create a classification and enter a description.
 - ▼ Click **Select Value** in the **Classification** field and select a classification.
- 3 (Optional) To select a Parent Classification, click **Select Value** in the **Parent Classification** field to view a list of valid parent classifications.
- 4 (Optional) Select an Organization and a Site.
- 5 (Optional) To generate a description, check the **Generate Description?** box.

When this option is selected, the parent and child build descriptions for Assets, Locations, and Item number records, based on class descriptions.

- 6 (Optional) To use the classification in the generated description, check the **Use Classification?** box.
- 7 Check the appropriate Use With boxes (example: **Assets?**) to associate the classification with specific Maximo applications.
- 8 From the Children table, do one of the following:
 - ▼ Enter a classification. If the classification does not exist, you can add one and enter a description.
 - ▼ Click the Select Value button in the Classification field to view a list of valid classifications. Use the Filter By area to limit your search list as necessary. Click **OK**.
 - ▼ Select an Organization and a Site. Children inherit organizations and sites belonging to their parents.
 - ▼ Check the **Generate Description?** box and the appropriate **Use With** boxes (example: **Assets?**).
- 9 You can add attributes by inserting rows and completing fields in the Attributes table window. See Field Help (F1) for field descriptions.

NOTE These attributes apply to parents, but not to children.

For the Attribute, Domain, and Unit of Measure fields:

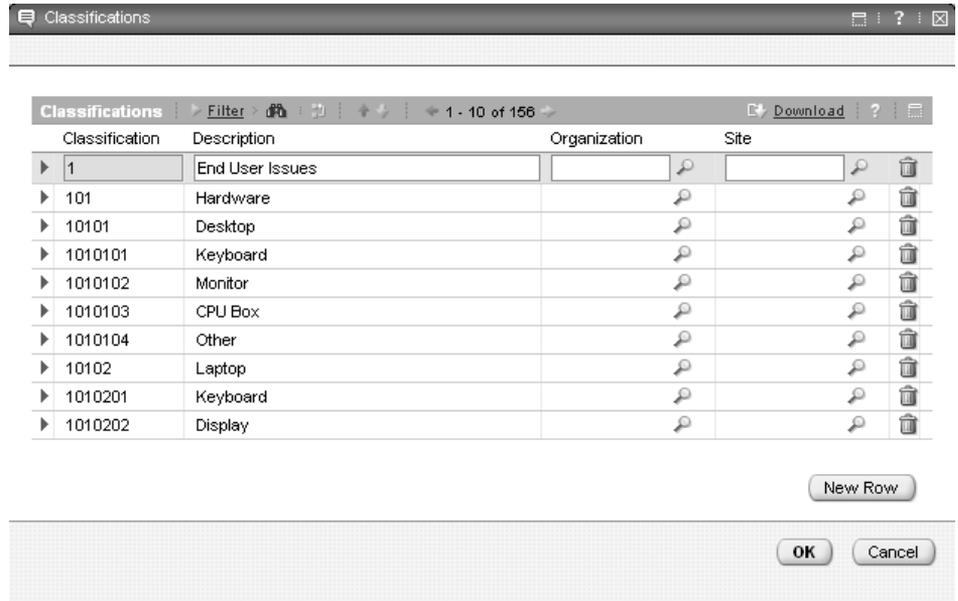
- ▼ You can use the **Select Value** button to select from existing values.
- ▼ You can create new values, just as with the Classification fields. You cannot create new values for the Data Type field.

- 10 Save the record.

Adding and Modifying Classifications

Define the list of valid words used to build classifications.

- 1 Go to the List tab or the Classifications tab.
- 2 Choose **Select Actions > Add/Modify Properties > Classification**.



Adding classifications

- 1 Click **New Row**.
- 2 Enter a classification name. Different organizations can share classification names, but at the site level, names must be unique.
- 3 Enter a classification description.
- 4 Enter a site in the **Site** field or an organization in the **Organization** field, as needed.
- 5 Repeat this process for each classification you add.
- 6 Click **OK** to save the classifications.

Modifying classifications

- 1 To find a classification:
 - ▼ Page through the list of classifications.
 - ▼ Enter a classification in the Filter area, and press **<Enter>**.
- 2 Modify **Description**, the only editable field.
- 3 Click **OK**.

Deleting classifications

- 1 Select a classification.
- 2 Choose **Select Action > Delete Classification**.

NOTE If the classification is in use, you cannot delete it.

- 3 Click **Yes**.

Adding and Modifying Attributes

Using the Add/Modify Attributes dialog box helps you quickly add or modify attributes and maintain standards. For example, you can ensure that an attribute (example: horsepower) is the same wherever you use it.

- 1 Go to the Classifications tab.
- 2 Choose **Select Action > Add/Modify Properties > Attributes**.

The screenshot shows the 'Attributes' dialog box with a table of existing attributes. The table has columns for Attribute, Description, Unit of Measure, Data Type, Domain, and Prefix. A 'New Row' button is located at the bottom right of the table area.

Attribute	Description	Unit of Measure	Data Type	Domain	Prefix
A/C	Air Conditioning		ALN		
ALTYPE	Alignment type		ALN		
AXLE	Axle Type		ALN		
AXLE1TIR	Axle 1 Tire Size		ALN		
AXLE2TIR	Axle 2 Tire Size		ALN		
AXLE3TIR	Axle 3 Tire Size		ALN		
AXLES	Axle Arrangement		ALN		
BASEMOD	Base Model		ALN		
BEARTYPE	Bearing Type		ALN		
BODYMATL	Body Material		ALN	MATERIAL	

Buttons: New Row, OK, Cancel

Adding attributes

- 1 Click **New Row**.
- 2 Enter an attribute name, which must be unique for that specification template.
- 3 Enter a description of the attribute.
- 4 Enter a value in the **Unit of Measure** field, or click **Select Value** to view a list of valid units of measure.
- 5 Enter a type in the **Data Type** field, or click **Select Value** to view a list of valid data types.

- 6 (Optional) Enter a domain in the **Domain** field, or click **Select Value** to view a list of valid domains.
- 7 (Optional) Enter a prefix in the **Prefix** field.
- 8 (Optional) Complete the **Site** and **Organization** fields.
- 9 Repeat this process for each attribute you add.
- 10 Click **OK**.

Modifying attributes

- 1 To find an attribute:
 - ▼ Page through the list of attributes.
 - ▼ Enter an attribute in the Filter area, and press **<Enter>**.
- 2 Modify the appropriate fields.
- 3 Click **OK**.

Deleting attributes

- 1 Select an attribute.
 - 2 Click the trash icon.
- NOTE** If the attribute is in use, you cannot delete it.
- 3 Repeat this process for each attribute you delete.
 - 4 Click **Yes**.

Adding and Modifying Units of Measure

You can use the Add/Modify Units of Measure dialog box to quickly add and/or modify units of measure:

To open it:

- 1 Go to the Classifications tab.
- 2 Choose **Select Actions > Add/Modify Properties > Units of Measure**.

- Adding units of measure**
- 1 Click **New Row**.
 - 2 Enter a unit of measure name, which must be unique.
 - 3 Enter a description of the unit of measure.
 - 4 Enter an abbreviation for the unit of measure in the **Abbreviation** field.
 - 5 Repeat this process for each unit of measure you add.
 - 6 Click **OK**.
- Modifying units of measure**
- 1 To find a unit of measure:
 - ▼ Page through the list of units of measure.
 - ▼ Enter a unit of measure in the Filter area, and press **<Enter>**.
 - 2 Modify the appropriate fields.
 - 3 Repeat this process for any other units of measure you want to modify.
 - 4 Click **OK**.
- Deleting units of measure**
- 1 Select a unit of measure.
 - 2 Click the trash icon.
- NOTE** If the unit of measure is in use, you cannot delete it.
- 3 Repeat this process for each unit of measure you delete.
 - 4 Click **OK**.

Cron Task Setup

The server performs cron tasks a set number of times, following a schedule, without user interaction. Use this application to create, modify, and delete Cron Tasks, instances, parameter values, statuses, and schedules.

NOTE Creating Cron Tasks requires programming resources to create custom class files.

Cron Tasks Included with Maximo

This set of scheduled jobs runs as part of the Maximo server.

Name	Description
ReorderCronTask	Reorder Cron Task Determines the rules or parameters for scheduled reordering, direct issue, and inventory items.
PMWoGenCronTask	Preventive maintenance work order generation Runs and generates scheduled work orders for planned maintenance.
KPICronTask	Generates Key Performance Indicators.
LDAPSYNC	LDAP sync Synchronizes information stored in external directory servers for user authentication.
ESCALATION	Escalations Escalation processes ensure people complete critical tasks on time.
LSNRCRON	E-mail Listener Executes continuously on the Maximo application server and processes inbound e-mail through a staging table.
JMSQSEQCONSUMER	Used by the Enterprise Adapter for polling the queue.
IFACETABLECONSUMER	Used by the Enterprise Adapter for polling interface tables.

Name	Description
SwSuiteCronTask	<p>SwSuite</p> <p>Inspects the software titles collected in Deployed Asset, and determines whether the set of titles defined in the Deployed Asset Software Suite Admin are present.</p> <p>If so, the Suite displays when inspecting that node for software discovered.</p>
ReconciliationCronTask	<p>Reconciliation</p> <p>Runs reconciliation Tasks (consisting of Link and Comparison rules) to determine how Assets are performing relative to the discovered data in Deployed Asset.</p> <p>Outputs from this task:</p> <ul style="list-style-type: none">▼ RECONLINK table that links Assets to their counterpart assets▼ RecociliationResults table that lists the differences between compared and Deployed Assets.
MeasurePointWoGenCronTask	<p>Generates work orders when meter readings or measurements reach a condition defined in the Condition Monitoring application.</p>
BBCron	<p>Periodically updates the count for the number of bulletin board postings.</p>

NOTE All Cron Tasks are set to FULL access level, except ESCALATIONS and LSNRCRON (READONLY). See page 16-7.

Viewing Hidden Cron Tasks

READONLY tasks are hidden. You can view their parameters:

- 1 Go to Configuration. Select the Cron Task Setup application.
- 2 From the List tab, delete FULL from the **Access** field.
- 3 Press **Enter**. Tasks display on the List tab.

Scenarios

ReorderCronTask

For the central storeroom:

- ▼ Reorders can occur every day.
- ▼ You may require workers to use agreements.
- ▼ E-mail notifications go to purchasing@company.com.

For other storerooms:

- ▼ Reorders can occur every Friday.
- ▼ Agreements are not required.
- ▼ E-mail notifications go to the supervisors in charge of each storeroom.

You can duplicate the central storeroom's rules and modify the schedule to create the reorder Cron Tasks (or instances) for other storerooms.

Cron Task Definitions and Instances

Cron Tasks have a definition (name, class name, access level, and description).

This sample CRONTASKDEF table is populated with MAXDEMO data.

CRONTASKNAME	CLASSNAME	DESCRIPTION
ReorderCronTask	psdi.app.inventory.ReorderCron	Reorder Crontask
PMWoGenCronTask	psdi.app.pm.PMWoGenCronTask	PmWogen Crontask
ActuateUpdateCronTask	psdi.app.report.ActuateUpdateCronTask	Actuate update Crontask
KPICronTask	psdi.app.kpi.KPICron	KPI CronTask. Cron Task will run KPI that are not real time.
LDAPSYNC	psdi.security.ldap.LdapSyncCronTask	Synchronizes Uses and Groups from Directory Server
ESCALATION	psdi.app.escalation.engine.EscalationCronTask	Performs Escalations
LSNRCRON	psdi.common.emailstner.EmailListnerCron	Cron task for Email listner
JMSQSEQCONSUMER	psdi.iface.jms.JMSQueueCronTask	JMS Sequential Queue Consumer
IFACETABLECONSUMER	psdi.iface.intertables.IfaceTbCronTask	Interface Table Polling Task
SwSuiteCronTask	psdi.app.dpldasset.SwSuiteCronTask	Software Suite Identification Crontask
ReconciliationCronTask	psdi.app.recontask.engine.ReconCronTask	Reconciliation Crontask
MeasurePointWoGenCronTask	psdi.app.measurement.MeasurePointWoGenCronTask	Measure Point Wogen Crontask

You can create multiple instances for each definition. Each instance has an entry in the CRONTASKINSTANCE table. The instance's attributes include:

- ▼ Set schedule string (defines this instance's schedule)
- ▼ Description
- ▼ Flag indicating whether the instance is active
- ▼ Datetime field indicating the date and time the load/reload of the Cron Task is requested (not displayed to users)
- ▼ Run as User ID

This sample CRONTASKINSTANCE table is populated with MAXDEMO data.

CRONTASKNAME	INSTANCENAME	RELOADREQTIME	SCHEDULE	ACTIVE	DESCRIPTION
LDAPSYNC	LDAPSYNC01		5m.*.*.*.*.*	0	Active Directory Sync
KPICronTask	KPINONREALTIME		1h.*0.*.*.*.*	0	KPI Cask Instance will run KPI that are not real
JMSQSEQCONSUMER	SEQQOUT		30s.*.*.*.*.*	0	Sequential Queue Out Consumer
JMSQSEQCONSUMER	SEQQIN		30s.*.*.*.*.*	0	Sequential Queue In Consumer
SwSuiteCronTask	SwSuiteCronTask1		1h.*0.*.*.*.*	0	Software Suite Identification Task
ReconciliationCronTask	ReconciliationCronTask1		1h.*0.*.*.*.*	0	Reconciliation Task
ESCALATION	ESCLEASSTDUE	11/2/2004 1:33:08 PM	24h.*0.*.*.*.*	0	Notify the current owner and their manager 90
KPICronTask	kpitest	11/22/2004 2:18:02 PM	1d.0.0.0.*.*.*.*	0	KPI CronTask. Cron Task will run KPI that are

Instances share the same set of parameters (see the next section) but each has its own set of values and schedule. For example, the Reorder definition contains the parameter storeroom. You can modify the frequency in these instances:

- ▼ “ReorderBedford” runs daily for the central storeroom.
- ▼ “ReorderLondon” runs weekly for a remote storeroom.

See the database tables CRONTASKDEF, CRONTASKINSTANCE, and CRONTASKPARAM.

Cron Task Parameters

The Cron Task class file lists parameters. Parameter tables store parameter values for Cron Task instances.

When you create an instance, Maximo retrieves parameter names from the Cron Task class file. For each parameter, Maximo adds a row to the parameter table for this new instance.

When instances are initialized and their parameters modified, they dynamically obtain the modifications from the database.

This sample CRONTASKPARAMETER table is populated with data for the ReorderCron Cron Task.

CRONTASKNAME	INSTANCENAME	PARAMETER	VALUE
ReorderCronTask	NA	directissue	
ReorderCronTask	NA	emailto	
ReorderCronTask	NA	ignorereorderpoint	0
ReorderCronTask	NA	leadtime	0
ReorderCronTask	NA	logfile	
ReorderCronTask	NA	storeroom	Nashua
ReorderCronTask	NA	useagreement	1
ReorderCronTask	SA	directissue	
ReorderCronTask	SA	emailto	
ReorderCronTask	SA	ignorereorderpoint	0
ReorderCronTask	SA	leadtime	0
ReorderCronTask	SA	logfile	
ReorderCronTask	SA	storeroom	Central, Bedford
ReorderCronTask	SA	useagreement	1

Setting a Schedule

You can select date and time intervals and preview the schedule's first 20 occurrences.

Sample schedule	Description
Simple	Every 5 minutes
Complex	The fourth Friday of the month at 8:30 PM, every month

- 1 Display the appropriate instance.
- 2 Click .

The Set Schedule dialog box opens.

- 3 Complete the fields. To specify times, enter the time, a space, and AM or PM (example: 2:00 AM).
- 4 Click **Preview** to see the first 20 occurrences of this interval. Maximo runs this schedule until the associated record is deactivated or deleted.
- 5 Click **OK**.

A string representing the schedule displays.

Schedule * 

Recommendation

Do not modify the string directly in the Schedule field. Use the Set Schedule dialog box.

- 6 Click **Save**.
- 7 Choose **Select Action > Reload Request**. Click **OK**.

Disabling Cron Tasks

In a multi-server environment, you may disable an instance on one or more servers or server clusters.

If Maximo runs on a server that is also the corporate print server, you can disable instances of the process-intensive ReorderCronTask or the PMWoGenCronTask, reducing the machine’s workload.

You can prohibit all or a selected set of instances from running by modifying the maximo.properties file. (in the <Maximo root> applications\Maximo\properties folder).

In this example, the **ReorderCronTask01** instance of the reorder Cron Task is set not to run:

```
// Cron Task Manager property.
//-----
-----
//Exclude the listed cron task instances from being loaded by
this server.
//use ALL for not running any cron task.
//mxe.crontask.donotrun=ALL
//Or specify the cron task instance by crontaskname.instanceName
mxe.crontask.donotrun=ReorderCronTask.ReorderCronTask01
```

If you modify maximo.properties, you must rebuild and redeploy the EAR file. See “Building EAR Files” on page 25-8.

Creating Cron Tasks

You can create Cron Tasks to meet specific business needs.

NOTE First, your software developer must create a class file outside the Maximo environment, package it into an EAR file, then deploy the EAR file in the Maximo application server. See the Developer's center on the [Support online](#) web site.

- 1 Go to Configuration. Select the Cron Task Setup application.

2 On the Maximo toolbar, click **New Cron Task Definition**.

The screenshot shows the Maximo 'Cron Task Setup' page. At the top, there's a navigation bar with 'Cron Task Setup' and various utility links. Below that is a search and action bar. The main form has three fields: 'Cron Task *', 'Class *', and 'Access Level *'. The 'Access Level' field is currently set to 'FULL'. Below the form are two data tables. The first table, 'Cron Task Instances', has columns for 'Cron Task Instance Name', 'Schedule', 'Run as User', and 'Active?'. The second table, 'Cron Task Parameters', has columns for 'Parameter', 'Value', and 'Description'. Both tables show '...No rows to display...'. There are 'Duplicate' and 'New Row' buttons for the instances table, and a 'Download' button for the parameters table.

3 Complete the fields:

Field	Description
Cron Task	Enter a name.
Class	Enter a name (case-sensitive) for the class file your developer created. Example: <code>psdi.app.dpldasset.SwSuiteCronTask</code>
Access Level	Enter a value: <ul style="list-style-type: none"> ▼ FULL (default) You can modify all instance information. ▼ MODIFYONLY You can modify parameters and the schedule, but cannot delete instances except on initial entry. ▼ READONLY You cannot make modifications. Use this level when Cron Task modifications may prevent Maximo from working properly.

4 Click **Save**.

NOTE Maximo cannot run the new Cron Task until you create at least one instance and set its status to Active. See “Creating Cron Task Instances” on page 16-8.

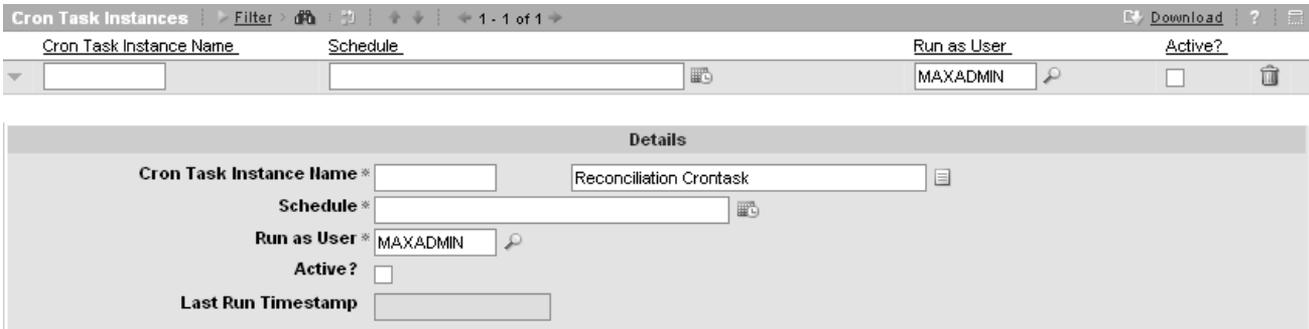
Creating Cron Task Instances

Some system Cron Tasks include instances. To run application-related Cron Tasks, you must first create an instance, schedule, and parameters.

You can create numerous instances for a single Cron Task, and modify these tasks as needed. Example: Create an instance to run daily for a central storeroom and another weekly for a remote storeroom.

When you create instances, Cron Tasks import a group of associated parameters from the task's definition. You cannot add parameters, but you can modify parameters and schedules.

- 1 Go to Configuration. Select the Cron Task Setup application.
- 2 From the List Tab, select the appropriate Cron Task definition.
- 3 From the Cron Task tab:
 - To duplicate an instance, click **Duplicate**.
 - Click **New Row**.



- 4 Enter a name.
- 5 Click . Select a date/time interval. Click **OK**.

A string representing the schedule displays.



Recommendation

Do not modify the string directly in the Schedule field. Use the Set Schedule dialog box.

NOTE By default, instances run using the administrative user specified in the maximo.properties file. To run instances system-wide, this account is required; it has access to all sites.

- 6 (Optional) Modify the account in the **Run as User** field. Select one with the permissions to perform the task's functions.
- 7 Check the **Active?** box.

- 8 In the Cron Task Parameters section, enter a value for each parameter in the **Value** column.

Mouse-over descriptions to view the text.

- 9 Click **Save**.

- 10 Choose **Select Action > Reload Request**.

- 11 Select the instance. Click **OK**. Active instances display.

Modifying Cron Tasks

You must connect to the server that is configured to run the instance. You can reschedule Cron Tasks and modify parameter values without stopping and restarting the server.

Modification	Restart required	Comment
Parameter values		Dynamically updates from the database
Schedule	✓	
Run as User	✓	
Active?	✓	When you save the record, a reload request issues.

- 1 Go to Configuration. Select the Cron Task Setup application.
- 2 From the List tab, select the Cron Task with the appropriate instance. The Cron Task tab opens.
- 3 Make modifications. Save the record.
- 4 (Optional) Select **Action > Reload Request**. Active instances display.

Deleting Cron Tasks

NOTE Prohibited from deletion:

- ▼ Cron Tasks and instances with READONLY or MODIFYONLY access levels, even if there are no definitions or instances.
- ▼ A Cron Task definition with instances.
- ▼ Active instances.
- ▼ Parameters.

Use the Cron Task Setup application to delete instances and Cron Tasks.

Instances

- 1 Display the appropriate instance.
- 2 Click the **Delete** icon.
- 3 Save the record.

Cron Tasks

- 1 Display the appropriate definition.
- 2 Choose **Select Action > Delete Cron Task**. A confirmation appears.
- 3 Click **Yes**.

Domains

Some Maximo fields are associated with value lists, called domains, from which users select appropriate values. Use this application to add or modify domains.

Adding Alphanumeric Domains

This domain produces a list of values.

- 1 Open the Domains application.
- 2 Click **Add New Domain** at the bottom of the Domains table window and select **Add New ALN Domain**. The following dialog box opens.

ALN Domain

Domain*

Data Type* 🔍

Length*

Value	Description	Organization	Site
...No rows to display...			

New Row

OK Cancel

3 Complete the fields. Note the following:

Field	Description
Domain	Enter a name.
Data Type	<ul style="list-style-type: none"> ▼ Enter a valid data type (UPPER, LOWER, ALN, LONGALN) ▼ Click .
Length	<p>Enter a length less than or equal to the length of the field that will use the domain.</p> <p>Example: If you add a domain for a field in the Assets application whose length = 12, enter 12.</p> <p>Since you can use a domain with multiple fields, the length you enter must be less than or equal to the length of the shortest field that uses the domain. Example: to use the domain with fields of lengths 8, 10, and 12, enter a length of 8 or less for the domain.</p> <p>NOTE If you enter a length greater than the field the domain is used in, you cannot assign the domain to the attribute in Database Configuration. Alternatively, in Database Configuration, you can modify the length of the field that uses the domain.</p>

4 Click **New Row**.

5 Complete the **Value** and **Description** fields.

6 (Optional) To apply domains to the site or organizational level, do so carefully. See “Organizations and Sites” on page 17-14.

7 To add values, click **New Row**. Otherwise, click **Close Details**.

8 Click **OK**.

You must attach the domain to the object/attribute the domain will be used with, and perform other tasks. See “Additional Tasks” on page 17-14.

Adding Numeric Domains

This domain produces a list of values.

1 Open the Domains application.

2 Click **Add New Domain** at the bottom of the Domains table window and select **Add New NUMERIC Domain**. The following dialog box opens.

NUMERIC Domain

Domain *

Data Type * 🔍

Length *

Scale *

NUMERIC Domain Filter Download ?

Value	Description	Organization	Site
...No rows to display...			

New Row

OK Cancel

3 Complete the fields. Note the following:

Field	Description
Domain	Enter a name.
Data Type	<ul style="list-style-type: none"> ▼ Enter a valid data type (FLOAT, SMALLINT, INTEGER, DURATION, DECIMAL, or AMOUNT) ▼ Click 🔍.
Length	<p>If this field is modifiable (depends on data type), enter a length less than or equal to the length of the field that will use the domain.</p> <p>Example: If you add a domain for a field in the Assets application whose length = 12, enter 12.</p> <p>Since you can use a domain with multiple fields, the length you enter must be less than or equal to the length of the shortest field that uses the domain. Example: to use the domain with fields of lengths 8, 10, and 12, enter a length of 8 or less for the domain.</p> <p>NOTE If you enter a length greater than the field the domain is used in, you cannot assign the domain to the attribute in Database Configuration. Alternatively, in Database Configuration, you can modify the length of the field that uses the domain.</p>
Scale (DECIMAL type only)	Enter a value (default = 2).

4 Click **New Row**.

5 Complete the **Value** and **Description** fields.

- 6 (Optional) To apply domains to the site or organizational level, do so carefully. See “Organizations and Sites” on page 17-14.
- 7 To add values, click **New Row**. Otherwise, click **Close Details**.
- 8 Click **OK**.

You must associate the domain to the object/attribute to use the domain with, and perform other tasks. See “Additional Tasks” on page 17-14.

NOTE Numeric range domains do not support lookups.

Adding Numeric Range Domains

This domain produces a list of values you define by entering a range.

For example, you can enter a range from 1 to 12 rather than 12 individual values in the dialog box. A choice of 12 values are available to users.

- 1 Open the Domains application.
- 2 Click **Add New Domain** at the bottom of the Domains table window and select **Add New NUMRANGE Domain**. The following dialog box opens.

The screenshot shows a dialog box titled "NUMRANGE Domain". It features four input fields with asterisks indicating they are required: "Domain *", "Data Type *", "Length *", and "Scale *". Below the input fields is a table with the following columns: "Range Segment", "Range Minimum", "Range Maximum", "Interval", "Organization", and "Site". The table is currently empty, displaying the text "...No rows to display...". At the bottom right of the dialog, there are three buttons: "New Row", "OK", and "Cancel".

3 Complete the fields. Note the following:

Field	Description
Domain	Enter a name.
Data Type	<ul style="list-style-type: none"> ▼ Enter a valid data type (FLOAT, SMALLINT, INTEGER, DURATION, DECIMAL, or AMOUNT) ▼ Click .
Length	<p>If this field is modifiable (depends on data type), enter a length less than or equal to the length of the field that will use the domain.</p> <p>Example: If you add a domain for a field in the Assets application whose length = 12, enter 12.</p> <p>Since you can use a domain with multiple fields, the length you enter must be less than or equal to the length of the shortest field that uses the domain. Example: to use the domain with fields of lengths 8, 10, and 12, enter a length of 8 or less for the domain.</p> <p>NOTE If you enter a length greater than the field the domain is used in, you cannot assign the domain to the attribute in Database Configuration. Alternatively, in Database Configuration, you can modify the length of the field that uses the domain.</p>
Scale (DECIMAL type only)	Enter a value (default = 2).

4 Click **New Row**.5 In the **Range Segment** field, enter the number of segments (minimum = 1).

To define a continuous range of values (including ranges with constant intervals between values, such as 10), enter 1.

Examples of ranges with 1 segment:

- 1, 2, 3, 4, 5
- 10, 20, 30, 40, 50

Define separate segments for ranges that are more precise at low measurements than at high measurements:

- 0, .2, .4, .6, .8
- 1, 2, 3, 4, 5, 6, 7, 8, 9
- 10, 15, 20, 25, 30, 35, 40, 45, 50

When the domain is associated with a field, Maximo users see the entire set of values in a continuous list:

- 0, .2, .4, .6, .8, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 15, 20, 25, 30, 35, 40, 45, 50

Rules for Creating Ranges

- ▼ The **Range Minimum** value or **Range Maximum** value can be null. They cannot both be null.

Null value	Description
Both	Any number is permitted; there is no need to create this domain.
Range Minimum	The minimum is - infinity (negative of java's largest number).
Range Maximum	The maximum is infinity (java's largest number).

- ▼ If the interval is null, it means the number must be between the minimum and maximum. If either the **Range Minimum** value or the **Range Maximum** value is null, it is open-ended.
- ▼ If the interval is specified and the **Range Minimum** value or the **Range Maximum** value is null, the interval works its way from the number specified.

Example: if the **Range Maximum** value is 100, the **Range Minimum** value is null, and the interval is 10, 90 and -1000 are valid numbers.

- ▼ The **Range Minimum** value must be smaller than or equal to the **Range Maximum** value.

NOTE Overlapping segments are allowed. This support multiple valid intervals in a range.

6 Complete the fields:

Field	Description
Range Minimum	Enter the lowest value in the range. (Example: 10 in the range 10 – 50.)
Range Maximum	Enter the highest value in the range. (Example: 50 in the range 10 – 50.)
Interval	Enter the interval between the values to appear in the list. (Example: 10 in the range 10 – 50.)

- 7** (Optional) To apply domains to the site or organizational level, do so carefully. See “Organizations and Sites” on page 17-14.
- 8** To add ranges for additional segments, click **New Row**. Otherwise, click **Close Details**.
- 9** Click **OK**.

You must associate the domain to the object/attribute to use the domain with, and perform other tasks. See “Additional Tasks” on page 17-14.

Adding Table Domains

This domain produces a dynamic set of values. These values are derived by specifying an object's attribute in the database.

Table domains draw values dynamically from a database column.

- 1 Open the Domains application.
- 2 Click **Add New Domain** at the bottom of the Domains table window and select **Add New Table Domain**. The following dialog box opens.

- 3 In the **Domain** field, enter a name.
- 4 Enter a description.
- 5 Click **New Row**. The Row Details open.

6 Complete the fields:

Field	Description
Object	<p>▼ Enter the name of the object containing the attribute from which you are creating the domain.</p> <p>Example: to obtain values from the ASSET object, enter ASSET.</p> <p>▼ Click .</p>
List Where Clause	<p>Enter the part of the clause that specifies the values to select based on the validation where clause.</p> <p>Example: To select asset records that begin with the numbers 114, enter: assetnum like '114%.'</p> <p>CAUTION Maximo does not validate entries for syntax or other errors. Errors are not apparent until you configure the database.</p>
Validation Where Clause	<p>Enter the part of the clause that when queried against the object in the Object field, returns at least one record if the value to be validated by this domain is considered valid.</p> <p>Usually, the clause involves a bind variable for the field that uses this domain for validation.</p> <p>Example: for a field named Z (attribute Z) to contain values from the assetnum field in the Assets application, enter: :z = assetnum.</p>
Error Message Group	<p>Enter the group name of the message to display when domain validation fails. A Maximo message = a group and key value pair in the MAXMESSAGES table.</p>
Error Message Key	<p>Enter the key of the message to display when domain validation fails.</p>

7 (Optional) To apply domains to the site or organizational level, do so carefully. See “Organizations and Sites” on page 17-14.

8 To add rows, click **New Row**. Otherwise, click **Close Details**.

9 Click **OK**.

You must attach the domain to the object/attribute the domain will be used with, and perform other tasks. See “Additional Tasks” on page 17-14.

Adding Crossover Domains

A Crossover domain does not produce a list, but retrieves a value from another record. You program Maximo to bring it from one field to another, typically from one application to another.

For example, if people exist in the People application, and you add users in the Users application, many fields populate when you enter person IDs. Fields from the People application display in the Users application.

You can use an existing Maximo field, or create one, and design the field to be populated with data from a another field in another application.

- 1 Open the Domains application.
- 2 Click **Add New Domain** at the bottom of the Domains table window and select **Add New CROSSOVER Domain**. The following dialog box opens.

- 3 In the **Domain** field, enter a name.
- 4 Enter a description.
- 5 In the CROSSOVER Domain table window, click **New Row**. The Row Details open.

- 6 Complete the fields:
- Object
 - List Where Clause
 - Validation Where Clause
 - Error Message Group
 - Error Message Key

See “Adding Table Domains” on page 17-7.

- 7 (Optional) To apply domains to the site or organizational level, do so carefully. See “Organizations and Sites” on page 17-14.
- 8 Click **Close Details**.
- 9 In the Crossover Fields table window, click **New Row**. The Row Details open.
- 10 Complete the fields:

Field	Description
Source Field	Enter the field to retrieve data from. Click . Select an attribute for the object entered in the Object field.
Destination Field	Enter the field where the data will be populated.
Copy if Null?	Default = clear, to prevent overwriting data with no data from a null field. If your business rules require the fields to always be populated, check the box.

11 Click **Close Details**.

12 Click **OK**.

You must attach the domain to the object/attribute the domain will be used with, and perform other tasks. See “Additional Tasks” on page 17-14.

Adding Synonym Values

Synonyms are Maximo reserved domains that you cannot add or delete. You can add synonym values.

CAUTION Adding synonym values specific to sites can invalidate existing data.

One type of SYNONYM domain is work order status. The values that reflect status include:

- ▼ APPR (Approved)
- ▼ CAN (Canceled)
- ▼ CLOSE (Closed)
- ▼ COMP (Completed)
- ▼ WAPPR (Waiting on Approval)

Each status includes:

Field	Description
Internal Value	<ul style="list-style-type: none"> ▼ Used by Maximo’s business rules ▼ Must be unique ▼ You cannot add internal values.
Value, Description	<ul style="list-style-type: none"> ▼ What users see and choose from ▼ Synonym of the internal value ▼ You can add a synonym.

Suppose your company requires 2 people to approve a work order. You can add synonym values for the internal WAPPR value, then present 2 different values to users (example: WAPPRMAN and WAPPRVP), representing approvals at the manager and vice president level.

- 1** Open the Domains application.
- 2** Find the appropriate SYNONYM domain.
- 3** Click **Properties**. The following dialog box opens.

Adding Synonym Values

Domain: MRTYPE MR Type

Domain Type: SYNONYM

Length: 10

Internal Value	Value	Description	Default?	Organization	Site
RECURRING	RECURRING	Recurring Requisition	<input checked="" type="checkbox"/>		
STANDARD	STANDARD	Standard Material Request	<input checked="" type="checkbox"/>		
TRANSFER	TRANSFER	Transfer Material Request	<input checked="" type="checkbox"/>		

New Row

OK Cancel

The table window displays the current values.

4 Click New Row.

Domain: MRTYPE MR Type

Domain Type: SYNONYM

Length: 10

Internal Value	Value	Description	Default?	Organization	Site
RECURRING	RECURRING	Recurring Requisition	<input checked="" type="checkbox"/>		
STANDARD	STANDARD	Standard Material Request	<input checked="" type="checkbox"/>		
TRANSFER	TRANSFER	Transfer Material Request	<input checked="" type="checkbox"/>		
			<input type="checkbox"/>		

Internal Value* Default?

Value* Organization Site

Description

New Row

OK Cancel

5 Complete the fields:

Field	Description
Internal Value	Enter the appropriate internal value. Example: in the WOSTATUS domain, to create a synonym for WAPPR called WAIT, enter the internal value WAPPR.
Value	Enter the synonym that users will see. Example: WAIT.
Description	Differentiate the synonym from the internal value.
Default?	Check the box for Maximo to use the new synonym value by default. You can define one default per internal value. Example: Make WAIT the default.

6 (Optional) To apply domains to the site or organizational level, do so carefully. See “Organizations and Sites” on page 17-14.

CAUTION Adding synonym values specific to sites can invalidate existing data.

If you create a synonym value and specify a site or organization, then click **OK**, Maximo inserts rows for the other values, including the site or organization you specified.

For example, the internal values that reflect the MRTYPE domain include RECURRING, STANDARD, and TRANSFER.

You create a synonym value, REGULAR, with the internal value of STANDARD, and specify Organization B. When you click **OK**, Maximo creates the additional synonym values RECURRING and TRANSFER with Organization B specified.

7 Click **New Row** to add synonyms, or click **Close Details**.8 Click **OK**.

You must attach the domain to the object/attribute the domain will be used with, and perform other tasks. See “Additional Tasks” on page 17-14.

Organizations and Sites

Maximo uses many domains in its applications, and stores domains (default) at the system level. If you apply domains to the organization or site level (by entering appropriate values in the **Organization** and **Site** fields), do so carefully:

CAUTION Leave the **Organization** and **Site** fields empty for all values (users in all organizations and sites can access them) or specify an organization or site for all values (users in the specified organizations or sites can access them).

If you disregard the preceding caution, complicated outcomes can result. For example:

Value	Organization
GREEN	A
BLUE	B
RED	
Result	<ul style="list-style-type: none"> ▼ Records in Organization A can only access GREEN. ▼ Records in Organization B can only access BLUE. ▼ Records in other organizations can only access RED.

After specifying organizations and sites for values, records in specified organizations and sites will no longer see values that have no organization/site specified.

Additional Tasks

After adding domains, additional tasks may be required, depending on the domain and how you want Maximo to display it. You can assign a domain to an attribute in the Classifications application, or use the Database Configuration application to assign the domain.

In the Classifications application, you associate a domain with an attribute in the Attributes table window; no further configuration is needed.

Otherwise, you must:

- ▼ Associate the domain with an attribute. Use the Database Configuration application.

NOTE When you configure the database, Maximo will not validate the value you insert as the default field value. For example, you could have an organization called EAGLENA, where the only acceptable domain value is CREW4.

You could make the crewid attribute required in the Preventive Maintenance application, give it the default value of CREW2, and configure the database without error.

The error, such as "CREW2 is not a valid value," appears only when you return to the Preventive Maintenance application to insert a record.

- ▼ Configure the Database. See “Configuring the Database” on page 4-21.
- ▼ Use the Screen Designer to modify the UI as needed. For example, if you added an alphanumeric domain, add the drop-down list button. New crossover fields may require new fields in the receiving application.

Deleting Domains

You cannot delete a SYNONYM domain. You can delete other types of domains, if the domain is not assigned to a Maximo attribute.

- 1 Open the Domains application.
- 2 In the Domains table window, find the appropriate domain. Click **Mark Row for Delete**. Maximo displays a warning message and asks whether to continue.
- 3 Click **Yes**.

To cancel a deletion, click **Undo Delete**.

- 4 Click **Save Domain**.

NOTE Deleting a domain does not affect values that are inserted on Maximo records. For example, if a user inserts a value in a field using a domain's value list, that value remains on the record even if the domain is subsequently disassociated from the attribute and deleted.

Deployed Assets Administration Overview

18

The Deployed Assets Administration module in Maximo provides applications that let administrators control how Maximo displays data about information technology (IT) assets.

Asset discovery tools, such as Maximo Discovery (or third-party tools such as SMS or Tivoli Inventory) collect the data Maximo displays. Asset discovery tools scan your organization's computers, network devices, and network printers and record hardware and software data about those IT assets.

Maximo Fusion aggregates the data and migrates it into the Maximo database.

After importing the data into Maximo, you can use these applications in Maximo's Deployed Assets module to search the Maximo database and view details about the hardware and software:

▼ Computers

This application displays data about individual computers deployed in your organization. The discovery tool determines the data collected, which generally includes:

- Software installed, including applications, suites, operating systems, and files
- Storage devices, such as hard disks, floppy drives, USB removable storage, and logical drives
- CPUs
- Media adapters, such as sound and video cards
- Communication devices, such as modems and network adapters
- Network settings for TCP/IP and IPX protocols
- Image devices, such as printers and scanners
- Displays and monitors
- User data

▼ Network Devices

This application displays information about deployed network devices such as routers, switches, and hubs.

- ▼ Network Printers
 - Displays data about deployed network printers
 - Includes only network-based printers. Information about printers installed locally on specific computers displays in the Computers application on the Image Devices tab.

Deployed Assets Administration includes:

- ▼ Conversion applications that let Maximo convert inconsistent names used by discovery tools to standard naming conventions
- ▼ A Software Suite Setup application that aggregates applications into application suites
- ▼ A Software Usage Setup application that controls how Maximo displays data about software usage frequency

Conversion Applications

Because of variable hardware and software naming conventions, data collected by discovery tools for display in the Deployed Assets module is often inconsistent. For example, a computer is described as Computer Type 4 or Computer Type IV.

Some asset discovery tools include version numbers in product names (example: Maximo 4.1 or 5.2). Your organization can track instances of Maximo without specifying version numbers.

Conversion applications in Maximo's Deployed Assets Administration module let administrators review the names assigned to imported data and configure conversions for variations in software, hardware, or manufacturer names to use standard naming conventions.

Conversion applications are available for:

- ▼ Manufacturers
- ▼ CPUs
- ▼ Media (such as video and sound cards) and network adapters
- ▼ Operating systems
- ▼ Software application names

Each record in a conversion application specifies a target name and variants, which Maximo converts to target names when data displays.

Maximo applies conversions when asset data for computers, network devices, and network printers is requested. Maximo displays converted data in Deployed Assets module applications and uses it in reports generated for them.

Creating Conversion Records

- ▼ Maximo Fusion creates a conversion record when data is imported into Maximo.

When adapter, manufacturer, processor, operating system, and software application data is imported into Maximo, Maximo Fusion checks whether a variant exists. If none is found, Maximo Fusion creates conversion records with target and variant names identical to the names of deployed assets.

Maximo Fusion identifies conversion records it creates as not reviewed, because they were not reviewed by an administrator.

When records display in the conversion application, the **Reviewed?** checkbox on the <application> Conversion tab is cleared, and the Reviewed? column on the List tab displays an N.

Recommendation

Use the filter feature in Maximo to retrieve imported records, which display an N in the Reviewed? column. Review sets of conversion records against your naming conventions. Modify them or check the **Reviewed?** box. Reviews ensure that Maximo displays imported asset data using your naming conventions and that when you review the next set, you evaluate only the most recently imported records.

NOTE Maximo converts asset names that match variants, regardless of whether the conversion record is reviewed.

- ▼ An administrator manually creates a conversion record using Maximo's conversion applications.

Although conversion records created by Maximo Fusion are identified as not reviewed, by default Maximo identifies conversions created through conversion applications as reviewed (the **Reviewed?** box is checked). After saving records, the Reviewed? column in the table window on the List tab displays a Y.

Conversion records in Maximo must contain at least one variant, and one variant must be identical to the target name. If you do not add a variant when creating a conversion record, Maximo creates a variant identical to the target name when you save the record.

After creating a conversion record, you can add variants to it as needed. Observe these rules when adding conversion records, and variants to a conversion record:

- ▼ A name cannot exist in more than one conversion record in an application, as a variant or target name.
- ▼ Variants and target names are case-sensitive.

Deleting Conversion Records

You can use the conversion application to delete conversion records or to delete variants from a version record.

Rules for Deleting Conversion Records and Variants

- ▼ If you delete a conversion record, Maximo deletes all variants associated with it.
- ▼ You cannot delete a conversion record if any record in the Deployed Assets module applications refers to the target name or any variant on the conversion record.
- ▼ You cannot delete a variant from a conversion record if any record in the Deployed Assets module applications refers to the variant.
- ▼ You cannot delete the variant that is identical to the target name on a conversion record.

Initial Implementation Options

To manage imported names:

- ▼ You can import the asset data and let Maximo Fusion create conversion records. For each adapter, manufacturer, operating system, processor, or software name, Maximo Fusion creates a conversion record with a target name and a variant identical to the deployed asset name and also marks the record as not reviewed.

You can use the appropriate conversion application to search for all conversion records marked as not reviewed and modify and review these records.

- ▼ Administrators can create conversion records using the appropriate conversion application. Maximo marks records created in the conversion application as reviewed.

Software Suite Setup Application

Asset discovery tools typically scan computers for individual software applications, not application suites.

Administrators can use Maximo's Software Suite Setup application in the Deployed Assets Administration module:

- ▼ To define software applications belonging to software suites
- ▼ To control how software suites display in the Deployed Assets module > Computers application

Maximo displays software applications defined as software suites in the Computers application > Software tab > Suites subtab.

Required Components of a Software Suite

When you define a suite, the Software Suite Setup application lets you specify one or more applications.

- ▼ Maximo identifies suites only if all required applications exist.
- ▼ If no applications are required, any application listed in the suite is sufficient to identify it.

For tracking purposes, include all applications that are components of a suite in its definition, even if they are not required. The Software Suite Setup application easily identifies which software applications are components of the suite.

Software Suite Versions

Defining suite versions is optional. However, you must specify these parameters for each component.

Parameter	Description
Required Version Low	<ul style="list-style-type: none"> ▼ The lowest acceptable version number ▼ Must be less than or equal to the value in the Required Version High field
Required Version High	The highest acceptable version number

Any version number within this range is a component.

Software Suite Identification Cron Task

Suite identification is a background process. You must create a Cron Task in Maximo's Cron Task Setup application to schedule suite identification. When the Cron Task executes, Maximo uses the definitions in the Software Suite Setup application to identify suites and update suite data.

Additions, changes, and deletions made to suite setup records do not affect suite data displayed in the Computers application until the Cron Task executes.

Software Usage Setup Application

Asset discovery tools often collect data about the frequency of application use. Maximo displays frequency data in the Computers application > Software tab > Applications and Suites subtabs.

Asset discovery tools determine how usage frequency is calculated, typically based on the number of times an application is used in the time frame the tool specifies. Some tools collect data from the Windows Add/Remove Programs feature, which counts the number of times an application is used during the last 30-day period.

The Software Usage Setup application lets administrators define how Maximo displays frequency data that discovery tools collect. For each tool, an administrator can specify a range of usage counts and assign that range a textual description that Maximo displays on the Software tab in the Computers application.

Example

Range	Textual description
10–20 times	Frequently
0–4 times	Rarely

Administrators specify low (Range From) and high (Range To) ends of the range. Range values depend on the values discovery tools use for frequency counts. See the documentation provided for specific discovery tools.

Rules for Range Field Values

- ▼ The value in the **Range To** field must be greater than or equal to the value in the **Range From** field.
- ▼ You must specify values for both fields.
- ▼ If you create a series of ranges for a discovery tool, the values specified for one row cannot overlap the values specified for another, or an error appears.

Incorrect:

Range From	Range To
0	3
3	10
10	20

Correct:

Range From	Range To
0	3
4	10
11	20

Maximo provides usage frequency data for suites, based on the component with the highest usage count. For example, if the word processing application in an office application suite is used more often than its other applications, its usage count determines the count for the suite.

When you are configuring software usage ranges, include all ranges your discovery tool provides.

Site and Organization Data

Most asset discovery tools do not provide scanned data about sites and organizations. To differentiate computers, network devices, and network printers by sites and/or organizations, administrators must:

- ▼ Set these values in Maximo Fusion.
- ▼ Verify that site and organization values in Fusion mapping are valid (no additional validation is performed on this data)

Site and organization data is optional, but administrative users can assign a site and organization to make data available in the Deployed Assets applications and the Reconciliation module.

The standard UI for the Deployed Assets applications has a **Site** field but not an **Organization** field. Since sites are specific to organizations, the organization can be determined based on the site. If site data is displayed in Maximo, the standard Maximo rules govern how site data displays.

Reconciliation Module Overview

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The Reconciliation Module's applications let you compare information technology (IT) asset data in these Maximo modules:

Module	Description
Assets	<p>Maximo maintains asset records for purchased or leased IT assets in the Assets application.</p> <p>Create these records in the Assets application or using the Receive Rotating Items action in the Receiving application.</p> <p>When configuring Maximo, administrators designate IT assets by creating a Maximo variable (MAXVAR), ITASSET, equal to the class structure identifier (CLASSSTRUCTUREID) of the top-level IT classification.</p> <p>Any asset with that identifier or lower which has not been moved is an IT asset.</p>
Deployed Assets	<p>These applications maintain and display data collected from assets installed in your organization.</p> <p>Asset discovery tools (Maximo Discovery, or another tool, such as SMS or Tivoli Inventory) scan computers, network devices, and network printers deployed in your organization and record information about the hardware and software installed on those assets.</p> <p>Maximo Fusion aggregates the data and migrates it into the Maximo database.</p>

You configure a process that reconciles IT asset data and deployed asset data.

The reconciliation identifies successful matches and discrepancies between IT assets and deployed assets. Your organization can determine whether the IT assets deployed comply with corporate plans and whether modifications over an asset's life cycle comply with corporate policies.

Causes of discrepancies include:

- ▼ Incorrect data entry
- ▼ Reconfigured assets
- ▼ Retired assets
- ▼ Theft
- ▼ Unauthorized use of hardware and software in the enterprise

NOTE The *Reconciliation Module Implementation Guide* explains the reconciliation process and how to create reconciliation tasks.

Configuring a Reconciliation

Maximo reconciles IT assets and deployed assets by performing a rule-based comparison an administrative user defines.

		Application
1	<p>(Optional) Define a subset of assets or deployed assets to reconcile when Maximo executes a reconciliation task.</p> <p>If you do not define a task filter, Maximo evaluates all top-level IT assets against deployed assets. Task filters apply only to link rules.</p> <p>Example</p> <p>Configure a deployed asset task filter for a specific site, Boston. The task evaluates all top-level IT assets, but evaluates deployed assets only at the Boston site.</p> <p>Configure an asset task filter for a specific site, Boston. The task evaluates top-level IT assets only at the Boston site, but evaluates all deployed assets.</p>	Task Filters
2	<p>Define relationships between top-level IT assets and computers, network printers, or network devices in deployed assets.</p> <p>Define the basis of the comparison by identifying top-level objects and attributes in IT assets to link to specific attributes in deployed assets.</p> <p>Example</p> <p>Link rules are generally based on serial numbers or asset tags.</p> <p>Results:</p> <ul style="list-style-type: none"> ▼ Successful link <ul style="list-style-type: none"> ■ Listed in Link Results application ▼ Failed link <ul style="list-style-type: none"> ■ Listed in Reconciliation Results application ■ Occurs when Maximo finds no link or finds multiple links between a top-level IT asset and a deployed asset. 	Link Rules
3	<p>(Optional) Define comparison rules to identify objects or attributes of a child or parent in IT assets to compare with those in deployed assets when Maximo executes a reconciliation task.</p> <p>Maximo applies comparison rules only after establishing successful links between IT assets and deployed assets.</p> <p>Example</p> <p>You can configure a comparison rule to compare applications on computers in IT assets with those on deployed assets.</p>	Comparison Rules

4	Define a reconciliation task. Reconciliation task records combine task filters (optional), one or more link rules, and one or more comparison rules (optional) into specific job tasks that Maximo executes using the Cron Task Setup application.	Reconciliation Tasks
---	--	----------------------

Specify how Maximo displays results for comparison rule evaluations:

- ▼ All results
- ▼ Failed reconciliations
- ▼ Successful reconciliations

If you do not define a task filter, Maximo compares all top-level IT assets with all deployed assets. Task filters apply only to link rules, not comparison rules.

5	Schedule the execution of reconciliation tasks using Maximo's Cron Task Setup application in the Configuration module.	Cron Task Setup
---	--	-----------------

6	View the results of the reconciliation in Maximo or in reports Maximo generates.	Link Results
---	--	--------------

Link Results – Displays all successful one-to-one links between top-level IT assets and computers, network printers, or network devices in deployed assets.

Reconciliation Results

Reconciliation Results

- ▼ Link Failures – Displays link failures that occur when Maximo does not find one-to-one links between top-level IT assets and deployed computers, network devices or network printers specified in link rules.

Failures occur when the reconciliation finds no links or multiple links.

- ▼ Comparison Rule Results – Authorized users can view results from comparison rule reconciliations. Based on parameters configured in Reconciliation Tasks, Maximo displays a set of results:

- All results
- Failed reconciliations
- Successful reconciliations

Maximo also displays reconciliation results in the Assets application > Asset tab > Select Action > Asset Details.

Scheduling Reconciliation Tasks

Use caution when scheduling reconciliation tasks because they process data imported from external sources. Coordinate the timing of data migration and reconciliation processes.

For example, do not attempt to reconcile deployed assets against IT assets before importing deployed asset data. Scheduling affects data reliability and the allocation of computer resources.

Data Reliability

Data may be unreliable:

- ▼ If Maximo executes a reconciliation task before Maximo Fusion imports deployed asset data into Maximo. To ensure that reconciliations execute against the most current deployed asset information, schedule reconciliations to occur after importing Maximo Fusion deployed asset data.

In addition, if your organization uses Maximo's Software Suite Setup application to define software suites, execute Cron Tasks that process application suites before executing reconciliation Cron Tasks so application suites are properly identified before reconciliation.

Use this sequence of events to ensure data reliability:

- 1 Collect data about deployed assets using an asset discovery tool.
- 2 Import collected data into Maximo using Maximo Fusion.

NOTE If you use the Deployed Assets Administration modules to standardize naming conventions, configure application suites, or define software usage display options, implement any modifications required to the Deployed Assets Administration applications before continuing.

- 3 Execute Cron Tasks that identify application suites.
- 4 Execute Cron Tasks that process reconciliation tasks.

- ▼ If Maximo Fusion and a reconciliation task are processed simultaneously.

Maximo does not prevent reconciliation tasks from being executed at the same time as a Maximo Fusion migration or warn users that flawed data may result from simultaneous processing.

Administrative users must configure schedules that ensure the processes are not executed simultaneously.

- ▼ If multiple reconciliation tasks are processed that include overlapping data.

You can configure multiple Cron Task instances to run reconciliation tasks. If different reconciliation tasks are configured to process overlapping sets of IT assets and/or deployed assets, the results are unpredictable.

To maintain database integrity, you must perform backups and other tasks. See the database platform documentation for specific procedures and commands.

Backing Up and Restoring

Backup procedures depend on the size of your database and the type of operation you are running. These procedures are recommendations.

You can back up any type of archive media:

Media	Description
Hard disk drive	(Recommended) Lets you restore your system quickly
Tape drive	<ul style="list-style-type: none">▼ Slower, but you can keep multiple tapes of backups▼ Usually includes backup software; see the drive software documentation
CDs, DVDs, diskettes	Limited capacity, but may be useful for smaller databases, archive files, or specific executables.

Recommendations

- ▼ Store backups in a different location from your production database and application files.
- ▼ Schedule and regularly perform system and database backups.

System Backups

This backup completely duplicates the Maximo software, and lets you restore your entire system to its original state, including any customized applications and reports. You determine the frequency of performing system backups.

Recommendations

Perform backups as often as you modify your system.

Include these folders and any subfolders below them:

- ▼ Maximo (on the application server)
- ▼ Actuate7 (on the report server)
- ▼ MRO Software programs installed in other folders

WARNING On LAN systems, perform system backups with all users logged out of Maximo.

Database Backups

This backup duplicates only the database(s).

Perform database backups more frequently than system backups because your data is updated daily.

Recommendations

Perform database backups daily to ensure full recovery of data no more than one day old.

Perform backups:

- ▼ After long data entry sessions
- ▼ At the end of accounting and reporting periods
- ▼ Before any critical event, such as an outage or plant turnaround
- ▼ Before and after configuring the database

Offline Backups (Standard)

Perform offline database backups with all users logged out of Maximo and the database server down.

WARNING Duplicates of the database made while the server is up and users are connected may result in unrecoverable backups.

- 1 Shut down the Application Server and Report Server.
- 2 Perform backups.
- 3 Restart the database server, Application Server, and Report Server.

Online Database Backups

You can perform backups without bringing the database server down, letting users continue using the software during the backup. This is more time-consuming, but can be useful to minimize downtime in 24-hour operations.

Restoring System and Database Backups

Before performing your restoration procedure, it is imperative to test it, even if your backup procedure appears to be working properly.

Updating Database Statistics

To enhance performance, regularly update your database statistics. Procedures depend on database platform.

Update Statistics (SQL Server)

Perform the Update Statistics procedure to ensure that selectivity factors are updated when there are significant changes to an index.

Recommendation

Perform this procedure daily, especially if large amounts of data are inserted, updated, or deleted. You can execute Update Statistics from the Actions menu in Database Configuration, or use a database-specific command.

DBMS_STATS Package (Oracle)

The DBMS_STATS package in Oracle optimizes statistics on your database. Maximo benefits from cost-based optimization because it builds many queries dynamically, depending on user input. With the cost-based optimizer, Oracle determines which indexes to use based on the distribution of data.

NOTE Oracle 9i and 10g documentation recommends against using ANALYZE to collect statistics for the Cost Based Optimizer. Use DBMS_STATS instead.

If your database is large, run Oracle's update statistics. You can use a database-specific command, or you can execute Update Statistics from the Actions menu in Database Configuration, which calls `dbms_stats.gather_table_stats` with `cascade true`. For example:

```
dbms_stats.gather_table_stats (ownname => 'MAXIMO', tabname =>
'ASSET', cascade => true)
```

Oracle has 2 optimizer modes:

- ▼ cost-based
- ▼ rule-based

By default, the optimizer mode is set to CHOOSE. To determine the mode in effect, select from the `v$parameter` table:

```
select value from v$parameter where name='optimizer_mode';
```

If the mode is CHOOSE, you use the rule-based optimizer unless statistics exist (they do not if you never analyzed your tables).

Preparing Microsoft SQL Server Instance

To determine whether Full-text Search is installed on your existing MS SQL Server database:

1 Select **Tools > SQL Query Analyzer**.

2 Enter this command:

```
select FULLTEXTSERVICEPROPERTY ( 'IsFulltextInstalled' )
```

3 The result is either:-

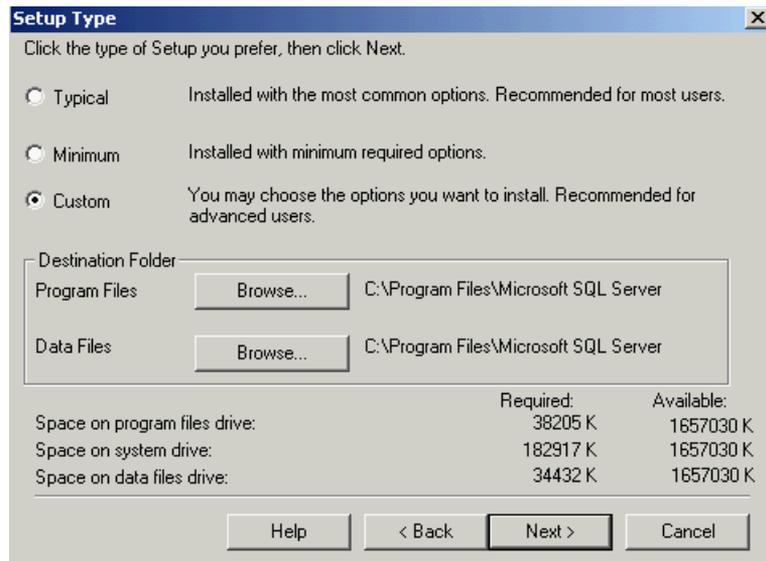
▼ 0 = Full-text is not installed

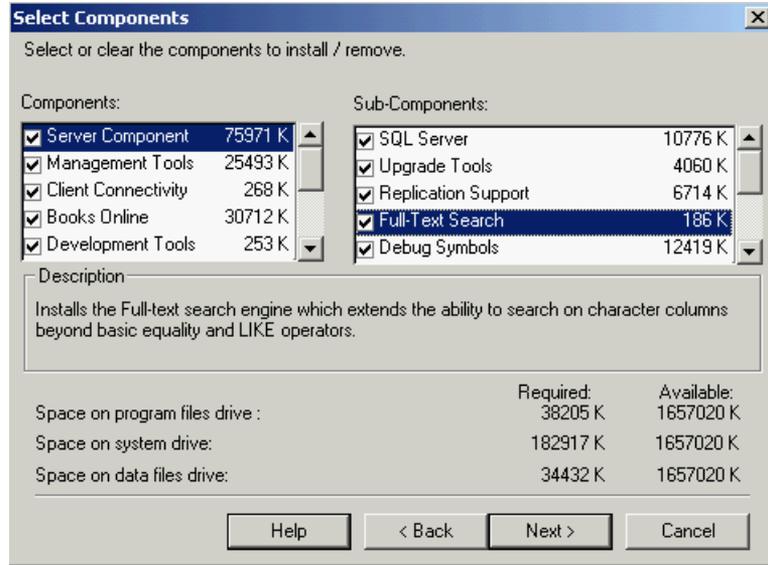
▼ 1 = Full-text is installed

If full-text is not installed, complete these steps.

1 Insert the Microsoft SQL Server 2000 CD-ROM onto the server where it was originally installed.

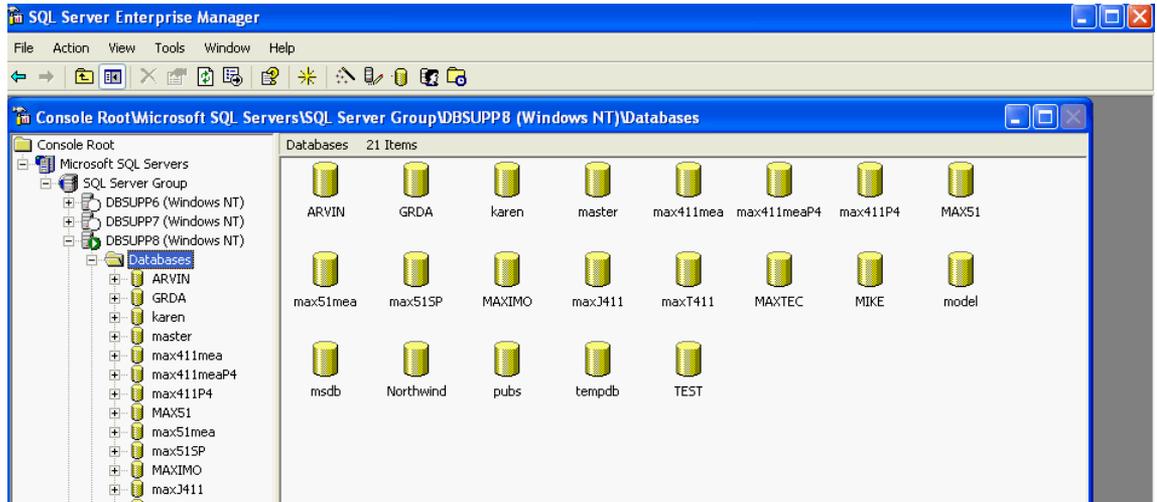
2 Navigate through the installation dialog boxes. In the Setup Type dialog box, select **Custom**.



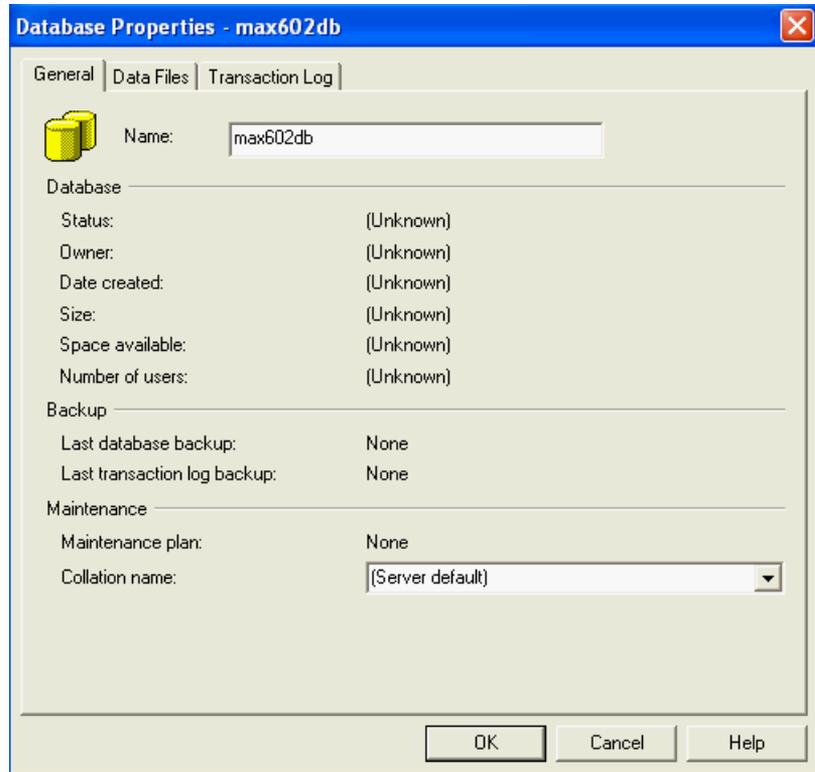
3 Check the **Full-Text Search** box.**4** Navigate through the remaining steps and select to restart the server.

Configuring a SQL Server Database for Maximo

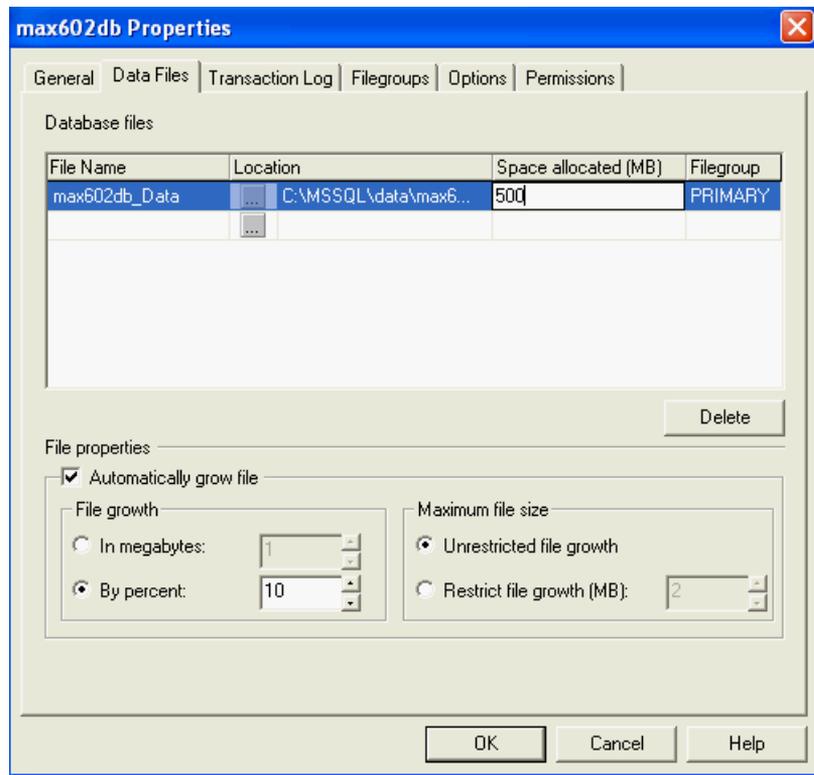
- 1 Open SQL Server Enterprise Manager (select **Program Files > Microsoft SQL Server**).
- 2 Right-click the Databases folder from the tree view, and select **New Database**.



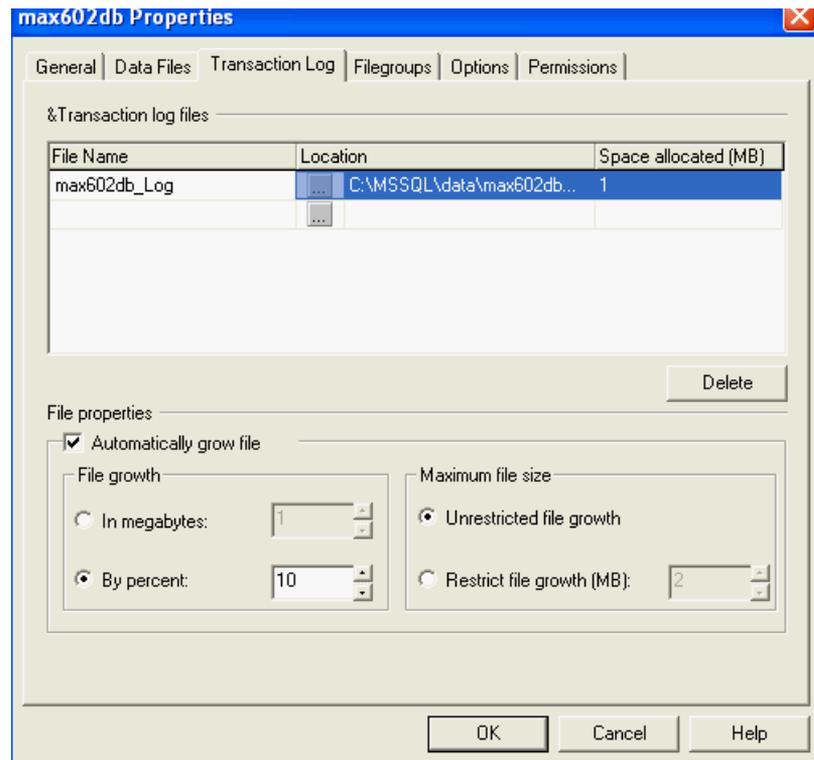
- 3 In the Database Properties dialog box, in the General tab, specify a unique database name (for example max602db).



- From the Data Files tab, change the Space allocated size (MB) to **500** and check the **Automatically grow file** box.



- Optional) Modify the settings in the Transaction Log tab to accommodate your production environment.



- 6 Click **OK**.
- 7 Select **Tools > SQL Server Analyzer**.
- 8 Select the database from the list (see Step 3 on page 20-6).
- 9 Consider these options and run the appropriate script:

- ▼ To create the Maximo user:

```
sp_addlogin maximo,maximo
go
```

If the maximo account is already present in the SQL Server installation, an error message appears. You can ignore it.

- ▼ If you want maximo to be the database owner:

```
sp_changedbowner maximo
go
```

- ▼ If you want dbo to own all maximo objects:

```
sp_addalias maximo, dbo
go
```

If you do not use the sp_addalias mechanism, you must modify the mxe.db.schemaowner property in maximo.properties to reflect the schema object's owner (maximo, if you used sp_changedbowner).

Use one command only:

Command	mxe.db.schemaowner
sp_changedbowner maximo	maximo
sp_addalias maximo, dbo	dbo

- ▼ To use the Users application to add native database users:

```
sp_addsrvrolemember maximo, securityadmin
go
sp_addrolemember db_securityadmin, maximo
go
sp_addrolemember db_securityadmin, maximo
go
```

- 10 Run the maxinst script from the <Maximo_home>\tools\Maximo folder from the machine where you installed Maximo.

Creating Maximo Database Objects

- 1 Open a command prompt.
- 2 Change directory path to: \maximo\tools\maximo.
- 3 At the prompt, enter maxinst.

By default, Maxinst looks in maximo.properties (in this example, c:\Maximo\applications\maximo\properties) for connectivity information to the database. It connects using JDBC connection and starts the process of creating a Maxdemo database.

- 4 (Optional) To create an empty database, use the `-imaximo` flag.

For example, at the command prompt, instead of only `maxinst`, enter:
`maxinst -imaximo`.

You can use these flags with `maxinst`.

Flag		Description
<code>-a</code>	database alias	Database alias. If not specified, uses <code>mxe.db.url</code> property.
<code>-c</code>	language code	Directory name for input file (for example, <code>en</code> for English).
<code>-d</code>	log file directory	If using the <code>-l</code> parameter, it outputs logfile to the Maximo directory. Typically: <code>tools > maximo > log</code> .
<code>-e</code>	none	Causes <code>Sql</code> to be executed. Required. Already present in <code>maxinst.bat</code> .
<code>-f</code>	file name	Filename for properties file. If not specified, uses <code>maximo.properties</code> .
<code>-i</code>	file name	Filename of input file (without path or extension). The default filename is <code>Unlcvt</code> if the <code>-i</code> param is not provided.
<code>-k</code>	prop. file directory	Directory for properties file.
<code>-l</code>	none	Outputs a detailed log file. Strongly recommended. Already in <code>maxinst.bat</code> .
<code>-o</code>	file name	If using the <code>-l</code> parameter, the filename for the logfile. If not specified, logfile is "Maxinst" + timestamp + ".log".
<code>-p</code>	password	Password for database connection. If not specified, uses <code>mxe.db.password</code> property, or "maximo".
<code>-s</code>	index storage area	Oracle: tablespace for index storage (defaults to default tablespace for schema owner) SQL Server: filegroup for index storage (defaults to PRIMARY).
<code>-t</code>	table storage area	Oracle: tablespace for table storage (defaults to default tablespace for schema owner) SQL Server: filegroup for table storage (defaults to PRIMARY).
<code>-u</code>	user name	Username for database connection. If not specified, uses <code>mxe.db.user</code> property, or "maximo".

CAUTION `-S` and `-T` PARAMETERS: `Maxinst` does not provide a default value for tablespace.

For `Maxinst` to specify the tablespace when creating tables or indexes, you must explicitly specify it using the `-t` and/or `-s` parameters.

Otherwise, `maxinst` creates tables and indexes in the schema owner's default tablespace.

NOTE Each flag must be followed by the parameters without a space, for example: `-uMAXIMO`.

Setting Default Vendors

You can set default vendors for items that users order in Desktop Requisitions. Maximo stores this data at the organization level.

For example, you can specify a default vendor for some non-stocked items. The buyer can change the vendor.

NOTE Primary vendor is another type of default vendor you use with the reorder process in Purchase Orders and Purchase Requisitions. You specify it in the Primary Vendor field on the Reorder Details tab in Inventory.

If no primary vendor is specified for an item, the reorder process checks whether a default vendor is specified and takes that value if it exists. Maximo stores the primary vendor data at the Site/Storeroom level.

- 1 Open the Item Master application.
- 2 Display the appropriate item's record.
- 3 Click the Vendors tab.
- 4 In the Vendors table window, click the Details icon for the appropriate vendor. (You can insert a new row and add another vendor.)
- 5 Check the **Default Vendor** field.
- 6 Save the record.

NOTE You can also set the default vendor in the Inventory application using the Reorder Details tab.

When a user requisitions this item in Desktop Requisitions, and the Storeroom field on the Buyer requisition line is blank, the default vendor you specified appears in the Vendor field.

Autonumbering for Special Order Items

These are items that you do not stock in inventory, so they have no inventory item numbers. You must order them by description, which is generally sufficient for ordering and tracking.

You can generate item numbers for them, at the organization level.

- 1 Open the Organizations application.
- 2 Select the appropriate Organization.
- 3 Choose **Select Action > Purchasing Options > PO Options**.

The PO Options dialog box opens.

- 4 Check the **Allow the Generation of Special Order Items?** box.
- 5 Click **OK**.
- 6 Click **Save Organization**.

The line type Special Order is available to users in the Requisition, PR, RFQ, PO, Contract and Work Order applications.

Configuring Automatic Reordering

In the Inventory application, you reorder storeroom items by choosing **Select Actions > Reorder**. You can run this process automatically.

Use the Cron Task Setup application to specify the schedule and these parameters. See “Cron Task Setup” on page 16-1.

Parameter	Description
ignorereorderpoint	Whether reorder Cron Task ignores the reorder point of the storeroom. 1 = true; 0 = false
logfile	The complete path of the log file for reorder Cron Task result, or stdout = system’s standard output, stderr = system’s standard error. If not specified, the file specified by mxe.msgLogFile is used.
emailto	The e-mail address where the reorder result is sent. Results for each storeroom are sent as individual e-mails. The mxe.adminEmail and mail.smtp.host properties must be specified to receive e-mail.

Parameter	Description
directissue	A list of sites (semicolon-separated site IDs) for which direct issue items will be processed by the reorder Cron Task for each run. If it is an empty string, direct order items won't be reordered for any site. Example: site1;site2
useagreement	Whether reorder Cron Task considers agreements. 1 = true; 0 = false
leadtime	The extra lead time the reorder Cron Task includes, in days. Default = 0.
storeroom	A list of storerooms (semicolon-separated storeroom comma site pair) the reorder Cron Task processes at each run. No storeroom is reordered if the property has an empty string. Example: site1,storeroom1;site2,storeroom2;

E-Commerce Capability Using Maximo

To engage in e-commerce transactions, your organization and the supplier must be e-commerce enabled.

E-commerce suppliers will have their catalog available at the MRO Software Operations Center or an external website. The supplier and buyer may approve relationships and create accounts with each other.

Users generate requisitions using Desktop Requisitions and Purchase Requisitions, which include searching and requisitioning screens.

- ▼ You can configure your site to automatically generate approved POs from requisitions, and route them directly to e-commerce enabled suppliers.
- ▼ Route requisitions through Workflow to purchasing agents or other appointed individuals in your organization.

Approved POs are sent to suppliers via Open Applications Group (OAG) XML transactions. Further transactions and notifications regarding the PO's status are handled electronically.

NOTE Use the Security Groups application to explicitly grant Desktop Requisition or Workorder users access to Search Catalogs.

Buyer-initiated transactions

Transaction	Description
PO Transaction	Sends the PO to the supplier. Is the first transaction sent to the supplier.
Cancel PO	Sends the PO cancellation notice to the supplier.

Supplier-initiated transactions

Transaction	Description
Acknowledge PO	Confirms the supplier received the PO. Is the first transaction received from the supplier.
Vendor Order Status	Is generated after the supplier reviews the PO information. Relays any issues related to the order to the buyer and requisitioner.
Advance Ship Notice (ASN)	Provides information detailing intents to transport specific quantities of items from a supplier to a single destination.
Invoice	Provides invoicing information on items shipped.

For supplier companies you regularly do business with, create a Companies record in Maximo and complete its E-commerce Details section. See the online help in the Companies application.

Purchasing agents can create a Person record in Maximo, to have the ability to receive transaction e-mail notifications, like Vendor Order Status or Advance Ship Notice. Administrative users can create this record for them.

Requisitioners can receive these notifications if they select the TRANSEMAILELECTION in the Profile Page of Desktop Requisitions.

Receiving Electronic Invoices

You can configure the ability to receive electronic invoices and (optional) to have the receipt of the invoice initiate a Workflow process.

- 1 Go to the Companies application. Display the company record.
- 2 In the E-Commerce Details section of the Company tab, check the **E-Commerce Enabled** box. See Companies Help.
- 3 Check the **Vendor Sends Invoice** box.

NOTE If the **E-Commerce Enabled** box is checked, but the **Vendor Sends Invoice** box is not, the company must send manual invoices.

When an electronic invoice is received, it creates a new record in the Invoices application, populating the INVOICE and INVOICELINE tables.

Attached Documents Administration and Configuration

22

You use the Attached Documents application in Maximo to attach various documents to individual Maximo records.

This chapter has two sections:

- ▼ Administration – describes how to manage Attached Documents in Maximo.
- ▼ Configuration – describes how to configure your Attached Documents system, including editing properties files and configuring the Web server.

NOTE Configuring Attached Documents requires you to integrate the physical location of a stored document file with the location specified in Maximo.

You can configure Maximo to store attached document files on the same machine as the Application Server running Maximo, or on other machines. This chapter provides instructions and examples for both.

Maximo Attached Documents Administration

In Maximo, you create a **document library** and organize documents into **folders**. The Maximo database includes:

Folder	Description
Attachments	text files
Diagrams	flow charts or part diagrams
Images	graphic images, like pictures of Assets

You can also create additional folders, or organize the folders into functional categories such as permits, part sheets, photographs, procedures, drawings, etc.

Administrators maintain the library, create new folders as needed, and specify the folders available for each Maximo application. You can attach a document to a record even when the document is outside the document library.

To create a document library:

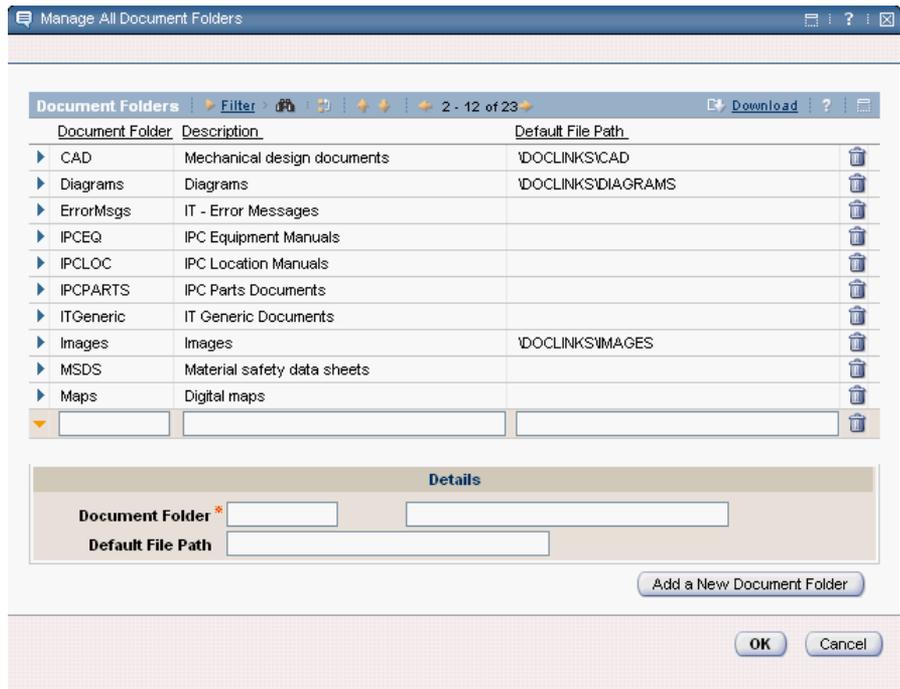
- ▼ copy the file to an Attached Documents repository
- ▼ specifying a network path to the file, then attach the copy or the link to Maximo records.

NOTE The online Help provides user and administrative procedures.

Managing Document Folders

Maximo automatically associates a new document folder with the application you created it from. Security is required to access this feature.

- 1 Open any application that has Attached Documents actions.
- 2 From the Select Action menu, choose **Attachment Library/Folders > Manage Folders**.



- 3 Click **Add a New Document Folder**.

- 4 Complete the fields. Note the following:

Field	Description
Document Folder	Enter a folder name, for example, permits, drawings, and schematics
Document Folder Description	Describe the folder

Field	Description
Default File Path	The full path where the physical files are stored. This can be a mapped drive on a separate file server.

- 5 Click **OK** to save changes and return to the application tab.

Associating Document Folders With Maximo Applications

You must associate document folders with an application before you can attach documents in those folders. Security is required to access this feature.

NOTE By default, the folders titled attachments, images, and diagrams are included with every application that uses attached documents.

- 1 Open any application that has Attached Documents actions.
- 2 From the Select Action menu, choose **Attachment Library/Folders > Associate Folders**.

Associate Existing Document Folders with this Application

To associate additional document folders with the current application, click New Row.

Document Folder	Description	Application
▶ Attachments	Attachments	CONTPURCH
▶ Diagrams	Diagrams	CONTPURCH
▶ Images	Images	CONTPURCH
▶ Parts	Part sheets	CONTPURCH
▼ TermCond	Terms And Conditions	CONTPURCH

Details

Document Folder TermCond

Application CONTPURCH

New Row

OK Cancel

- 3 Click **New Row**.
- 4 In the **Document Folder** field, enter a value or click Select Value to choose from the list. The **Document Folder Description** and **Application** fields contain default values.
- 5 Click **OK** to save changes.

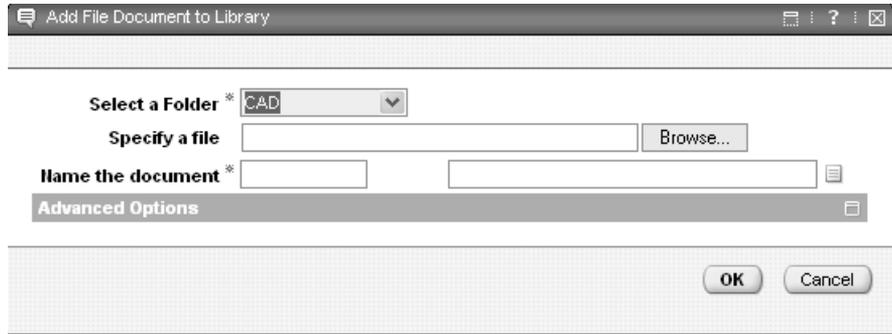
Managing the Document Library

Documents can be stored in a local or remote server.

Add a File Attachment or a URL to the Library

- 1 Open any application that has Attached Documents actions.
- 2 From the Select Action menu, choose **Attachment Library/Folders > Manage Library**.
- 3 Click **Add a Document to the Library > Add New File**.

To add a file attachment



- 4 Complete the fields. Note the following:

Field	Description
Select a Folder	Enter a folder name or select one from the drop down menu
Specify a file	Enter the file path or Browse... to select a file. The maximum field length is 256.
Name the document	Enter a file name
Description	Enter a description.
(Advanced Option) Copy document to the default location set by your administrator (recommended)?	This is the default. To prevent the document form being uploaded to the network, clear the check box.
(Advanced Option) Print document with work pack?	This is the default. To prevent the document from being printed with a work pack, clear the check box.

To add a URL

5 Click **Add a Document to the Library > Add New Web Page**.

6 Complete the fields. Note the following:

Field	Description
Select a Folder	Enter a folder name or select one from the drop down menu
Specify the URL	Enter the Uniform Resource Locator or the global address of the page on the World Wide Web or your company's intranet. The maximum field length is 256.
Name the document	Enter a value to identify the Web page
Description	Enter a description of the web page.
(Advanced Option) Copy document to the default location set by your administrator (recommended)?	This is the default. To prevent the document from being uploaded to the network, clear the check box.
(Advanced Option) Print document with work pack?	This is the default. To prevent the document from being printed with a work pack, clear the check box.

7 Click **OK**.

Attaching Documents to Maximo Records

- ▼ You can attach documents from the document library
- ▼ They can attach documents outside the library by clicking the paperclip icon in the application's header section.

The *Maximo User's Guide* and the Maximo Help system discuss Attached Documents from the user's perspective.

Printing Workpacks in a UNIX Environment

To print workpacks in a UNIX environment, change this setting:

- 1 From the Tools menu in Internet Explorer, choose Internet Options.

- 2 On the Security tab, click **Custom Level**.
- 3 Under the “Initialize and script ActiveX controls not marked as safe” setting, click **Enable**.
- 4 Click **OK** to return to the Security tab, and click **OK** again.

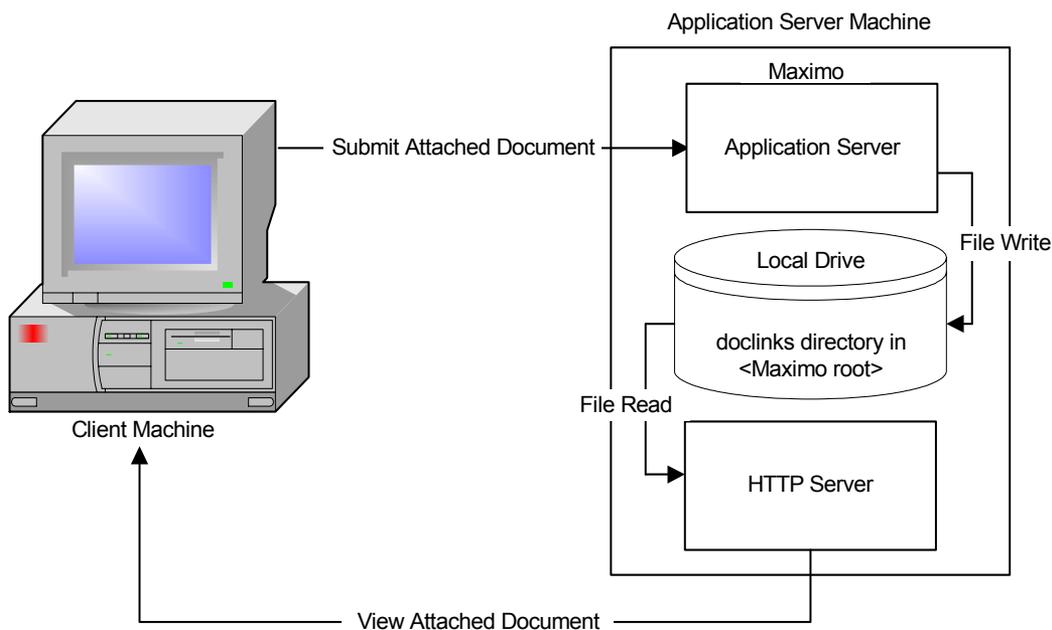
Attached Documents Configuration

The doc links folder *must* be on the machine running Maximo, and not on the deployment machine.

Platform	Doclinks file path
Windows	▼ <Maximo root> equals c:\maximo
	▼ the installation program creates a directory called doclinks
	▼ the doclinks file path will be c:\maximo\doclinks
UNIX	▼ <Maximo root> equals /home/mxadmin/maximo
	▼ the installation program creates a directory called doclinks
	▼ the doclinks file path will be /home/mxadmin/maximo/doclinks.

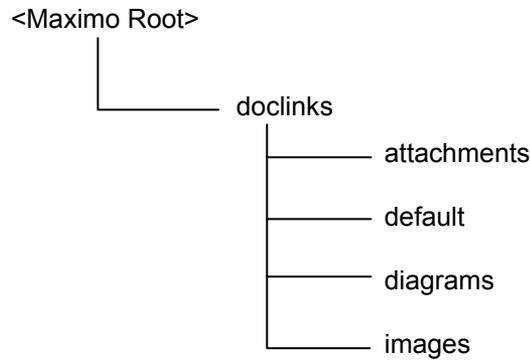
In this figure Maximo is configured to store attached document files on the same machine as the Application Server running Maximo.

Single Machine Configuration



Use the following directory structure for storing documents. The “default” directory is where Maximo copies attached document files when you do not specify a file path for a document folder (see “Managing Document Folders” on page 22-2).

Document Storage Directory



Alternative Configurations

Here are some alternative Attached Documents configurations.

Configuration Scenario	Description
“Dual Machines, Local HTTP Server – Windows and UNIX” on page 22-8	<ul style="list-style-type: none"> ▼ Store document files on a different machine than the Application Server machine ▼ The document HTTP server is on the Application Server machine running Maximo.
“Dual Machines, One Dedicated HTTP Server – Windows and UNIX” on page 22-17	<ul style="list-style-type: none"> ▼ Store document files on a different machine than the Application Server machine running Maximo. ▼ The HTTP server is on the machine storing the document files.
“Multiple Machines, Multiple HTTP Servers – Windows and UNIX” on page 22-23	<ul style="list-style-type: none"> ▼ Store document files on different machines, with each folder associated with a different machine (and possibly managed by a different group). <p style="margin-left: 20px;">For example, store diagrams, images, and attachments on separate machines.</p> ▼ Each machine storing documents has its own HTTP server.

General Considerations

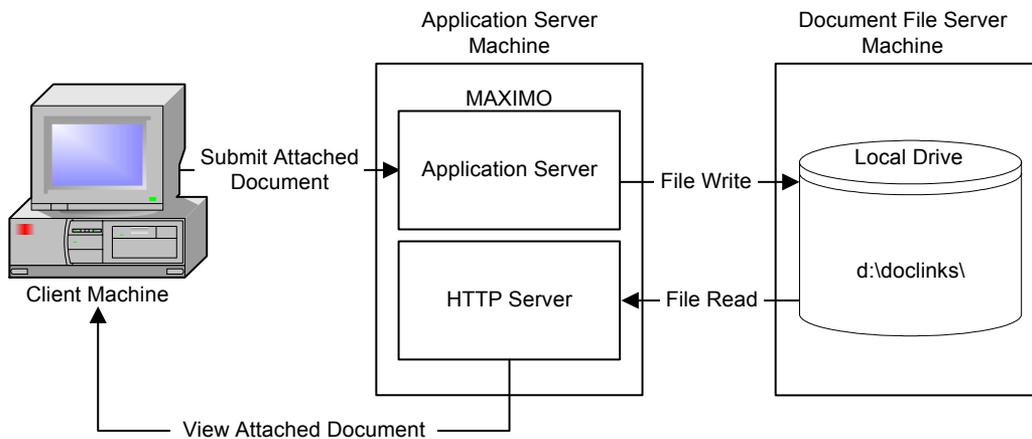
- ▼ The workstations from which you access attached documents must have the relevant applications installed on them. For example, to view a Word document, a workstation must have MS Word installed on it.
- ▼ After changing the doclink.properties file, you must build and deploy a new maximo.ear file.

Dual Machines, Local HTTP Server – Windows and UNIX

The Dual Machines, Local HTTP Server scenario has the following configuration and conventions:

Platform	Configuration	Conventions
Windows	<ul style="list-style-type: none"> ▼ You store document files on a different machine than the Application Server machine running Maximo. ▼ The HTTP server is on the Application Server machine ▼ You map a drive on the Application Server machine to point to the physical drive on the Document File Server machine. 	<ul style="list-style-type: none"> ▼ H is a mapped drive on the Application Server machine running Maximo. ▼ D is a physical drive on the machine storing the documents. ▼ Maintain case consistency throughout.
UNIX	<ul style="list-style-type: none"> ▼ You store document files on a different machine than the Application Server machine running Maximo. ▼ The HTTP server is on the Application Server machine ▼ You NFS mount the file system containing the document files from the Document File Server machine onto the Application Server machine. 	<ul style="list-style-type: none"> ▼ /d01 is the NFS mount point on the Application Server machine for the filesystem /home on the document storage machine. ▼ Maintain case consistency throughout.

Dual Machine Configuration with Local HTTP Server



Creating Attached Documents Directories

- 1 Create a **doclinks** directory on the machine storing the document files.
For example:

Platform	Doclinks directory
Windows	D:\doclinks
UNIX	/home/doclinks

- 2 Share the drive so users can connect to it.
- 3 Create the following subdirectories under doclinks:

attachments
 default
 diagrams
 images

Platform	Directories and subdirectories
Windows	Maximo creates the directory when the doclinks folder is created by the UI.
UNIX	If you created additional attached document folders in Maximo, then create subdirectories for them, as well.

- 4 *WebLogic only.* Create another subdirectory under doclinks named:

WEB-INF

- 5 *WebLogic only.* Go to the doclinks directory created in step 1.
- 6 Copy the **web.xml** file from the deployment folder into the WEB-INF directory you created in Step 4.

Warning Maximo contains several additional web.xml files. Make sure you copy the correct one.

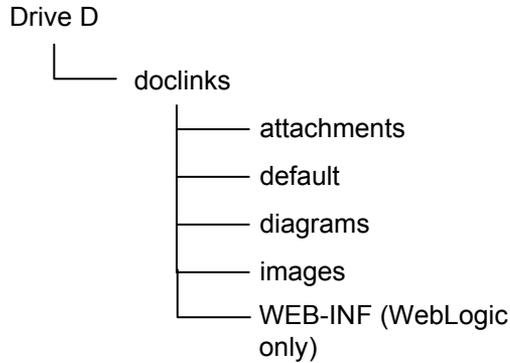
Platform	Deployment folder
Windows	<Maximo_root>\deployment
UNIX	<Maximo_root>/deployment

The file contains mime-mapping information, which you may later customize, if needed. For more information refer to “Mime Mappings (WebLogic Only)” on page 22-31

7 Verify the directory structure.

Platform	Directory structure
----------	---------------------

Windows	Your directory structure on drive D on the machine storing the documents looks like this:
---------	---



UNIX	Your directory structure under /home on the machine storing the documents looks like this:
------	--



8 On the Application Server machine running Maximo, do this:

Platform	Map drive
----------	-----------

Windows	Map drive H to physical drive D on the machine storing the documents
---------	--

UNIX	Configure /d01 to be the NFS mount point for the /home filesystem on the machine that stores the document files.
------	--

Editing the Doclink.properties File

Specify the properties for your Attached Documents configuration.

1 Go to:

Platform	Directory
----------	-----------

Windows	<Maximo Root> applications\maximo\properties
---------	--

UNIX	<Maximo Root> applications/maximo/properties
------	--

2 Open **doclink.properties** in a text editor.

3 Edit the file as described below.

Maximum Allowable File Size

Specify a maximum size for files copied to Attached Documents Library folders. The default value is 10 MB.

1 Go to the first section of the properties file, Maximum Size for Upload File.

2 Under Set Value, find the **mxe.doclink.maxfilesize** parameter.

3 Replace 10 with the desired value in megabytes (20 = 20 MB). If you want an unlimited file size, specify 0.

Default Directory File Path

Specify the default directory in which to place copied documents.

1 Go to the second section of the properties file, Default Directory Path for Folders with No Default Path.

2 At the bottom of the section, under Set Value, find the following parameter: **mxe.doclink.doctypes.defpath**

3 Specify the default directory file path:

Platform	Path
Windows	mxe.doclink.doctypes.defpath = H:\doclinks\default In Windows, path statements require double backslashes (\).
UNIX	mxe.doclink.doctypes.defpath = /d01/doclinks/default

Translation Statement

Associate the attached document file location with the HTTP server that serves them.

1 Go to the third section of the file, Translation of Specified Filepaths of Folders to URL's.

At the bottom of the section, under Set Value, there are translation statements for each of four operating system/application server combinations.

2 Find the statement applicable to your system:

Platform	Application server and statement
Windows	WebLogic C<PATH>\doclinks = http://<servername or IP>:<port number>/DOCLINKS
	WebSphere C<PATH>\doclinks = http://<servername or IP>/
UNIX	WebLogic /home/mxadmin/doclinks = http://<servername or IP>:<port number>/doclinks
	WebSphere /home/mxadmin/doclinks = http://<servername or IP>/

The translation works as follows:

- ▼ <Value specified in the file path of an Attached Documents folder> = <URL of where the file will be served from>
- ▼ Maximo reads the string on the left side of the equal sign, and replaces it with the string on the right side to build the URL to that document.

3 Edit the statement and specify the mapped drive.

- ▼ In Windows the mapped drive is H, the servername (hostname) is maxhost, and the port number for the Application Server (WebLogic only) is 7001.
- ▼ In UNIX the NFS mounted filesystem is /d01, the servername (hostname) is maxhost, and the port number for the Application Server (WebLogic only) is 7001.

Platform	Application server and statement
Windows	WebLogic H<PATH>\\doclinks = http://maxhost:7001/doclinks
	WebSphere H<PATH>\\doclinks = http://maxhost/
UNIX	WebLogic /d01/doclinks = http://maxhost:7001/doclinks
	WebSphere /d01/doclinks = http://maxhost/

- 4 Make sure the translation statement line you edited is uncommented (delete the beginning # symbol, if present)—and that all other translation statements are commented out (add a beginning # symbol, if needed).
- 5 Save and close the file.

Configuring the Application Server for Attached Documents

If you are using WebLogic, continue with the section below. If you are using WebSphere, go to the WebSphere section (page 22-14).

WebLogic

Creating a Web application in the Application Server

- 1 Stop the application server.
- 2 Backup the config.xml file in the domain in which you want to configure the Web application.

Platform	Path
Windows	<WebLogic root>\user_projects\domains\<domain_name>
UNIX	<WebLogic root>/user_projects/domains/<domain_name>

For example, when you installed Maximo, the domain in which you created MAXIMOSERVER was mydomain.

- 3 Start the application server.

- 4 Use Internet Explorer to login to the Administration Console by specifying the following URL:

`http://<hostname>:<port>/console`

 where <hostname> is the name of the machine and <port> is the port number of the Application Server.
- 5 In the left pane, under the Deployments node, click **Web Application Modules**. The right frame refreshes.
- 6 Delete the existing Web application named doclinks if one already exists on your system.
- 7 In the right pane, click **Deploy a new Web Application Module**. The right pane refreshes.
- 8 Navigate to the location of the **doclinks** directory. on the mapped drive.

Platform	Doclinks directory location
Windows	For example, click the machine name to display the drive letters; then click the mapped drive, H , to display the directories on H (which is really the physical drive D on the machine storing the document files). The doclinks directory you created earlier on D appears in the list below the path statement.
UNIX	For example, click the host name to display the root filesystems; then click /d01 to display the directories referenced by /d01 on the machine storing the document files. Click /home . The doclinks directory you created earlier appears in the list below the path statement.

- 9 Click the radio button to select the **doclinks** directory, then click **Target Module** at the bottom of the screen.
- 10 If you have more than one server, you must select the server on which you want to deploy your new Web Application module then click **Continue**.
- 11 Review you choices.

 The name must be the root directory name where the documents are stored. Since you selected it in step 8, above, **doclinks** is the default. *The name is case sensitive.*
- 12 Click **Deploy**. The Web application you created appears in the Web Application tree in the left pane.
- 13 Skip the following section on WebSphere and go to “Editing Default File Paths in Maximo” on page 22-15.

WebSphere

Editing the httpd.conf File on the Application Server Machine

In WebSphere, Attached Documents uses the IBM HTTP server to display attached documents. You must edit the httpd.conf file to specify the root of the \doclinks folder to be the home directory of the WebSphere HTTP server.

Complete the following steps:

- 1 Navigate to the location of the httpd.conf file for the IBM HTTP Server. The default installation location is:

Platform	Path
Windows	C:\IBM HTTP Server\conf\httpd.conf
UNIX	/home/IBMHTTPD/conf/httpd.conf

- 2 Back up the httpd.conf file.
- 3 Open the httpd.conf file in a text editor.
- 4 Find the section that begins with the following line (tip: search on “this should”):

```
# This should be changed to whatever you set
# DocumentRoot to.
```

The Directory line below will vary depending on whether you already edited the file during the installation of Maximo. It will be a string ending in /htdocs if you did not edit it. If you did edit it during the Maximo installation, it will appear as the following:

Platform	Directory line
Windows	<Directory "C:\maximo\doclinks">
UNIX	<Directory "/home/mxadmin/maximo/doclinks">

- 5 Edit this Directory line to specify the doclinks directory you created:

Platform	Directory line
Windows	<Directory "H:\doclinks">
UNIX	<Directory "/d01/doclinks">

```
<Directory "H:/doclinks">
```

NOTE You must use forward slashes (/) in the path statement.

- 6 Find the section that begins with the following lines (tip: search on DocumentRoot):

```
# DocumentRoot: The directory out of which you will
# serve your documents. By default, all requests are
# taken from this directory, but symbolic links and
# aliases may be used to point to other locations.
```

The line below will vary depending on whether you already edited the file during the installation of Maximo. It will be a string ending in /htdocs if you did not edit it. If you did edit it during the Maximo installation, it will appear as the following:

Platform	Directory line
Windows	DocumentRoot "C:\maximo\doclinks"
UNIX	DocumentRoot "/home/mxadmin/maximo/doclinks"

7 Edit this DocumentRoot line to specify the doclinks directory you created:

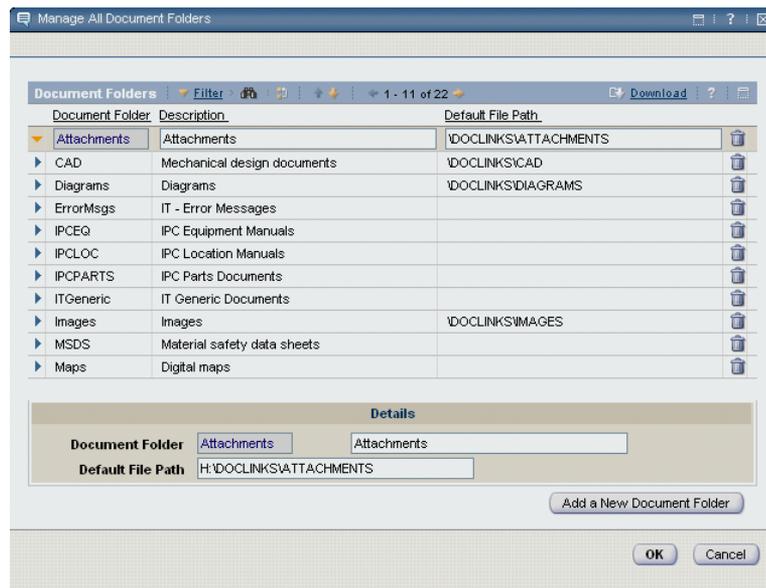
Platform	Directory line
Windows	DocumentRoot "H:\doclinks"
UNIX	DocumentRoot "d01/doclinks"

8 Save and Close the file.

Editing Default File Paths in Maximo

Since you have changed the location of the doclinks directory, you must edit the specified file paths in Maximo. Complete the following steps.

- 1 Sign in to Maximo. You must have rights to edit file paths in Attached Documents.
- 2 Open an application that uses Attached Documents.
- 3 From the Select Action menu, choose **Attachment Library/Folders > Manage Folders**.
- 4 Click the Details icon next to the document folder whose file path you want to change. This displays the details area at the bottom of the page.



- In the **Default File Path** field, edit the path to specify the new location of the associated directory. Enter the full path using the mapped drive letter.

Change the file paths for the attachments, diagrams, and images folders to:

Platform	File paths
Windows	H:\doclinks\attachments H:\doclinks\diagrams H:\doclinks\images
UNIX	/d01/doclinks/attachments /d01/doclinks/diagrams /d01/doclinks/images

NOTE If you created additional attached document folders, you must also edit their file paths.

- Click **Done** after editing each file path. Click **OK** to return to the Attached Documents table window.

Additional Configuration Steps

Because you edited the doclink.properties file you must build and deploy a new Maximo EAR file.

- ▼ See “Building EAR Files” on page 25-8 for information on building a new maximo.ear file.
- ▼ Refer to the appropriate Managing the Application Server chapter for information on deploying the new ear file into your Application Server.

WebLogic	WebSphere
Windows — “Deploying EAR Files” on page 25-9	Windows — “Deploying EAR Files” on page 27-13
UNIX — “Deploying EAR Files” on page 26-9	UNIX — “Deploying EAR Files” on page 28-10

WebSphere

Because you edited the httpd.conf file, you must restart the HTTP server.

WebLogic

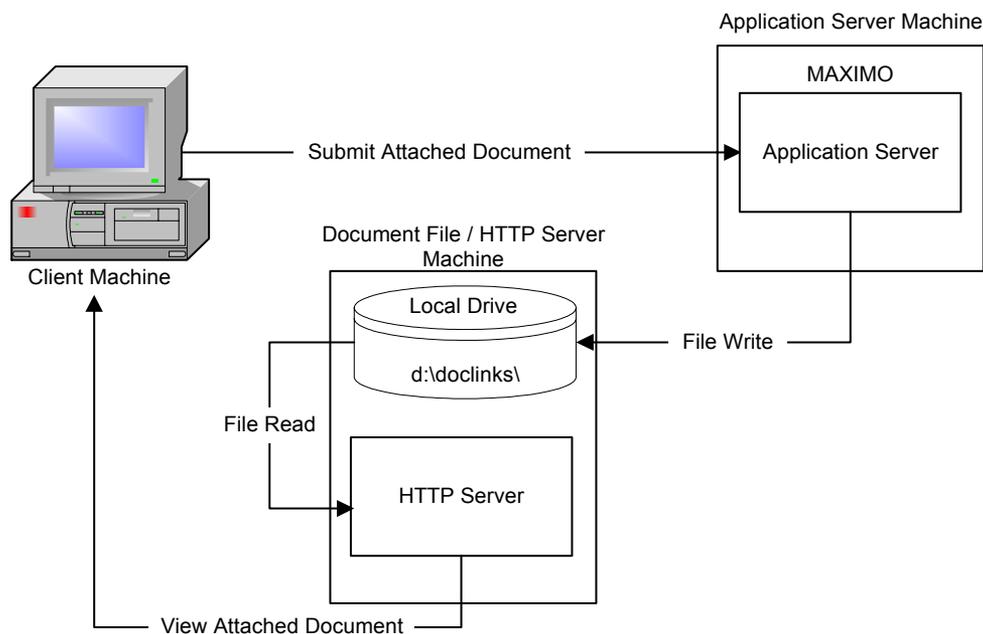
Restart the Application Server.

Dual Machines, One Dedicated HTTP Server – Windows and UNIX

The Dual Machines, One Dedicated HTTP Server scenario has the following configuration and conventions:

Platform	Configuration	Conventions
Windows	<ul style="list-style-type: none"> ▼ You store document files on a different machine than the Application Server machine running Maximo. ▼ The HTTP server (such as Apache, MS-IIS, or any other Web server) is on the machine storing the document files. ▼ You map a drive on the Application Server machine to point to the physical drive on the Document File/HTTP server machine. 	<ul style="list-style-type: none"> ▼ H is a mapped drive on the Application Server machine running Maximo. ▼ D is a physical drive on the machine storing the documents, running an HTTP server. ▼ Maintain case consistency throughout.
UNIX	<ul style="list-style-type: none"> ▼ You store document files on a different machine than the Application Server machine running Maximo. ▼ The HTTP server (such as Apache, MS-IIS, or any other Web server) is on the machine storing the document files. ▼ You NFS mount the filesystem containing the attached document files from the Document File/HTTP Server machine onto the Application Server machine. 	<ul style="list-style-type: none"> ▼ /d01 is an NFS mount point on the Application Server machine for the filesystem /home on the HTTP server machine. ▼ Maintain case consistency throughout.

Dual Machine Configuration with Dedicated Document File / HTTP Server



Creating Attached Documents Directories

- 1 Create a **doclinks** directory on the machine storing the document files.
For example:

Platform	Doclinks directory
Windows	D:\doclinks
UNIX	/home/doclinks

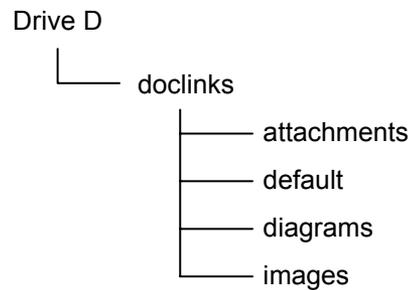
- 2 Create the following subdirectories under doclinks:

- attachments
- default
- diagrams
- images

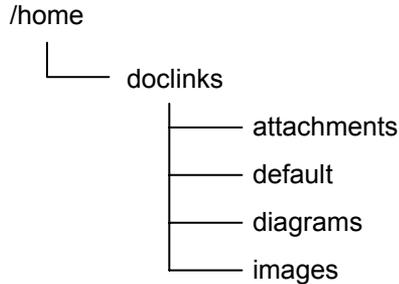
NOTE If you created additional attached document folders in Maximo, then create subdirectories for them, as well.

- 3 Verify the directory structure.

Platform	Directory structure
Windows	Your directory structure on drive D of the HTTP server looks like the following tree:



Platform	Directory structure
UNIX	Your directory structure under /home on the machine storing the documents looks like the following tree:



4 On the Application Server machine running Maximo, do this:

Platform	Map drive
Windows	Map drive H to physical drive D on the machine storing the documents.
UNIX	Configure /d01 to be the NFS mount point for the /home filesystem on the HTTP server machine storing the document files.

Editing the Doclink.properties File

Specify the properties for your Attached Documents configuration.

1 Go to:

Platform	Directory
Windows	<Maximo Root> applications\maximo\properties
UNIX	<Maximo Root> applications/maximo/properties

2 Open **doclink.properties** in a text editor.

3 Edit the file as described below.

Maximum Allowable File Size

Specify a maximum allowable file size for files copied to Attached Documents Library folders. The default value is 10 MB.

- Go to the first section of the properties file, Maximum Size for Upload File.
- Under Set Value, find the **mxo.doclink.maxfilesize** parameter.
- Replace 10 with the desired value in megabytes (20 = 20 MB). If you want an unlimited file size, specify 0.

Default Directory File Path Specify the default directory in which to place copied documents.

- 1 Go to the second section of the properties file, Default Directory Path for Folders with No Default Path:
- 2 At the bottom of the section, under Set Value, find the following parameter: **mxe.doclink.doctypes.defpath**
- 3 Specify the default directory file path:

Platform	Path
Windows	mxe.doclink.doctypes.defpath = H:\\doclinks\\default In Windows, path statements require double backslashes (\\).
UNIX	mxe.doclink.doctypes.defpath = /d01/doclinks/default

Translation Statement

Associate the location of the attached document files with the HTTP server that serves them.

- 1 Go to the third section of the file, Translation of Specified Filepaths of Folders to URL's:

At the bottom of the section, under Set Value, there are translation statements for each of four operating system/application server combinations.

- 2 Find the statement applicable to your system:

Platform	Application server and statement
Windows	C<PATH>\\doclinks = http://<servername or IP>/
UNIX	/home/mxadmin/doclinks = http://<servername or IP>/

The translation works as follows:

- ▼ <Value specified in the file path of an Attached Documents folder> = <URL of where the file will be served from>
- ▼ Maximo reads the string on the left side of the equal sign, and replaces it with the string on the right side to build the URL to that document.

- 3 Edit the statement and specify the mapped drive.
- ▼ In Windows the mapped drive is H, and the HTTP servername (hostname) is dochost.
- ▼ In UNIX the NFS mounted filesystem is /d01, and the HTTP servername (hostname) is dochost.

Platform	Translation statements
Windows	H<PATH>\\doclinks = http://dochost/
UNIX	/d01/doclinks = http://dochost/

- 4 Make sure the translation statement line you edited is uncommented (delete the beginning # symbol, if present)—and that all other translation statements are commented out (add a beginning # symbol, if needed).
- 5 Save and close the file.

Setting Up the HTTP Server for Attached Documents

The Dual Machine, Dedicated HTTP Server scenario relies on an HTTP server that is independent of Maximo. The choice of the HTTP server application to be used to serve the documents is completely based on your preference.

This section covers the general concept of configuring the HTTP server to serve documents for Maximo. Refer to your chosen HTTP server application's configuration documentation for specific instructions.

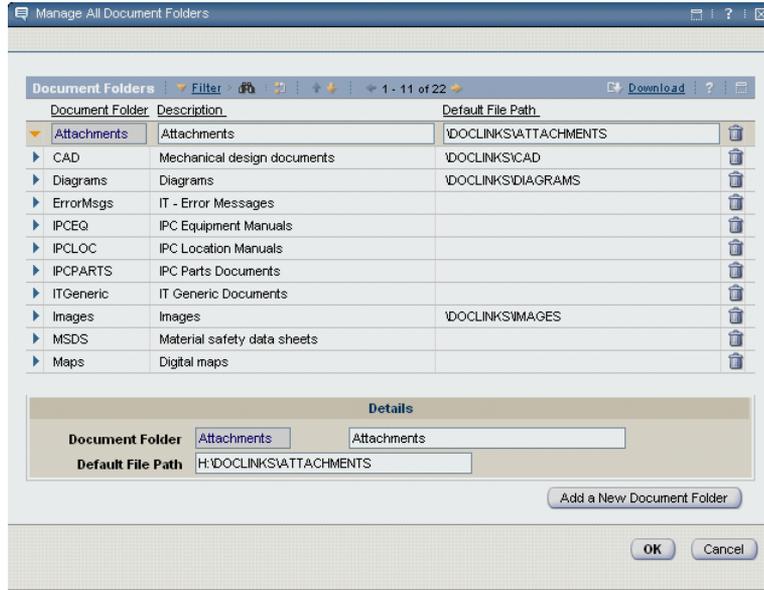
For example:

- ▼ **(Windows)** In Apache, you need to edit the httpd.conf file to use d:\doclinks as its default home page documents directory.
- ▼ **(UNIX)** In Apache, you need to edit the httpd.conf file to use /home/doclinks as its default home page documents directory.

Editing Default File Paths in Maximo

Since you have changed the location of the doclinks directory, you must edit the specified file paths in Maximo. Complete the following steps.

- 1 Sign in to Maximo. You must have rights to edit file paths in Attached Documents.
- 2 Open an application that uses Attached Documents.
- 3 From the Select Action menu, choose **Attachment Library/Folders > Manage Folders**.
- 4 Click the Details icon next to the document folder whose file path you want to change. This displays the details area at the bottom of the page.



5 In the **Default File Path** field, edit the path to specify the new location of the associated directory. Enter the full path using the mapped drive letter.

Change the file paths for the attachments, diagrams, and images folders to:

Platform	File paths
Windows	H:\doclinks\attachments H:\doclinks\diagrams H:\doclinks\images
UNIX	/d01/doclinks/attachments /d01/doclinks/diagrams /d01/doclinks/images

NOTE If you created additional attached document folders, you must also edit their file paths.

6 Click **Done** after editing each file path. Click **OK** to return to the Attached Documents table window.

Additional Configuration Steps

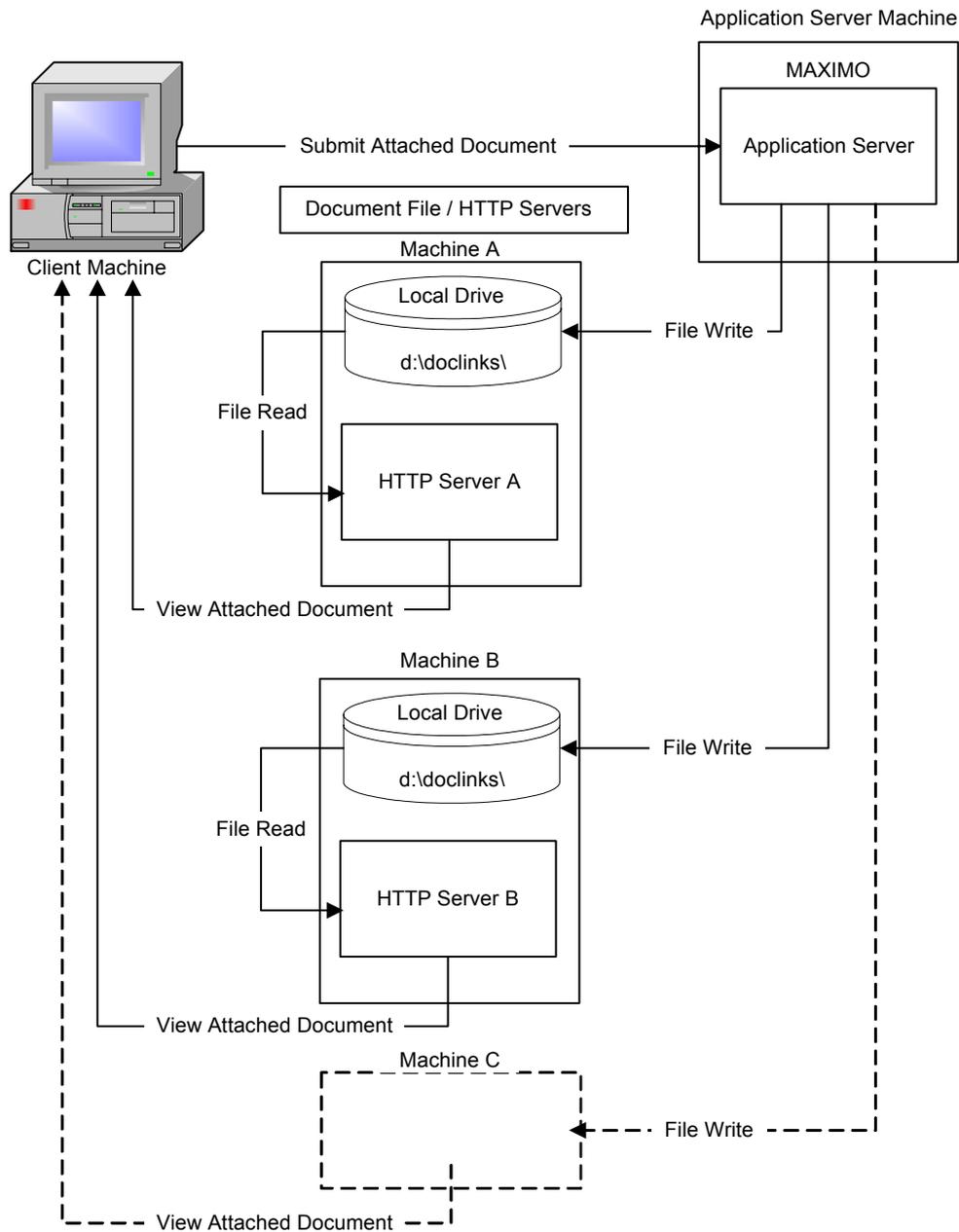
See “Additional Configuration Steps” on page 22-16.

Multiple Machines, Multiple HTTP Servers – Windows and UNIX

The Multiple Machines, Multiple HTTP Servers scenario has the following configuration and conventions:

Platform	Configuration	Conventions
Windows	<ul style="list-style-type: none"> ▼ You store document files on different machines than the Application Server machine running Maximo. ▼ You store the document files for each Attached Documents folder in Maximo on a different machine. ▼ An HTTP server (such as Apache, MS-IIS, or any other Web server) is on each machine storing the document files. ▼ For each folder in Maximo, you map a drive on the Application Server machine to point to the physical drive on the corresponding Document File/HTTP Server machine. 	<ul style="list-style-type: none"> ▼ Three HTTP server machines store document files: machines A, B, and C. <ul style="list-style-type: none"> ■ Server A stores the document files for the attachments folder in Maximo, as well as document files for which no file path is specified. ■ Server B stores the document files for the diagrams folder. ■ Server C stores the document files for the images folder. ▼ D is the physical drive on each machine storing the documents, running an HTTP server. ▼ H, I, and J are mapped drives on the Application Server machine running Maximo. They correspond to the drive D on the HTTP servers A, B, and C, respectively. ▼ Maintain case consistency throughout.
UNIX	<ul style="list-style-type: none"> ▼ You store document files on different machines than the Application Server machine running Maximo. ▼ You store the document files for each Attached Documents folder in Maximo on a different machine. ▼ An HTTP server (such as Apache or any other Web server) is on each machine storing the document files. ▼ For each folder in Maximo, you NFS mount the filesystem containing the document files on the Document File/HTTP Server machine onto the Application Server machine. 	<ul style="list-style-type: none"> ▼ Three HTTP server machines store document files: machines A, B, and C. <ul style="list-style-type: none"> ■ Server A stores the document files for the attachments folder in Maximo, as well as document files for which no file path is specified. ■ Server B stores the document files for the diagrams folder. ■ Server C stores the document files for the images folder. ▼ /d01, /d02, and /d03 are the NFS mount points on the Application Server machine for the filesystem /home on each of the HTTP server machines. ▼ Maintain case consistency throughout.

Multiple Machine Configuration with Multiple Dedicated Document File / HTTP Servers



Creating Attached Documents Directories

Complete steps 1 and 2 on the HTTP server machines that store the documents:

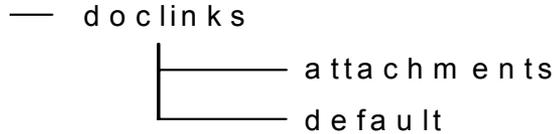
- 1** Create a **doclinks** directory on *each* server machine:

D:\doclinks

- 2 Create subdirectories under doclinks for each server machine as follows:

Server A: doclinks**attachments**
 Server A: doclinks**default**
 Server B: doclinks**diagrams**
 Server C: doclinks**images**

For example, your directory structure on drive D of HTTP server A looks like the following tree:



Complete steps 3 through 5 on the Application Server machine running Maximo.

- 3 Map drive H to physical drive D on server machine A.
- 4 Map drive I to physical drive D on server machine B.
- 5 Map drive J to physical drive D on server machine C.

Creating Attached Documents Directories

- 1 Create a **doclinks** directory on the machine storing the document files. For example:

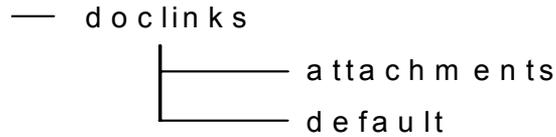
Platform	Doclinks directory
Windows	D:\doclinks
UNIX	/home/doclinks

- 2 Create subdirectories under doclinks for each server machine as follows:

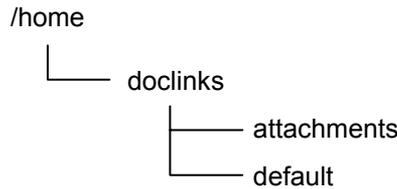
Platform	Doclinks subdirectories
Windows	Server A: doclinks\ attachments Server A: doclinks\ default Server B: doclinks\ diagrams Server C: doclinks\ images
UNIX	Server A: /home/doclinks/ attachments Server A: /home/doclinks/ default Server B: /home/doclinks/ diagrams Server C: /home/doclinks/ images

3 Verify the directory structure.

Platform	Directory structure
Windows	For example, your directory structure on drive D of HTTP server A looks like the following tree:



UNIX For example, your directory structure on HTTP server A looks like the following tree:



4 On the Application Server machine running Maximo, do this:

Platform	Map drive
Windows	<ul style="list-style-type: none"> ▼ Map drive H to physical drive D on server machine A. ▼ Map drive I to physical drive D on server machine B. ▼ Map drive J to physical drive D on server machine C.
UNIX	<p>5 Configure /d01 to be the NFS mount point for the /home filesystem on server machine A.</p> <p>6 Configure /d02 to be the NFS mount point for the /home filesystem on server machine B.</p> <p>Configure /d03 to be the NFS mount point for the /home filesystem on server machine C.</p>

Editing the Doclink.properties File

Specify the properties for your Attached Documents configuration.

- 1 Go to:

Platform	Directory
Windows	<Maximo Root> applications\maximo\properties
UNIX	<Maximo Root> applications/maximo/properties

- 2 Open **doclink.properties** in a text editor.

- 3 Edit the file as described below.

Maximum Allowable File Size

Specify a maximum allowable file size for files copied to Attached Documents Library folders. The default value is 10 MB. To change this value, complete the following steps:

- 1 Go to the first section of the properties file, Maximum Size for Upload File.
- 2 Under Set Value, find the **mxe.doclink.maxfilesize** parameter.
- 3 Replace 10 with the desired value in megabytes (20 = 20 MB). If you want an unlimited file size, specify 0.

Default Directory File Path

Specify the default directory in which to place copied documents.

- 1 Go to the second section of the properties file, Default Directory Path for Folders with No Default Path:
- 2 At the bottom of the section, under Set Value, find the following parameter: **mxe.doclink.doctypes.defpath**
- 3 Specify the default directory file path:

Platform	Path
Windows	mxe.doclink.doctypes.defpath = H:\\doclinks\\default In Windows, path statements require double backslashes (\\).
UNIX	mxe.doclink.doctypes.defpath = /d01/doclinks/default

Translation Statement

Associate the location of the attached document files with the HTTP server that serves them.

- 1 Go to the third section of the file, Translation of Specified Filepaths of Folders to URL's:

At the bottom of the section, under Set Value, there are translation statements for each of four operating system/application server combinations.

2 Find the statement applicable to your system:

Platform	Application server and statement
Windows	C<PATH>\\doclinks = http://<servername or IP>/
UNIX	/home/mxadmin/doclinks = http://<servername or IP>/

The translation works as follows:

- ▼ <Value specified in the file path of an Attached Documents folder> = <URL of where the file will be served from>
- ▼ Maximo reads the string on the left side of the equal sign, and replaces it with the string on the right side to build the URL to that document.

3 Edit the statement and specify the mapped drives. This scenario requires three translation statements, one for each folder and the server that stores its documents.

- ▼ In Windows, the machine names for servers A, B, and C are dochostA, dochostB, and dochostC, respectively. Edit the statement and insert two more as follows:
- ▼ In UNIX, the host names for servers A, B, and C are dochostA, dochostB, and dochostC, respectively. Edit the statement and insert two more as follows:

Platform	Translation statements
Windows	H<PATH>\\doclinks = http://dochostA/ I<PATH>\\doclinks = http://dochostB/ J<PATH>\\doclinks = http://dochostC/
UNIX	/d01/mxadmin/doclinks = http://dochostA/ /d02/mxadmin/doclinks = http://dochostB/ /d03/mxadmin/doclinks = http://dochostC/

4 Make sure the translation statement line you edited is uncommented (delete the beginning # symbol, if present)—and that all other translation statements are commented out (add a beginning # symbol, if needed).

5 Save and close the file.

Setting Up the HTTP Server for Attached Documents

The Multiple Machines, Multiple HTTP Servers scenario relies on HTTP servers that are independent of Maximo. The choice of the HTTP server application to be used to serve the documents is completely based on your preference.

This section covers the general concept of configuring the HTTP server to serve documents for Maximo. Refer to your chosen HTTP server application's configuration documentation for specific instructions.

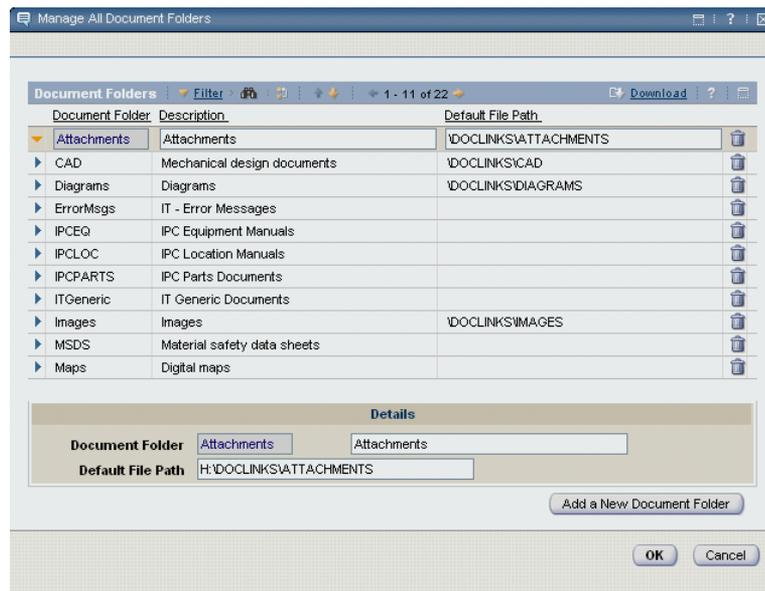
For example:

- ▼ **(Windows)** In Apache, you need to edit the httpd.conf file to use d:\doclinks as its default home page documents directory.
- ▼ **(Windows)** In MS-IIS you can create a virtual folder named doclinks and point it to the d:\doclinks directory on the same machine. You can also point the MS-IIS default home page directory directly to d:\doclinks.
- ▼ **(UNIX)** In Apache, you need to edit the httpd.conf file to use /home/doclinks as its default home page documents directory.

Editing Default File Paths in Maximo

Since you have changed the location of the doclinks directory, you must edit the specified file paths in Maximo. The attachments, diagrams, and images file paths must point to drives H,I, and J respectively. Complete the following steps.

- 1 Sign in to Maximo. You must have rights to edit file paths in Attached Documents.
- 2 Open an application that uses Attached Documents.
- 3 From the Select Action menu, choose **Attachment Library/Folders**. Maximo displays the Attachments Library/Folders menu.
- 4 Click **Manage Folders**. Maximo displays the Manage Folders dialog box.
- 5 Click the Details icon next to the document folder whose file path you want to change. This displays the details area at the bottom of the page.



- 6 In the **Default File Path** field, edit the path to specify the new location of the associated directory. Enter the full path using the mapped drive letter.

Change the file paths for the attachments, diagrams, and images folders to:

H:\doclinks\attachments
I:\doclinks\diagrams
J\doclinks\images

NOTE If you created additional attached document folders, you must also edit their file paths.

- 7 Click **Done** after editing each file path. Click **OK** to return to the Attached Documents table window.

Editing Default File Paths in Maximo

Since you have changed the location of the doclinks directory, you must edit the specified file paths in Maximo. Complete the following steps.

- 1 Sign in to Maximo. You must have rights to edit file paths in Attached Documents.
- 2 Open an application that uses Attached Documents.
- 3 From the Select Action menu, choose **Attachment Library/Folders > Manage Folders**.
- 4 Click the Details icon next to the document folder whose file path you want to change. This displays the details area at the bottom of the page.



- 5 In the **Default File Path** field, edit the path to specify the new location of the associated directory. Enter the full path using the mapped drive letter.

Change the file paths for the attachments, diagrams, and images folders to:

Platform	File paths
Windows	H:\doclinks\attachments I:\doclinks\diagrams J:\doclinks\images
UNIX	/d01/doclinks/attachments /d02/doclinks/diagrams /d03/doclinks/images

NOTE If you created additional attached document folders, you must also edit their file paths.

- 6 Click **Done** after editing each file path. Click **OK** to return to the Attached Documents table window.

Additional Configuration Steps

See “Additional Configuration Steps” on page 22-16.

Mime Mappings (WebLogic Only)

A Multi-Purpose Internet Mail Extensions (MIME) mapping associates a file name extension with a data file type (text, audio, image). These properties allow you to map a MIME type to a file name extension.

When you created a doclinks\WEB-INF directory, you copied a web.xml file into it. If you have trouble viewing certain document file types, review these steps:

- 1 If you make changes to this web.xml file (or if you tried unsuccessfully to open some attached documents before copying down this file), go to Internet Explorer, choose Tools/Internet Options. On the General tab, under Temporary Internet Files, delete Cookies and delete Files.

NOTE Your browser may not be able to display some document types without special plug-ins—for example, some CAD diagrams. If you have such documents, check with your vendor to find out what plug-ins should be used and how to get them (they generally can be downloaded from a Web site). *If needed, the plug-ins must be installed on every client machine used to view and print those kinds of attached documents.*

- 2 If you have problems viewing certain types of documents, look at the mime-mapping sections of the web.xml file.

The file contains a series of mime-mapping parameters corresponding to various kinds of document applications. For example, there is a parameter for “doc” documents. This corresponds to MS Word documents and appears as:

```
<mime-mapping>
  <extension>
    doc
  </extension>
  <mime-type>
    application/msword
  </mime-type>
</mime-mapping>
```

Note that the <extension> is “doc” and the <mime-type> is “application/msword”

This web.xml file will accommodate most of the file types you need. If you later find that you have other types of documents that do not open for viewing as attached documents, edit this file as follows:

- a Copy a mime-mapping section in the file.
- b Paste it back into the file.
- c Change the appropriate application parameter lines in the copy to refer to the relevant application’s extension and mime-type.

You can find the mime-type for an application by running Regedit, navigating to the HKEY_CLASSES_ROOT folder, expanding it, and clicking on the application extension. The mime-type appears on the Content Type line, under Data. For example, for PDF documents, the mime-type is “application/pdf”

NOTE After you edit the web.xml file you must rebuild the Maximo EAR file. See “Additional Configuration Steps” on page 22-31 for details.

Document Management System (DMS) Setup

If you have a document management system (DMS), you can integrate it with Maximo’s Attached Documents feature.

Refer to the *Maximo Software Developer’s Kit* for general instructions on customizing Maximo software. Integrating a DMS requires code changes and programming skills.

Displaying Additional Fields in the Attached Documents Tree

You may want to display additional information about a document when Maximo lists the attachment in the documents tree. For example, in addition to a document’s Name and Description, you might want to display whether it is a file or URL.

You can add any fields from the DOCLINKS and/or DOCINFO tables.

To add extra fields to documents displayed in the Attached Document tree, complete the following steps:

- 1 Go to the Maximo\resources\resources\defaults folder.
- 2 Open the jspsettings.txt file.
- 3 Find the following parameter line:

```
LINKDOCSDrillDownFieldList=docinfo.description
```

This line specifies the fields to show in addition to the document's name. The default is for the Description field to be displayed. The syntax is Table.Column.

- 4 Add additional fields as needed in the following syntax:

```
LINKDOCSDrillDownFieldList=docinfo.description,  
doclinks.somefield,docinfo.somefield
```

where *somefield* is whatever field you want displayed—in this example, one field from the DOCLINKS table and one from the DOCINFO table.

The comma is the separator. Do **not** insert any spaces before or after the separator.

For example, to display the document's description and type (whether it is a file or URL), you would edit the line as follows:

```
LINKDOCSDrillDownFieldList=docinfo.description,  
doclinks.urltype
```

- 5 Save the changes.

NOTE The changes will not take effect until you build and deploy a new Maximo EAR file.

System Configuration

This chapter addresses miscellaneous configuration topics. The instructions assume you are familiar with viewing, inserting, and modifying records with a SQL editor.

- ▼ Changing the Automatic Timeout Periods
- ▼ Assignment Manager MAXVARS Settings
- ▼ Displaying the Workflow Map
- ▼ Internet Explorer Settings
- ▼ Editing Regional Settings
- ▼ Specify Tax Options
- ▼ Java Virtual Machine
- ▼ Installing a Unicode Database

NOTE Whenever you edit files located under the *<Maximo root>* directory, you must rebuild and redeploy the relevant EAR files. See “Multiple Maximo Configurations” on page 24-1 for more information.

Changing the Automatic Timeout Periods

Maximo users are shut off after 30 minutes of inactivity. You can change this default value by editing the web.xml file in:

```
Maximo_root>\applications\maximo\maximouiweb\  
webmodule\WEB-INF\web.xml
```

Find the session-config section and change the session-timeout element to a different value. For example, replacing 30 with 60 would increase the timeout period from 30 minutes to 60 minutes.

Assignment Manager MAXVARS Settings

Assignment Manager has three “dispatch” functions: Start, Interrupt, and Finish. By default, Maximo begins recording labor actuals when the assignment status changes from ASSIGNED to STARTED, and stops recording labor actuals when the status changes to either INTERPT or COMPLETE.

If you do not want Maximo to automatically create labor actuals:

- 1 Open your SQL editor and connect to the database as the schema owner (for example, Maximo).

- 2 View the current setting:

```
SELECT * FROM MAXVARS WHERE  
VARNAME='LABTRANSONDISPATCH';
```

- 3 Run the following statement:

```
UPDATE MAXVARS SET VARVALUE='0' WHERE  
VARNAME='LABTRANSONDISPATCH';
```

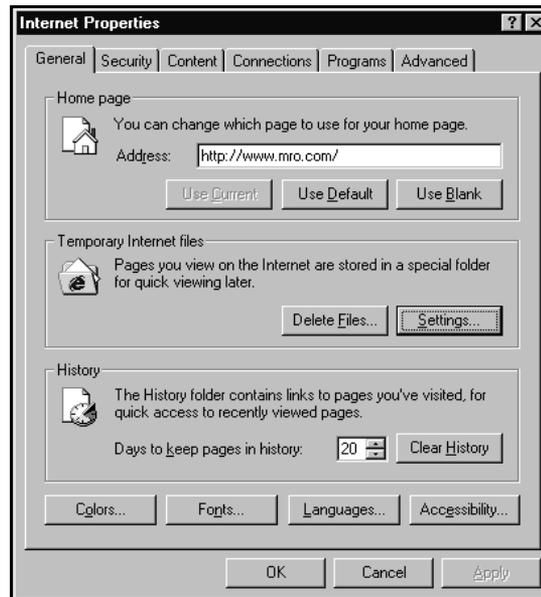
Displaying the Workflow Map

If the Maximo Application Server is installed on a UNIX server that does not run X-Windows Manager, users cannot view their workflow maps. Contact MAXIMO Support for further information.

Internet Explorer Settings

Follow the instructions in this section to edit your Internet Explorer® settings.

- 1 Through your Control Panel, select **Internet Options**.



- 2 On the **General** tab, click **Settings**.
- 3 Select **Every visit to the page**, then click **OK**.

E-Commerce Configuration

If your company is e-commerce enabled:

- 1 Click **Tools/Internet Options**.
- 2 Go to the **Privacy** tab and click **Advanced**.
- 3 Check the **Override automatic cookie handling** option.
- 4 Under Third Party Cookies, click **Accept**.
- 5 Click **OK**, then restart the browser.

Editing Regional Settings

Formatting information:

- ▼ is maintained by the Control Panel's Regional Settings application
- ▼ is stored in the Windows registry or the [Intl] section of WIN.INI.

NOTE Formatting changes affects all Windows applications, not just Maximo.

Specify Tax Options

Tax Options are set at the organization level, and Maximo uses:

tax type	For example, federal, state, or city sales taxes are tax types.
tax code	This is more specific. For example, the Massachusetts sales tax code is 5%.

- 1 In the Organizations application, select the organization for which you want to specify tax options.
- 2 From the Select Action menu, select **Purchasing Options > Tax Options**
- 3 Click the Tax Type 1 tab.

Field	Description
Description	For example, State and provincial sales taxes.
Paid Tax GL Account	(Optional) Enter the appropriate GL account. This is for taxes paid to the vendor and is only used in the Invoice application.
Unpaid Tax GL Account	(Optional) Enter the appropriate GL account. This is for taxes paid to the vendor and is only used in the Invoice application.
Add Tax 1 Amount To Vendor Price	You can add the tax amount to the vendor price for: <ul style="list-style-type: none"> ▼ no items (the default) ▼ all items ▼ Issue on Receipt Items Only

- 4 In the Tax Options table window, click **New Row**. The Row Details open.

Field	Description
Tax Code and Description	Enter a tax code and description. For example, MA and Massachusetts Sales Tax.
Tax Rate	Enter the percentage tax rate, for example, 5.00 for 5%.
Effective Date	You can modify the default.
Paid and Unpaid Tax GL Accounts	Enter as needed.
Date Changed	Enter the current date.

- 5 Close the Details section.

- 6 Click the Tax Type 2 tab and enter a description for Tax Type 2. For example, city sales tax.
- 7 Fill in as appropriate the same fields as you did for Tax Type 1.
- 8 In the **Calculate Tax 2 Based on Price +** section, select the Tax 1 check box if Tax 2 is a compound tax, that is, Tax 2 is determined by multiplying the Tax 2 rate by the sum of the item's cost plus Tax 1. Refer to Calculating Compound Taxes, below, for more information.
- 9 Repeat these procedures for Tax Types 3, 4, and 5 as required by your financial system. Note that for succeeding tax types, you can include any of the preceding taxes in the tax calculation.
- 10 Click **OK**.

Calculating Compound Taxes

On each Tax Type tab except Type 1, a “Calculate Tax on Price +” group box allows you to include taxes from preceding tax types in the calculation. To designate that a tax is calculated on the price of goods including another tax, check the appropriate box. For example, on the Tax Type 3 tab, you can include taxes from Tax Types 1 and/or 2 in calculating the Type 3 tax.

Settings for Printing Workpacks in a UNIX Environment

If you run MAXIMO in a UNIX environment and want to print workpacks, change a setting in IE.

- 1 From the Tools menu in Internet Explorer, choose Internet Options.
- 2 On the Security tab, click **Custom Level**.
- 3 Under the “Initialize and script ActiveX controls not marked as safe” setting, click **Enable**.
- 4 Click **OK** to return to the Security tab and click **OK** again.

Java Virtual Machine

The Workflow and Multisite component of Maximo require the existence of a Java Virtual Machine (JVM) on the client workstation.

If you install a Microsoft service pack, the client machine no longer contains a Microsoft VM—and therefore no longer includes JVM functionality. For more information see:

www.microsoft.com/windowsxp/pro/evaluation/news/jre.asp

NOTE MRO Software recommends that you use Java Plug in version 1.3 and 1.4.

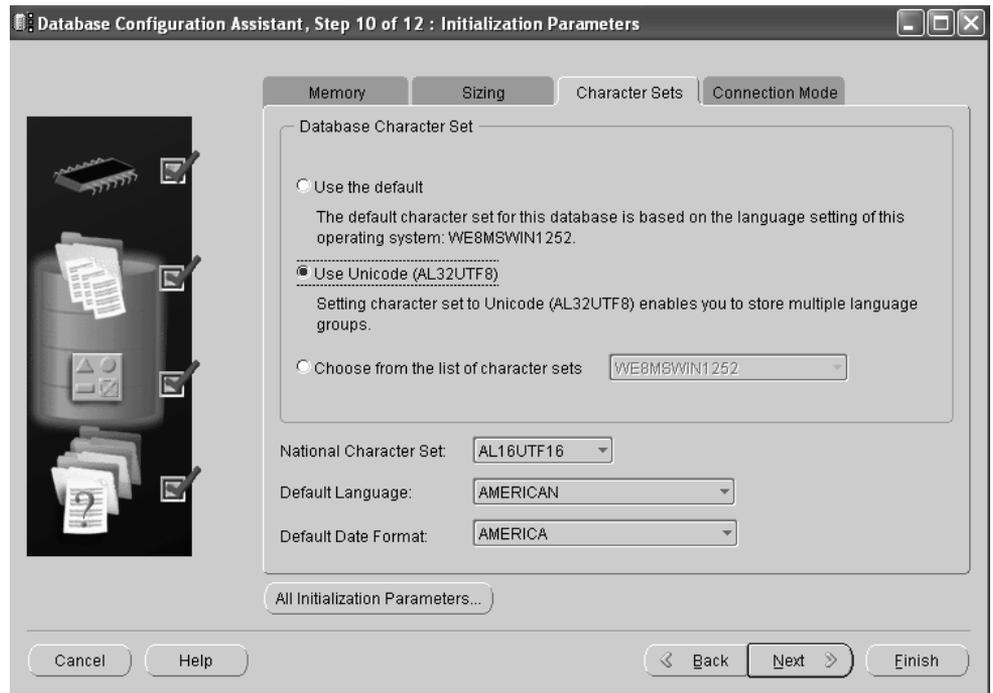
Refer to the [MRO Support Knowledge Base](#) document M03423 for additional information and instructions on installing the JVM.

Installing a Unicode Database

Unicode provides a unique number for every character, regardless of the platform, program, or language. Using unicode with Maximo, you can mix multiple languages in a single database.

Refer to the Oracle web site for detailed database information. This procedure describes *only* the specific parameters required to create a Unicode database from the Database Configuration Wizard.

- 1 Click Start > Programs > Oracle > Configuration and Migration Tools > Database Configuration Wizard.
- 2 Begin working through the wizard to configure a new database. When you reach the Initialization Parameters screen, select the **Character Sets** tab and click **Use Unicode (AL32UTF8)**.



- 3 Click the **All Initialization Parameters** button, and on the next screen click **Show Advanced Parameters**.
- 4 Scroll down to the `nls_length_semantics` parameter, and change the value to **CHAR**.

Name	Value	Override Def...	Basic	Category
log_checkpoints_to_...	FALSE			Redo Log and Red
log_file_name_convert				Standby Database
logmnr_max_persist...	1			Miscellaneous
max_commit_propa...	700			Cluster Database
max_dispatchers				Shared Server
max_dump_file_size	UNLIMITED			Diagnostics and S
max_enabled_roles	150			Security and Audit
max_shared_servers				Shared Server
nls_calendar				NLS
nls_comp				NLS
nls_currency				NLS
nls_date_format				NLS
nls_date_language				NLS
nls_dual_currency				NLS
nls_iso_currency				NLS
nls_language	AMERICAN		✓	NLS
nls_length_semantics	CHAR	✓		NLS
nls_nchar_conv_excp	FALSE			NLS
nls_numeric_charact...				NLS
nls_sort				NLS
nls_territory	AMERICA		✓	NLS
nls_time_format				NLS
nls_time_tz_format				NLS
nls_timestamp_...				NLS

- 5 Click Close and return to the Initialization screen, and continue configuring your database.

NOTE Once again, this procedure describes *just* the parameters required to create a Unicode database.

For Client Machines Without Internet Access

For security reasons, some client machines are not connected to the Internet. On these clients machines, follow this procedure to allow the plug-in to install. This lets you view the WebLogic console.

- 1 Download the plug-in executable in the webclient\controls\wfcanvas folder. The default location is:

```
<Maximo root>\applications\maximo\maximouiweb\webmodule\webclient\controls\wfcanvas
```

- 2 Open **wfdesign.xml** in a text editor like Notepad. The default location of this file is <Maximo root>\resources\presentations

Locate the following code:

```
<wfcanvas id="workflowdesignerapplet" archive="../webclient/controls/wfcanvas/control.jar" code="psdi.webclient.applet.wfcanvas.applet.WorkflowApplet" nodedatasrc="nodes_table" actiondatasrc="actions_table" />
```

- 3 Add the following text after "**actions_table**" in the line above.

```
codebase="../webclient/controls/wfcanvas/j2re-1_4_2_04-windows-i586-p-iftw.exe" classid="clsid:8AD9C840-044E-11D1-B3E9-00805F499D93"
```

where j2re-1_4_2_04-windows-i586-p-iftw.exe is the name of the plug-in executable.

- 4 Re-import **wfdesign.xml** through the browser, using the import/export toolbar buttons in the Application Designer.

Multiple Maximo Configurations

24

This chapter includes two topics:

- ▼ **Overview of Maximo Architecture** – provides background information on the components that comprise Maximo, including the Enterprise Application Archive files.
- ▼ **Multiple Maximo Configurations** – provides examples of two Maximo configurations, along with information on which files to edit to implement those configurations.

Overview of Maximo Architecture

Maximo uses an application server to provide access to the business components of the Maximo application and to the Maximo Web application.

MAXIMOSERVER is the default name for the Application Server running Maximo. This server was created during Maximo installation.

Running Maximo in an Application Server

- 1 When you install Maximo, you install files to a Maximo directory.

The Maximo application consists of three EAR files:

- maximo.ear – for the Maximo application.
- maximohelp.ear – for the Maximo Help application.
- acweb.ear – for the Actuate Active Portal.

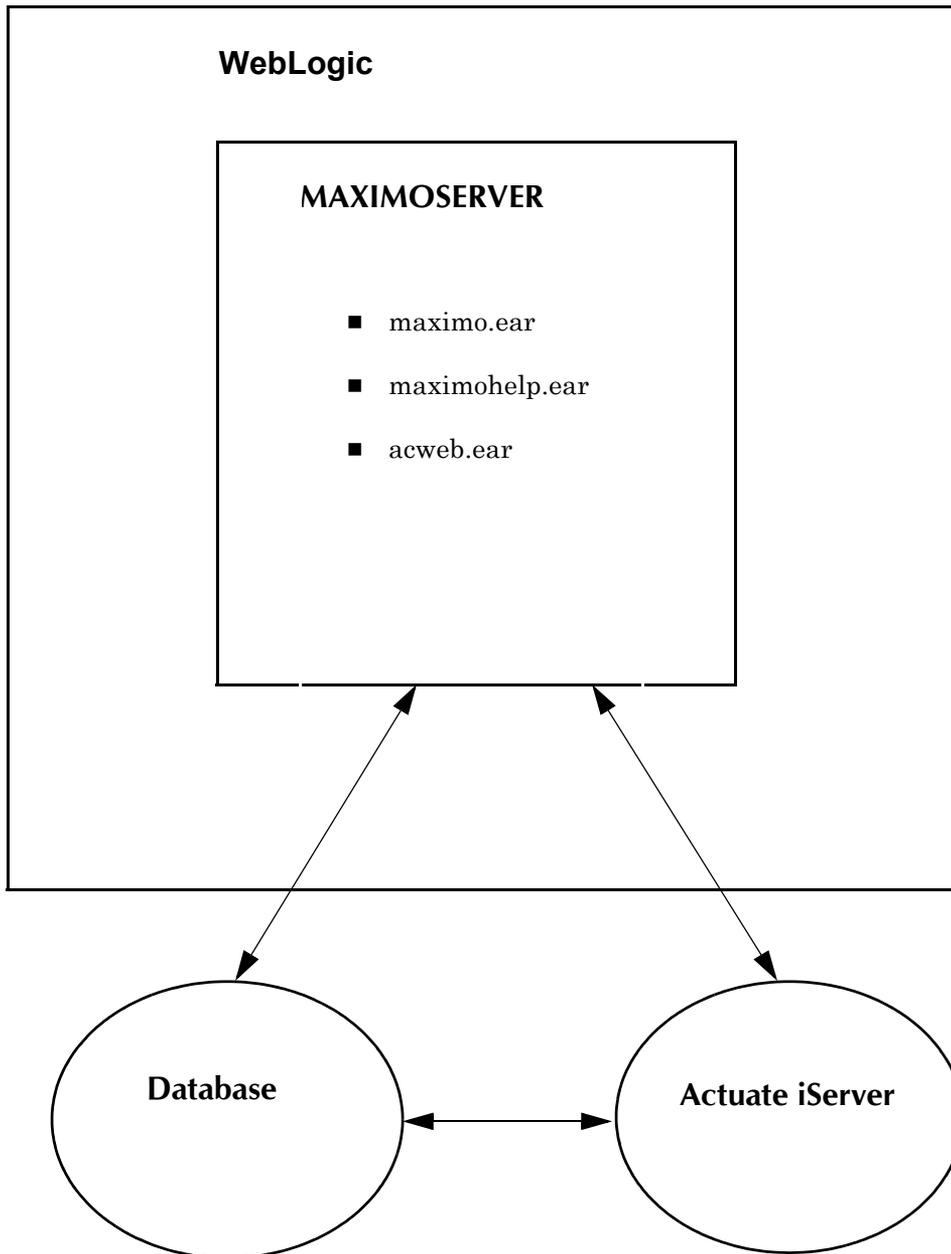
- 2 To run Maximo:

- You must build the EAR files, which is done during installation.
- Deploy the EAR files in an Application Server
- Rebuild the EAR files if you have any configuration changes.

Illustration of Maximo Architecture

This figure shows a single Application Server running Maximo. The Application Server is named MAXIMOSERVER and it runs *within* WebLogic. MAXIMOSERVER contains three EAR files.

The next section describes the EAR files and their associated WAR files.



The Maximo Enterprise Application Archive (EAR) Files

EAR files are archives that contains all the required files to run an application.

Maximo uses the following three EAR files. Each contains one or more Web application modules (.war extension):

- ▼ maximo.ear
 - maximouiweb.war
 - mboweb.war
 - meaweb.war
- ▼ maximohelp.ear
 - Maximohelp.war
- ▼ acweb.war
 - acweb.war

WAR files	Description
maximouiweb.war	Contains the Maximo UI-related java server pages (.jsp files), java classes, static HTML files, and static image files. The buildmaximoear.xml file has information about the files in this module. This Web application uses the configuration details in the web.xml file, located in the <code><Maximo root>\applications\Maximo\Maximouiweb\webmodule\WEB-INF</code> folder. This file also specifies the URL to access Maximo Help.
mboweb.war	Contains the Maximo business objects, java classes, and dependent third-party java classes. The build.xml file has information about all the files that are included for this module.
meaweb.war	The Maximo Enterprise Adapter (MEA) lets Maximo exchange data with other enterprise systems. Users create and maintain data in one system and the MEA transfers it, which eliminates duplicate processing.
maximohelp.war	Provides the Maximo online Help pages. The buildhelppear.xml file has information about all the files in this module.
acweb.ear	An Actuate Active Portal application packaged as acweb.war . The web.xml file, located in the <code><Maximo Root>\applications\activeportal\WEB-INF</code> folder, has configuration details about the Actuate iServer.

NOTE For details on building and deploying EAR files, see:

Windows environment	UNIX environment
“Building EAR Files” on page 25-8	“Building EAR Files” on page 26-8
“Deploying EAR Files” on page 25-9	“Deploying EAR Files” on page 26-9

Multiple Maximo Configuration Scenarios

You can use multiple Application Servers to provide load balancing, so that large numbers of users can access Maximo. For more information on this topic, see “Load Balancing Multiple Application Servers” on page 25-25.

This section provides an overview of two scenarios:

▼ Multiple Maximo instances deployed in a single Application Server.

In this scenario, multiple Maximo instances are run on a single Application Server. Each Maximo instance can be configured identically, or all could be configured differently. You must make sure that each Maximo instance has a unique Context name within the Application Server.

MRO Software recommends the scenario above, because Maximo continues to function even if one application server stops running.

**MRO Software
recommends this method**

▼ Multiple Maximo instances deployed in multiple Application Servers.

In this scenario, Maximo instances are run on different Application Servers, either on the same physical server or different physical servers. Each Maximo instance can be configured identically, or all can be configured differently. You must deploy a different EAR file for each Maximo instance that is configured differently.

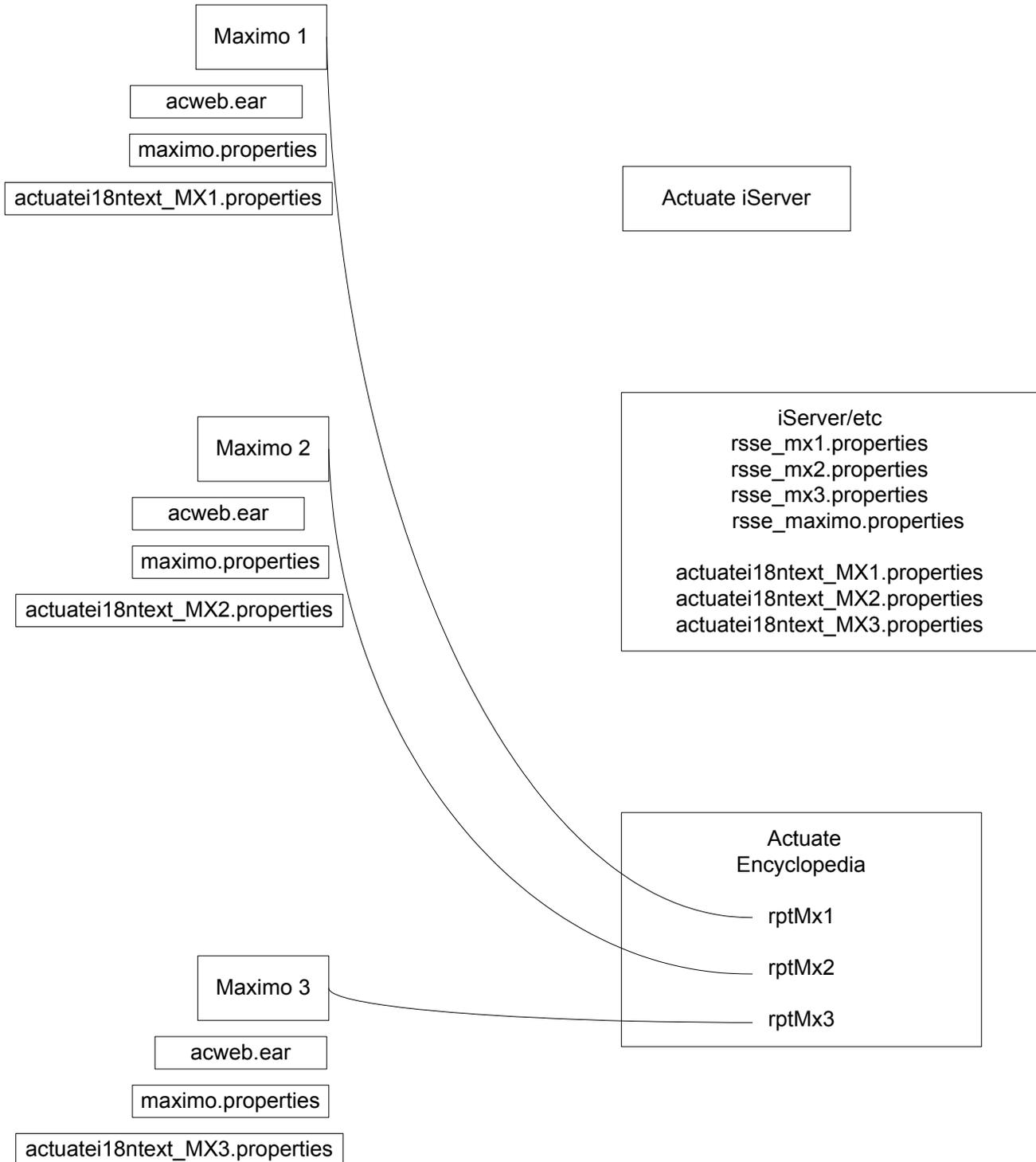
Actuate Considerations

If you configure Actuate to support multiple Maximo instances, consider this:

- ▼ Each Maximo instance should have its own acweb.ear file.
- ▼ Configure the following:
 - 1 Set the multi server flag in maximo.properties to “yes”
 - 2 Set the flag in rsse_maximo.properties to “true”
 - 3 Configure both the rsse_properties and the rsse_localhost.properties file for each Maximo instance
 - 4 Rename the actuater18ntext.properties file to actuater18ntext_<rsseAlias setting in maximo.properties>.properties for each Maximo instance

The diagram below shows multiple Maximo instances deployed in a single Application Server. These instances share one iServer. Each maximo instance:

- ▼ has its own acweb.ear, rsse_localhost.properties and actuater18ntext_<localhost>.properties file
- ▼ can be set up to point to a unique rpt folder in the encyclopedia.

Multiple Maximo instances deployed in a single application server

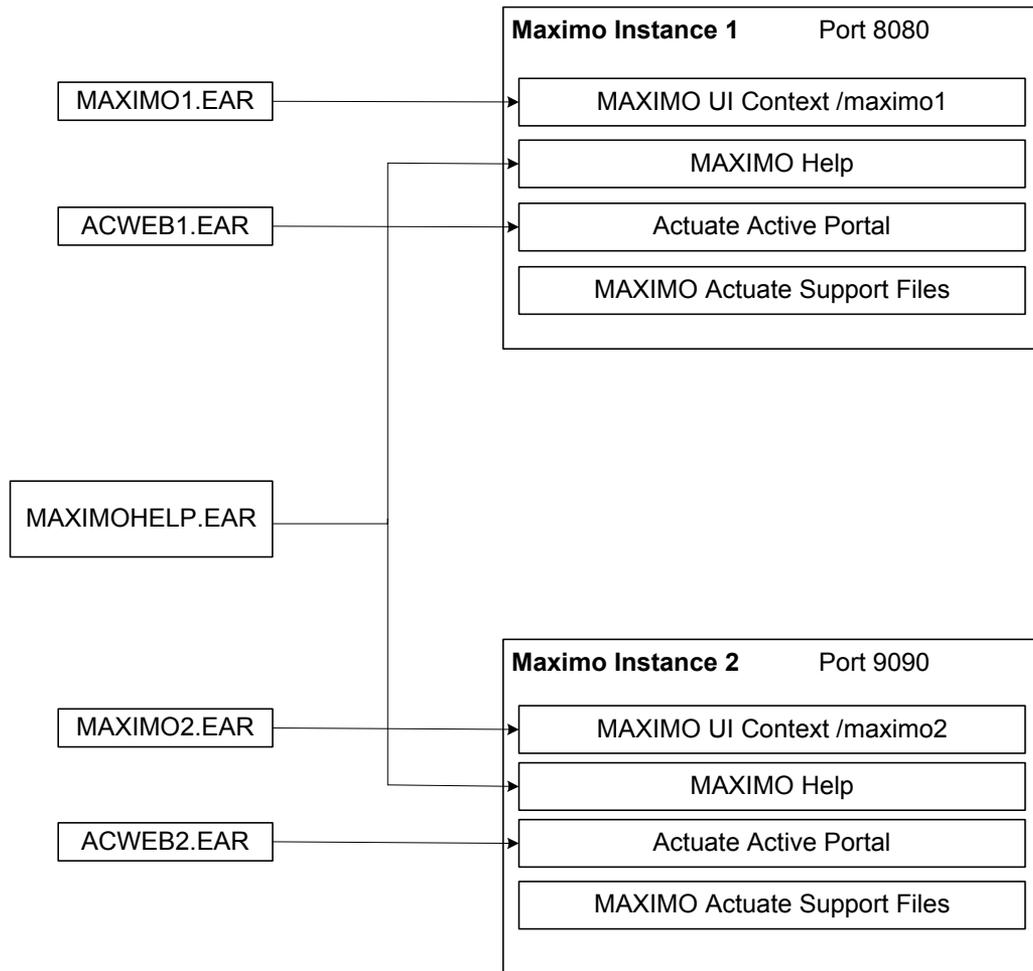
Maximo Help Considerations

If you have Help in multiple languages, all languages would be in one ear file. Maximo knows what language the user is using and displays Help appropriately. Maximo Help can also be accessed directly through a Web server, using the URL of the location of Help on the Web server.

Example of Multiple Maximo Instances Deployed in Multiple Application Servers

The following figure depicts two Maximo instances deployed in two Application Servers on one physical machine.

Multiple Maximo instances deployed in multiple application servers



NOTE In the example, one Maximo instance is deployed in Application Server A, running on port 8080, with Context name /Maximo1. Another Maximo instance is deployed in Application Server B, running on port 9090, with context name /Maximo2.

Each Maximo application is deployed using different EAR files—Maximo1.ear and Maximo2.ear. Each Maximo application can be configured to use the same or a different database (not shown). Both Maximo applications are sharing the same Maximo Help and the same Actuate iServer.

Modifying a Maximo Application

There are three areas you can modify:

- ▼ Context
- ▼ Maximo.properties settings
- ▼ Help settings

Maximo is packaged into EAR files based on installation directory files. One approach is to copy the root Maximo installation directory and make changes to the appropriate files, then build new EAR files based on this directory.

Context

The context name lets you access the Web application within the Application Server. To edit context names:

For the Maximo application

Go to the `<Maximo_root>\applications\maximo\META-INF` folder and edit the `<context-root>/maximo<-context-root>` parameter in both these files:

- application.xml
- deployment-application.xml

For Maximo Help

Go to `<Maximo_root>\applications\maximohelp\META-INF` and edit the `<context-root>/maximohelp<-context-root>` parameter in both these files:

- application.xml
- deployment-application.xml

NOTE After editing, rebuild the Maximo Help EAR file. See “Building EAR Files” on page 25-8.

For example, the following figure shows the lines in the file that could be edited:

```

1 -
| The MBO_WEB_APP_CONTEXT and the MAXIMOUI_WEB_APP_CONTEXT mu:
| unique within the instance of the Application Server.
| The MAXIMOUI_WEB_APP_CONTEXT is what is used to access MAXII
| using the url http://hostname:port/maximo
| -----
: BUILD_DIR=%MAXIMO_ROOT%\build
: EAR_FILENAME=maximo.ear
: MBO_WEB_APP_CONTEXT=/mbo
: MAXIMOUI_WEB_APP_CONTEXT=/maximo
: PROPERTY_FILE=.\MXServer.properties

```

Edit these parameters

NOTE Underscores (_) are nonstandard network characters. Do not use underscores in context names, server names, or DNS names.

Maximo.properties Settings

Edit the maximo.properties file located in the <Maximo root> applications\Maximo\properties folder.

Parameter	Description
mxe.name	You must change the mxe.name parameter if you deploy multiple Maximo applications on the same physical machine.
mxe.db.url	In the MXServer.properties section, set the mxe.hostname property to the name of the machine and port hosting Maximo server. The database Maximo connects to: <ul style="list-style-type: none"> ▼ If you are connecting to a Microsoft SQL Server database, set it to: mxe.db.url=jdbc:inetdae7a:hostname:port?database=dbname&language=us_english&nowarnings=true ▼ To connect to an Oracle database, set it to: mxe.db.url=jdbc:oracle:thin:@hostname:port:SID
mxe.db.schemaowner	The schema owner Maximo connects to: <ul style="list-style-type: none"> ▼ To connect to an Oracle database, type the schema owner name. ▼ If you are connecting to a Microsoft SQL Server database, type dbo.
mxe.adminuserid	The Maximo Administrator user name and password
mxe.db.user	The login user name
mxe.db.password	The login password
mxe.system.reguser	The database administration account used to add new users
mxe.system.regpassword	The database administration password used to add new users
mxe.report.actuate.reportserver	The name of the report server within the Actuate encyclopedia. This is also referred to as the Volume.
mxe.report.actuate.portalHost	The URL of the Active Portal, including the port number and folder. By default, the folder name is acweb. An example is http://production:7001/acweb
mxe.report.actuate.iServer	The URL of the Report iServer, including the port number. An example is: http://production:8000
mxe.report.actuate.db.connectstring	Used by the Actuate encyclopedia to access the database, and needs to reference the same database to which the Maximo application is connected. The connectstring is the tnsnames.ora alias of the sid.
mxe.report.actuate.rootEncycFolder	By default, this folder is rpt, and contains all the subfolders, reports and queries for the maximo report encyclopedia. If you have multiple Maximo servers, create multiple, unique encyclopedia root folder names.

Parameter	Description
mxe.report.actuate. rsseAlias	The RSSE alias name sets the rsse properties file in the Actuate\iServer\etc directory. For example, if your alias is set at production, the rsse properties file is set to rsse_production.properties.
mxe.report.activate. multiServer	The multiServer flag should be set to <i>yes</i> when you have multiple Maximo instances connecting to the Actuate server.

Additional Actuate edits

Configure these files, located in <Maximo Root>\Actuate\iServer\etc.

rsse_localhost.properties

The configuration file for the Maximo-Actuate RSSE. For every Maximo server, there should be a unique rsse_localhost.properties file. However, if there is just one Maximo server to one report server, you *do not* need rsse_localhost.properties.

Parameter	Explanation
maximo.host =	The IP Address of the Server running Maximo.
RMI Registry Port =	This is the RMI Registry Port for Maximo. The default used is 1099.
maximo.servername =	This is the mxe.name specified in the beginning of the maximo.properties file.

rsse_maximo.properties

This properties file details the names of Actuate Roles used in the encyclopedia. Default roles are included in this file, and should not be changed, unless the client creates new or different administrative roles.

NOTE Only one rsse_maximo.properties file should be used, no matter how many maximo servers are configured to use the Report Server.

Parameter	Explanation
rsse.internalrole.all=all	The Actuate Role used for Maximo end users. All is the default role used for end users to execute and run reports.
rsse.internalrole.administrator= MAXADMIN	The Administrative Group in Maximo. Members can sign into Maximo's Management Console to add and delete reports, and set user or group privileges and archive policies. To sign into the Management Console, the admin user would log in as their username@RSSE Alias name. This insures that the rsse connects to the correct application server (rpt folder).
rsse.internalrole.operator= SYSADM	The System Administrator has responsibilities for installing, configuring, and maintaining the report iServer

Actuatei18ntext.properties To let Actuate Query files pull column labels from the maximo database, edit the **Actuatei18ntext.properties** file located in the following two directories:

- ▼ <maximo_home>\applications\activeportal\WEB-INF\classes\com\actuate\ExternalText\
- ▼ <Actuate_home>\iserver\bin\com\actuate\ExternalText\

For each Maximo instance, create a unique actuatei18ntext.properties file. To do so, rename the existing one to actuatei18ntext.<rsseAlias setting in maximo.properties >.properties.

If there is just one Maximo server to one report server, do not rename actuatei18ntext.properties.

Parameter	Explanation
actuate.externText.JDBCdriverName	The Actuate externalized text JDBC thin driver name. The default is: oracle.jdbc.driver.OracleDriver
actuate.externText.JDBCconnectionURL	The Actuate externalized text JDBC connection. The default is: jdbc:oracle:thin:@dbserver:1521:sid Where dbserver = database server, 1521 = default Oracle port number, and sid = Oracle system identifier.
actuate.externText.JDBCconnectionURL	jdbc:inetdae7a:<hostname>:<port>?database=dbname&language=us_english&nowarnings=true Where <i>hostname</i> is the database host; default <i>port</i> number is 1433; and database name is the name of your SQL Server database.
actuateexternText.username	The Actuate externalized text username. The default is maximo.
actuate.externText.password	The Actuate externalized text password. The default is maximo.

Actuatei18ntext.properties file:

- ▼ Uncomment lines pertaining to your database connectivity
- ▼ Edit lines to reflect the appropriate values

If connecting to an Oracle database:

- 1 Uncomment these lines:

actuate.externText.JDBCdriverName=oracle.jdbc.driver.OracleDriver
actuate.externText.JDBCconnectionURL=jdbc:oracle:thin:@localhost:1521:MAX1
- 2 Replace *localhost* and *MAX1* with the appropriate database and SID name respectively.

If connecting to a MS SQL Server database:

1 Uncomment these lines:

```
actuate.externText.JDBCdriverName=com.inet.tds.TdsDriver
```

```
actuate.externText.JDBCConnectionURL=jdbc:inetdae7a:<hostname>:<port>?database=dbname&language=us_english&nowarnings=true
```

2 Replace *<hostname>* with the machine name or IP address of the server hosting your database; *<port>* with 1433 (default); *dbname* with your SQL server database name.

Help Settings

The Maximo UI module is associated with a Maximo Help application, using a URL in the web.xml file located in the *<Maximo root>*\applications\Maximo\Maximouiweb\webmodule\WEB-INF folder. Here is an example of the Help section.

```
- <env-entry>
  <description>URL of the root of MAXIMO Application Help</description>
  <env-entry-name>helpurl</env-entry-name>
  <env-entry-value>/maximohelp</env-entry-value>
  <env-entry-type>java.lang.String</env-entry-type>
</env-entry>
```

Instead of **/Maximohelp** in the above example, you might enter a URL to a customized version of Help:

```
http://<hostname>:<port>/custommaxhelp
```

where *<hostname>* and *<port>* are the machine name (or IP address) and port number of the server. For example:

```
<env-entry-value>http://maxhost:9001/custommaxhelp</env-entry-value>
```


Managing the BEA WebLogic Application Server in Windows

25

The WebLogic Application Server uses Maximo business components to create the Maximo Web Application. You can run multiple WebLogic Application Servers simultaneously.

“Multiple Maximo Configurations” on page 24-1 discusses Maximo architecture and may help you understand this chapter.

This chapter discusses:

- ▼ The Application Server
- ▼ Configuring Maximo in the Application Server
- ▼ Building EAR Files
- ▼ Starting the Application Server as a Windows Service
- ▼ Configuring Maximo in Multiple Application Servers
- ▼ Configuring Multiple Application Servers to Start as Windows Services
- ▼ Load Balancing Multiple Application Servers

WebLogic Documentation

BEA provides extensive documentation on configuring WebLogic Server 8.1.4.

<http://edocs.bea.com/platform/docs81/index.html>

The URL for the Administration Guide is:

<http://edocs.bea.com/wls/docs81/adminguide/index.html>

The Application Server

During installation, you configured an administration server named MAXIMOSERVER in the domain “mydomain.”

Starting the Application Server

Most production environments run the Application Server as a service. There are three ways to start the Application Server:

From the Program menu	From the command prompt	When running as a service
Choose Start > Programs > BEA WebLogic Platform 8.1 > User Projects > <domain_name> > Start Server.	<ol style="list-style-type: none"> 1 Open a command prompt and change directory to: bea\user_projects\domains\ <domain_name> 2 Type startweblogic. To eliminate user name and password requirements, see “Editing the Startup Script” on page 25-12. 	<ol style="list-style-type: none"> 1 From the Start menu, choose Settings > Control Panel > Administrative Tools > Services. 2 Right-click the bea service and choose Start. To automatically start as a service, refer to “Starting the Application Server as a Windows Service” on page 25-14.

Starting the Administration Console

You use the WebLogic Administration Console to manage the Application Server(s).

- 1 Make sure the WebLogic Application Server is running.
- 2 In IE, type **http://<hostname>:port/console**.

The default port number for MAXIMOSERVER is 7001.

- 3 Enter the WebLogic user name and password.

The Administration Console opens with the welcome screen.

Stopping the Application Server

There are three ways to stop the Application Server:

From the command prompt	When running as a service	From the Administration console
<ol style="list-style-type: none"> 1 Go to the command prompt running the Application Server. 2 Press Ctrl + C. 3 Enter Y when prompted, and press Enter. 	<ol style="list-style-type: none"> 1 From the Start menu, choose Settings > Control Panel > Administrative Tools > Services. 2 Right-click the bea service and choose Stop. 	<ol style="list-style-type: none"> 1 Open the Administration Console. 2 In the left pane, expand the Servers node. 3 Right-click the server you want to stop and choose “Start/stop this server...” 4 In the right pane, click Graceful shutdown of this server... 5 Confirm your choice. Click Yes to stop the server.

Configuring Maximo in the Application Server

This section lets you configure new Application Servers, in addition to the one you created during the Maximo installation. For example, you might want to create separate Application Servers for production, test, and training environments.

Perform these procedures for each Application Server you set up.

- ▼ Creating the Application Server
- ▼ Building the EAR Files
- ▼ Deploying the EAR Files
- ▼ Creating a Startup Script (if you create a server in a pre-existing domain)
- ▼ Editing the Startup Script
- ▼ Starting the Application Server

NOTE Throughout this section we use **MAXSERV** as the name of the server configured to run Maximo. Substitute another name as appropriate.

Production Mode versus Development Mode

In “Creating the Application Server” on page 25-4 you have to select a WebLogic start-up mode. Use this table to guide you:

Use Development mode	Use Production mode
when developing applications	after applications are completed
when security is relaxed	when you need full security
to auto deploy applications	when using clusters or other advanced features
when deploying applications on the Administration Server	when deploying applications on Managed Servers, and using Administration Servers to manage the domain

Creating the Application Server

This chapter describes three Application Server configurations:

Application Server configuration	go to...
One Application Server in a new domain	“New Domain Using the Configuration Wizard” on page 25-4
One Application Server in an existing domain	“Same Domain as MAXIMOSERVER” on page 25-7
Multiple Application Servers in one domain	“Configuring Maximo in Multiple Application Servers” on page 25-16

New Domain Using the Configuration Wizard

Use the WebLogic Configuration Wizard to create a domain and an Application Server within the domain.

- 1 From the Start menu, choose Programs > BEA WebLogic Platform 8.1 > Configuration Wizard.

Screen	Action
2 Create or Extend a Configuration	Select Create a new WebLogic Configuration and click Next .
3 Select a Configuration template	In the left pane, select the Basic WebLogic Server Domain template, and click Next .
4 Choose Express or Custom Configuration	Select the Custom option and click Next .
5 Configure the Administration Server	Enter a server name and a listen port (for this example, enter MAXSERV as the server name and 8001 for the port) and click Next .

Screen	Action												
6 Managed Servers, Clusters, and Machines Options	Select No and click Next .												
7 Database (JDBC) Options	Select No and click Next .												
8 Messaging (JMS) Options	Do you use the Maximo Enterprise Adapter (MEA)? <ul style="list-style-type: none"> ▼ If yes, go to the next step. ▼ If no, select No and click Next. Go directly to step 22. 												
9 Messaging (JMS) Options (the same screen)	In the Name field enter MEA connection factory In the JNDI field enter jms/mro/int/qcf/intqcf Accept the default values in all other fields and click Next .												
10 Configure JMS Destination Key(s)	Do nothing and click Next .												
11 Configure JMS Template(s)	Do nothing and click Next .												
12 Configure JMS Files Stores	Click Add . Enter these values then click Next . <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 33%;">Name</th> <th style="width: 33%;">Listen Address</th> <th style="width: 33%;">Synchronous write policy</th> </tr> </thead> <tbody> <tr> <td>mxintsqinfile</td> <td>C:\Maximo\jmsstore</td> <td>Disabled</td> </tr> <tr> <td>mxintsqoutfile</td> <td>C:\Maximo\jmsstore</td> <td>Disabled</td> </tr> <tr> <td>mxintcinfile</td> <td>C:\Maximo\jmsstore</td> <td>Disabled</td> </tr> </tbody> </table>	Name	Listen Address	Synchronous write policy	mxintsqinfile	C:\Maximo\jmsstore	Disabled	mxintsqoutfile	C:\Maximo\jmsstore	Disabled	mxintcinfile	C:\Maximo\jmsstore	Disabled
Name	Listen Address	Synchronous write policy											
mxintsqinfile	C:\Maximo\jmsstore	Disabled											
mxintsqoutfile	C:\Maximo\jmsstore	Disabled											
mxintcinfile	C:\Maximo\jmsstore	Disabled											
13 Configure JMS Server	Click Add and enter these values. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;">Name</th> <th style="width: 50%;">Store</th> </tr> </thead> <tbody> <tr> <td>mxintsqinserver</td> <td>mxintsqinfile</td> </tr> <tr> <td>mxintsqoutserver</td> <td>mxintsqoutfile</td> </tr> <tr> <td>mxintcinqinserver</td> <td>mxintcinqinfile</td> </tr> </tbody> </table> Accept the default values in all other fields and click Next .	Name	Store	mxintsqinserver	mxintsqinfile	mxintsqoutserver	mxintsqoutfile	mxintcinqinserver	mxintcinqinfile				
Name	Store												
mxintsqinserver	mxintsqinfile												
mxintsqoutserver	mxintsqoutfile												
mxintcinqinserver	mxintcinqinfile												
14 Assign JMS Servers to WebLogic Servers	Assign all the JMS servers in the left pane to the WebLogic server in the right pane by clicking the right arrow button, then click Next .												
15 Configure JMS Topics	Do nothing and click Next .												

Screen	Action
<p>16 Configure JMS Queues</p> <p>NOTE: Change all three tabs.</p>	<p>17 Tab one (mxintsqinserver). Click Add and enter these values:</p> <ul style="list-style-type: none"> ▼ In the Name field, enter mxintsqin. ▼ In the JNDI Name field, enter jms/mro/int/queues/sqin. ▼ In the Store enabled field, select true. ▼ In the Template field, leave the default of Unspecified.
<p>18 Configure JMS Queues</p>	<p>Tab two (mxintsqoutserver). Click Add and enter these values:</p> <ul style="list-style-type: none"> ▼ In the Name field, enter mxintsqout. ▼ In the JNDI Name field, enter jms/mro/int/queues/sqout. ▼ In the Store enabled field, select true. ▼ In the Template field, leave the default of Unspecified.
<p>19 Configure JMS Queues</p>	<p>Tab three (mxintcqinserver). Click Add and enter these values:</p> <ul style="list-style-type: none"> ▼ In the Name field, enter mxintcqin. ▼ In the JNDI Name field, enter jms/mro/int/queues/cqin. ▼ In the Store enabled field, select true. ▼ In the Template field, leave the default of Unspecified. <p>When you finish all three tabs, click Next.</p>
<p>20 Applications and Services Targeting Options</p>	<p>Select Yes and click Next.</p>
<p>21 Target Services to Servers or Clusters</p>	<p>Select All and click Next.</p>
<p>22 Configure Administrative Username and Password</p>	<p>Enter a user name and password (and verify the password), and select No in the Configure additional users, groups, and global rules portion. Click Next.</p>
<p>23 Configure Windows Options</p>	<p>Select whether you want to Create a Start Menu shortcut and to Install Administrative Server as a Windows Service, then click Next.</p>
<p>24 Build Start Menu Entries</p>	<p>Accept the defaults and click Next.</p>
<p>25 Configure Server Start Mode and Java SDK</p>	<p>Select a WebLogic Configuration Startup Mode (either Development or Production), then choose the Sun SDK. Click Next.</p> <p>For more information, see “Production Mode versus Development Mode” on page 25-4.</p>
<p>26 Create WebLogic Configuration</p>	<p>Select the directory in which you want to create a WebLogic configuration, then click Create.</p>
<p>27 Creating Configuration</p>	<p>When the Configuration completes, click Done.</p>

Start WebLogic

To continue configuring Maximo, start the WebLogic Application Server and the Administration Console for the new domain.

1 To start the server, click Start > Programs > Bea WebLogic Platform 8.1 > User Projects > MAXSERV > Start Server.

2 To start the Administration Console, enter this URL:

`http://<hostname>:<8001>/console`

NOTE Skip the next procedure and go to (“Building EAR Files” on page 25-8).

Same Domain as MAXIMOSERVER

To create the Application Server in the *same* domain as MAXIMOSERVER, complete these steps.

1 Start MAXIMOSERVER (page 25-2) and open the Administration Console (page 25-2).

2 In the Administration Console’s left pane, right-click **Servers** and choose Configure a new Server.

3 In the **Configuration > General** tab, specify these:

Field	Description
Name	for example, MAXSERV
Machine	the default, “(none)”
Cluster	the default, “(none)”
Listen Address	leave this field empty
Listen Port Enabled	the default (box checked)
Listen port	the port number to access Maximo, for example, 7050
SSL Listen Port Enabled	the default, unchecked
Client Cert Proxy Enabled	the default, unchecked
Java Compiler	javac

4 Click **Create**. The new server is created.

Building EAR Files

You build Enterprise Application Archive (EAR) files before deploying applications in an Application Server.

NOTE To build EAR files in a UNIX environment, see “Building EAR Files” on page 26-8

The three EAR files are:

- ▼ maximo.ear – for the Maximo application.
- ▼ maximohelp.ear – for the Maximo Help application.
- ▼ acweb.ear – for the Actuate Active Portal.

Running the build scripts

- 1 Open a Command Prompt.
- 2 Go to C:\Maximo\deployment
- 3 Run the appropriate script:

Script	Output
buildmaximoear (Windows)	Creates a maximo.ear file
buildhelp.ear	Creates a maximohelp.ear file
buildacweb.ear	Creates an acweb.ear file

- 4 These scripts take several minutes to run.

The command prompt or terminal window then displays a BUILD SUCCESSFUL line.

Rebuilding EAR files

You rebuild and redeploy EAR files whenever you:

- ▼ Modify .xml files (Maximo.ear).
- ▼ Modify custom class files (Maximo.ear).
- ▼ Modify html Help topics (Maximohelp.ear).
- ▼ Modify settings in the maximo.properties file (Maximo.ear).
- ▼ Add functionality to Maximo, such as Desktop Requisitions (Maximo.ear, Maximohelp.ear).

NOTE If you are rebuilding EAR files, make a backup copy first.

Deploying EAR Files

In this chapter you create new Application Servers. However, deploying EAR files into existing Application Servers—redeploying—is something you will do whenever you customize Maximo.

Redeploying EAR files

If you are redeploying an EAR file into an existing Application Server, first remove the old one.

- 1 In the Administration Console, open the Deployments node.
- 2 Right-click on an application, for example MAXIMO, and choose Delete.
- 3 Click **Yes** to confirm.

To redeploy, continue with these steps:

Deploying Ear Files Into the Application Server

- 1 Login to the WebLogic administration console.
`http://<hostname>:<port>/console`
- 2 In the left pane, under the Deployments node, click on **Applications**.
- 3 In the right pane, click **Deploy a new Application**.
- 4 Navigate to the maximo.ear file, using the **Location** folder structure. The default location is `<maximoroot>\deployment\default` folder.

Deploy an Application

Select the archive for this application

Select the file path that represents your archive or exploded archive directory.

Note: Only valid file paths are shown below. If you do not find what you are looking for, you should [upload your file\(s\)](#) and/or confirm your application contains valid descriptors.

Location: `production \ C: \ MAXIMO \ deployment \ default`

<input type="radio"/>	 acweb.ear
<input type="radio"/>	 maximo.ear
<input type="radio"/>	 maximohelp.ear

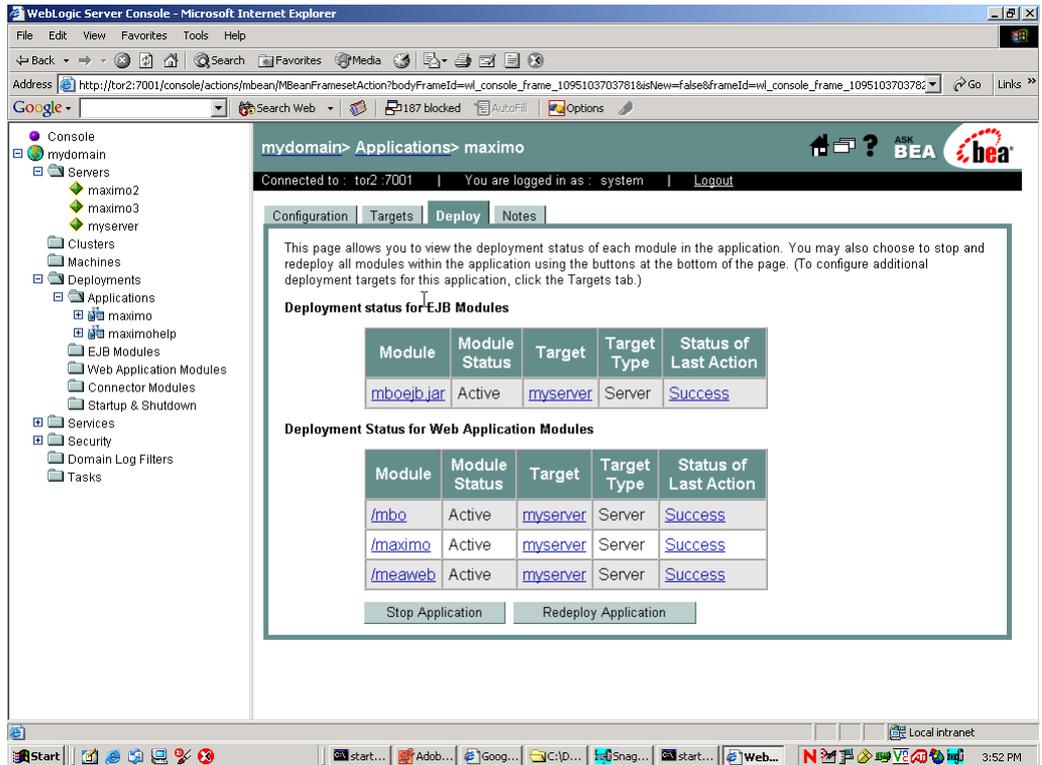
- 5 Select maximo.ear.
 - ▼ Single server environment — click **Continue** and go to Step 7.
 - ▼ Multiple server environment — click **Target Application**.
- 6 Select the server, then click **Continue**.

7 The Deploy an Application screen opens.

Enter a name for the application represented by the EAR file. The default is the file name of the EAR file, for example **maximo**.

8 Click **Deploy**.

The application you deployed appears in the left pane, under Applications.



Deploying the Maximo Help EAR

To deploy Maximo Help EAR repeat the previous procedure, with these exceptions:

- ▼ Select maximohelp.ear from the build directory (step 5).
- ▼ Name the application maximohelp, (the default) or another name of your choosing (step 7).

Deploying the Acweb EAR

To deploy acweb EAR repeat the previous procedure, with these exceptions:

- ▼ Select acweb.ear from the build directory (step 5).
- ▼ Name the application acweb, (the default) or another name of your choosing (step 7).

Multiple Maximo Applications in a Single Application Server

You can have multiple Maximo applications in a single Application Server. For example, you might want to deploy two Maximo applications into the same Application Server—*Dev* for development and *Test* for testing.

To use the following general steps to deploy multiple Maximo applications into an Application Server, see Chapter 24, "Multiple Maximo Configurations," on page 24-1.

- 1 Determine the configuration you want.
- 2 Edit the `maximo.properties` files as needed.
- 3 Determine which EAR files to build.
 - `buildmaximoear.cmd`
 - `buildhelpear.cmd`
 - `buildacwebear.cmd`
- 4 Edit the build files as needed.
- 5 Build the EAR files.
- 6 Deploy the EAR files.

Creating a Startup Script

- ▼ Complete this section *only* if you created the server in a pre-existing domain. For more information, , see "Configuring Maximo in the Application Server," on page 25-7..
- ▼ If you used the Configuration Wizard to create a new standalone server, skip these procedure and go to Editing the Startup Script.

NOTE To have the Application Server start as a service, , see "Starting the Application Server as a Windows Service," on page 25-14.

- 1 Go to `bea\user_projects\domains\<domain_name>`.
- 2 Copy **startWebLogic.cmd** into the same folder and rename it to reflect the Application Server you created. For example: `startMAXSERV.cmd`.
- 3 Go to Editing the Startup Script.

Editing the Startup Script

Certain steps depend on whether you created a new domain or used a pre-existing domain.

NOTE To have the Application Server start as a service, see , see "Starting the Application Server as a Windows Service," on page 25-14.

1 Locate the startup script:

Domain type	Startup script
New	The startup script is the startWebLogic.cmd file in the folder you specified as the domain name. For example, if you created a domain named maxdomain, it is in: bea\user_projects\domains\maxdomain
Pre-existing	find the new startup script you created, for example startMAXSERV.cmd.

2 Open the startup script in a text editor.

Domain type	Startup script
New	The SERVER_NAME= parameter in startWebLogic.cmd already has the name of the new server.
Pre-existing	Search for the SERVER_NAME= parameter and replace the existing name with the name of the new server. For example, replace MAXIMOSERVER with MAXSERV.

NOTE The server name is case sensitive.

3 If you want to eliminate user name and password requirements for WebLogic, create a boot.properties file (or this file may already exist on your system). This stores the username and password in an encrypted format.

Place two lines in a text file:

username=username

password=password

The values:

- ▼ must match an existing user account in the Authentication provider for the default security realm
- ▼ must belong to a role that has permission to start and stop a server.

Save the file as **boot.properties** in the domain's root directory (for example: C:\bea\user_projects\domains\mydomain).

For more information, see:

<http://e-docs.bea.com/wls/docs81/ConsoleHelp/startstop.html#BootIdentityFiles>

- 4 Directly below the WLS_PW= parameter, create a MEM_ARGS= parameter. Set these values to specify minimum and maximum memory.

```
set MEM_ARGS=-Xms128m -Xmx1024m -XX:MaxPermSize=128m
```

- 5 Save and close the file.

Modifying the Class Path

(Oracle only) The commEnv.cmd file (in bea\weblogic81\common\bin) is called by the startup scripts, and must include oraclethin.jar in the Classpath.

Complete the following steps *only* if you are using an Oracle database:

- 1 Copy the oraclethin.jar that is packaged in Maximo under applications\maximo\lib folder to bea\weblogic81\server\lib folder.
- 2 Open the **commEnv.cmd** file in a text editor.
- 3 Search for **WEBLOGIC_CLASSPATH=%JAVA_HOME%**, and modify the weblogic classpath as shown below:

```
WEBLOGIC_CLASSPATH=%JAVA_HOME%\lib\tools.jar;%WL_HOME%\lib\oraclethin.jar;%WL_HOME%\server\lib\weblogic_sp.jar;%WL_HOME%\server\lib\weblogic.jar
```

NOTE Place the oraclethin.jar *before* the weblogic jar files.

- 4 Save and close the file.

Starting the Application Server

To start the Application Server you just created, follow the steps in “The Application Server” on page 25-2.

NOTE If you want the Application Server to start as a service, refer to “Starting the Application Server as a Windows Service” on page 25-14.

Accessing Maximo

- 1 Start the Application Server (see page 25-2).
- 2 Open Internet Explorer and type:

```
http://<hostname>:<port>/maximo
```

where <hostname> is the name of the machine and <port> is the port number of the Application Server.

For MAXSERV, the default port number at installation is 7001.

Starting the Application Server as a Windows Service

You can configure Application Servers to start as services.

- ▼ If you used the Administration Console to create a new server in a pre-existing domain, go to “Creating Service Scripts” on page 25-14
- ▼ If you created a new server using the Configuration Wizard, go to “Editing the Install Service Script” on page 25-14

If you installed Oracle and WebLogic on the same machine, you must make the BEA service dependant on the Oracle service.

Creating Service Scripts

- 1 Go to the `bea\user_projects\domains\<domain_name>` folder.
- 2 Copy the existing **installService.cmd** and **uninstallService.cmd** files and paste them in the same folder.
- 3 Rename the copied files to reflect the new server. For example, `installMAXSERVService.cmd` and `uninstallMAXSERVService.cmd`.
- 4 Edit both files by searching for the **SERVER_NAME=** parameter and changing it to reflect the name of the new server. For example: `SERVER_NAME=MAXSERV`.
- 5 Save and close the files.

Editing the Install Service Script

The steps in this section assume you created a new server using the Configuration Wizard and that the scripts are **installService.cmd** and **uninstallService.cmd**.

- 1 Locate the install service script:

`bea\user_projects\domains\<domain_name>`
- 2 Open the **installService.cmd** file (or custom one, for example, `installMAXSERVService.cmd`) in a text editor.
- 3 Search for the **WLS_PW=** parameter and enter the WebLogic password after the equal sign.
- 4 Search for the **MEM_ARGS=** parameter. Modify as shown:

`set MEM_ARGS=-Xms128m -Xmx1024m -XX:MaxPermSize=128m`
- 5 Save and close the file.

Running the Install Service Script

- 1 Open a command prompt and change directory to:

```
bea\user_projects\domains\<domain_name>
```

where *<domain_name>* is the domain folder for the Application Server.

- 2 Run the script. For example:

```
installService.cmd
```

If you created a second install service script, use that one. For example:

```
installMAXSERVService.cmd
```

- 3 After installing the service, remove the password from this file to ensure password protection.

Starting the Service

- ▼ Restart the machine—or:
- ▼ Go to Control Panel > Administrative Tools > Services. Right-click on the name of the service (begins with “beasvc”) and choose Start.

Removing the Application Server as a Service

- 1 Open a command prompt and change directory to:

```
bea\user_projects\domains\<domain_name>
```

where *<domain_name>* is the domain folder for the Application Server.

- 2 Run the script. For example:

```
uninstallService.cmd
```

If you created a custom install service script, use that one. For example:

```
uninstallMAXSERVService.cmd
```

Configuring Maximo in Multiple Application Servers

This section lets you set up multiple Application Servers to run Maximo, so you can run separate servers for development, production, training, etc.

See “Multiple Maximo Configurations” on page 24-1 for some background information.

NOTE Using multiple Application Servers to load balance is a special case and is described later in this chapter (page 25-25).

Guidelines

- ▼ Designate one Application Server to be the **Admin Server**.
- ▼ Designate the rest of the Application Servers as **Managed Servers**.

Use the Admin Server to configure all the Managed Servers.

Configuring the Multiple Application Servers

In this procedure you:

- ▼ Set up an admin server and three managed Application Servers on a machine named **maxhost**.
- ▼ Name the domain: **multimaxdomain**.
- ▼ Name the admin server: **AdminMAXSERV**.
- ▼ Name the managed servers: **MngdMAXSERV1**, **MngdMAXSERV2**, and **MngdMAXSERV3**.

- 1 From the Start menu, choose Programs > BEA WebLogic Platform 8.1 > Configuration Wizard.

Screen	Action
2 Create or Extend a Configuration	Select Create a new WebLogic Configuration and click Next .
3 Select a Configuration template	In the left pane, select the Basic WebLogic Server Domain template, and click Next .
4 Choose Express or Custom Configuration	Select the Custom option and click Next .
5 Configure the Administration Server	Fill in these fields, then click Next . <ul style="list-style-type: none"> ▼ Name – AdminMAXSERV ▼ Listen Port – for example, 8010

Screen	Action
6 Managed Servers, Clusters, and Machines Options	Select Yes and click Next .
7 Configure Managed Servers	Click Add and create the first managed server: <ul style="list-style-type: none"> ▼ Name – MngdMAXSERV1 ▼ Listen Port – for example, 8020
8 Configure Managed Servers (same screen)	Click Add and create the second managed server: <ul style="list-style-type: none"> ▼ Name – MngdMAXSERV2 ▼ Listen Port – for example, 8030
9 Configure Managed Servers (same screen)	Click Add and create the third managed server: <ul style="list-style-type: none"> ▼ Name – MngdMAXSERV3 ▼ Listen Port – for example, 8040 <p>Click Next.</p>
10 Configure Clusters	Make no changes and click Next .
11 Configure Machines	Make no changes and click Next .
12 Database (JDBC) Options	Select No and click Next .
13 Messaging (JMS) Options	Do you use the Maximo Enterprise Adapter (MEA)? <ul style="list-style-type: none"> ▼ If yes, go to the next step. ▼ If no, select No and click Next. Go directly to step 27.
14 Messaging (JMS) Options (the same screen)	In the Name field enter MEA connection factory In the JNDI field enter jms/mro/int/qcf/intqcf Accept the default values in all other fields and click Next .
15 Configure JMS Destination Key(s)	Do nothing and click Next .
16 Configure JMS Template(s)	Do nothing and click Next .
17 Configure JMS Files Stores	Click Add . Enter these values then click Next .

Name	Listen Address	Synchronous write policy
mxintsqinfile	C:\Maximo\jmsstore	Disabled
mxintsqoutfile	C:\Maximo\jmsstore	Disabled
mxintcqinfile	C:\Maximo\jmsstore	Disabled

Screen	Action								
18 Configure JMS Server	Click Add and enter these values.								
	<table border="1"> <thead> <tr> <th>Name</th> <th>Store</th> </tr> </thead> <tbody> <tr> <td>mxintsqinserver</td> <td>mxintsqinfile</td> </tr> <tr> <td>mxintsqoutserver</td> <td>mxintsqoutfile</td> </tr> <tr> <td>mxintcqinserver</td> <td>mxintcqinfile</td> </tr> </tbody> </table>	Name	Store	mxintsqinserver	mxintsqinfile	mxintsqoutserver	mxintsqoutfile	mxintcqinserver	mxintcqinfile
Name	Store								
mxintsqinserver	mxintsqinfile								
mxintsqoutserver	mxintsqoutfile								
mxintcqinserver	mxintcqinfile								
	Accept the default values in all other fields and click Next .								
19 Assign JMS Servers to WebLogic Servers	Assign all the JMS servers in the left pane to the WebLogic server in the right pane by clicking the right arrow button, then click Next .								
20 Configure JMS Topics	Do nothing and click Next .								
21 Configure JMS Queues	22 Tab one (mxintsqinserver). Click Add and enter these values:								
NOTE: Change all three tabs.	<ul style="list-style-type: none"> ▼ In the Name field, enter mxintsqin. ▼ In the JNDI Name field, enter jms/mro/int/queues/sqin. ▼ In the Store enabled field, select true. ▼ In the Template field, leave the default of Unspecified. 								
23 Configure JMS Queues	Tab two (mxintsqoutserver). Click Add and enter these values:								
	<ul style="list-style-type: none"> ▼ In the Name field, enter mxintsqout. ▼ In the JNDI Name field, enter jms/mro/int/queues/sqout. ▼ In the Store enabled field, select true. ▼ In the Template field, leave the default of Unspecified. 								
24 Configure JMS Queues	Tab three (mxintcqinserver). Click Add and enter these values:								
	<ul style="list-style-type: none"> ▼ In the Name field, enter mxintcqin. ▼ In the JNDI Name field, enter jms/mro/int/queues/cqin. ▼ In the Store enabled field, select true. ▼ In the Template field, leave the default of Unspecified. 								
	When you finish all three tabs, click Next .								
25 Applications and Services Targeting Options	Select Yes and click Next .								
26 Target Services to Servers or Clusters	Select All and click Next .								

Screen	Action
27 Configure Administrative Username and Password	Enter a user name and password (and verify the password), and select No in the Configure additional users, groups, and global rules portion. Click Next .
28 Configure Windows Options	Select whether you want to Create a Start Menu shortcut and to Install Administrative Server as a Windows Service, then click Next .
29 Build Start Menu Entries	Accept the defaults and click Next .
30 Configure Server Start Mode and Java SDK	Select a WebLogic Configuration Startup Mode (either Development or Production), then choose the Sun SDK . Click Next . For more information, see “Production Mode versus Development Mode” on page 25-4.
31 Create WebLogic Configuration	Select the directory (in this example, multimaxdomain) in which you want to create a WebLogic configuration, then click Create .
32 Creating Configuration	When the Configuration completes, click Done .

Editing the Startup Scripts

NOTE If you want the multiple Application Servers to start as services, refer to “Configuring Multiple Application Servers to Start as Windows Services” on page 25-22

To edit the startup scripts, complete these steps:

- 1 If you are working in Production mode and do not want to be prompted for the WebLogic user name and password, create a boot.properties file (or this file may already exist on your system). This stores the username and password in an encrypted format.

Place these two lines in a text file:

```
username=username
password=password
```

The username and password values must match an existing user account in the Authentication provider for the default security realm, and must belong to a role that has permission to start and stop a server.

If you save the file as **boot.properties** and locate it in the domain’s root directory (for example: C:\bea\user_projects\domains\multimaxdomain), the server automatically uses this file during its subsequent startup cycles.

The first time you use this file to start a sever, the server reads the file and then overwrites it with an encrypted version of the username and password.

For more information, refer to BEA's document web site at:

<http://e-docs.bea.com/wls/docs81/ConsoleHelp/startstop.html#BootIdentityFiles>

- 2 Go to the location of the startup scripts:

```
bea\user_projects\domains\<domain_name>
```

where *<domain_name>* is the name of the domain you created for the multiple Application Servers. For example:

```
C:\bea\user_projects\domains\multimaxdomain
```

- 3 Open the **startManagedWebLogic.cmd** file in a text editor.
- 4 If you do not want to be prompted for the WebLogic user name and password, search for the **WLS_USER=** and **WLS_PW=** parameters and enter the same values used in step 3.

- 5 Set the **MEM_ARGS=** parameter to include the values shown below:

```
set MEM_ARGS=-Xms128m -Xmx1024m -XX:MaxPermSize=128m
```

These values are case sensitive. They specify minimum and maximum memory.

- 6 Save and close the file.

Oracle Database Consideration

The `commEnv.cmd` file (in `bea\weblogic81\common\bin`) is called by the above startup scripts. Under Oracle, `commEnv.cmd` must include `oraclethin.jar` in the Classpath.

You should already have edited this file when you installed Maximo. If not, see “Modifying the Class Path” on page 25-13 and make the edits.

Starting the Admin Server and Administration Console

To continue configuring Maximo in the multiple Application Servers, you need to start the Admin Server and the Administration Console.

Admin Server

- ▼ From the Start menu, choose Programs > Bea WebLogic Platform 8.1 > User Projects > multimaxdomain > Start Server.

OR

- ▼ From a command prompt, change directory to the multimaxdomain folder and run `startWebLogic.cmd`.

Administration Console

In our example, the Admin Server runs on port 8010 and the hostname is `maxhost`. Enter this URL:

```
http://maxhost:8010/console
```

Configuring the Managed Servers

Use the Administration Console running from the Admin Server to configure the Managed Servers. Complete these steps.

- 1 Configure Maximo in all the Managed Servers. See “Configuring Maximo in the Application Server” on page 25-3.
- 2 Deploy the maximo.ear file in *all* the Managed Servers. See “Deploying EAR Files” on page 25-9.

Starting the Managed Servers and Accessing Maximo

- 1 Stop all Application Servers in the domain, including the Admin Server used to configure the managed servers.
- 2 Start the Admin Server as described earlier (page 25-20).

When you see “...Server started in RUNNING mode” at the bottom of the prompt window, the server is running.

- 3 Open a command prompt and change directory to the location of the domain for the multiple Application Servers. For example:
c:\bea\user_projects\domains\multimaxdomain
- 4 Start one of the Managed Servers with these command line arguments:

```
startManagedWebLogic.cmd <Managed Server Name> <Admin Server URL>
```

where:

- ▼ *<Managed Server Name>* is the name of the Managed Server to be started, for example MngdMAXSERV1.
- ▼ *<Admin Server URL>* is the URL for the Admin Server, which is of the form:

```
http://<hostname>:<port>
```

where *<hostname>* is the name of the machine and *<port>* is the port number of the Admin Server.

In our example, the Admin Server is running on a machine named maxhost, on port 8010. You would enter these command line arguments:

```
startManagedWebLogic.cmd MngdMAXSERV1 http://maxhost:8010
```

- 5 Repeat steps 3 and 4 for each additional Managed Server.

Accessing Maximo on the Managed Server

In our example, MngdMAXSERV1 runs on port 8020. If the host name is maxhost, you would enter this URL:

```
http://maxhost:8020/maximo
```

Configuring Multiple Application Servers to Start as Windows Services

This section assumes you have configured multiple Application Servers as described in the previous section, “Configuring Maximo in Multiple Application Servers” on page 25-16. This lets you run separate servers for development, production, training, etc.

The example used in the previous section are used here, as well:

- ▼ machine name: **maxhost**
- ▼ domain name: **multimaxdomain**
- ▼ admin server: **AdminMAXSERV, port 8010**
- ▼ managed servers: **MngdMAXSERV1, MngdMAXSERV2, MngdMAXSERV3, ports 8020, 8030, 8040, respectively**

Creating and Editing Service Scripts

Create and edit scripts for the Admin Server and the Managed Servers.

Admin Server

- 1 Go to the `bea\user_projects\domains\mydomain` folder.
- 2 Open the `installService.cmd` file in a text editor.
- 3 Search for `-password:"%WLS_PW%"`. It is the next to last parameter in the file.
- 4 Add a space after the closing quotation mark and insert these depend parameter:

```
-depend: "DatabaseService"
```

where *DatabaseService* is the service name (not the display name) of your Oracle or SQL Server service.

For example:

```
-depend: "OracleServiceMaximo"
```

where *Maximo* is the name of the database instance.

NOTE To find the name of the service, open the Services application (in Control Panel/Administrative Tools), right-click the database service, and choose Properties.

- 5 Save and close the file.

Managed Servers

Complete these steps to create a custom installSvc.cmd file for the domain running the multiple Application Servers:

- 1 Go to the `bea\user_projects\domains\mydomain` folder.
- 2 Open the `installService.cmd` file in a text editor.
- 3 Search for `-password:"%WLS_PW%"`. It is the next to last parameter in the file.
- 4 Add a space after the closing quotation mark and insert this parameter:
`-depend:"beasvc %DOMAIN_NAME%_%ADMINSERVER_NAME%"`
- 5 Save and close the file.

**Custom
uninstallservice.cmd files
for Managed Servers**

Complete these steps to create custom uninstall service scripts for the Managed Servers:

- 1 Go to the domain folder for the multiple Application Servers you created. For example:
`C:\bea\user_projects\domains\multimaxdomain`
- 2 Copy the `uninstallService.cmd` file and paste it in the same folder.
- 3 Rename the copy to reflect one of the managed servers. For example:
`uninstallMngdMAXSERV1Service`
- 4 Open the file in a text editor.
- 5 In the `SERVER_NAME=` parameter, replace the existing value with the name of the Managed Server. For example:
`set SERVER_NAME=MngdMAXSERV1`
- 6 Save and close the file.
- 7 Repeat these steps for the other Managed Servers.

Installing the Service

- 1 Open a command prompt and go to:

```
C:\bea\user_projects\domains\multimaxdomain
```
- 2 To install the Admin Server service, run:

```
installService.cmd.
```
- 3 Install each Managed Server service by running the appropriate custom install service script. For example, run:

```
installMngdMAXSERV1Service.cmd  
installMngdMAXSERV2Service.cmd  
installMngdMAXSERV3Service.cmd
```
- 4 After installing the services, remove the passwords from all of the scripts to ensure password protection.

Starting the Services

- ▼ Restart the machine—or:
- ▼ Go to the Services list from the Control Panel, right-click on the names of the services (begins with “beasvc”)and choose Start.

Removing Services

- 1 From a command prompt, change directory to where you created the uninstall service scripts.
- 2 Run the uninstall script you created. For example:

```
uninstallMngdMAXSERV1Service.cmd
```
- 3 To remove the Admin Server service, run the uninstall script:

```
uninstallService.cmd
```

Load Balancing Multiple Application Servers

This section provides an overview, as well as specific procedures, for load balancing Maximo with multiple Application Servers. The methods described here use the BEA WebLogic Application Server with a Web server and plug-in.

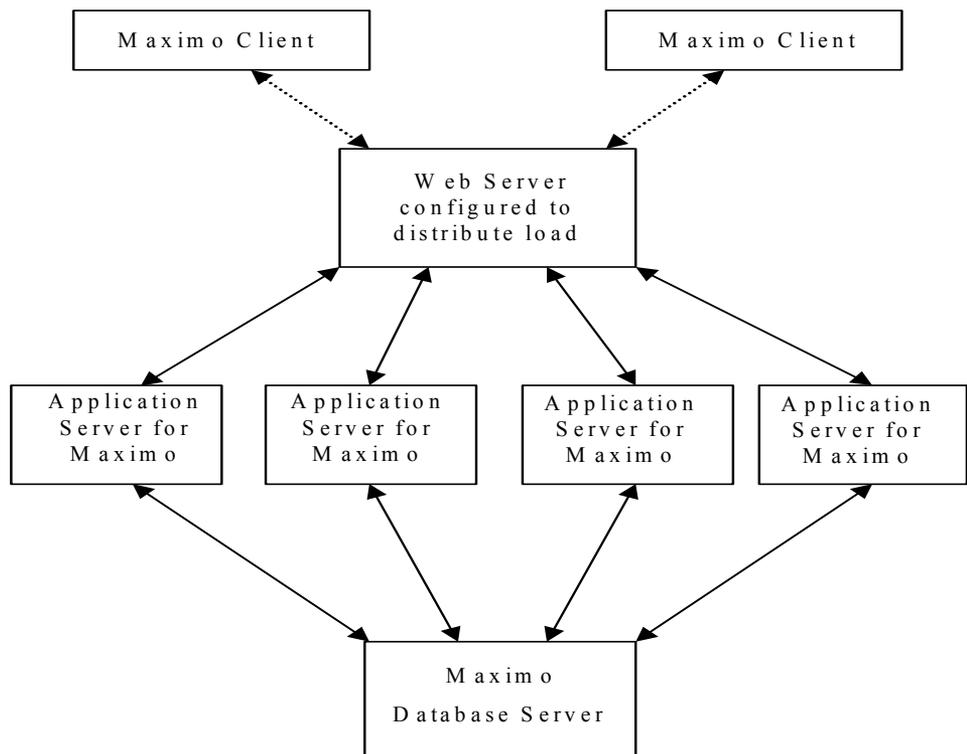
Load balancing spreads the load across many servers, so that large numbers of clients can access the Maximo system. On multi processor machines, you can load balance across many instances of Application Servers configured with Maximo running on the same physical server.

This BEA Web site (current at time of printing) provides additional general and specific information on load balancing:

<http://edocs.bea.com/wls/docs81/adminguide/index.html>

This diagram depicts an example of load balancing architecture where:

- ▼ A Web server with a plug-in performs the load balancing. Multiple Maximo clients communicate with the Web server.
- ▼ The Web server distributes client requests to one of four Application Servers configured with Maximo. These four Application Servers are called Managed Application Servers.
- ▼ Each Application Server communicates with the same database.



Configuring the Multiple Application Servers for Load Balancing

When you configure multiple Application Servers for load balancing, you configure managed servers in a Cluster. The initial steps are very similar to setting up multiple Application Servers. You use the Configuration Wizard to configure a domain for clustering.

To help illustrate the procedure, consider a slight modification of the earlier scenario:

- ▼ You want to set up an admin server and three managed Application Servers in a cluster on a machine named **maxhost**.

- ▼ Name the domain: **clustermxdomain**.

- ▼ Name the admin server and assign it a port as follows:

AdminMAXSERV, (for example) port 9010

- ▼ Name the managed servers and assign ports as follows:

ClstrMAXSERV1, (for example) port 9020

ClstrMAXSERV2, (for example) port 9030

ClstrMAXSERV3, (for example) port 9040

Redirector, (for example) port 9050

- 1 From the Start menu, choose Programs > BEA WebLogic Platform 8.1 > Configuration Wizard.

Screen	Action
2 Create or Extend a Configuration	Select Create a new WebLogic Configuration and click Next .
3 Select a Configuration template	In the left pane, select the Basic WebLogic Server Domain template, and click Next .
4 Choose Express or Custom Configuration	Select the Custom option and click Next .
5 Configure the Administration Server	Fill in these fields, then click Next . <ul style="list-style-type: none"> ▼ Name – AdminMAXSERV ▼ Listen Address – All Local Addresses ▼ Listen Port – for example, 9010
6 Managed Servers, Clusters, and Machines Options	Select Yes and click Next .

Screen	Action															
7 Configure Managed Servers	<p>Enter these values to add 4 managed servers.</p> <p>Click Add before adding each new server, and click Next when you finish.</p> <table border="1"> <thead> <tr> <th>Name</th> <th>Listen Address</th> <th>Listen Port</th> </tr> </thead> <tbody> <tr> <td>ClstrMAXSERV1</td> <td>All Local Addresses</td> <td>for example, 9020</td> </tr> <tr> <td>ClstrMAXSERV2</td> <td>All Local Addresses</td> <td>for example, 9030</td> </tr> <tr> <td>ClstrMAXSERV3</td> <td>All Local Addresses</td> <td>for example, 9040</td> </tr> <tr> <td>Redirector</td> <td>All Local Addresses</td> <td>for example, 9050</td> </tr> </tbody> </table>	Name	Listen Address	Listen Port	ClstrMAXSERV1	All Local Addresses	for example, 9020	ClstrMAXSERV2	All Local Addresses	for example, 9030	ClstrMAXSERV3	All Local Addresses	for example, 9040	Redirector	All Local Addresses	for example, 9050
Name	Listen Address	Listen Port														
ClstrMAXSERV1	All Local Addresses	for example, 9020														
ClstrMAXSERV2	All Local Addresses	for example, 9030														
ClstrMAXSERV3	All Local Addresses	for example, 9040														
Redirector	All Local Addresses	for example, 9050														
8 Configure Clusters	<p>Click Add and enter these values, then click Next:</p> <ul style="list-style-type: none"> ▼ Name – for example, domainmaxcluster ▼ Multicast address – accept the default value ▼ Multicast port – accept the default value 															
9 Assign Servers to Clusters	<p>NOTE: Do <u>not</u> assign the redirector server to the cluster.</p> <p>Assign the other three servers in the left pane to the cluster by clicking the right arrow button, then click Next.</p>															
10 Configure Machines	If you have other servers add them. If not, click Next .															
11 Database (JDBC) Options	Select No and click Next .															
12 Messaging (JMS) Options	<p>Do you use the Maximo Enterprise Adapter (MEA)?</p> <ul style="list-style-type: none"> ▼ If yes, go to the next step. ▼ If no, select No and click Next. Go directly to step 27. 															
13 Messaging (JMS) Options (the same screen)	<p>In the Name field enter MEA connection factory</p> <p>In the JNDI field enter jms/mro/int/qcf/intqcf</p> <p>Accept the default values in all other fields and click Next.</p>															
14 Configure JMS Destination Key(s)	Do nothing and click Next .															
15 Configure JMS Template(s)	Do nothing and click Next .															

Screen

Action

16 Configure JMS Files Stores

Click **Add**. Enter these values then click **Next**.

Name	Listen Address	Synchronous write policy
mxintsqinfile	C:\Maximo\jmsstore	Disabled
mxintsqoutfile	C:\Maximo\jmsstore	Disabled
mxintcqinfile	C:\Maximo\jmsstore	Disabled

17 Configure JMS Server

Click **Add** and enter these values.

Name	Store
mxintsqinserver	mxintsqinfile
mxintsqoutserver	mxintsqoutfile
mxintcqinserver	mxintcqinfile

Accept the default values in all other fields and click **Next**.

18 Assign JMS Servers to WebLogic Servers

Assign all the JMS servers in the left pane to the WebLogic server in the right pane by clicking the right arrow button, then click **Next**.

19 Configure JMS Topics

Do nothing and click **Next**.

20 Configure JMS Queues

21 Tab one (mxintsqinserver). Click Add and enter these values:

NOTE: Change all three tabs.

- ▼ In the Name field, enter **mxintsqin**.
- ▼ In the JNDI Name field, enter **jms/mro/int/queues/sqin**.
- ▼ In the Store enabled field, select **true**.
- ▼ In the Template field, leave the default of **Unspecified**.

22 Configure JMS Queues

Tab two (mxintsqoutserver). Click Add and enter these values:

- ▼ In the Name field, enter **mxintsqout**.
- ▼ In the JNDI Name field, enter **jms/mro/int/queues/sqout**.
- ▼ In the Store enabled field, select **true**.
- ▼ In the Template field, leave the default of **Unspecified**.

Screen	Action
23 Configure JMS Queues	<p>Tab three (mxintcqinserver). Click Add and enter these values:</p> <ul style="list-style-type: none"> ▼ In the Name field, enter mxintcqin. ▼ In the JNDI Name field, enter jms/mro/int/queues/cqin. ▼ In the Store enabled field, select true. ▼ In the Template field, leave the default of Unspecified. <p>When you finish all three tabs, click Next.</p>
24 Applications and Services Targeting Options	Select Yes and click Next .
25 Target Services to Servers or Clusters	Select All and click Next .
26 Configure Administrative Username and Password	Enter a user name and password (and verify the password), and select No in the Configure additional users, groups, and global rules portion. Click Next .
27 Configure Windows Options	Select whether you want to Create a Start Menu shortcut and to Install Administrative Server as a Windows Service, then click Next .
28 Build Start Menu Entries	Accept the defaults and click Next .
29 Configure Server Start Mode and Java SDK	<p>Select a WebLogic Configuration Startup Mode (either Development or Production), then choose the Sun SDK. Click Next.</p> <p>For more information, see “Production Mode versus Development Mode” on page 25-4.</p>
30 Create WebLogic Configuration	<p>Enter clustermxdomain in the Configuration Name field.</p> <p>Click Create.</p>
31 Creating Configuration	When the Configuration completes, click Done .

Editing the Startup Scripts

- 1 If you work in Production mode and do not want to be prompted for the WebLogic user name and password, create a boot.properties file (or this file may already exist on your system). This stores the username and password in an encrypted format.

Place these two lines in a text file:

```
username=username
```

```
password=password
```

The username and password values must match an existing user account in the Authentication provider for the default security realm, and must belong to a role that has permission to start and stop a server.

If you save the file as **boot.properties** and locate it in the domain's root directory (for example: C:\bea\user_projects\domains\clusterdomain), the server automatically uses this file during its subsequent startup cycles.

The first time you use this file to start a sever, the server reads the file and then overwrites it with an encrypted version of the username and password. For more information, refer to BEA's document web site at:

<http://e-docs.bea.com/wls/docs81/ConsoleHelp/startstop.html#BootIdentityFiles>

- 2 Go to the location of the startup scripts:

```
bea\user_projects\domains\<domain_name>
```

where *<domain_name>* is the name of the domain you created for the multiple Application Servers. For example:

```
C:\bea\user_projects\domains\clustermaxdomain
```

- 3 Open the **startManagedWebLogic.cmd** file in a text editor.
- 4 If you do not want to be prompted for the WebLogic user name and password, search for the **WLS_USER=** and **WLS_PW=** parameters and enter the same values used in step 3.
- 5 Search for the **MEM_ARGS=** parameter. Edit this line to include the values shown below:

```
set MEM_ARGS=-Xms128m -Xmx1024m -XX:MaxPermSize=128m
```

These values are case sensitive. They specify minimum and maximum memory.

- 6 Save and close the file.

Oracle Database Consideration

The commEnv.cmd file (in bea\weblogic81\common\bin) is called by the above startup scripts. Under Oracle, commEnv.cmd must include oraclethin.jar in the Classpath.

You should already have edited this file when you installed Maximo. If not, refer to "Modifying the Class Path" on page 25-13 and make the edits.

Starting the Admin Server and Administration Console

To continue configuring Maximo in the multiple Application Servers, you need to start the Admin Server and the Administration Console.

Admin Server

- ▼ From the Start menu, choose Programs > Bea WebLogic Platform 8.1 > User Projects > multimaxdomain > Start Server.

OR

- ▼ From a command prompt, change directory to the multimaxdomain folder and run startWebLogic.cmd.

Administration Console

In our example, the Admin Server runs on port 9010 and the hostname is maxhost. Enter this URL:

`http://maxhost:9010/console`

Configuring the Web Server Plug-in for Load Balancing (removed this section for 6.0)

With Maximo, you need to configure load balancing for servlets and JSPs. This can be accomplished with a Web server plug-in provided by BEA for the appropriate Web server, or with separate load balancing hardware. Procedures will vary according to your choice.

Refer to the following WebLogic Web site for general information on load balancing for servlets and JSPs:

- ▼ http://e-docs.bea.com/wls/docs81/cluster/load_balancing.html#1026940

You can use either the Apache or Microsoft-IIS Web server.

Refer to the following site for specific information on configuring the Apache or Microsoft-IIS plug-in:

- ▼ <http://edocs.bea.com/wls/docs81/plugins/index.html>

NOTE Make sure you have installed the appropriate version of the Web server for the plug-in.

Configure the HTTP Cluster Servlet

Setup the HTTP cluster servlet within BEA WebLogic. This lets WebLogic redirect requests to the Application Servers and perform load balancing.

- 1 Verify that a separate, non-clustered Managed Server exists to host the HTTP Cluster Servlet. In “Configuring the Multiple Application Servers for Load Balancing” on page 25-26, a server called **Redirector** was created to do this.
- 2 Use a text editor to open the **web.xml** file, located in the `<Maximo root>\appserver\weblogic\clusterweb\WEB-INF` folder. Edit the **web.xml** file as follows:

Look for the servlet named `HttpClusterServlet`. Edit the `WebLogicCluster` parameter value and specify a list of all Managed Server addresses and port numbers, separated by a pipe (|) character.

The syntax for this parameter value is as follows:

```
<Managed Server1 IP Address>:<HTTP port>:<HTTPS port> | <Managed  
Server2 IP Address>:<HTTP port>:<HTTPS port> | <Managed Server3 IP  
Address>:<HTTP port>:<HTTPS port>
```

where `<Managed Server IP Address>` is the IP address of the Managed server and the `<HTTP port>` is the port where you are running the Managed Server. The `<HTTPS port>` entry is used if you are configured with SSL security and can be omitted if you are not using it.

This is an example of an unedited `HttpClusterServlet` section. The line you must edit is in italics.

```
<servlet>  
  <servlet-name>HttpClusterServlet</servlet-name>  
  <servlet-class>  
    weblogic.servlet.proxy.HttpClusterServlet  
  </servlet-class>  
  
  <init-param>  
    <param-name>WebLogicCluster</param-name>  
    <param-value>myserver1:7736:7737 | myserver2:  
      7736:7737 | myserver:7736:7737  
    </param-value>  
  </init-param>  
</servlet>
```

The example below shows the `<init-param>` part edited for a particular configuration of three Managed Servers, with the edited portion in bold:

```
<init-param>  
  <param-name>WebLogicCluster</param-name>  
  <param-value>  
    172.22.15.14:9020 | 172.22.15.14:9030 | 172.22.15.14:9040  
  </param-value>  
</init-param>
```

Save the web.xml file.

- From the WebLogic Administration Console, click on the **Web Applications Module** node in the left pane.

In the right pane, click **Deploy a new Web Application Module**.

- Navigate to the clusterweb folder, as shown here:

Deploy a Web Application Module

Select the archive for this Web application module

Select the file path that represents your archive or exploded archive directory.

Note: Only valid file paths are shown below. If you do not find what you are looking for, you should upload your file(s) and/or confirm your Web application module contains valid descriptors.

Location: Production \ C: \ Maximo \ appserver \ weblogic

clusterweb

Target Module

- Click **Target Module**.

- Select the Redirector server for deployment, as shown here:

Deploy a Web Application Module

Select targets for this Web application module

Select the servers and/or clusters on which you want to deploy your new Web Application module.

Independent Servers

Admin

Redirector

Clusters

MXCluster

All servers in the cluster

Part of the cluster

MXServer1

MXServer2

Continue

- Click **Continue**. The screen refreshes and you can review your choices or make changes.

- Click **Deploy** and make sure that the status message reads “Success.”

9 Restart the Admin Server.

10 To access the Administration console, use this URL:

`http://<machinename>:<port>/console`

where <machinename> is the name of the machine and <port> is the port number where the Admin Server is started.

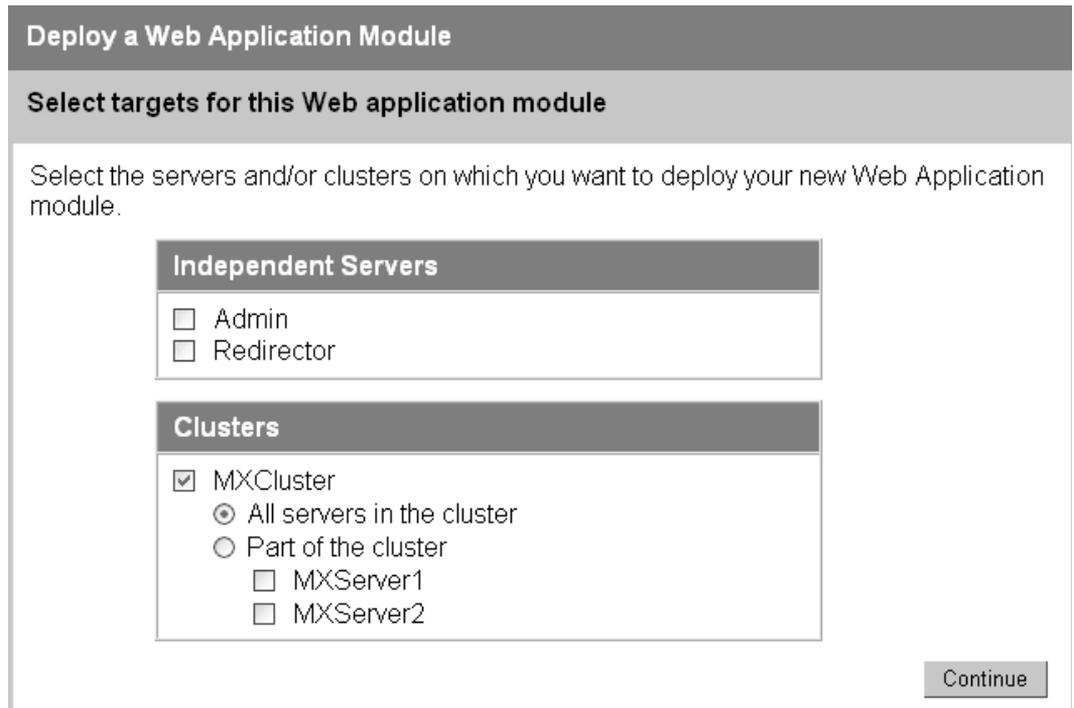
Refer to this BEA web site for general information on load balancing in a cluster:

http://e-docs.bea.com/wls/docs81/cluster/load_balancing.html#1026940

Deploying Maximo in the Clustered Servers

- 1 Login to the Admin Server’s Administration console, with the username/ password you selected in the Configuration Wizard.
- 2 In the navigation tree, expand the **Servers** and **Clusters** nodes and observe that the servers you created with the Wizard are listed in both places.
- 3 Expand the **Deployments** node and click the **Applications** node, then choose **Deploy a new Application**.
- 4 Deploy the EAR files as described in “Deploying EAR Files” on page 25-9.

NOTE When you select targets for the application, deploy the EAR files into the cluster as shown here.



Starting the Servers and Accessing Maximo

Start the servers and access Maximo by completing these steps:

- 1 Restart the Admin Server.
- 2 Start the Redirector server.
- 3 Start all the Managed Servers as described in “Starting the Managed Servers and Accessing Maximo” on page 25-21.
- 4 To access Maximo, use this URL:

`http://<machinename>:<port>/maximo`

where <machinename> is the name of the machine running the Redirector Server and <port> is the port number of the Redirector Server.

The Redirector Server redirects the request to the appropriate available Managed Server in the Cluster.

NOTE You can access a Managed Server individually by using its machine name and port number.

Optimizing Performance of Maximo in the Application Server

For WebLogic performance tuning guidelines, see:

<http://e-docs.bea.com/wls/docs81/perform/index.html>

Refer to the [Support Online Knowledge Base](#) for specific information on tuning topics such as:

- ▼ Startup Mode
- ▼ Java Virtual Machine Tuning
- ▼ Application Server Scalability
- ▼ Queues & Threads

Optimizing the Performance of Maximo in the Application Server

The following guidelines may help in optimizing the performance of Maximo in the Application Server.

- ▼ In your particular environment, you may want to spread the load from all your users across many different physical servers. This will allow Maximo to scale to very large numbers of concurrent users and will also provide a level of redundancy in your system, in case of hardware or software failures. See “Load Balancing Multiple Application Servers” on page 25-25 for more details on this subject.
- ▼ The Application Server by default uses the Java Virtual Machine (JVM), provided by Sun Microsystems. The garbage collector in this JVM runs several times a minute, and when it runs all users are stopped from interacting with the Maximo system. This is not noticeable by the users, as long as these pauses are small. Under heavy load, these pauses can start to impact the performance of the system.

To counteract this, we suggest that no more than 100 Concurrent Users be placed on a single instance of the Application Server. When this threshold is reached, we suggest that more instances of the Application Server be started, either on the same physical machine (if there is CPU and memory capacity), or on a physically separate server. See “Load Balancing Multiple Application Servers” on page 25-25 of this document for details on configuring this.

- ▼ MRO suggests that you coordinate the Date/Time settings between the Application Server and the Database Server. This is because the Date/Time lookup comes from the host machine of the Application Server, but Date/Time fields such as 'Reported Date' and 'Status Date' come from the host machine of the Database Server.

NOTE You must restart the Application Server if you change the Date/Time settings in the host machine of the database server.

Managing the BEA WebLogic Application Server - UNIX

26

The WebLogic application server uses Maximo business components to create the Maximo Web Application. You can run multiple WebLogic application servers simultaneously.

“Multiple Maximo Configurations” on page 24-1 overviews Maximo architecture and may help you understand this chapter.

This chapter includes the following topics:

- ▼ Configuring Maximo in the Application Server
- ▼ Starting the Application Server
- ▼ Building EAR Files
- ▼ Accessing the Administration Console
- ▼ Stopping the Application Server
- ▼ Load Balancing Multiple Application Servers

WebLogic Documentation

BEA provides extensive documentation on configuring WebLogic Server 8.1.4.

<http://edocs.bea.com/platform/docs81/index.html>

The URL for the Administration Guide is:

<http://edocs.bea.com/wls/docs81/adminguide/index.html>

Configuring Maximo in the Application Server

This section lets you configure new Application Servers, in addition to the one you created during the Maximo installation. For example, you might want to create separate Application Servers for production, test, and training environments.

NOTE Throughout this section we will use **MAXSERV** as the name of the server we configure to run Maximo. Substitute another name as appropriate.

Production Mode versus Development Mode

In “Creating the Application Server” on page 26-2 you have to select a WebLogic start-up mode. Use this table to guide you:

Use Development mode	Use Production mode
when developing applications	after applications are completed
when security is relaxed	when you need full security
to auto deploy applications	when using clusters or other advanced features
when deploying applications on the Administration Server	when deploying applications on Managed Servers, and using Administration Servers to manage the domain

Creating the Application Server

1 From a terminal window, change directory to:

```
<WebLogic Root>/weblogic81/common/bin
```

2 Run the following script:

```
./quickstart.sh
```

Screen	Action
3 WebLogic QuickStart	Select Create a new domain configuration, or extend an existing one.
4 Create or Extend a Configuration	Select Create a new WebLogic Configuration and click Next .
5 Select a Configuration template	In the left pane, select the Basic WebLogic Server Domain template, and click Next .
6 Choose Express or Custom Configuration	Select the Custom option and click Next .
7 Configure the Administration Server	Enter a server name and a listen port (for this example, enter MAXSERV as the server name and 8001 for the port) and click Next .

Screen	Action												
8 Managed Servers, Clusters, and Machines Options	Select No and click Next .												
9 Database (JDBC) Options	Select No and click Next .												
10 Messaging (JMS) Options	Do you use the Maximo Enterprise Adapter (MEA)? <ul style="list-style-type: none"> ▼ If yes, go to the next step. ▼ If no, select No and click Next. Go directly to step 24. 												
11 Messaging (JMS) Options (the same screen)	In the Name field enter MEA connection factory In the JNDI field enter jms/mro/int/qcf/intqcf Accept the default values in all other fields and click Next .												
12 Configure JMS Destination Key(s)	Do nothing and click Next .												
13 Configure JMS Template(s)	Do nothing and click Next .												
14 Configure JMS Files Stores	Click Add . Enter these values then click Next . <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 33%;">Name</th> <th style="width: 33%;">Listen Address</th> <th style="width: 33%;">Synchronous write policy</th> </tr> </thead> <tbody> <tr> <td>mxintsqinfile</td> <td><WebLogic Root>/jmsstore</td> <td>Disabled</td> </tr> <tr> <td>mxintsqoutfile</td> <td><WebLogic Root>/jmsstore</td> <td>Disabled</td> </tr> <tr> <td>mxintcinfile</td> <td><WebLogic Root>/jmsstore</td> <td>Disabled</td> </tr> </tbody> </table>	Name	Listen Address	Synchronous write policy	mxintsqinfile	<WebLogic Root>/jmsstore	Disabled	mxintsqoutfile	<WebLogic Root>/jmsstore	Disabled	mxintcinfile	<WebLogic Root>/jmsstore	Disabled
Name	Listen Address	Synchronous write policy											
mxintsqinfile	<WebLogic Root>/jmsstore	Disabled											
mxintsqoutfile	<WebLogic Root>/jmsstore	Disabled											
mxintcinfile	<WebLogic Root>/jmsstore	Disabled											
15 Configure JMS Server	Click Add and enter these values. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;">Name</th> <th style="width: 50%;">Store</th> </tr> </thead> <tbody> <tr> <td>mxintsqinserver</td> <td>mxintsqinfile</td> </tr> <tr> <td>mxintsqoutserver</td> <td>mxintsqoutfile</td> </tr> <tr> <td>mxintcinqinserver</td> <td>mxintcinqinfile</td> </tr> </tbody> </table> Accept the default values in all other fields and click Next .	Name	Store	mxintsqinserver	mxintsqinfile	mxintsqoutserver	mxintsqoutfile	mxintcinqinserver	mxintcinqinfile				
Name	Store												
mxintsqinserver	mxintsqinfile												
mxintsqoutserver	mxintsqoutfile												
mxintcinqinserver	mxintcinqinfile												
16 Assign JMS Servers to WebLogic Servers	Assign all the JMS servers in the left pane to the WebLogic server in the right pane by clicking the right arrow button, then click Next .												
17 Configure JMS Topics	Do nothing and click Next .												

Screen	Action
<p>18 Configure JMS Queues</p> <p>NOTE: Change all three tabs.</p>	<p>19 Tab one (mxintsqinserver). Click Add and enter these values:</p> <ul style="list-style-type: none"> ▼ In the Name field, enter mxintsqin. ▼ In the JNDI Name field, enter jms/mro/int/queues/sqin. ▼ In the Store enabled field, select true. ▼ In the Template field, leave the default of Unspecified.
<p>20 Configure JMS Queues</p>	<p>Tab two (mxintsqoutserver). Click Add and enter these values:</p> <ul style="list-style-type: none"> ▼ In the Name field, enter mxintsqout. ▼ In the JNDI Name field, enter jms/mro/int/queues/sqout. ▼ In the Store enabled field, select true. ▼ In the Template field, leave the default of Unspecified.
<p>21 Configure JMS Queues</p>	<p>Tab three (mxintcqinserver). Click Add and enter these values:</p> <ul style="list-style-type: none"> ▼ In the Name field, enter mxintcqin. ▼ In the JNDI Name field, enter jms/mro/int/queues/cqin. ▼ In the Store enabled field, select true. ▼ In the Template field, leave the default of Unspecified.
	<p>When you finish all three tabs, click Next.</p>
<p>22 Applications and Services Targeting Options</p>	<p>Select Yes and click Next.</p>
<p>23 Target Services to Servers or Clusters</p>	<p>Select All and click Next.</p>
<p>24 Configure Administrative Username and Password</p>	<p>Enter a user name and password (and verify the password), and select No in the Configure additional users, groups, and global rules portion. Click Next.</p>
<p>25 Configure Server Start Mode and Java SDK</p>	<p>Select a WebLogic Configuration Startup Mode (either Development or Production), then choose the Sun SDK. Click Next.</p> <p>For more information, see “Production Mode versus Development Mode” on page 26-2.</p>
<p>26 Create WebLogic Configuration</p>	<p>Select the directory in which you want to create a WebLogic configuration. Enter a domain name in the Configuration field, then click Create.</p>
<p>27 Creating Configuration</p>	<p>When the Configuration completes, click Done.</p>

Editing the Startup Scripts

- 1 Go to the location of the startup script. For example, if you created a domain named maxdomain, the location is:

```
<WebLogic Root>/user_projects/domains/maxdomain
```

- 2 If you do not want to be prompted for the WebLogic user name and password, create a boot.properties file in the above directory.

Place the following two lines for an existing user in a text file:

```
username=<username>
password=<password>
```

The *<username>* and *<password>* values must match an *existing* user account in the Authentication provider for the default security realm, and must belong to a role that has permission to start and stop a server.

- 3 Save the file as **boot.properties** in the domain's root directory (in this example: *<WebLogic Root>/user_projects/domains/maxdomain*). The server automatically uses this file during its subsequent startup cycles.

The first time you use this file to start a sever, the server reads the file and then overwrites it with an encrypted version of the username and password.

For more information, refer to BEA's document web site at:

<http://e-docs.bea.com/wls/docs81/ConsoleHelp/startstop.html#BootIdentityFiles>

Oracle Database Consideration

The commEnv.sh file (in *<WebLogic Root>/weblogic81/common/bin*) is called by the startup scripts. For the Oracle database, commEnv.sh must include oraclethin.jar in the Classpath. You should already have edited this file when you installed Maximo. If not, continue with the following procedures to make the edits.

Modifying the Class Path

- 1 Copy the oraclethin.jar file that is packaged in Maximo under the applications\maximo\lib directory on the Windows machine where you installed Maximo to the *<WebLogic Root>/weblogic81/server/lib* directory on the UNIX server.

NOTE *<WebLogic Root>/weblogic81* corresponds to `${WL_HOME}`, used in the CLASSPATH statement in step 3.

- 2 Open the **commEnv.sh** file in a text editor.
- 3 Search for **WEBLOGIC_CLASSPATH**="`${JAVA_HOME}`", and modify the weblogic classpath as shown below; the text in bold represents the part you edit:

```
WEBLOGIC_CLASSPATH="${JAVA_HOME}/lib/tools.jar
`${CLASSPATHSEP}${WL_HOME}/server/lib/oraclethin.jar
`${CLASSPATHSEP}${WL_HOME}/server/lib/weblogic_sp.jar
`${CLASSPATHSEP}${WL_HOME}/server/lib/weblogic.jar"
export WEBLOGIC_CLASSPATH
```

NOTE Place the oraclethin.jar *before* the weblogic jar files.

- 4 Search for the MEM_ARGS= section of the file and set the values according to the SDK you selected during the WebLogic installation, as shown below:

HP and Sun

```
MEM_ARGS="-Xms512m -Xmx1024m -XX:MaxPermSize=256m"
```

IBM

```
MEM_ARGS="-Xms512m -Xmx1024m"
```

These values are case sensitive. They specify minimum and maximum memory.

- 5 Save and close the file.

To continue configuring Maximo in the server, you must start the WebLogic application server and access the Administration Console for the new domain as described in the sections that follow.

Starting the Application Server

To start the Application Server, you run a startup script. The startup script in each domain is startWebLogic.sh.

During installation, you configured an Application Server server named MAXIMOSERVER in the domain "mydomain." Its startup script is the startWebLogic.sh file in mydomain.

In the examples in the preceding section, you created an Application Server named MAXSERV in the domain "maxdomain." Its startup script is the startWebLogic.sh file in maxdomain.

To start the Application Server, complete the following steps:

- 1 Open a terminal window and change directory to:

```
<WebLogic Root>/user_projects/domains/<domain_name>
```

where <WebLogic Root> is your WebLogic application directory and <domain_name> is the name of the domain.

For example, to start MAXIMOSERVER if the WebLogic root is /mxadmin/bea814 and the domain name for the Application Server is mydomain, change directory to:

```
/mxadmin/bea814/user_projects/domains/mydomain
```

To start MAXSERV, change directory to:

```
/mxadmin/bea814/user_projects/domains/maxdomain
```

- 2 Run the startup script.

```
./startWebLogic.sh
```

- If you are using Development mode, you don't have to type username and password each time you start MAXIMOSERVER (startWebLogic.sh).

- If you are using Production mode, enter the WebLogic user name and password you specified when you created the domain. Both user name and password are case sensitive.

NOTE You can create or edit the boot.properties file to add user name and password information. This eliminates the need to enter this information every time you start WebLogic. See “Editing the Startup Scripts” on page 26-5 for more information.

When you see a “...Server started in RUNNING mode” line at the bottom of the terminal window, the server is running.

Terminal Window Output Showing the Server Has Started in RUNNING Mode

```
15 Jun 2005 13:46:59:059 [INFO] Initializing DPLDNDASSET Service.
15 Jun 2005 13:46:59:059 [INFO] Initializing RSCONFIG Service.
15 Jun 2005 13:46:59:060 [INFO] Initializing MEASUREMENT Service.
15 Jun 2005 13:46:59:060 [INFO] Initializing DPAMOSYS Service.
15 Jun 2005 13:47:12:694 [INFO] Bound rmi://LOCSUN02/MXServer_LOCSUN02_P16
15 Jun 2005 13:47:12:695 [INFO] RMI Listening on port 33198
15 Jun 2005 13:47:12:727 [INFO] ——— MAXIMO ready for client connections ———
<Jun 15, 2005 1:47:13 PM EDT> <Notice> <WebLogicServer> <BEA-000331> <Started
WebLogic Admin Server "myserver" for domain "mydomain" running in Development
Mode>
<Jun 15, 2005 1:47:13 PM EDT> <Notice> <WebLogicServer> <BEA-000355> <Thread
"ListenThread.Default" listening on port 9999, ip address *.*>
<Jun 15, 2005 1:47:13 PM EDT> <Notice> <WebLogicServer> <BEA-000360> <Server
started in RUNNING mode>
```

Accessing the Administration Console

The Administration Console is used to manage the WebLogic domain and application server(s). Before you can access the Administration Console, the WebLogic application server must first be running. On any Windows machine, the Administrative Console requires the Java Virtual Machine (JVM), provided by Sun Microsystems.

NOTE When you installed Maximo and WebLogic, you configured a standalone server named MAXIMOSERVER in the domain “mydomain.”

To access the Administration Console:

- 1 Make sure the WebLogic application server is running. If you need more information, see “Starting the Application Server” on page 26-6.
- 2 Open Internet Explorer and type:

```
http://<hostname>:<port>/console
```

where *<hostname>* is the name of the machine and *<port>* is the port number of the Administration Server for the domain.

The default port number for MAXIMOSERVER is 7001.

For the MAXSERV Application Server example used in this chapter, the specified port was 8001.

- 3 Enter the WebLogic user name and password you specified when you created the domain. Both user name and password are case sensitive.

The Administration Console opens with the Welcome to BEA WebLogic Server Home screen.

Stopping the Application Server

To stop the Application Server, complete the following steps:

- 1 Open the Administration Console.
- 2 In the left pane, expand the **Servers** node.
- 3 Right-click the server you want to stop and choose “Start/stop this server...”
- 4 In the right pane, click **Graceful shutdown of this server...**
- 5 You are asked to confirm your choice. Click **Yes** to stop the server.

The Administration Console sends a command to stop the specified server.

Building EAR Files

In a UNIX environment, you still need a Windows machine to host Maximo and to build the EAR files. To deploy the EAR files into the WebSphere application server, you browse to the <Maximo_root>\deployment\default folder on the Windows machine.

The three EAR files are:

maximo.ear	for the Maximo application
maximohelp.ear	for the Maximo Help application
acweb.ear	for the Actuate Active Portal

Rebuilding EAR files

You rebuild and redeploy EAR files whenever you:

- ▼ Modify .xml files (Maximo.ear).
- ▼ Modify custom class files (Maximo.ear).
- ▼ Modify html Help topics (Maximohelp.ear).
- ▼ Modify settings in the maximo.properties file (Maximo.ear).
- ▼ Add functionality to Maximo, such as Desktop Requisitions (Maximo.ear, Maximohelp.ear).

NOTE Make a backup copy before rebuilding EAR files.

Running build scripts

- 1 Open a terminal window.
- 2 Go to the deployment folder: /mxadmin/maximo
- 3 Run the appropriate script:

Script	Output
./buildmaximoear.sh	Creates a maximo.ear file
./buildhelpear.sh	Creates a maximohelp.ear file
./buildacwebear.sh	Creates an acweb.ear file

- 4 These scripts take several minutes to run, then displays BUILD SUCCESSFUL.

Deploying EAR Files

In this chapter you create new Application Servers. However, deploying EAR files into existing Application Servers—redeploying—is something you will do whenever you customize Maximo.

Redeploying EAR files

If you are redeploying an EAR file into an existing Application Server, first remove the old one.

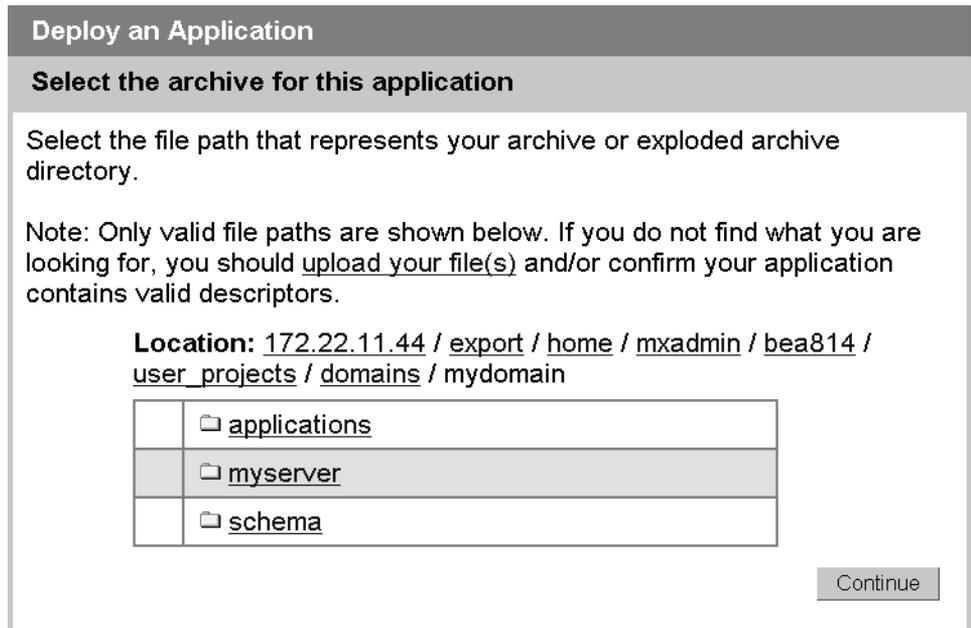
- 1 In the Administration Console, open the Deployments node.
- 2 Right-click on an application, for example MAXIMO, and choose Delete.
- 3 Click **Yes** to confirm.

To redeploy, continue below:

Deploying Ear Files Into the Application Server

To deploy the Maximo EAR file, complete the following steps:

- 1 Login to the WebLogic administration console, at:
 - http://<hostname>:<port>/console
- 2 In the left pane, under the Deployments node, click on **Applications**.
- 3 In the right pane, click **Deploy a new Application**.



- 4 In the Note text in this panel, click **upload your file(s)**.

The Upload and Install an Application or Module panel opens.

- 5 Click **Browse**, navigate to the maximo.ear file, and select it. By default these files are in the <Maximo Root>/deployment/default directory.

- 6 Click Upload.

You are returned to the Deploy a New Application panel, which now lists the Maximo EAR file you have uploaded.

- 7 Select maximo.ear.

- If you have a single server environment, the only option is to click **Continue** and skip to Step 9.
- If you have a multiple server environment, click **Target Application**.

- 8 Select the server into which you want to deploy the EAR file, then click **Continue**.

- 9 The Deploy an Application panel returns, allowing you to review your choices.

At the bottom of this screen, enter a name for the application represented by the EAR file. The default is the file name of the ear file, for example **maximo**. The application name must be unique if you are adding multiple applications.

- 10 Click **Deploy**.

- If the deployment fails, click the link to review an error message.
- The application you deployed appears in the left pane, under Applications.

Deploying the Maximo Help EAR File

To deploy the Maximo Help EAR file, repeat the previous procedure, with the following exceptions:

- ▼ upload the maximohelp.ear file (steps 4 to 6),
- ▼ select maximohelp.ear (step 7), and
- ▼ name the application maximohelp, (the default) or another name of your choosing (step 9).

Deploying the Acweb EAR File

To deploy the acweb EAR file, repeat the previous procedure, with the following exceptions:

- ▼ upload the acweb.ear file (steps 4 to 6),
- ▼ select acweb.ear (step 7), and
- ▼ name the application acweb, (the default) or another name of your choosing (step 9).

Accessing Maximo

To access Maximo, complete the following steps:

- 1 Start the Application Server (see page 26-6).
- 2 Open Internet Explorer and type:

`http://<hostname>:<port>/maximo`

where *<hostname>* is the name of the machine and *<port>* is the port number of the Application Server.

For MAXIMOSERVER (set up during the initial Maximo installation), the default port number is 7001.

For MAXSERV, the example used in this chapter, the port number is 8001.

Load Balancing Multiple Application Servers

This section describes how to load balance Maximo with multiple Application Servers.

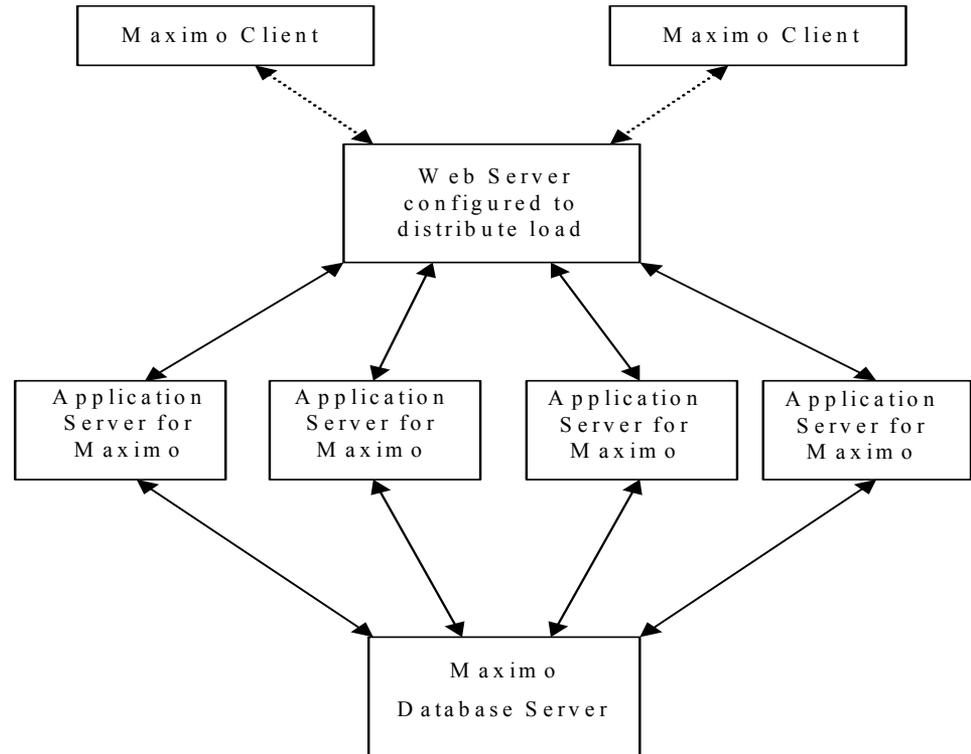
Load balancing spreads the load across many servers, so that large numbers of clients can access the Maximo system. On multi processor machines, you can load balance across many instances of Application Servers configured with Maximo running on the same physical server.

This BEA Web site (current at time of printing) provides additional general and specific information on load balancing:

<http://edocs.bea.com/wls/docs81/adminguide/index.html>

This diagram depicts an example of load balancing architecture where:

- ▼ A Web server with a plug-in performs the load balancing. Multiple Maximo clients communicate with the Web server.
- ▼ The Web server distributes client requests to one of four Application Servers configured with Maximo. These four Application Servers are called Managed Application Servers.
- ▼ Each Application Server communicates with the same database.



Configuring the Multiple Application Servers for Load Balancing

To help illustrate the procedure, consider the following scenario:

- ▼ You want to set up an admin server and three managed Application Servers in a Cluster on a machine named **maxhost**.
- ▼ Name the domain: **clstrmaxdomain**
- ▼ Name the admin server and assign it a port as follows:
AdminMAXSERV, (for example) port 9010
- ▼ Name the managed servers and assign ports as follows:
ClstrMAXSERV1, (for example) port 9020
ClstrMAXSERV2, (for example) port 9030
ClstrMAXSERV3, (for example) port 9040
Redirector, (for example) port 9050

To configure the Application Servers for load balancing, complete the following steps:

- 1 From a terminal window, change directory to:

```
<WebLogic Root>/weblogic81/common/bin
```

- 2 Run the following script:

```
./quickstart.sh
```

Screen	Action
3 WebLogic QuickStart	Select Create a new domain configuration, or extend an existing one.
4 Create or Extend a Configuration	Select Create a new WebLogic Configuration and click Next .
5 Select a Configuration Template	In the left pane, select the Basic WebLogic Server Domain template, and click Next .
6 Choose Express or Custom Configuration	Select Custom and click Next .
7 Configure the Administration Server	Fill in these fields, then click Next . <ul style="list-style-type: none"> ▼ Name – AdminMAXSERV ▼ Listen Address – All Local Addresses ▼ Listen Port – for example, 9010
8 Managed Servers, Clusters, and Machines Options	Select Yes and click Next .
9 Configure Managed Servers	Enter these values to add 4 managed servers.

Click **Add** before adding each new server, and click **Next** when you finish.

Name	Listen Address	Listen Port
ClstrMAXSERV1	All Local Addresses	for example, 9020
ClstrMAXSERV2	All Local Addresses	for example, 9030
ClstrMAXSERV3	All Local Addresses	for example, 9040
Redirector	All Local Addresses	for example, 9050

Screen	Action												
10 Configure Clusters	<p>Click Add and enter these values, then click Next:</p> <ul style="list-style-type: none"> ▼ Name – for example, maxcluster ▼ Multicast address – accept the default value ▼ Multicast port – accept the default value 												
11 Assign Servers to Clusters	<p>NOTE: Do <u>not</u> assign the redirector server to the cluster.</p> <p>Assign the other three servers in the left pane to the cluster by clicking the right arrow button, then click Next.</p>												
12 Configure Machines	If you have other servers add them. If not, click Next .												
13 Database (JDBC) Options	Select No and click Next .												
14 Messaging (JMS) Options	<p>Do you use the Maximo Enterprise Adapter (MEA)?</p> <ul style="list-style-type: none"> ▼ If yes, go to the next step. ▼ If no, select No and click Next. Go directly to step 28. 												
15 Messaging (JMS) Options (the same screen)	<p>In the Name field enter MEA connection factory</p> <p>In the JNDI field enter jms/mro/int/qcf/intqcf</p> <p>Accept the default values in all other fields and click Next.</p>												
16 Configure JMS Destination Key(s)	Do nothing and click Next .												
17 Configure JMS Template(s)	Do nothing and click Next .												
18 Configure JMS Files Stores	<p>Click Add. Enter these values then click Next.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 33%;">Name</th> <th style="width: 33%;">Listen Address</th> <th style="width: 33%;">Synchronous write policy</th> </tr> </thead> <tbody> <tr> <td>mxintsqinfile</td> <td><WebLogic Root>/jmsstore</td> <td>Disabled</td> </tr> <tr> <td>mxintsqoutfile</td> <td><WebLogic Root>/jmsstore</td> <td>Disabled</td> </tr> <tr> <td>mxintcinfile</td> <td><WebLogic Root>/jmsstore</td> <td>Disabled</td> </tr> </tbody> </table>	Name	Listen Address	Synchronous write policy	mxintsqinfile	<WebLogic Root>/jmsstore	Disabled	mxintsqoutfile	<WebLogic Root>/jmsstore	Disabled	mxintcinfile	<WebLogic Root>/jmsstore	Disabled
Name	Listen Address	Synchronous write policy											
mxintsqinfile	<WebLogic Root>/jmsstore	Disabled											
mxintsqoutfile	<WebLogic Root>/jmsstore	Disabled											
mxintcinfile	<WebLogic Root>/jmsstore	Disabled											
19 Configure JMS Server	<p>Click Add and enter these values.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;">Name</th> <th style="width: 50%;">Store</th> </tr> </thead> <tbody> <tr> <td>mxintsqinserver</td> <td>mxintsqinfile</td> </tr> <tr> <td>mxintsqoutserver</td> <td>mxintsqoutfile</td> </tr> <tr> <td>mxintcinqinserver</td> <td>mxintcinqinfile</td> </tr> </tbody> </table> <p>Accept the default values in all other fields and click Next.</p>	Name	Store	mxintsqinserver	mxintsqinfile	mxintsqoutserver	mxintsqoutfile	mxintcinqinserver	mxintcinqinfile				
Name	Store												
mxintsqinserver	mxintsqinfile												
mxintsqoutserver	mxintsqoutfile												
mxintcinqinserver	mxintcinqinfile												

Screen	Action
20 Assign JMS Servers to WebLogic Servers	Assign all the JMS servers in the left pane to the WebLogic server in the right pane by clicking the right arrow button, then click Next .
21 Configure JMS Topics	Do nothing and click Next .
22 Configure JMS Queues	23 Tab one (mxintsqinserver). Click Add and enter these values: <ul style="list-style-type: none"> ▼ In the Name field, enter mxintsqin. ▼ In the JNDI Name field, enter jms/mro/int/queues/sqin. ▼ In the Store enabled field, select true. ▼ In the Template field, leave the default of Unspecified.
NOTE: Change all three tabs.	
24 Configure JMS Queues	Tab two (mxintsqoutserver). Click Add and enter these values: <ul style="list-style-type: none"> ▼ In the Name field, enter mxintsqout. ▼ In the JNDI Name field, enter jms/mro/int/queues/sqout. ▼ In the Store enabled field, select true. ▼ In the Template field, leave the default of Unspecified.
25 Configure JMS Queues	Tab three (mxintcqinserver). Click Add and enter these values: <ul style="list-style-type: none"> ▼ In the Name field, enter mxintcqin. ▼ In the JNDI Name field, enter jms/mro/int/queues/cqin. ▼ In the Store enabled field, select true. ▼ In the Template field, leave the default of Unspecified. <p>When you finish all three tabs, click Next.</p>
26 Applications and Services Targeting Options	Select Yes and click Next .
27 Target Services to Servers or Clusters	Select All and click Next .
28 Configure Administrative Username and Password	Enter a user name and password (and verify the password), and select No in the Configure additional users, groups, and global rules portion. Click Next .
29 Configure Server Start Mode and Java SDK	Select a WebLogic Configuration Startup Mode (either Development or Production), then choose the Sun SDK . Click Next . <p>For more information, see “Production Mode versus Development Mode” on page 26-2.</p>
30 Create WebLogic Configuration	Enter clustermxdomain in the Configuration Name field. <p>Click Create.</p>
31 Creating Configuration	When the Configuration completes, click Done .

Editing the Startup Scripts

Complete the following steps:

- 1 Go to the location of the startup script, which is the root directory for the domain you created. For example:

```
<WebLogic Root>/user_projects/domains/clustermaxdomain
```

- 2 If you do not want to be prompted for the WebLogic user name and password, create a `boot.properties` file in the above directory.

Place the following two lines for an existing user in a text file:

```
username=<username>
```

```
password=<password>
```

The `<username>` and `<password>` values must match an *existing* user account in the Authentication provider for the default security realm, and must belong to a role that has permission to start and stop a server.

- 3 Save the file as **boot.properties** and locate it in the domain's root directory (in this example: `<WebLogic Root>/user_projects/domains/clustermaxdomain`). The server automatically uses this file during its subsequent startup cycles.

The first time you use this file to start a sever, the server reads the file and then overwrites it with an encrypted version of the username and password.

For more information, refer to BEA's document web site at:

```
http://e-docs.bea.com/wls/docs81/ConsoleHelp/startstop.html#BootIdentityFiles
```

Oracle Database Consideration

The `commEnv.sh` file (in `<WebLogic Root>/weblogic81/common/bin`) is called by the startup scripts. For the Oracle database, `commEnv.sh` must include `oraclethin.jar` in the Classpath. You should already have edited this file when you installed Maximo. If not, continue with the following procedures to make the edits.

Modifying the Class Path

- 1 Copy the `oraclethin.jar` file that is packaged in Maximo under the `applications\maximo\lib` directory on the Windows machine where you installed Maximo to the `<WebLogic Root>/weblogic81/server/lib` directory on the UNIX server.

NOTE `<WebLogic Root>/weblogic81` corresponds to `${WL_HOME}`, used in the `CLASSPATH` statement in step 3.

- 2 Open the **commEnv.sh** file in a text editor.

- 3 Search for **WEBLOGIC_CLASSPATH**="**#{JAVA_HOME}**, and modify the weblogic classpath as shown below; the text in bold represents the part you edit:

```
WEBLOGIC_CLASSPATH="{JAVA_HOME}/lib/tools.jar
#{CLASSPATHSEP}#{WL_HOME}/server/lib/oraclethin.jar
#{CLASSPATHSEP}#{WL_HOME}/server/lib/weblogic_sp.jar
#{CLASSPATHSEP}#{WL_HOME}/server/lib/weblogic.jar"
export WEBLOGIC_CLASSPATH
```

NOTE Place the oraclethin.jar *before* the weblogic jar files.

- 4 Search for the MEM_ARGS= section of the file and set the values according to the SDK you selected during the WebLogic installation, as shown below:

HP)

```
MEM_ARGS="-Xms512m -Xmx1024m -XX:MaxPermSize=256m"
```

Sun)

```
MEM_ARGS="-Xms512m -Xmx1024m -XX:MaxPermSize=256m"
```

IBM)

```
MEM_ARGS="-Xms512m -Xmx1024m"
```

These values are case sensitive. They specify minimum and maximum memory.

- 5 Save and close the file.

Starting the Admin Server and Accessing the Administration Console

To continue with configuring Maximo in the clustered Application Servers, you need to start the Admin Server and access the Administration Console.

You start the Admin Server the way you start any Application Server (page 26-6). In the example used here, you would do the following:

- ▼ From a terminal window, change directory to the clustermaxdomain directory and run startWebLogic.sh.

You use the port number of the Admin Server to access the Administration Console.

- ▼ In our example, the Admin Server, AdminMAXSERV, runs on port 9010 and the hostname is maxhost. You would enter the following URL:

```
http://maxhost:9010/console
```

Configuring the Web Server Plug-in for Load Balancing

With MAXIMO, you need to configure load balancing for servlets and JSPs. This can be accomplished with a Web server plug-in provided by BEA for the appropriate Web server, or with separate load balancing hardware. Procedures will vary according to your choice.

Refer to the following BEA web site for general information on load balancing in a cluster for servlets and JSPs:

http://e-docs.bea.com/wls/docs81/cluster/load_balancing.html#1026940

Use the Apache Web server.

Refer to the following site for specific information on configuring the Apache plug-in:

<http://edocs.bea.com/wls/docs81/plugins/index.html>

NOTE Make sure you have installed the appropriate version of the Web server for the plug-in.

Deploying Maximo in the Clustered Servers

- 1 Login to the Administration console on the Admin Server, with the username/password you selected in the Configuration Wizard.
- 2 Expand the **Servers** and **Clusters** nodes and observe that the servers you created with the Wizard are listed in both places.
- 3 Expand the **Deployments** node and click the **Applications** node, then choose **Deploy a new Application**.
- 4 Deploy the EAR files as described in “Deploying EAR Files” on page 26-9.

Deploy a Web Application Module

Select targets for this Web application module

Select the servers and/or clusters on which you want to deploy your new Web Application module.

Independent Servers

- Admin
- Redirector

Clusters

- MXCluster
 - All servers in the cluster
 - Part of the cluster
 - MXServer1
 - MXServer2

Continue

Starting the Servers and Accessing Maximo

Start the servers and access Maximo by completing the following steps:

- 1 Restart the Admin Server.
- 2 Open a terminal window and change directory to the location of the domain for the multiple Application Servers. For example: <WebLogic Root>/user_projects/domains/clustermaxdomain
- 3 Start one of the Managed Servers with the following command line arguments:

```
./startManagedWebLogic.sh <Managed Server Name> <Admin Server URL>
```

where:

- <Managed Server Name> is the name of the Managed Server to be started, for example ClstrMAXSERV1.
- <Admin Server URL> is the URL for the Admin Server, which is of the form:

```
http://<hostname>:<port>
```

where <hostname> is the name of the machine and <port> is the port number of the Admin Server.

In our example, the Admin Server is running on a machine named maxhost, on port 9010. You would enter the following command line arguments:

```
./startManagedWebLogic.sh ClstrMAXSERV1 http://maxhost:9010
```

- 4 Repeat steps 2 and 3 for each additional Managed Server, *including* the Redirector Server.
- 5 To access Maximo, go to a web browser and specify the following URL:

```
http://<machinename>:<port>/maximo
```

where <machinename> is the name of the machine running the Redirector Server and <port> is the port number of the Redirector Server.

The Redirector Server will be able to redirect the request to the appropriate available Managed Server in the Cluster.

NOTE You can access a Managed Server individually by using its machine name and port number.

Optimizing Performance of Maximo in the Application Server

For WebLogic performance tuning guidelines, see:

<http://e-docs.bea.com/wls/docs81/perform/index.html>

Refer to the [Support Online Knowledge Base](#) for specific information on tuning topics such as:

- ▼ Startup Mode
- ▼ Java Virtual Machine Tuning
- ▼ Application Server Scalability
- ▼ Queues & Threads

Managing the WebSphere 6.0 Application Server in Windows

27

Maximo uses the IBM WebSphere Application Server to provide access to Maximo's business components and Web-based applications. Chapter 23, "Multiple Maximo Configurations" overviews the Maximo architecture, and is a precursor to this chapter.

This chapter includes these topics:

- ▼ Overview
- ▼ Starting and Stopping the WebSphere 6.0 Application Server
- ▼ Starting the Administrative Console
- ▼ Starting and Stopping the Maximo Application Server
- ▼ Configuring the Maximo Application Server to Run as a Service
- ▼ Configuring the Node Agent to Run as a Service
- ▼ Configuring the Maximo Application Server in WebSphere 6.0
- ▼ Load Balancing Multiple Maximo Application Servers
- ▼ Optimizing Performance of Maximo in the Application Server

Overview

IBM provides comprehensive information on running and administering WebSphere at this URL:

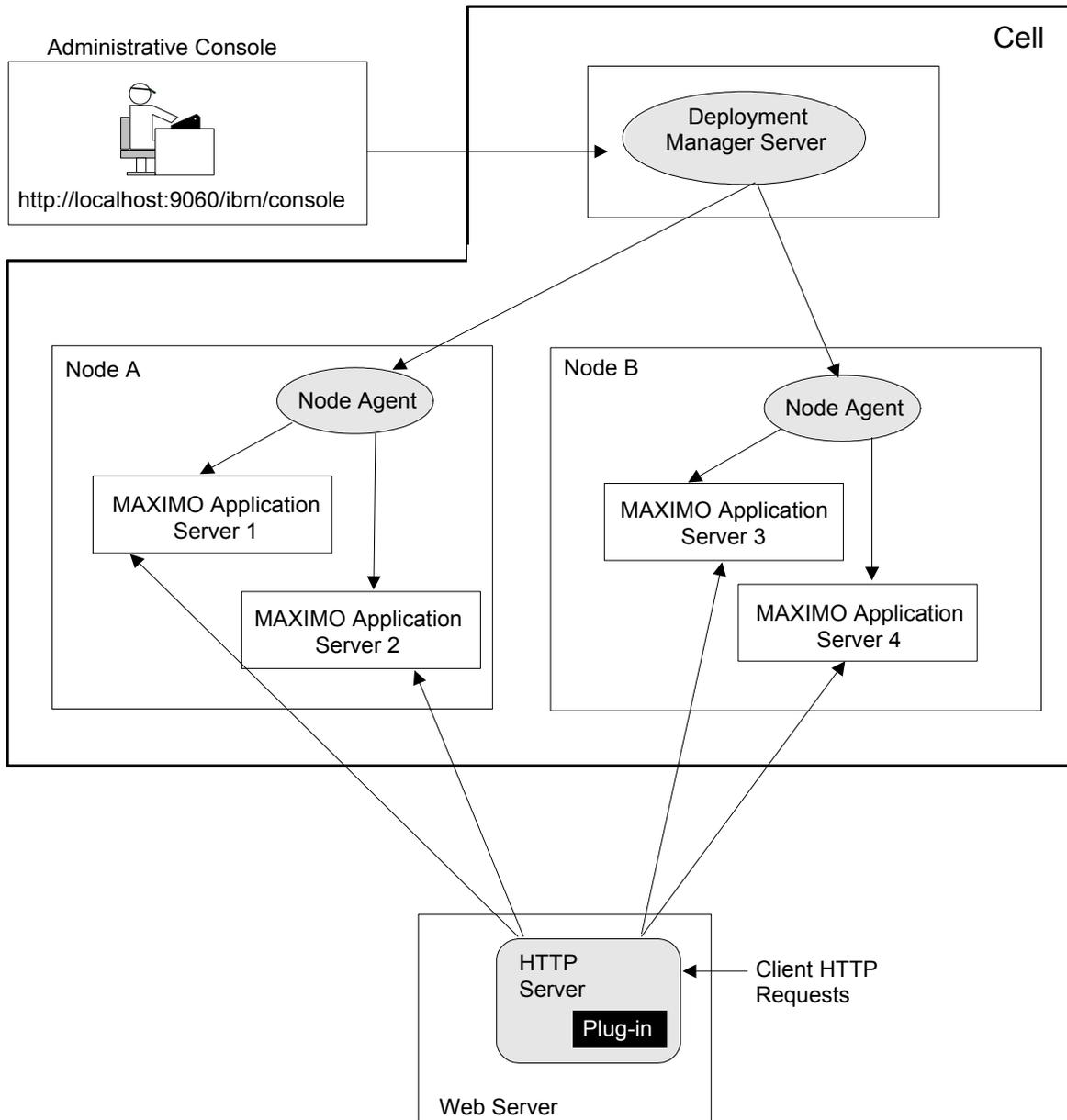
<http://publib.boulder.ibm.com/infocenter/ws60help/index.jsp>

WebSphere Network Deployment

The Network Deployment is based on the concept of Cells, nodes and servers.

This diagram illustrates a Network Deployment configuration of the WebSphere Application Server with the following components:

- ▼ a cell with two nodes
- ▼ a Deployment Manager
- ▼ an Administrative Console
- ▼ clustered Maximo application servers
- ▼ the IBM HTTP Server with plug-in



Starting and Stopping the WebSphere 6.0 Application Server

An administrative server named MAXIMOSERVER was created during installation.

Verify that the following are configured and installed:

- ▼ WebSphere 6.0 Network Deployment (ND) software
 - ▼ WebSphere 6.0.0.2 fixpack
 - ▼ A Deployment Manager profile and at least one Custom profile
- 1 Start the Node Agent process. From a command prompt navigate to `IBM\WebSphere\AppServer\profiles\Custom_name\bin` and type **startNode**.
 - 2 You must first start the IBM WebSphere Network Deployment software from the Services window or at a command prompt.

To start as a service, open the Control Panel and go to **Administrative Tools > Services**. Right-click “IBM WebSphere Application Server V6 - <machine name> CellManager01” and click **Start**.

To start from a command prompt, navigate to `IBM\WebSphere\AppServer\profiles\Deployment_Manager_profile_name\bin` and type **startManager**.

- 3 To start the Administrative Console, open a browser window and enter the following URL:

`http://<machine_name>:9060/ibm/console`

Where <machine_name> is the host name of the WebSphere Application Server and 9060 is the default port number for the Administrative Console.

- 4 Enter an administrative user ID and password to login, if one is required. See “Securing the Administrative Console” on page 27-5 for information on creating a user ID and password.
- 5 From the Administrative Console’s navigation pane, click **Servers > Application Servers**.
- 6 Select the check box next to MAXIMOSERVER, the name of the WebSphere Application Server.
- 7 Click **Start**. Notice that the icon in the Status column changes to , or running.
- 8 To stop the WebSphere Application Server, click **Stop**. Notice that the icon in the Status column changes to , or stopped.

Starting Servers from the Program menu

You can start the following servers from the Program menu:

Deployment manager

From the Windows task bar, choose:

Start > Programs > IBM WebSphere > Application Server Network Deployment V6 > Profiles
> **Dmgr01**

IBM HTTP server

From the Windows task bar, choose:

Start > Programs > IBM HTTP Server 6.0

Starting the Administrative Console

Before you start the Administrative console, verify that these server processes are running.

Open the Control Panel and go to Administrative Tools > Component Services.

Starting and stopping IBM server processes as services

Server Name	Right-click...	To Start, select...	To Stop, select...
HTTP Server	IBM HTTP Server 6.0	Start	Stop
Deployment Manager	IBM WebSphere Application Server V6 - <machine name> CellManager01	Start	Stop
Node Agent	IBM WebSphere Application Server V6 - nodeagent	Start	Stop

Alternatively, you can start the same processes from a command prompt. The following table lists the programs you must run to Start or Stop the server processes from a command prompt.

Starting and stopping IBM server processes from a command prompt

Server Name	Go To...	To Start, type...	To Stop, type...
HTTP Server	\IBM HTTP Server\bin	apache -k start	apache -k stop
Deployment Manager	IBM\WebSphere\AppServer\profiles\Dmgr01\bin	startManager	stopManager
Node Agent	IBM\WebSphere\AppServer\profiles\Custom01\bin	startNode	stopNode

After you verify the server processes, start the Administrative Console

- 1 Open a browser window, and enter the following URL:

`http://<machine_name>:9060/ibm/console`

Where <machine_name> is the host name of the WebSphere Application Server and 9060 is the default port number for the Administrative Console.

- 2 Enter a user ID to login. Until you enable security, you can login with any user ID. The user ID does not have to be a valid system user.

Securing the Administrative Console

You can secure the Administrative Console so that only authenticated users can use it.

- 1 Before you can secure the console, you must first activate WebSphere global security. To understand your security options, refer to *WebSphere Security Fundamentals*, an IBM Redpaper written by Peter Kovari.
- 2 Identify users (or groups) that are defined in the active user registry.
- 3 Assign roles to users, to determine the actions they can perform.

You can add users, groups, and roles by selecting the following menu paths:

- ▼ System Administration > Console settings > Console Users
- ▼ System Administration > Console settings > Console Groups

You can assign these roles:

Monitor	Allows you to view the WebSphere configuration and current state
Configurator	Monitor rights plus the ability to change the WebSphere configuration
Operator	Monitor rights plus the ability to change the runtime state, such as starting and stopping services
Administrator	Operator and Configurator rights

After you change the configuration:

- ▼ restart all the application servers
- ▼ make sure administrative users have the appropriate administrative role and login credentials

Starting and Stopping the Maximo Application Server

- 1 Open a browser window and enter the following URL:
`http://<machine_name>:9060/ibm/console`
- 2 Enter an administrative user ID and password to login, if one is required.
- 3 From the Administrative Console's navigation pane, click **Servers > Application Servers**.
- 4 Select the check box next to MAXIMOSERVER, the name of the Maximo application server.
- 5 Click **Start**.
- 6 To stop the Maximo application server, click **Stop**.
- 7 (Optional) Open the Control Panel and click **Administrative Tools > Component Services**. In the Services window, right-click "IBM WebSphere Application Server V6 - maximoserver," and select **Start** or **Stop**.

Configuring the Maximo Application Server to Run as a Service

If you want to start the Maximo application server as a service, make sure this fix pack is installed:

- ▼ IBM WebSphere Application Server Fix Pack 1

NOTE After you configure services for a WebSphere Application Server (e.g., nodeagent, maximoserver, etc.), you must start the application server using the Component Services window (Control Panel > Administrative Tasks > Component Services).

If you later need to make changes to server parameters (e.g., JVM, HTTP port number, virtual host, etc.) use the WebSphere Administrative Console. After making changes, you can stop the application server using Component Services or the Administrative Console. However, you must start the application server using Component Services.

- 1 Start the WebSphere 6.0 Administrative Console by opening a browser window and entering the following URL:
`http://<machine_name>:9060/ibm/console`
- 2 Enter an administrative user ID and password.
- 3 Click **Servers > Application Servers** in the navigation pane.

- 4 In the Application Servers pane, select MAXIMOSERVER and click **Start**. This creates a server log folder used by the WASService command (see Step 8).
- 5 Select MAXIMOSERVER, and click **Stop**.
- 6 Open a command prompt window.
- 7 Navigate to the bin folder where you installed the Maximo application server. For example:

```
<C:>\IBM\WebSphere\AppServer\bin
```

- 8 Run the WASService command with the following parameters:
 - ▼ **serverName** – name of Maximo application server, for example, MAXIMOSERVER
 - ▼ **profilePath** – the server’s profile directory, for example, <D:>\IBM\WebSphere\AppServer\profiles\MAXIMOSERVER
 - ▼ **wasHome** – home folder for MAXIMOSERVER, for example, <D:>\IBM\WebSphere\AppServer\profiles
 - ▼ **logRoot** – folder location of MAXIMOSERVER log file, for example, <D:>\IBM\WebSphere\AppServer\logs\MAXIMOSERVER
 - ▼ **logFile** – log file name for MAXIMOSERVER (startServer.log)
 - ▼ **restart** – restarts the existing service automatically if the service fails when set to true

Enter the WASService command using the following syntax:

```
WASService -add MAXIMOSERVER -serverName MAXIMOSERVER
-profilePath "<D:>\IBM\WebSphere\AppServer\profiles\MAXIMOSERVER"
-wasHome "<D:>\IBM\WebSphere\AppServer"
-logRoot "<D:>\IBM\WebSphere\AppServer\logs\MAXIMOSERVER"
-logFile "<D:>\IBM\WebSphere\AppServer\logs\MAXIMOSERVER\
startServer.log" -restart true
```

- 9 Press **<Enter>** after you type the WASService command, and you will see a confirmation message similar to the following:

```
“IBM WebSphere Application Server V6 – MAXIMOSERVER service
successfully added”
```

- 10 Open a Services window and double-click MAXIMOSERVER. Then do this:
 - ▼ Change the Startup type field value to “Automatic.”
 - ▼ Click **Start** to start the service.
 - ▼ Click **OK**.

Configuring the Node Agent to Run as a Service

A node agent is a server running on every host computer in the deployed network. It performs administrative functions like:

- ▼ file transfer services
- ▼ configuration synchronization
- ▼ performance monitoring.

To configure the Node Agent to run as a service:

- 1 Start the WebSphere 6.0 Administrative Console by opening a browser window and entering the following URL:

`http://<machine_name>:9060/ibm/console`

- 2 Enter an administrative user ID and password.
- 3 Click **System Administration** in the navigation pane.
- 4 In the System Administration pane, select the name of your node's Node Agent (e.g. nodeagent), and click **Start**.
- 5 Before you run the WASService command, select nodeagent in the Administration pane, and click **Stop**.
- 6 Open a command prompt window.
- 7 Navigate to the bin folder where you installed the Node Agent. For example:

`<D:>\IBM\WebSphere\AppServer\bin`

- 8 Run the WASService command with the following parameters:
 - ▼ **serverName** – name of the Node Agent (nodeagent)
 - ▼ **profilePath** – the server's profile directory, for example, `<D:>\IBM\WebSphere\AppServer\profiles\MAXIMOSERVER`
 - ▼ **wasHome** – home folder for MAXIMOSERVER, for example, `<D:>\IBM\WebSphere\AppServer\profiles`
 - ▼ **logRoot** – folder location of Node Agent log file, for example, `<D:>\IBM\WebSphere\AppServer\logs\NodeAgent`
 - ▼ **logFile** – log file name for the Node Agent (startServer.log)
 - ▼ **restart** – restarts the existing service automatically if the service fails when set to true

Enter the WASService command using the following syntax:

```
WASService -add NodeAgent -serverName nodeagent -profilePath
"<D:>\IBM\WebSphere\AppServer\profiles\MAXIMOSERVER"
-wasHome "<D:>\IBM\WebSphere\AppServer"
-logRoot "<D:>\IBM\WebSphere\AppServer\logs\nodeagent"
-logFile "<D:>\IBM\WebSphere\AppServer\logs\nodeagent\
startServer.log" -restart true
```

- 9 Press <Enter> after you type the WASService command, and you will see a confirmation message similar to the following:

"IBM WebSphere Application Server V6 – NodeAgent service successfully added"

- 10 Open a Services window and double-click NodeAgent. Do the following:

- ▼ Change the Startup type field value to "Automatic."
- ▼ Click **Start** to start the service.
- ▼ Click **OK**.

Configuring the Maximo Application Server in WebSphere 6.0

This section describes configuring Maximo in the WebSphere Application Server. This lets you configure one or more Maximo application servers in addition to the one you created during the Maximo installation.

Chapter 23, "Multiple Maximo Configurations," discusses different Maximo configurations.

NOTE Throughout this section **MXES_SERVER** is the application server running Maximo. Substitute another name if appropriate. For example, if you are setting up multiple application servers, you may want to use **MXES_SERVER2**, and so forth.

Preconfiguration Steps

These tasks are required before adding and configuring a new Maximo application server:

- 1 Make sure that the WebSphere Application Server, V6.0 is successfully installed. (See page 27-3)
- 2 Start the Node Agent. (See page 27-4)
- 3 Start the Network Deployment Manager. (See page 27-6)
- 4 Start the Administrative Console. (See page 27-4)

Creating the New Maximo Application Server

- 1 To start the Administrative Console, open a browser window and enter the following URL:

http://<machine_name>:9060/ibm/console
- 2 Enter an administrative user ID and password.
- 3 Click **Servers > Application Servers** in the navigation pane.
- 4 Click **New** in the Application Servers pane.
- 5 To create a new application server from a server template, complete the following:
 - ▼ Step 1: Accept the default setting for Select Node, type “MXES_SERVER” in the Server name field and click Next.
 - ▼ Step 2: Accept the default server template and click Next. Generate Unique Http Ports
 - ▼ Step 3: Accept the default, which is to generate unique port numbers, and click Next.
 - ▼ Step 4: Click Finish to finish creating the application server.
- 6 Click **Save** to update the master configuration.

Identifying Log Files

From the Administrative Console, you can configure these log files:

- ▼ Diagnostic Trace
- ▼ JVM Logs
- ▼ Process Logs
- ▼ IBM Service Logs

- 1 Click **Troubleshooting > Logs and Trace** in the navigation pane.
- 2 Click **MXES_SERVER** in the Logging and Tracing pane to display the list of logs available for MXES_SERVER.
- 3 Click a log, for example, Diagnostic Trace or JVM Logs, to display configuration and runtime information.

You can view or edit information for these log files:

Log Type	File Name	Description
Diagnostic Trace	trace.log	View and modify the properties of the diagnostic trace service.
JVM Logs	SystemOut.log and SystemErr.log	View and modify the settings for the Java Virtual Machine (JVM) logs.

Log Type	File Name	Description
Process Logs	native_stderr.log and native_stdout.log	View and modify setting for specifying the files to which standard out and standard error streams write.
IBM Service Logs	activity.log	Configure the IBM service log, also known as the activity log.

- Click the Configuration tab to display log information. For example, in the JVM Logs Configuration tab, the “\$(SERVER_LOG_ROOT)” parameter points to the folder location of the log file, for example:

\$(SERVER_LOG_ROOT)\SystemOut.log

where “\$(SERVER_LOG_ROOT)” is equal to
 \IBM\WebSphere\AppServer\profiles\profile_name\logs\mxes_server

NOTE “\$(SERVER_LOG_ROOT)” can point to the log folder based on the server you choose.

Specifying JVM Memory Settings

This section describes how to set the initial and maximum JVM memory size in megabytes.

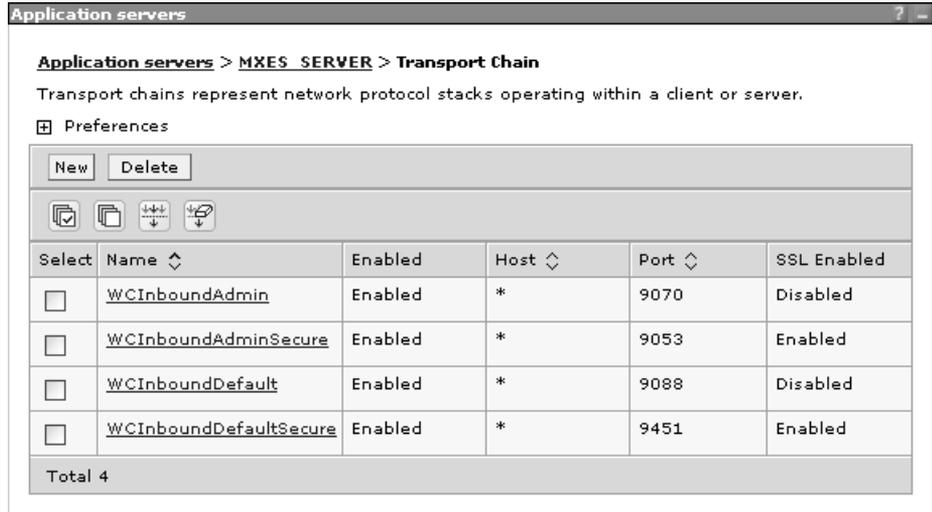
NOTE Do not set the java heap size to exceed your server’s memory (RAM).

- Click **Servers > Application Servers** in the navigation pane.
- Click the **MXES_SERVER** link in the Application Servers pane.
- Under Server Infrastructure, click **Java and Process Management**.
- Click **Process Definition**.
- Under Additional Properties, click **Java Virtual Machine**.
- Set the Initial Heap Size to **512** and the Maximum Heap Size to **1024**, then click **OK**.
- Click **Save** in the Messages pane to save changes to the master configuration.
- Click **Save** again.

Identifying the HTTP Transfer Port Numbers

For future configurations, note the HTTP port numbers of the **MXES_SERVER** Web container.

- Click **Servers > Application Servers** in the navigation pane.
- Click **MXES_SERVER** in the Application Servers pane.
- In the Configuration tab, click **Web Container Settings**.
- Click **Web container transport chains**.



- Record the default server port number (9088, in this example) for future reference.

Creating the Virtual Host

A virtual host lets a single host machine resemble multiple host machines. Each virtual host has a logical name and a list of one or more domain names system (DNS) aliases by which it is known.

- Click **Environment > Virtual Hosts** in the navigation pane.
- Click **New** in the Virtual Hosts pane.
- In the General Properties section of the Configuration tab, specify the name of the virtual host for. For example, type:

MXES_SERVER_host

- Click **OK**, then click **Save** to save your changes to the master configuration.
- Click **Save** again.
- Click on **MXES_SERVER_host**.
- In the Additional Properties section of the Configuration tab, click **Host Aliases**.
- Click **New**.

For new virtual hosts, the default host name can be * to allow any value.

Change the port number to the IBM HTTP Server alias, for example, 80. Make sure that the IBM HTTP Server runs on this port and that the Web container uses any subsequent ports, such as 9081. The HTTP Server plug-in always uses the *first* port in this list.

- 9 Click **OK**, then click **Save** to save your changes to the master configuration.
- 10 Click **Save** again.

Building EAR files

- 1 Open a Command Prompt.
- 2 Go to C:\Maximo\deployment
- 3 Run the appropriate script:

Script	Output
buildmaximoear (Windows)	Creates a maximo.ear file
buildhelp.ear	Creates a maximohelp.ear file
buildacweb.ear	Creates an acweb.ear file

- 4 These scripts take several minutes to run.

The command prompt or terminal window then displays a BUILD SUCCESSFUL line.

Deploying EAR Files

Now that you have created and configured the Maximo application server (MXES_SERVER), you must deploy your enterprise applications within the MXES_SERVER container.

Before you complete the following steps, verify that the Deployment Manager and the node agent are both started.

- 1 Open a browser window and enter the following URL:

http://<machine_name>:9060/ibm/console
- 2 Enter an administrative user ID and password to login.
- 3 Click **Applications > Install New Applications** in the navigation pane.
- 4 Select the appropriate file system (local or remote), then click **Browse**.
- 5 Navigate to your <Maximo root>\deployment\default folder.
- 6 Select **maximo.ear** and click **Open** in the dialog box, then click **Next**.

7 In the "Preparing for the application installation screen" select the following then click **Next**:

- ▼ Generate Default Bindings
- ▼ Do not specify unique prefix
- ▼ Do not override existing bindings
- ▼ Use default virtual host name for Web modules (use the host created in "Creating the Virtual Host" on page 27-13).

8 The Install New Application screen displays, which contains nine Steps. Use the following table to guide you:

Steps to install the new application

Steps	User actions
Step 1	Accept the default settings and click Next .
Step 2	<ul style="list-style-type: none"> ■ Select all Modules. ■ From the "Servers and Clusters" list, select both MXES_SERVER and the webserver. ■ Click Apply, then click Next.
Step 3	Accept the default settings and click Next .
Step 4	Accept the default settings and click Next .
Step 5	Accept the default settings and click Next .
Step 6	<ul style="list-style-type: none"> ■ Select all Modules. ■ For each module select MXES_SERVER_HOST from the virtual host list. ■ Click Next.
Step 7	Accept the default settings and click Next .
Step 8	Accept the default settings and click Next .
Step 9	Review your settings, then click Finish .

9 In the pane showing "Application Maximo installed successfully," click **Save to Master Configuration**.

10 Click **Save** again.

11 To deploy the remaining EAR files, use the above procedure as your basis but make the following changes:

- ▼ substitute the appropriate EAR file and application name
- ▼ note that for the remaining EAR files, only four "specify option" steps are required, instead of nine steps needed to install maximo.ear
- ▼ accept the default value all four steps

EAR File	Application Name
maximohelp.ear	MAXIMOHELP
acweb.ear	ACTUATE

Starting the Maximo Application Server

Start the Maximo application server (MXES_SERVER) from the Administrative Console:

- 1 Restart the IBM HTTP Server to take the plug-in configuration updates. Do this only if you access Maximo through the IBM HTTP Server.
- 2 Enter the following URL:

`http://<machine_name>:<9060>/admin`
- 3 Enter an administrative user ID and password to login.
- 4 Click **Servers > Application Servers** in the navigation pane.
- 5 In the Application Servers pane, check the box next to MXES_SERVER.
- 6 Click **Start**.
- 7 (Optional) Start the Maximo application server as a service by opening the Control Panel and going to **Administrative Tools > Component Services**. Right-click “IBM WebSphere Application Server V6 - mxes_server,” and select **Start**.

Load Balancing Multiple Maximo Application Servers

Load balancing spreads the load across many servers, so that large numbers of clients can access the Maximo system.

This site provides information on WebSphere 6.0.x software issues:

<http://publib.boulder.ibm.com/infocenter/ws60help/index.jsp>

Load balancing procedure for WebSphere 6.0

Use **MXES_SERVER** as the template for creating Clustered servers.

- 1 Start the Deployment Manager as a service or launch the process from a command prompt. To start as a service, open the Control Panel and go to **Administrative Tools > Component Services**. In the Services window, right-click “IBM WebSphere Application Server V6 - CellManager,” and select **Start**.
- 2 Alternatively, you can start the WebSphere Network Deployment Manager (dmgr) as follows:
 - a From a command prompt, navigate to:

```
\IBM\WebSphere\AppServer\profiles\dmgr_name\bin
```

- b** Type the following command:

```
startManager
```

- 3** To start the Node Agent as service, open the Services window as described in Step 1. Right-click “IBM WebSphere Application Server V6 - nodeagent,” and select **Start**

- 4** Alternatively, you can start the Node Agent as follows:

- a** From a command prompt, navigate to:

```
\\IBM\WebSphere\AppServer\profiles\custom_name\bin
```

- b** Type the following command:

```
startNode
```

- 5** When the Node is running, you can access the Administrative Console by opening a browser window and entering the following address:

```
http://<machine_name>:9060/ibm/console
```

Creating a cluster and cluster members

- 1** Open the Administrative Console.
- 2** Click Servers > Clusters in the navigation pane.
- 3** Click **New** in the Server Cluster pane.
- 4** In Step 1 of the Enter Basic Cluster Information panel, perform the following actions:
 - a** Type MXESCLUSTER in the Cluster name field.
 - b** Select the **Prefer local** box.
 - c** Select **Do not include an existing server in this cluster** button.
 - d** Click **Next**.
- 5** In Step 2 of the Create New Clustered Servers panel, perform the following actions:
 - a** Type MXES_SERVER1 in the Member name field.
 - b** Accept the defaults in the Select Node and Weight fields.
 - c** Select **Generate Unique Http Ports**.
 - d** Select the **Existing application server** button, and choose MXES_SERVER from the drop down list.
 - e** Click **Apply**.

- 6 To create a new clustered server, repeat the actions you performed in Step 5 using `MXES_SERVER2` as the server name.

NOTE You do not have to perform step 5-d when you create additional clustered servers, because `MXES_SERVER2` automatically defaults to the template you selected for `MXES_SERVER1`.

Repeat Step 5 to create additional clustered servers.

- 7 Click **Next**.
- 8 Click **Finish** to create the cluster and clustered servers.
- 9 Click **Save**.
- 10 Select **Synchronize changes with Nodes**, then click **Save** again.

Update Virtual Hosts

This procedure describes how to verify port numbers used by the clustered servers. It also explains how to update the virtual host with the port number information.

A virtual host enables a single host machine to resemble multiple host machines. Each virtual host has a logical name and a list of one or more DNS aliases by which it is known.

- 1 To verify port numbers of the clustered application servers, perform the following actions:
 - a In the navigation pane, click **Servers > Application Servers**.
 - b In the Application Servers panel, click **MXES_SERVER1**
 - c Under the Communication heading, click **Ports**.
 - d Note the **WC_defaulthost** port for use in Step 3 below (for example, step 3-h requires a `WC_defaulthost` port.)
- 2 Repeat Step 1 for `MXES_SERVER2` and any other clustered servers you may have created.
- 3 In the navigation pane, click **Environment > Virtual Hosts**.

Complete the following actions:

- a Click **New** to add a new virtual host for the cluster, then enter `MXESCLUSTER_host` for the Name.
- b Click **Apply**.
- c Click **Host Aliases** under Additional Properties.
- d Click **New** in the Host Alias panel to add Host name and port number values to the host aliases list.

- e Enter the following:
 - Host Name: *
 - Port: **80** (same as port number for the IBM HTTP Server)
 - f Click **OK**.
 - g Click **Host Aliases**, then click **New**.
 - h Enter the following:
 - Host Name: *
 - Port: **9081** (same as port number for MXES_SERVER1)
 - i Click **OK**.
 - j Click **Host Aliases**, then click **New**.
 - k Enter the following:
 - Host Name: *
 - Port: **9082** (same as port number for MXES_SERVER2)
 - l Click **OK**.
 - m Repeat Step 3 for any additional clustered servers.
- 4** To save the configuration, complete the following actions:
- a Click **Save**.
 - b Check **Synchronize changes with Nodes**.
 - c Click **Save**.

Deploy Maximo to the Cluster

Now that you have created and configured the MXESCLUSTER, you must deploy your enterprise applications within the cluster.

- 1** In the navigation pane, click Applications > Install New Applications.
- 2** Depending whether the browser that you are using is on the same machine where you have installed Maximo (Local) or not, select the appropriate option and navigate to where the EAR files reside (/maximo/deployment/default).
- 3** Select maximo.ear, then click **Open** in the dialog box.

- 4 In the "Preparing for the application installation screen" select the following:
 - ▼ Overwrite default bindings
 - ▼ Do not specify unique prefix for beans
 - ▼ Do not override existing bindings
 - ▼ Use default virtual host name for Web modules, and enter MXESCLUSTER_host.

- 5 In the Install New Application window, accept the following default settings:

Distribute Application	Enable
Application Name	Maximo
Deploy enterprise beans	Enable
Create mBeans for Resources	Enable

- 6 Click **Next**.

- 7 In Step 2, "Map modules to servers," you map Web modules to the MXES cluster. Complete the following actions:

- a From the Clusters and Servers box, select the **MXES** cluster and webserver.
- b Check all module box.
- c Click **Apply**.

- 8 In Steps 3, 4, and 5, accept the defaults and click **Next**.

- 9 In Step 6, complete the following actions:

- a Select all items from the Web module column.
- b For each Web module, select **MXESCLUSTER_host** from the Virtual host list.
- c Click **Next**.

- 10 In Steps 7 and 8, accept the defaults and click **Next**.

NOTE If you are a MEA customer, there will be an additional step. Just accept the default and click **Next**.

- 11 In the final step, review your settings then click **Finish**.

The deployment process takes several minutes to complete.

- 12 In the confirmation page, when you see the message "Application Maximo installed successfully," perform the following actions:

- a Click **Save to Master Configuration**.

- b Select **Synchronize changes with Nodes**.
- c Click **Save**.

Start the MXES Cluster and IBM HTTP Server

- 1 In the navigation pane, click Servers > Clusters.
- 2 Select MXESCLUSTER, then click **Ripplestart**.
- 3 Next, you can start the IBM HTTP server as a service by opening the Control Panel and going to **Administrative Tools > Component Services**. In the Services window, right-click “IBM HTTP Server... ,” and select **Start**.
- 4 Alternatively, you can start the IBM HTTP server by navigating to the \HTTPServer folder and typing:

`apache -k start`
- 5 To access the cluster, open `HTTP://<node name>:<port>/maximo`

where <port> is the port number of the IBM HTTP server.

Optimizing Performance of Maximo in the Application Server

For WebLogic performance tuning guidelines, see:

<http://e-docs.bea.com/wls/docs81/perform/index.html>

Refer to the [Support Online Knowledge Base](#) for these topics:

- ▼ Startup Mode
- ▼ Java Virtual Machine Tuning
- ▼ Application Server Scalability
- ▼ Queues & Threads

Managing the WebSphere 6.0 Application Server in UNIX

28

Maximo uses the IBM WebSphere Application Server to access Maximo's business components and Web-based applications. Chapter 23, "Multiple Maximo Configurations" overviews the Maximo architecture, and is a precursor to this chapter.

This chapter includes the following topics:

- ▼ Overview
- ▼ Starting and Stopping the WebSphere 6.0 Application Server
- ▼ Starting the Administrative Console
- ▼ Starting and Stopping the Maximo Application Server
- ▼ Configuring the Maximo Application Server in WebSphere 6.0
- ▼ Load Balancing Multiple Maximo Application Servers
- ▼ Load balancing procedure for WebSphere 6.0
- ▼ Optimizing Performance of Maximo in the Application Server

Overview

In its Info Center, IBM provides comprehensive information on running and administering WebSphere. You access this with the following URL:

<http://publib.boulder.ibm.com/infocenter/ws60help/index.jsp>

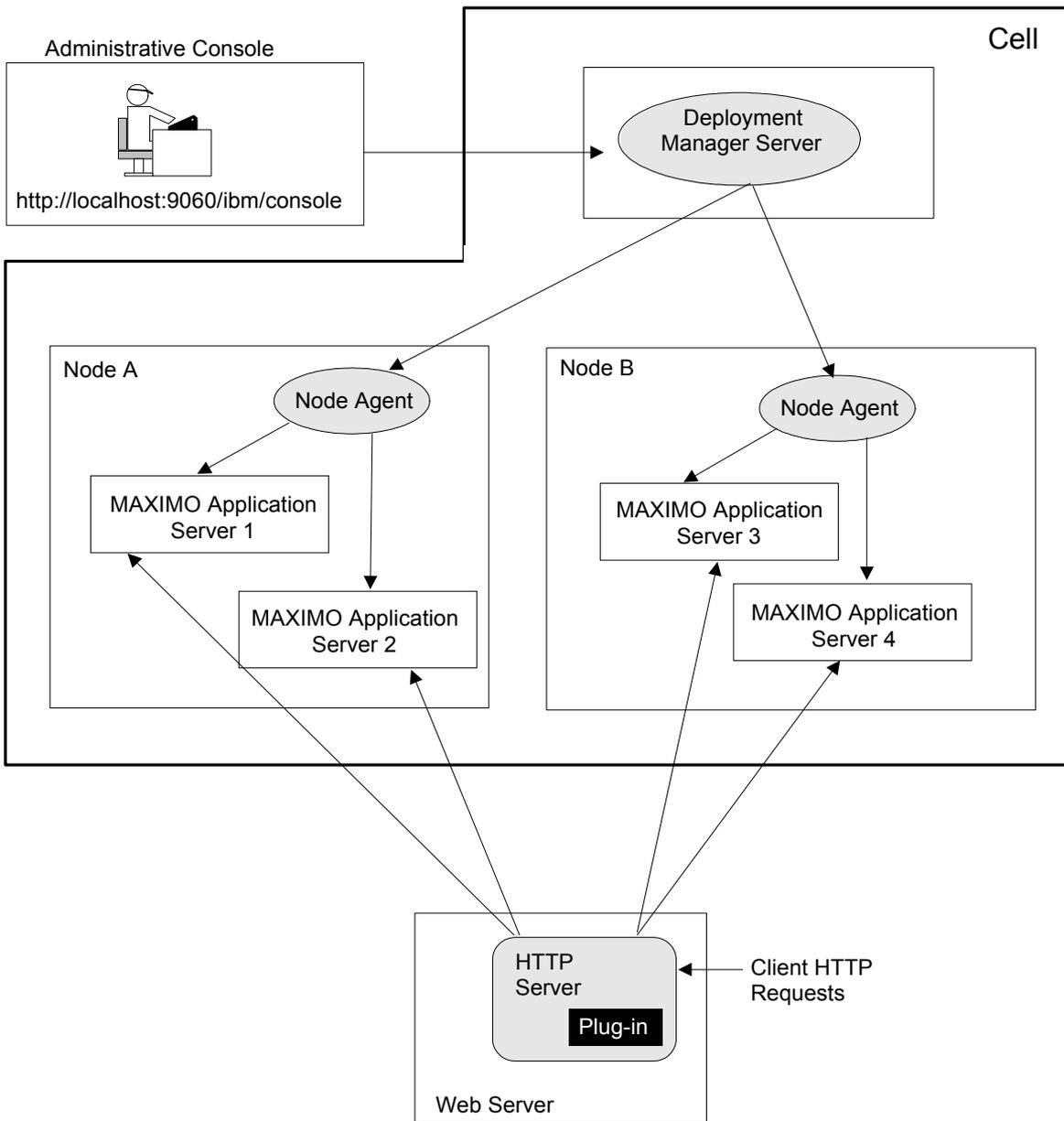
WebSphere Network Deployment

The Network Deployment is based on the concept of Cells, nodes and servers.

This diagram illustrates a Network Deployment configuration of the WebSphere Application Server with the following components:

- ▼ a cell with two nodes
- ▼ a Deployment Manager
- ▼ an Administrative Console
- ▼ clustered Maximo application servers
- ▼ the IBM HTTP Server with plug-in

Maximo application servers clustered in a WebSphere Network Deployment Configuration



Starting and Stopping the WebSphere 6.0 Application Server

An administrative server named MAXIMOSERVER was created during installation.

Verify that the following are configured and installed:

- ▼ WebSphere 6.0 Network Deployment (ND) software
 - ▼ WebSphere 6.0.0.2 fixpack
 - ▼ A Deployment Manager profile and at least one Custom profile
- 1 First start the node agent process. Open a terminal window and change directory to `/IBM/WebSphere/AppServer/profiles/Custom_name/bin`.
 - 2 Type the following command and press Enter:


```
./startNode.sh
```
 - 3 Change directory to `/IBM/WebSphere/AppServer/profiles/Dmgr_profile_name/bin`.
 - 4 Type the following command and press Enter:


```
./startManager.sh
```
 - 5 To start the Administrative Console, open a browser window and enter the following URL:


```
http://<machine_name>:9060/ibm/console
```

Where `<machine_name>` is the host name of the WebSphere Application Server and 9060 is the default port number for the Administrative Console.
 - 6 Enter an administrative user ID and password to login, if one is required. See “Securing the Administrative Console” on page 28-4 for information on creating a user ID and password.
 - 7 From the Administrative Console’s navigation pane, click **Servers > Application Servers**.
 - 8 Select the check box next to MAXIMOSERVER, the name of the WebSphere Application Server.
 - 9 Click **Start**. Notice that the icon in the Status column changes to , or running.
- NOTE** As you add new application servers to your cell, you will see them listed and be able to start them from this page.
- 10 To stop the WebSphere Application Server, click **Stop**. Notice that the icon in the Status column changes to , or stopped.

Starting the Administrative Console

Before you start the Administrative console, verify that these server processes are running. Use this table to guide you.

Starting and stopping IBM server processes from a terminal window

Server Name	Go To...	To Start, type...	To Stop, type...
HTTP Server	/IBM HTTP Server/bin	apachectl start	apachectl stop
Deployment Manager	IBM/WebSphere/AppServer/profiles/Dmgr01/bin	startManager.sh	stopManager.sh
Node Agent	IBM/WebSphere/AppServer/profiles/Custom01/bin	startNode.sh	stopNode.sh

To start the Administrative Console, complete the following steps:

- 1 Open a browser window, and enter the following URL:

`http://<machine_name>:9060/ibm/console`

Where <machine_name> is the host name of the WebSphere Application Server and 9060 is the default port number for the Administrative Console.

- 2 Enter a user ID to login. Until you enable security, you can login with any user ID. The user ID does not have to be a valid system user.

Securing the Administrative Console

You can secure the Administrative Console so that only authenticated users can use it. Before you can secure the console, you must first activate WebSphere global security. To understand your security options and for help on designing a secure system, refer to *WebSphere Security Fundamentals*, an IBM Redpaper written by Peter Kovari.

Once you have enabled WebSphere global security, you must perform several steps to secure the console. First you must identify users (or groups) that are defined in the active user registry. After you decide which users you want to access the console, you can determine their level of access by assigning roles. The roles determine the administrative actions that a user can perform. After enabling security, a user must enter a valid administrator user ID and password to access the console.

You can add users, groups, and roles by selecting the following menu paths:

- ▼ System Administration > Console settings > Console Users
- ▼ System Administration > Console settings > Console Groups

You can assign the following roles to users:

Monitor	Allows you to view the WebSphere configuration and current state
Configurator	Monitor rights plus the ability to change the WebSphere configuration
Operator	Monitor rights plus the ability to change the runtime state.
Administrator	Operator and Configurator rights

After you change the configuration:

- ▼ restart all the application servers
- ▼ make sure administrative users have the appropriate administrative role and login credentials

Starting and Stopping the Maximo Application Server

- 1 Open a browser window and enter the following URL:
`http://<machine_name>:9060/ibm/console`
- 2 Enter an administrative user ID and password to login, if one is required.
- 3 From the Administrative Console's navigation pane, click **Servers > Application Servers**.
- 4 Select the check box next to MAXIMOSERVER, the name of the Maximo application server.
- 5 Click **Start**.
- 6 To stop the Maximo application server, click **Stop**.

Configuring the Maximo Application Server in WebSphere 6.0

This section describes configuring Maximo in the WebSphere Application Server. This lets you configure one or more Maximo application servers in addition to the one you created during the Maximo installation.

Chapter 23, "Multiple Maximo Configurations," discusses some examples of different Maximo configurations.

NOTE Throughout this section **MXES_SERVER** is the application server running Maximo. Substitute another name if appropriate. For example, if you are setting up multiple application servers, you may want to use **MXES_SERVER2**, and so forth.

Preconfiguration Steps

These tasks are required before adding and configuring a new Maximo application server:

- 1 Make sure that the WebSphere Application Server, V6.0 is successfully installed. (See page 28-3)
- 2 Start the Node Agent. (See page 28-4)
- 3 Start the Network Deployment Manager. (See page 28-4)
- 4 Start the Administrative Console. (See page 28-4)

Creating the New Maximo Application Server

- 1 To start the Administrative Console, open a browser window and enter the following URL:

`http://<machine_name>:9060/ibm/console`
- 2 Enter an administrative user ID and password.
- 3 Click **Servers > Application Servers** in the navigation pane.
- 4 Click **New** in the Application Servers pane.
- 5 To create a new application server from a server template, complete the following:
 - ▼ Step 1: Accept the default setting for Select Node, type “MXES_SERVER” in the Server name field and click Next.
 - ▼ Step 2: Accept the default server template and click Next. Generate Unique Http Ports
 - ▼ Step 3: Accept the default, which is to generate unique port numbers, and click Next.
 - ▼ Step 4: Click Finish to finish creating the application server.
- 6 Click **Save** to update the master configuration.

Identifying Log Files

From the Administrative Console, you can configure these log files:

- ▼ Diagnostic Trace
- ▼ JVM Logs
- ▼ Process Logs
- ▼ IBM Service Logs

To view or update log files, complete the following steps:

- 1 Click **Troubleshooting > Logs and Trace** in the navigation pane.
- 2 Click **MXES_SERVER** in the Logging and Tracing pane to display the list of logs available for MXES_SERVER.
- 3 Click a log, for example, Diagnostic Trace or JVM Logs, to display configuration and runtime information.

You can view or edit information for these log files:

Log Type	File Name	Description
Diagnostic Trace	trace.log	View and modify the properties of the diagnostic trace service.
JVM Logs	SystemOut.log and SystemErr.log	View and modify the settings for the Java Virtual Machine (JVM) logs.
Process Logs	native_stderr.log and native_stdout.log	View and modify setting for specifying the files to which standard out and standard error streams write.
IBM Service Logs	activity.log	Configure the IBM service log, also known as the activity log.

- 4 Click the Configuration tab to display log information. For example, in the JVM Logs Configuration tab, the “\$(SERVER_LOG_ROOT)” parameter points to the folder location of the log file, for example:

```
$(SERVER_LOG_ROOT)/SystemOut.log
```

where “\$(SERVER_LOG_ROOT)” is equal to `/IBM/WebSphere/AppServer/profiles/profile_name/logs/mxes_server`

Note “\$(SERVER_LOG_ROOT)” can point to the log folder based on the server you choose.

Specifying JVM Memory Settings

This section describes how to set the initial and maximum JVM memory size in megabytes.

NOTE Do not set the java heap size to exceed your server’s memory (RAM).

- 1 Click **Servers > Application Servers** in the navigation pane.
- 2 Click the **MXES_SERVER** link in the Application Servers pane.
- 3 Under Server Infrastructure, click **Java and Process Management**.

- 4 Click **Process Definition**.
- 5 Under Additional Properties, click **Java Virtual Machine**.
- 6 Set the Initial Heap Size to **512** and the Maximum Heap Size to **1024**, then click **OK**.
- 7 **For Solaris only** — set Generic JVM arguments to the following value:

```
-XX:MaxPermSize=256
```
- 8 Click **Save** in the Messages pane to save changes to the master configuration.
- 9 Click **Save** again.

Identifying the HTTP Transfer Port Numbers

For future configurations, note the HTTP port numbers of the MXES_SERVER Web container.

- 1 Click **Servers > Application Servers** in the navigation pane.
- 2 Click **MXES_SERVER** in the Application Servers pane.
- 3 In the Configuration tab, click **Web Container Settings**.
- 4 Click **Web container transport chains**.

Application servers > MXES_SERVER > Transport Chain

Transport chains represent network protocol stacks operating within a client or server.

⊕ Preferences

New Delete

Select	Name	Enabled	Host	Port	SSL Enabled
<input type="checkbox"/>	WCInboundAdmin	Enabled	*	9070	Disabled
<input type="checkbox"/>	WCInboundAdminSecure	Enabled	*	9053	Enabled
<input type="checkbox"/>	WCInboundDefault	Enabled	*	9088	Disabled
<input type="checkbox"/>	WCInboundDefaultSecure	Enabled	*	9451	Enabled

Total 4

- 5 Record the default server port number (9088, in this example) for future reference.

Creating the Virtual Host

A virtual host lets a single host machine resemble multiple host machines. Each virtual host has a logical name and a list of one or more domain names system (DNS) aliases by which it is known.

- 1 Click **Environment > Virtual Hosts** in the navigation pane.
- 2 Click **New** in the Virtual Hosts pane.
- 3 In the General Properties section of the Configuration tab, specify the name of the virtual host for the Maximo application server (MXES_SERVER). For example, type:

MXES_SERVER_host
- 4 Click **OK**, then click **Save** to save your changes to the master configuration.
- 5 Click **Save** again.
- 6 Click on **MXES_SERVER_host**.
- 7 In the Additional Properties section of the Configuration tab, click **Host Aliases**.
- 8 Click **New**.

For new virtual hosts, the default host name can be * to allow any value.

Change the port number to the IBM HTTP Server alias, for example, 80. Make sure that the IBM HTTP Server runs on this port and that the Web container uses any subsequent ports, such as 9081. The HTTP Server plug-in always uses the *first* port in this list.

- 9 Click **OK**, then click **Save** to save your changes to the master configuration.
- 10 Click **Save** again.

Building the EAR Files

In a UNIX environment, you still need a Windows machine to host Maximo and to build the EAR files.

The three EAR files are:

maximo.ear	for the Maximo application
maximohelp.ear	for the Maximo Help application
acweb.ear	for the Actuate Active Portal

Rebuilding EAR files

You rebuild and redeploy EAR files whenever you:

- ▼ Modify .xml files or custom class files (Maximo.ear).
- ▼ Modify html Help topics (Maximohelp.ear).
- ▼ Modify settings in the maximo.properties file (Maximo.ear).

NOTE Make a backup copy before rebuilding EAR files.

- 1 Open a terminal window.
- 2 Go to the deployment folder: /mxadmin/maximo
- 3 Run the appropriate script:

Script	Output
./buildmaximoea.sh	Creates a maximo.ear file
./buildhelp.sh	Creates a maximohelp.ear file
./buildacweb.sh	Creates an acweb.ear file

- 4 These scripts take several minutes to run, then displays BUILD SUCCESSFUL.

Deploying EAR Files

In this chapter you create new Application Servers. However, deploying EAR files into existing Application Servers—redeploying—is something you will do whenever you customize Maximo.

Redeploying EAR files

If you are redeploying an EAR file into an existing Application Server, first remove the old one.

- 1 In the Administration Console, open the Deployments node.
- 2 Right-click on an application, for example MAXIMO, and choose Delete.
- 3 Click **Yes** to confirm.

To redeploy, continue below:

Deploying Ear Files Into the Application Server

- 1 Login to the WebSphere administration console, at:
`http://<machine_name>:9060/ibm/console`
- 2 Enter an administrative user ID and password to login.
- 3 Click **Applications > Install New Applications** in the navigation pane.
- 4 Select **Remote file system**, then click **Browse**.

NOTE In a UNIX environment, a Windows system is required to host Maximo and to build the EAR files. This is the system you should browse to.

- 5 Navigate to your <Maximo root>\deployment\default folder.
- 6 Select **maximo.ear** and click **Open** in the dialog box, then click **Next**.

7 In the "Preparing for the application installation screen" select the following then click **Next**:

- ▼ Generate Default Bindings
- ▼ Do not specify unique prefix
- ▼ Do not override existing bindings
- ▼ Use default virtual host name for Web modules (use the host created in "Creating the Virtual Host" on page 28-8)

8 The Install New Application screen displays, which contains nine Steps. Use the following table to guide you:

Steps to install the new application

Steps number	User action
Step 1	Accept the default settings and click Next .
Step 2	<ul style="list-style-type: none"> ▼ Select all Modules. ▼ From the "Servers and Clusters" list, select both MXES_SERVER and the webserver. ▼ Click Apply, then click Next.
Step 3	Accept the default settings and click Next .
Step 4	Accept the default settings and click Next .
Step 5	Accept the default settings and click Next .
Step 6	<ul style="list-style-type: none"> ▼ Select all Modules. ▼ For each module select MXES_SERVER_HOST from the virtual host list. ▼ Click Next.
Step 7	Accept the default settings and click Next .
Step 8	Accept the default settings and click Next .
Step 9	Review your settings, then click Finish .

9 In the pane showing "Application Maximo installed successfully," click **Save to Master Configuration**.

10 Click **Save** again.

11 To deploy the remaining EAR files, use the above procedure as your basis but make the following changes:

- ▼ substitute the appropriate EAR file and application name, as shown in the table below
- ▼ note that for the remaining EAR files, only four "specify option" steps are required, instead of nine steps needed to install maximo.ear
- ▼ accept the default value all four steps

Deploy the remaining EAR files

EAR File	Application Name
maximohelp.ear	MAXIMOHELP
acweb.ear	ACTUATE

Starting the Maximo Application Server

Start the Maximo application server (MXES_SERVER) you just created:

- 1 Restart the IBM HTTP Server to take the plug-in configuration updates. Do this only if you access Maximo through the IBM HTTP Server.
- 2 To start the Administrative Console, open Internet Explorer and enter the following URL:

`http://<machine_name>:<9060>/admin`
- 3 Enter an administrative user ID and password to login.
- 4 Click **Servers > Application Servers** in the navigation pane.
- 5 In the Application Servers pane, check the box next to MXES_SERVER.
- 6 Click **Start**.

Load Balancing Multiple Maximo Application Servers

Load balancing spreads the load across many servers, so that large numbers of clients can access the Maximo system.

This site provides information on WebSphere 6.0.x software issues:

<http://publib.boulder.ibm.com/infocenter/ws60help/index.jsp>

Load balancing procedure for WebSphere 6.0

Use **MXES_SERVER** as the template for creating clustered servers.

- 1 Start the WebSphere Network Deployment Manager (dmgr) as follows:
 - a From a terminal window, change directory to:

`/IBM/WebSphere/AppServer/profiles/dmgr_name/bin`
 - b Type the following command and press Enter:

`./startManager.sh`

- 2 Start the Node Agent as follows:
 - a From a terminal window, change directory to:

```
/IBM/WebSphere/AppServer/profiles/Custom_name/bin
```
 - b Type the following command:

```
./startNode.sh
```
- 3 When the Node is running, you can access the Administrative Console by opening a browser window and entering the following address:

```
http://<machine_name>:9060/ibm/console
```

Creating a Cluster and cluster members

Complete the following steps to create a cluster and cluster members.

- 1 Open the Administrative Console.
- 2 Click Servers > Clusters in the navigation pane.
- 3 Click **New** in the Server Cluster pane.
- 4 In Step 1 of the Enter Basic Cluster Information panel, perform the following actions:
 - a Type MXESCLUSTER in the Cluster name field.
 - b Select the **Prefer local** box.
 - c Select **Do not include an existing server in this cluster** button.
 - d Click **Next**.
- 5 In Step 2 of the Create New Clustered Servers panel, perform the following actions:
 - a Type MXES_SERVER1 in the Member name field.
 - b Accept the defaults in the Select Node and Weight fields.
 - c Select **Generate Unique Http Ports**.
 - d Select the **Existing application server** button, and choose MXES_SERVER from the drop down list.
 - e Click **Apply**.
- 6 To create a new clustered server, repeat the actions you performed in Step 5 using MXES_SERVER2 as the server name.

NOTE You do not have to perform step 5d when you create additional clustered servers, because MXES_SERVER2 automatically defaults to the template you selected for MXES_SERVER1.

Repeat Step 5 to create additional clustered servers.

- 7 Click **Next**.
- 8 Click **Finish** to create the cluster and clustered servers.
- 9 Click **Save**.
- 10 Select **Synchronize changes with Nodes**, then click **Save** again.

Update Virtual Hosts

This procedure describes how to verify port numbers used by the clustered servers. It also explains how to update the virtual host with the port number information.

A virtual host enables a single host machine to resemble multiple host machines. Each virtual host has a logical name and a list of one or more DNS aliases by which it is known.

- 1 To verify port numbers of the clustered application servers, perform the following actions:
 - a In the navigation pane, click Servers > Application Servers.
 - b In the Application Servers panel, click **MXES_SERVER1**
 - c Under the Communication heading, click **Ports**.
 - d Note the **WC_defaulthost** port for use in Step 3 below (for example, step 3-h requires that you enter a WC_defaulthost port.)
- 2 Repeat Step 1 for MXES_SERVER2 and any other clustered servers you may have created.
- 3 In the navigation pane, click Environment > Virtual Hosts.

Complete the following actions:

- a Click **New** to add a new virtual host for the cluster, then enter MXESCLUSTER_host for the Name.
- b Click **Apply**.
- c Click **Host Aliases** under Additional Properties.
- d Click **New** in the Host Alias panel to add Host name and port number values to the host aliases list.
- e Enter the following:

Host Name: *

Port: **80** (same as port number for the IBM HTTP Server)
- f Click **OK**.

- g** Click **Host Aliases**, then click **New**.
 - h** Enter the following:
Host Name: *
Port: **9081** (same as port number for MXES_SERVER1)
 - i** Click **OK**.
 - j** Click **Host Aliases**, then click **New**.
 - k** Enter the following:
Host Name: *
Port: **9082** (same as port number for MXES_SERVER2)
 - l** Click **OK**.
 - m** Repeat Step 3 for any additional clustered servers.
- 4** To save the configuration, complete the following actions:
- a** Click **Save**.
 - b** Check **Synchronize changes with Nodes**.
 - c** Click **Save**.

Deploy Maximo to the Cluster

Now that you have created and configured the MXESCLUSTER, you must deploy your enterprise applications within the cluster.

- 1** In the navigation pane, click Applications > Install New Applications.
 - 2** Select **Remote file system**, then click **Browse**.
- NOTE** In a UNIX environment, a Windows system is required to host Maximo and to build the EAR files. This is the system you should browse to.
- 3** Navigate to your <Maximo root>\deployment\default folder.
 - 4** Select maximo.ear, then click **Open** in the dialog box. This action displays the "Preparing for the application installation" panel.
 - 5** In the "Preparing for the application installation screen" select the following:
 - ▼ Overwrite default bindings
 - ▼ Do not specify unique prefix for beans
 - ▼ Do not override existing bindings
 - ▼ Use default virtual host name for Web modules, and enter MXESCLUSTER_host.

6 In the Install New Application window, accept the following default settings:

Distribute Application	Enable
Application Name	Maximo
Deploy enterprise beans	Enable
Create mBeans for Resources	Enable

7 Click **Next**.

8 In Step 2, Map modules to application servers, you map Web modules to the MXES cluster. Complete the following actions:

- a From the Clusters and Servers box, select the **MXES** cluster and webserver.
- b Check all modules boxes.
- c Click **Apply**.

9 In Steps 3, 4, and 5, accept the defaults and click **Next**.

10 In Step 6, complete the following actions:

- a Select all items from the Web module column.
- b For each Web module, select **MXESCLUSTER_host** from the Virtual host list.
- c Click **Next**.

11 In Steps 7 and 8, accept the defaults and click **Next**.

NOTE If you are a MEA customer, there will be an additional step. Just accept the default and click **Next**.

12 In the final step, review your settings then click **Finish**.

The deployment process takes several minutes to complete.

13 In the confirmation page, when you see the message “Application Maximo installed successfully,” perform the following actions:

- a Click **Save to Master Configuration**.
- b Select **Synchronize changes with Nodes**.
- c Click **Save**.

Start the MXES Cluster and IBM HTTP Server

Complete the following steps:

- 1 In the navigation pane, click Servers > Clusters.
- 2 Select MXESCLUSTER, then click **Ripplestart**.
- 3 Start the IBM HTTP server by navigating to the /HTTPServer folder and typing:

```
apachectl start
```
- 4 To access the cluster, open HTTP://<node name>:<port>/maximo
where <port> is the port number of the IBM HTTP server.

Optimizing Performance of Maximo in the Application Server

For WebLogic performance tuning guidelines, see:

<http://e-docs.bea.com/wls/docs81/perform/index.html>

Refer to the [Support Online Knowledge Base](#) for these topics:

- ▼ Startup Mode
- ▼ Java Virtual Machine Tuning
- ▼ Application Server Scalability
- ▼ Queues & Threads

Maximo clients communicate to application servers using the Hypertext Transfer Protocol (HTTP). Maximo can also be configured to take advantage of the more secure protocol, Hypertext Transfer Protocol Secure (HTTPS).

If Maximo clients exist outside the corporate network, you can add a firewall or other security measure. Firewalls are configured to allow communication over HTTP (typically Port 80) or HTTPS (typically Port 443). The following information is generic and does not reflect any particular firewall brand.

Using Secure Socket Layer (SSL) with Maximo

SSL provides secure connections by allowing two applications connecting over a network connection to authenticate the other's identity and by encrypting the data exchanged between the applications. Authentication allows a server and optionally a client to verify the identity of the application on the other end of a network connection. Encryption makes data transmitted over the network intelligible only to the intended recipient.

To implement SSL, a Web server must have an associated certificate for each external interface (IP address) that accepts secure connections.

BEA WebLogic supports SSL, and MRO Software has certified the SSL implementation with the Maximo-WebLogic integration. Refer to “Configuring SSL” in the following Web site:

<http://e-docs.bea.com/wls/docs81/secmanage/index.html>

After you install the certificate on the Web server, replacing the “http” with “https” encrypts a session between the browser and server.

For example:

http://Maximo App Servername

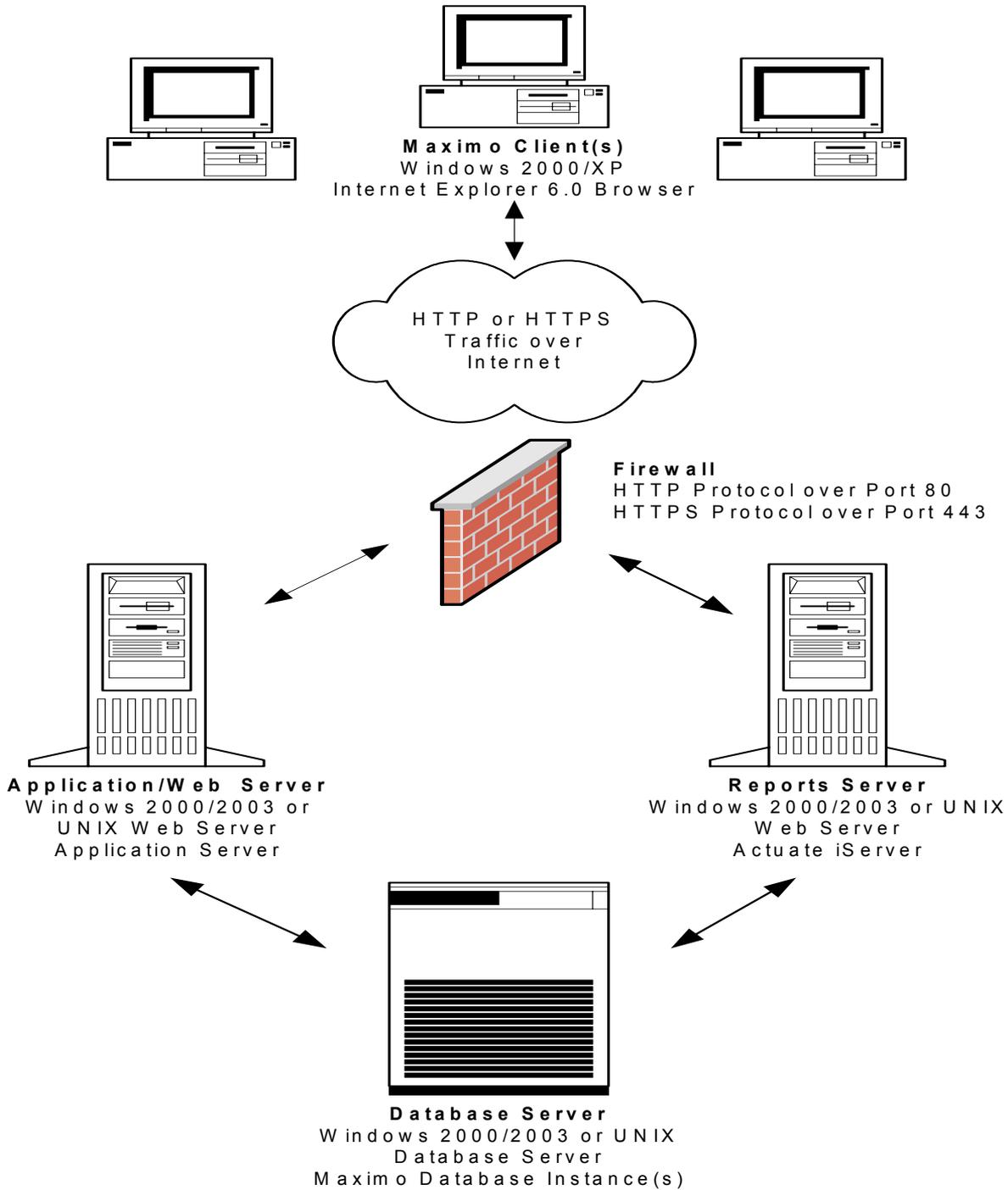
should instead be entered as:

https://Maximo App Servername

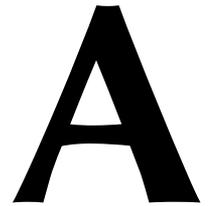
The standard port for HTTPS is 443.

If a Proxy server or Firewall controls network traffic, this port and protocol must be opened. SSL comes with some additional overhead for encryption and decryption of data. This can affect performance.

Example of Maximo Using HTTP Over a Firewall



Configuring Maximo With Multiple Languages



A single database can contain data in multiple languages, which lets diverse users run Maximo in their native language. By default, multiple languages is enabled for:

- ▼ Data Dictionary tables
- ▼ the Company and Item objects
- ▼ Maximo messages

For information on running reports in multiple languages, see the Report Administration and Development (RAD) guide. This is available on the Maximo Documentation CD.

NOTE The MAXATTRIBUTE table tells you which tables and columns are:

- ▼ multiple language supported (MLSUPPORTED=1)
- ▼ multiple language enabled (MLINUSE=1).

To view tables and columns enabled for multiple language, open a SQL editor and type:

```
select objectname,attributename from maxattribute where mlinuse= 1;
```

These tables and columns are multiple language enabled by default.

TABLES	COLUMNS
ALNDOMAIN	DESCRIPTION
COMPANIES	NAME_LONGDESCRIPTION
COMPANIES	NAME
ITEM	DESCRIPTION_ LONGDESCRIPTION
ITEM	DESCRIPTION
MAXAPPS	DESCRIPTION
MAXDOMAIN	DESCRIPTION
MAXSERVICE	DESCRIPTION
MAXMENU	HEADERDESCRIPTION

TABLES	COLUMNS
MAXMESSAGES	VALUE
MAXMESSAGES	BUTTONTEXT
MAXOBJECTCFG	DESCRIPTION
MAXOBJECT	DESCRIPTION
MAXLABELS	VALUE
MAXMODULES	DESCRIPTION
MAXATTRIBUTE	REMARKS
MAXATTRIBUTE	TITLE
MAXATTRIBUTECFG	REMARKS
MAXATTRIBUTECFG	TITLE
REPORT	DESCRIPTION
REPORTLABEL	COLUMNWIDTH
REPORTLABEL	FONTNAME
REPORTLABEL	FONTSIZE
REPORTLABEL	LABELVALUE
SIGOPTION	DESCRIPTION
SYNONYMDOMAIN	DESCRIPTION

Enabling multiple languages on an object or table creates a secondary table connection. For example, L_ITEM is the secondary table for the ITEM object.

Enabling Multiple Languages on Objects and Attributes

You can enable multiple languages on objects or attributes.

Objects

- 1 In the Database Configuration application, select the object (for example, ASSET or LOCATIONS) you want to enable for multiple languages.
- 2 In the Objects tab, specify a value for the **Language Table**. The convention is L_<objectname>.
- 3 Save the record.

This creates an object for the language object, and enables the **Is Language Table**.

Attributes

- 1 In the Database Configuration application, select the attribute you want to enable for multiple languages.
- 2 From the Attributes tab, verify that **Multilanguage Supported** is selected.

- 3 Select the **Multilanguage in Use** check box to identify the attributes you want to enable for multiple languages.

NOTE Most of the Maximo attributes do not support multiple languages. For example, description fields in ITEM and COMPANIES do support multiple languages, while description fields in transaction type applications like WO, PO, PR, RFQ, and INVOICE do not.

- 4 Configure the database. See “Configuring the Database” on page 4-21 for more details.

The language tables are empty until you populate them with new data. Maximo provides a toolset to export and import all translatable strings via XML files. For more information, see the following section

Displaying Foreign Language Characters

Install additional language files if you find that foreign language characters do not display consistently in the Maximo UI.

It is recommended that you install the files only if you need them, because they require hard disk space and may slow performance when you enter text.

Option	Languages files installed	Disk space required
Install files for East Asian languages	Chinese, Japanese, and Korean	230 MB
Install files for complex script and right-to-left languages (including Thai)	Arabic, Armenian, Georgian, Hebrew, the Indic languages, Thai, and Vietnamese	10 MB

NOTE Certain fonts do not support foreign language characters. Example: Veranda does not support East Asian characters.

- 1 From the Start menu, choose Settings > Control Panel > Regional and Language Options.
- 2 Click the Languages tab.
- 3 Select the files you want to install.



- 4 Click OK or Apply.
- 5 Reboot the machine.

Multiple Language Utilities

These utilities are used to:

- ▼ Populate multiple language tables and columns with translated string data, use *exportlang.bat* and *importlang.bat*.
- ▼ Ensure consistency between translation strings, using the unique IDs match.
- ▼ Switch base languages, for example, changing the original base language English (EN) to French (FR) by using the *resetbaselang.bat* utility.

These utilities are located in the Maximo\Tools\Maximo folder.

Utility	Usage
exportlang.bat	Exports translatable strings into an .xml file. See “Running exportlang.bat” on page A-5.
importlang.bat	Imports the translated strings from the .xml file into the multiple language tables. See “Running importlang.bat” on page A-7.
deletelang.bat	Removes a specific language from the Maximo application. See “Running deletelang.bat” on page A-7.
resetbaselang.bat	Changes the base language. See “Running resetbaselang.bat” on page A-7.

Running exportlang.bat

The export utility produces an XML file, containing strings of the base language and the languages selected for translation. Translation occurs through an automated translation system or manual edits to the XML file.

The XML tag includes:

- ▼ Table name
- ▼ Record identifier
- ▼ Translatable field’s text string in base language
- ▼ Translatable field’s text string in other languages

Each text field contains the column name, language code, and maxlength. Maxlength defines how many characters are permitted in a field. The base language is always included as a reference for the translator.

The export.bat batch file supports these attributes:

```
-outfile <path and filename of xml file> (defaults to
export.xml if not specified)

-propfile <path to maximo.properties file> (defaults to the
.properties file of MAXIMO file structure)

-t [TABLENAME]:[COLUMNNAME1, COLUMNNAME2]

-l <language code 1> -l <language code 2>
```

Example 1

This is the most common usage of the `exportlang.bat` utility. Everything (all translatable values for all tables) is exported.

```
exportlang.bat -outfile C:\TEMP\MAXATTRIBUTE.XML -t
MAXATTRIBUTE -l FR -l ES
```

Example 2

This requires you to know which columns are translatable.

```
exportlang.bat -outfile C:\TEMP\MAXATTRIBUTE.XML -t
MAXATTRIBUTE:<column name> -l FR -l ES
```

Example 3

Here, the `maximo.properties` file resides in a different directory than the multiple language utilities. The file path is passed in the **-propfile** parameter.

```
exportlang.bat -outfile C:\TEMP\MAXAPPS.XML -
propfile C:\Maximo\applications\maximo\properties\maximo.proper
ties -t MAXAPPS -l FR -l ES
```

You defined specific languages for inclusion in the exported XML file. If the `-l` switch is not specified; only the base language will be included.

If the `-l` switch is not already in the database, the code creates an XML file with placeholders for that language. All language values will contain the literal "null" string.

Example of XML Code

```
<?xml version="1.0" encoding="UTF-8"?>
<DATABASE src="jdbc:oracle:thin:@localhost:1521:TGDB2">
<TABLE name="MAXATTRIBUTE">
<RECORD OBJECTNAME="ACCOUNTDEFAULTS"
ATTRIBUTENAME="ACCOUNTDEFAULTSID">
<TEXT column="REMARKS" lang="EN" maxlength="4000">Unique
Identifier</TEXT>
<TEXT column="REMARKS" lang="FR" maxlength="4000">null</TEXT>
</RECORD>
</TABLE>
</DATABASE>
```

Running importlang.bat

Importlang.bat populates the corresponding Maximo multiple language table with data from the XML file. The import.bat batch file is used as follows:

```
-infile <path and filename of xml file>  
-propfile <path to maximo.properties file>  
-l <language code 1> -l <language code 2>
```

Example

This example shows the most common importlang.bat usage.

```
importlang.bat -infile C:\temp\MAXATTRIBUTE.xml -l FR -l ES
```

Running deletelang.bat

Run this utility to delete a language from the database. You cannot delete the base language.

All table data is automatically removed from the corresponding multiple language tables.

Example

```
deletelang.bat -l FR
```

Running resetbaselang.bat

Run this utility to switch base languages. Example: from English (EN) to French (FR).

The language code is passed as a parameter, and resetbaselang.bat uses the import file language strings to populate the base language strings. This deletes the current base language and imports a new language from the XML file.

To make the current base language a secondary language:

- 1 Export the base language.
- 2 Re-imported it as a secondary language.
- 3 Run the resetbaselang.bat utility.

Example

```
resetbaselang.bat -infile c:\temp\export.xml -l FR
```


The Maximo.Properties File

B

Maximo.properties is a configuration file, located in the <Maximo root> applications\Maximo\properties folder.

If you change this file, you must rebuild and redeploy the Maximo EAR file. For details, see:

- ▼ (Windows) “Building EAR Files” on page 25-8.
- ▼ (Unix) “Building EAR Files” on page 26-8.

Maximo.Properties

Property Name	Description
mxe.name	The application server binding the application server object to the RMI registry. The default name is MXServer.
mxe.hostname	Name of the machine and port hosting the application server. Used by workflow to attach documents to email.
mxe.rmi.port	RMI communication port. If set at zero, RMI uses any available port. You can select another available port number.
mxe.allowLocalObjects	Set to true in production environments, to improve Maximo performance. Set to false for development work, or for custom Maximo applications. The default is false.
mxe.useAppServerSecurity	By default you use Maximo security, so the value is false. Set to true if you configure Maximo to use Application Server provided security.
mxe.MLCacheLazyLoad	By default, the multi-language metadata cache loads one object at a time. Set this flag to 1 to load all objects simultaneously for one language.
mxe.UserLicenseKey	The license key is used during installation. If the license key changes this value must be updated.

Database Related Properties

Property Name	Description
mxe.db.schemaowner (Oracle)	Owner of the database schema. For Oracle, the default owner name is maximo.
mxe.db.schemaowner (SQL Server)	Owner of the database schema. For SQL Server, the ownername must be dbo.
mxe.db.driver (Oracle)	The thin driver defined in mxe.db.driver. For example: mxe.db.driver=oracle.jdbc.driver.OracleDriver
mxe.db.driver (SQL Server)	The thin driver defined in mxe.db.driver. For SQL Server the driver name must be: mxe.db.driver=com.inet.tds.TdsDriver
mxe.db.url (Oracle)	The default URL is: mxe.db.url=jdbc:oracle:thin:@ <i>dbserver</i> :1521: <i>sid</i> where <i>dbserver</i> is the servername of your database server, 1521 is your default Oracle port number, and <i>sid</i> is your Oracle system identifier.
mxe.db.url (SQL Server)	The default is: server name, port number, database name defined as: mxe.db.url=jdbc:inetdae7a: <i>servername</i> :1433? database= <i>databasename</i> &language=us_english&nowarnings=true where you would substitute your database server name, and database name for the italicized values, and 1433 is your default SQL Server port number. NOTE: The string mxe.db.url=jdbc: inetdae can be followed by either 7 (supports Unicode) or 7a (supports ascii). Currently, Maximo only supports ascii for SQL server.
mxe.db.user (Oracle)	Database user the server uses to attach to the database server. This user must be the schema owner. The default is maximo.
mxe.db.user (SQL Server)	Database user the server uses to attach to the database server. For SQL Server this user must have a system administrator role as defined via sp_addsrvrolemember. For example: mxe.db.user = MAXIMO.
mxe.db.password	Password for the database user name.
mxe.db.initialConnections	Number of database connections to create when the Application Server is started. The default value is 15.

Property Name	Description
mx.e.db.maxFreeConnections	Maximum number of free database connections available in the connection pool. The default value is 30.
mx.e.db.minFreeConnections	Minimum number of free database connections needed in the connection pool in order for more connections to be allocated. The default value is 10.
mx.e.db.newConnectionCount	Number of new connections to be created when the minimum free connections are available in the connection pool. The default value is 5.
mx.e.db.transaction_isolation NOTE: The values for mx.e.db.transaction_isolation through mx.e.db.format.nullvalue <i>cannot</i> be edited	The Maximo install sets the value to: TRANSACTION_READ_COMMITTED This value cannot be edited.
mx.e.db.format.upper	This value defines the database's uppercase function for the system. The default value cannot be edited.
mx.e.db.format.date	This value tells the system the database's date function. A value of "none" tell the system to pass through the date value. The default value cannot be edited.
mx.e.db.format.time	This value tells the system the database's time function. A value of "none" tell the system to pass through the time value. The default value cannot be edited.
mx.e.db.format.timestamp	This value tells the system the database's time stamp function. A value of "none" tell the system to pass through the time stamp value. The default value cannot be edited.
mx.e.db.autocommit	This values sets the autocommit mode used for the Write connections. Can be either true or false. The default is false, and the default value cannot be edited.
mx.e.db.systemdateformat (Oracle)	System date format. For Oracle the value is sysdate, and the default value cannot be edited.
mx.e.db.systemdateformat (SQL Server)	System date format. For SQL Server the value is getdate().
mx.e.db.format.nullvalue (Oracle)	The database-specific format of the nullvalue function. The value for Oracle is NVL, and the default value cannot be edited.
mx.e.db.format.nullvalue (SQL Server)	The database-specific format of the nullvalue function. The value for SQL Server must be set to ISNULL.
mx.e.db.sqlserverPrefetchRows	Use only for SQL server environment, to reduce lock contention. Optimal setting is 200 rows. Setting a value larger than 500 may degrade performance.

Workflow Properties

Property Name	Description
mxe.adminuserid	The Maximo administrative user. Used by the server for administrative tasks and to run cron tasks. This user must have access to all sites in Maximo.
mxe.system.reguser	User registration login name for registering a new user. User name specified must have permission to create new users. This value is asked for during installation.
mxe.system.regpassword	User registration login password. This value is asked for during installation.
mxe.adminEmail	E-mail address used if the Maximo user has not specified an e-mail address in the labor record. This value is asked for during installation.
mail.smtp.host	Name of the host running the SMTP server. This name is needed for facilities that make use of e-mail such as Workflow notifications, Actuate e-mailing, and any error message notifications. Your network administrator can provide this address.

Workflow Properties

You may also refer to the *Workflow Designer Implementation Guide* for additional information.

Property Name	Description
mxe.workflow.admin	E-mail account of the Workflow administrator.

Reorder Properties

Property Name	Description
mxe.reorder.previewtimeout	The reorder preview timeout period (in minutes), which should be similar to the Web server session timeout. The default value is 30 minutes.

Security Properties

Maxtype CRYPTO identifies attributes that can be encrypted and decrypted. Maxtype CRYPTOX identifies attributes that can be encrypted, but not decrypted. Each of these maxtypes has its own means of encryption, the parameters for which are defined in the properties file.

Parameters identified as mxe.security.crypto... are for the CRYPTO maxtype, and those identified as mxe.security.cryptox... are for the CRYPTOX maxtype.

Property Name	Description
mxe.security.provider	The security provider is obtained from the policy file, which is normally com.sun.crypto.provider.SunJCE. To use a different provider, you can specify a value for this parameter.
mxe.security.crypto.mode	The following mode components are valid (OFB must use NoPadding): CBC: Cipher Block Chaining Mode, as defined in FIPS PUB 81. CFB: Cipher Feedback Mode, as defined in FIPS PUB 81. ECB: Electronic Codebook Mode, as defined in The National Institute of Standards and Technology (NIST) Federal Information Processing Standard (FIPS) PUB 81, "DES Modes of Operation," U.S. Department of Commerce, Dec 1980. OFB: Output Feedback Mode, as defined in FIPS PUB 81. PCBC: Propagating Cipher Block Chaining, as defined by Kerberos V4.
mxe.security.crypto.padding	The following padding components are valid: NoPadding: No padding. PKCS5Padding: The padding scheme described in: RSA Laboratories, "PKCS #5: Password-Based Encryption Standard," version 1.5, November 1993.
mxe.security.crypto.key	Its length must be a multiple of 24.
mxe.security.crypto.spec	Its length must be a multiple of 8.
mxe.security.cryptox.mode	The following mode components are valid (OFB must use NoPadding): CBC: Cipher Block Chaining Mode, as defined in FIPS PUB 81. CFB: Cipher Feedback Mode, as defined in FIPS PUB 81. ECB: Electronic Codebook Mode, as defined in The National Institute of Standards and Technology (NIST) Federal Information Processing Standard (FIPS) PUB 81, "DES Modes of Operation," U.S. Department of Commerce, Dec 1980. OFB: Output Feedback Mode, as defined in FIPS PUB 81. PCBC: Propagating Cipher Block Chaining, as defined by Kerberos V4.

Debugging Properties

Property Name	Description
mxe.security.cryptox.padding	The following padding components are valid: NoPadding: No padding. PKCS5Padding: The padding scheme described in: RSA Laboratories, "PKCS #5: Password-Based Encryption Standard," version 1.5, November 1993.
mxe.security.cryptox.key	Its length must be a multiple of 24.
mxe.security.cryptox.spec	Its length must be a multiple of 8.

Debugging Properties

Use these parameters *only* for testing and debugging purposes

Property Name	Description
mxe.mboCOUNT	Displays the number of mbo objects created by the server. The default is NO.
mxe.db.logSQLTimeLimit	Maximo logs the SQL statements that take longer than the specified time limit. The time is measured in milliseconds (thousandths of a second). The default is 1000 milliseconds.
mxe.db.fetchResultLogLimit	When this setting is enabled, a stack trace is printed in the maximo log for every business object set that fetches beyond the set limit of rows. The stack trace log is also repeated for every multiple of such fetches. The default is 200 rows.

Additional debugging parameter

If you decide to use this parameter, you must manually add it to maximo.properties.

Property Name	Description
mxe.debug.spid=yes	Add this parameter if you want log files to include user names and process id. This lets you trace SQL statements and blocks to specific users. For Oracle database only: to trace users you need permission to access the v\$session table. Go to <Maximo root> applications\Maximo\properties\logging.properties, and make sure log4j.maximo.sql=INFO .

Actuate Report Server Properties

Property Name	Description
mxe.report.actuate. reportserver	This is the URL of the Report iServer including port number. NOTE: If you enter a machine name, the end user must enter that same machine name in their browser to access Maximo. If you enter an IP address, the end user must enter that same IP address to access Maximo.
mxe.report.actuate.portalHost	This is the URL of the active portal server, including port number and folder. For example, http://production:8090/acweb
mxe.report.actuate.iServer	This is the URL of the mxe.report.actuate.reportserver machine. For example: http://iServer:8000
mxe.report.actuate.db. connectstring (Oracle)	The Oracle connect string of the Actuate server that will run reports. This value is populated during the installation program.
mxe.report.actuate.db. connectstring (SQL Server)	The data source name of the Actuate server that will run reports. The default value is maximo.
mxe.report.actuate.rootEncycF older	This is the root name of the actuate encyclopedia folder. For example, rpt .
mxe.report.actuate.rsseAlias	The alias name of the RSSE (Report Server Security Extension). RSSE allows you to direct your Actuate server to an external security system for all authentication and security information. The default is localhost.
mxe.report.actuate.multiServer	You must set this flag to <i>yes</i> when you are in a multi server environment.

Cron Task Manager Property

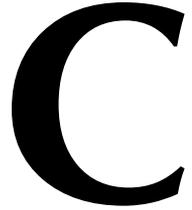
In this section, list the cron task instances which you do *not* want to run.

Property Name	Description
mxe.crontask.donotrun	Use ALL to exclude all cron tasks from running. To exclude a specific cron task from running, specify the instance by <i>crontaskname.instanceName</i> .

E-Signature Properties

Property Name	Description
mxe.esig.defaultuserid	Set this flag to true is you want the Esignature login dialog to default to the login ID. The default value is true.

Additional Maximo.Properties File Descriptions



The **additionalmaximo.properties** file lets you add optional features to Maximo. This configuration file is located in the <Maximo root> applications\Maximo\properties folder.

Additional properties are kept separate so they will not be lost when you import a new maximo.properties file. (Importing a new maximo.properties *will* overwrite your changes, so you have to use the following procedure to restore your changes.)

Usage

To add any additional maximo properties:

- 1 Edit the properties you want to add. Example: to prevent multiple logins on the same user account, set:

```
mxo.enableConcurrentCheck=true
```

- 2 Copy the edited section(s) from additionalmaximo.properties into maximo.properties.
- 3 Rebuild and redeploy your maximo.ear file. For details, see:
 - ▼ (Windows) “Building EAR Files” on page 25-8.
 - ▼ (Unix) “Building EAR Files” on page 26-8.

Additional Maximo Properties

Property name	Description
mxe.db.logSQLPlan (Oracle only)	Setting this property to true logs the execution plan for all SQL statements containing a full table scan. <ul style="list-style-type: none"> ▼ If you define mxe.db.sqlTableScanExclude (as shown in the next example under the Property name column) Maximo will log all the tables except for the ones you intentionally exclude. ▼ If you <i>do not</i> define mxe.db.sqlTableScanExclude, Maximo will log only the SQL statements that exceed the time limit set in mxe.dblogSQLTimeLimit.
mxe.db.sqlTableScanExclude= ACTION,MAXROLE, SCONFIG,MAXUSER (Oracle only)	You can define the table names which you want to exclude from the log. The table names must be UPPER case. <ul style="list-style-type: none"> ▼ If you define mxe.db.sqlTableScanExclude, Maximo will log all the tables except for the ones you list. ▼ If you <i>do not</i> define mxe.db.sqlTableScanExclude – but you do set mxe.db.logSQLPlan=true – Maximo will log only the SQL statements that exceed the time limit set in mxe.dblogSQLTimeLimit.
mxe.enableConcurrentCheck	Setting this property to true prevents multiple logins on the same user account.
mxe.dbmanager	This references the java class of Maximo's database manager. The default value is psdi.server.DBManager. <p>If you have an Oracle database requiring proxy authentication, set this property to psdi.server.OracleProxyDBManager. This also requires you to:</p> <ul style="list-style-type: none"> ▼ Specify the jdbc database connection string as the oci connection string ▼ Make the Oracle oci driver accessible to the Maximo web component JVM
mxe.db.proxyauthentication.mode	The oracle proxy authentication mode is only valid when you are using Oracle Proxy DataBase Manager. Values include: <ul style="list-style-type: none"> ▼ 1 = username ▼ 2 = username + password ▼ 3 = distinguished name (DN) ▼ 4 = certificate

Security Properties

Property Name	Description
mxe.security.crypto.algorithm	Algorithm is the basic type of encryption used by Maximo. Crypto properties are used for maximo datatype (maxtype) CRYPTO. The mxe.security.crypto.algorithm property can override the algorithm default value (DESede).
mxe.security.crypto.modulus	Modulus is used only for the RSA algorithm. Crypto properties are used for maximo datatype (maxtype) CRYPTO.
mxe.security.cryptox.algorithm	Algorithm is the basic type of encryption used by Maximo. Cryptox properties are used for maxtype CRYPTOX (an undecryptable version of crypto). The mxe.security.cryptox.algorithm property can override the algorithm default value (DESede).
mxe.security.cryptox.modulus	Modulus is used only for the RSA algorithm. Cryptox properties are used for maxtype CRYPTOX (an undecryptable version of crypto).

Additional encryption algorithms

The default encryption algorithm is DESede with Sun as the provider. However, some customers require a stronger algorithm for encryption.

For these customers, an alternate algorithm can be configured within the additional.properties file. Different properties can be configured for the CRYPTO and CRYPTOX data types.

The following table lists supported encryption algorithms:

Algorithm	Provider	Additional comments
AES	Criptix, Sun	For Sun, must use mode = ECB.
Blowfish	BouncyCastle, Cryptix	
CAST5	Cryptix	
DES	Cryptix, Sun	
DESede	Cryptix, Sun	
IDEA	Cryptix	
MARS	Cryptix	
PBEWithMD5AndDES	Sun	For Sun, must use CBC and PKCS5Padding; key must be 8 bytes long.
PBEWithSHA1AndDES	BouncyCastle	
RC4	BouncyCastle, Cryptix	
RC6	Cryptix	

Additional Maximo Properties

Algorithm	Provider	Additional comments
Rijndael	Cryptix	
RSA	BouncyCastle	Uses ECB and NoPadding (or empty string for mode and padding); spec is the private exponent, key is the public exponent.
Serpent	Cryptix	
SKIPJACK	Cryptix	Spec length must be a multiple of 10.
Square	Cryptix	
Twofish	Cryptix	

MXES-Business Objects Integration Properties

Property Name	Description
mxe.report.bo.db.connectstring	The Maximo database connection string (Oracle) or ODBC DSN (SQL Server) on the BusinessObjects Enterprise server. Default: mxe.report.bo.db.connectstring=MAXIMO.
mxe.report.bo.db.databaseName (SQL Server, only)	The database name for the Maximo database. Default: MAXIMO
mxe.report.bo.serverURL	The URL of the BusinessObjects Enterprise server, including port number and folder. Maximo uses this URL to access the bocrysal.war Web application. Default URL: http://BOserver:8080/bocrystal
mxe.report.bo.rootFolder	The BusinessObjects Enterprise root folder name. Default: rpt.
mxe.report.bo.rptServerLogonName	The BusinessObjects Enterprise logon name. This user must have specific rights to any report you will access from Maximo. Default: maximo.
mxe.report.bo.rptServerLogonPass	The BusinessObjects Enterprise password. Default: maximo.
mxe.report.bo.cmsName	Unless you changed the name of the Central Management Server (CMS) when you installed BusinessObjects Enterprise, this property is the name of the server where you installed BusinessObjects Enterprise and the server port number. To verify the correct values, open the CMC Logon page and check the System field. Default: CMS port number:6400.

Glossary

Administrative console	A Web-based browser client that provides a Graphical User Interface (GUI) for administration. The administrator connects to the application using a Web browser client.
Application Server	<p>An application server is the software that occupies the middle tier between the back-end database and the front-end browser-based clients. With respect to Maximo, application server has two meanings:</p> <ul style="list-style-type: none">▼ The commercial application server product—for example, the WebLogic application server.▼ The deployment unit you configure <i>within</i> WebLogic to run an instance of the application. WebLogic names this unit “server.” Within WebLogic, you can configure multiple application servers.
Application server profile	<p>The Application Server in the WebSphere Network Deployment product can run in a deployment manager cell as a managed node or on its own as a stand-alone Application Server. It does not provide clustering, workload management or central administration capabilities.</p> <p>The Application Server has read-only access to the system files, which include command files and other core product files. System files are updated only by installing fix packs or products that extend WebSphere Application Server Network Deployment.</p>
Attached Documents	Use Maximo’s Attached Documents application to attach Word documents, PDF files, Web page URLs, diagrams, pictures, and other types of documents to individual Maximo records. See “Attached Documents Administration and Configuration” on page 22-1.
Attachment Types	<ul style="list-style-type: none">▼ Normal – any file type the mail server allows (examples: .bmp, .jpg, .pdf, .txt, or .dat).▼ Embedded or Inline – a file copied into the message’s body (example: a screen capture of an error message).
Cell	A grouping of nodes into a single administrative domain. In the application server configuration, a cell contains one node which can have multiple servers, but the configuration files for each server are stored and maintained individually. In a deployment manager configuration, a cell can consist of multiple nodes all administered from a single point. The Deployment Manager manages the central repository of configuration and application files which it synchronizes with local copies held on each of the nodes.
Communication Log	Stores details (including graphics) related to SRs.
Context	The name by which a Web application is accessed within the Application Server. The one place a user actually <i>enters</i> a context name is in entering the URL to access the Maximo user interface. For example, in the following URL, Maximo is the context name:

<http://maxhost:7001/maximo>

Cluster	A group of two or more WebLogic servers running simultaneously and working together to provide increased scalability and reliability. You can set up multiple servers running the same instance of Maximo. A redirector server should be created to distribute the work load to the multiple servers.
Custom node profile	A custom node is an empty node until you add it to the deployment manager cell for customization. Use the administrative console of the deployment manager to create servers and clusters on the custom managed node. Consider the custom node as a production-ready shell, ready for customization to contain your production-level servers and applications.
Data Dictionary	The database stores metadata in the data dictionary area, which describes the objects, attributes, tables, columns, indexes, and other items that comprise a database.
Deployment manager profile	<p>The deployment manager provides centralized administration of custom nodes, and provides basic clustering and cache support, including workload balancing.</p> <p>The deployment manager can create, read, update, or delete the configuration files, data files, and log files in its profile.</p>
Delimiters	In an incoming e-mail subject line, identifies new and existing requests. To change the default, modify the Object Key Delimiter field's value.
Domain	Contains one or more servers and is the basic administrative unit. In a multiple server domain, one server <i>must</i> be configured as the Administration Server to host the Administration Console for that domain. In a single server domain the single server functions as the Administration Server by default. Server names within a domain <i>must</i> be unique.
EAR File	Enterprise Application Archive (EAR) file. An EAR file is an archive that contains all the files required to run an application based on J2EE specifications. EAR files consist of module archive files, such as WAR files and JAR files.
GL	General Ledger.
IBEP	(InBound E-mail Processing) A standard workflow dedicated to processing e-mail records in the E-mail Listener staging table.
IBM HTTP Server	A Web server that you can use as a front end to WebSphere Application Servers via the Web server plug-in. This is required if you use attached documents in Maximo.
IE Browser	Microsoft's Internet Explorer web browser.
IMAP	(Internet Message Access Protocol) A standard protocol for accessing e-mail from your local server; your Internet server receives and holds e-mail for you. Lets you (or your e-mail client) view only the message's heading and sender and decide whether to download it.
J2EE	Java 2 platform, Enterprise Edition (J2EE). J2EE is the specification developed by Sun for building distributed enterprise applications. An application based on J2EE can have various modules, such as Web applications and Enterprise Java Bean modules.

JAR File	Java ARchive (JAR) file. A platform-independent file format that aggregates many files into one. Multiple applets written in the Java programming language and their components can be bundled in a JAR file and downloaded to a browser in a single HTTP transition.
JavaMail	Sun Microsystems' Java-based mail management framework, part of the Maximo distribution.
JCE	Sun Microsystems' Java Cryptography Extension.
JSP file	Java Server Page (JSP) is a technology for controlling the content or appearance of Web pages through the use of servlets, small programs that are specified in the Web page and run on the Web server to modify the Web page before it is sent to the user who requested it.
JVM	Sun Microsystems' Java Virtual Machine.
LDAP	Lightweight Directory Access Protocol. A set of protocols for accessing information directories.
Metadata	Data that describes the structure of the data within the database. If you know how data is structured, you can retrieve it.
MBO	(Pronounced "may-bo") A unit of Java code that executes a specific Maximo function and acts on the Maximo database table of the same name. Example: the PO MBO creates, approves, and cancels purchase orders. It updates the Maximo PO table.
Module	A self-contained software component, such as a WAR file that interacts with a larger unit. In Maximo one or more modules comprise an EAR file.
Node Agents	Node agents are administrative agents that route administrative requests to servers.
Object	Objects can be tables or views. A database table stores several objects; each has different business rules. For example, a ticket table defines Incident, Problem, and Ticket business objects.
PO	Purchase Order.
POP3	(Post Office Protocol 3) A protocol used for downloading e-mail messages from an e-mail server to your computer. A POP3 mail server stores all messages sent to your e-mail address until you log on to the server and download the messages.
Preprocessor	The Java component that parses the Subject line of any incoming e-mail.
Profile	A profile is a separate data partition that includes the files that define a runtime environment for an application server process. You can create profiles in any order, but this chapter assumes you built a deployment manager profile first, then created an application server profile and added it to the deployment manager cell.
Relationship	Associations between database objects.
SLA	Service Level Agreement.

SR	(Service Request) This record is a ticket you create to track and capture information and determine what further action is needed.
SSO	Single Sign On. Lets users authenticate with the directory once for all the applications allowed.
View	You can create a view to filter irrelevant data. It can contain parts of one or more tables.
XML	Extensible Markup Language.
UI	User interface.
WAR File	Web Application Archive (WAR) file. A WAR file is an archive that comprises Java servlets and classes, Java Server Pages (JSP), and other resources.
Web Application	An application you view from a browser. Maximo comprises an integrated set of Web applications—the graphical user interface, the business components, the Help system and several Actuate reporting components. These applications are built using J2EE technology
Web Server	Software that provides access to Web applications or Web pages.
Web Server plug in	Provides the front-end for WebSphere Application Servers. The plug-in provides load balancing among WebSphere Application Server clusters.

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About This Guide

This section briefly summarizes this document and how it can help you as a Maximo® user. It also provides information about other MRO resources available to you, such as additional documentation and support.

Why Read This Guide?

This guide explains how to implement the Maximo Enterprise Adapter applications and customize them for your business practices.

Audience

The guide is intended for the following people:

- ▼ Developers
- ▼ Implementation analysts
- ▼ Support personnel
- ▼ System administrators

Notation Conventions

The following notations have special meaning:

Notation	Description
Bold text	Denotes a button, check box, or field on a screen
▼ Bulleted procedures	Instructions that you can perform in any sequence
CAUTION	Precedes information that, if ignored, can result in loss of data
NOTE	Precedes information of special importance
1 Numbered procedures	Instructions that you must perform in the numbered sequence
<data value>	Denotes an XML tag
< <i>data value</i> >	Denotes a variable
[<i>data value</i>]	Denotes an optional variable

Section Contents

This guide consists of two sections:

Section Name	Section Contents
Using the Maximo Integration	Overall features and concepts of the Maximo Integration
Advanced Topics	Customization, performance tuning, and other activities

Chapter Contents

The following table briefly describes each chapter in this document. Read the chapters in the order they appear and perform the tasks in sequence as written.

Chapter Name	Chapter Contents
Chapter 1: What is the Maximo Enterprise Adapter?	Features of the Maximo Enterprise Adapter and the MAXIMO adapter
Chapter 2: Architecture	Architecture of Maximo's integration functionality
Chapter 3: Outbound and Inbound Processing	Processing of outbound and inbound transactions
Chapter 4: Maximo XML and Schema	Structure, elements, and attributes of XML messages created by Maximo
Chapter 5: Interface Tables	Use of interface tables to exchange messages
Chapter 6: Basic Configuration	Configuration of Maximo for basic integration processing
Chapter 7: Error Management	Error notification and correction
Chapter 8: Integration Gateway	Receipt and interpretation of XML transactions via the integration gateway
Chapter 9: Router	Routing of outbound messages from the JMS queue to an external system
Chapter 10: Advanced Interface Table Polling	Performance tuning of the interface table polling process
Chapter 11: JMS Queue Configuration	Configuration of JMS queues
Chapter 12: Security	Security options for integration processing
Chapter 13: Cluster Configuration	Integration considerations when running Maximo in a cluster
Chapter 14: Customization with Processing Rules	Customization of integration processing without Java classes
Chapter 15: Customization with User Exits	Customization of integration processing with Java classes and XSL

Chapter Name	Chapter Contents
Chapter 16: Adding and Modifying Integration Components	Creation of new integration components and modification of predefined components
Chapter 17: Using Integration Queries	Use of the Maximo Integration to query the Maximo database
Chapter 18: Maximo Web Services	Configuration and deployment of Maximo Web services
Chapter 19: Multiple Language Support	Use of multiple languages in integration transactions
Appendix A: MAXIMO Adapter Interface Components	Predefined components provided with the MAXIMO adapter
Appendix B: MAXIMO Adapter Interface Specifications	Details about the interfaces defined within the MAXIMO adapter
Appendix C: Collaboration Switches	Description of the collaboration switches for each Maximo application
Appendix D: Creating the JMS Queues	Creation of the JMS queues after the installation of Maximo

Related Documentation

You can find more information regarding the Maximo Enterprise Adapter in the following documents:

Document	Description
Maximo Enterprise Suite <i>User's Guide</i>	Provides an overview of Maximo features, and describes relationships among modules.
Maximo Enterprise Suite <i>System Administrator's Guide</i>	Explains how to customize the system, manage the database, set up accounting features of the general ledger, and use Maximo utilities.
Maximo Enterprise Suite <i>Installation Guide</i>	Explains how to install and configure Maximo.
Maximo Enterprise Suite online help	Provides step by step procedures for every action in Maximo.

Support

MRO Software, Inc. users with a valid Annual Customer Support Plan (ACSP) can obtain product support online at <http://support.mro.com>.

The Support Web site includes information about product releases, software patches, and documentation updates. To find the most current version of a document, refer to the Support Web site's Knowledge Base.

Using the Maximo Integration



Chapter 1: What is the Maximo Enterprise Adapter?

Chapter 2: Architecture

Chapter 3: Outbound and Inbound Processing

Chapter 4: Maximo XML and Schema

Chapter 5: Interface Tables

Chapter 6: Basic Configuration

Chapter 7: Error Management

What is the Maximo Enterprise Adapter?

1

The Maximo Enterprise Adapter is a set of applications and predefined integration points that help you to integrate Maximo with your enterprise applications and create business flows between Maximo and your other enterprise applications.

The key features of the Maximo Enterprise Adapter are:

- ▼ Applications to manage integration processing and to create new integration points
- ▼ An application to create processing rules for customizing interfaces
- ▼ Support for multiple integration models using HTTP, messaging, and database interface tables and flat files
- ▼ Real time, batch, and user-initiated processing of outbound and inbound interfaces
- ▼ Support for customization of the predefined integration objects
- ▼ Provision for data transformation using XSL
- ▼ Load and performance scalability using multiple queues and/or multiple queue consumers
- ▼ Support for clustered environments that enable reduced downtime and increased availability and performance

The Enterprise Adapter includes the MAXIMO adapter, which contains a comprehensive set of predefined Maximo interfaces to enable integration with Maximo applications. All MAXIMO adapter interfaces are Web service ready by default. Users can easily create new interfaces and enable them for Web service without writing any code.

The key features of the MAXIMO adapter are:

- ▼ A comprehensive set of predefined outbound and inbound integration points and interfaces
- ▼ Support for query and data synchronization interfaces
- ▼ Bulk export of all interfaces, with the ability to select data through a user-defined query
- ▼ The ability to create XML or flat files for outbound interfaces

-
- ▼ The ability to perform bulk loading of XML or flat files for inbound interfaces
 - ▼ Dynamic XML schema generation for all integration objects and MAXIMO adapter interfaces
 - ▼ Dynamic generation of WS-I compliant Web services for all MAXIMO adapter interfaces

Additional adapters can be quickly configured and deployed for enterprise connectivity with various systems. Each adapter can have its own interfaces and delivery mode. Preconfigured adapters for Oracle and SAP are available as add-ons.

This chapter describes the architecture of integration processing in Maximo.

Anyone involved in the implementation or day-to-day administration of the Maximo Enterprise Adapter applications should read this chapter.

Familiarity with the concepts in this chapter is essential for understanding the remaining documentation and using the application.

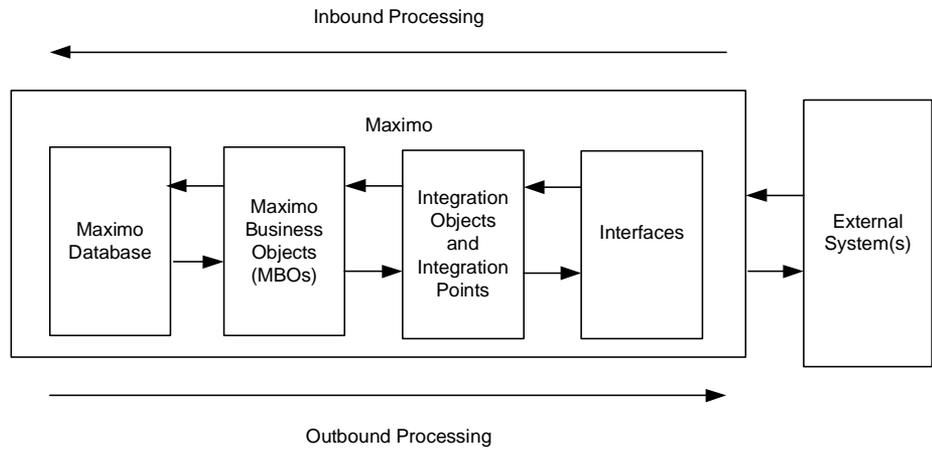
This chapter contains the following sections:

- ▼ Overview
- ▼ Integration Object Layer
- ▼ Interface Layer
- ▼ External System Layer
- ▼ Inbound and Outbound Communication

Overview

Maximo Integration facilitates data exchange between Maximo and external applications or systems in a real time or batch mode. Data is exchanged via interfaces, each of which acts as a communication channel between the external system and one or more integration points (points of data exchange) in Maximo.

Maximo Integration Overview



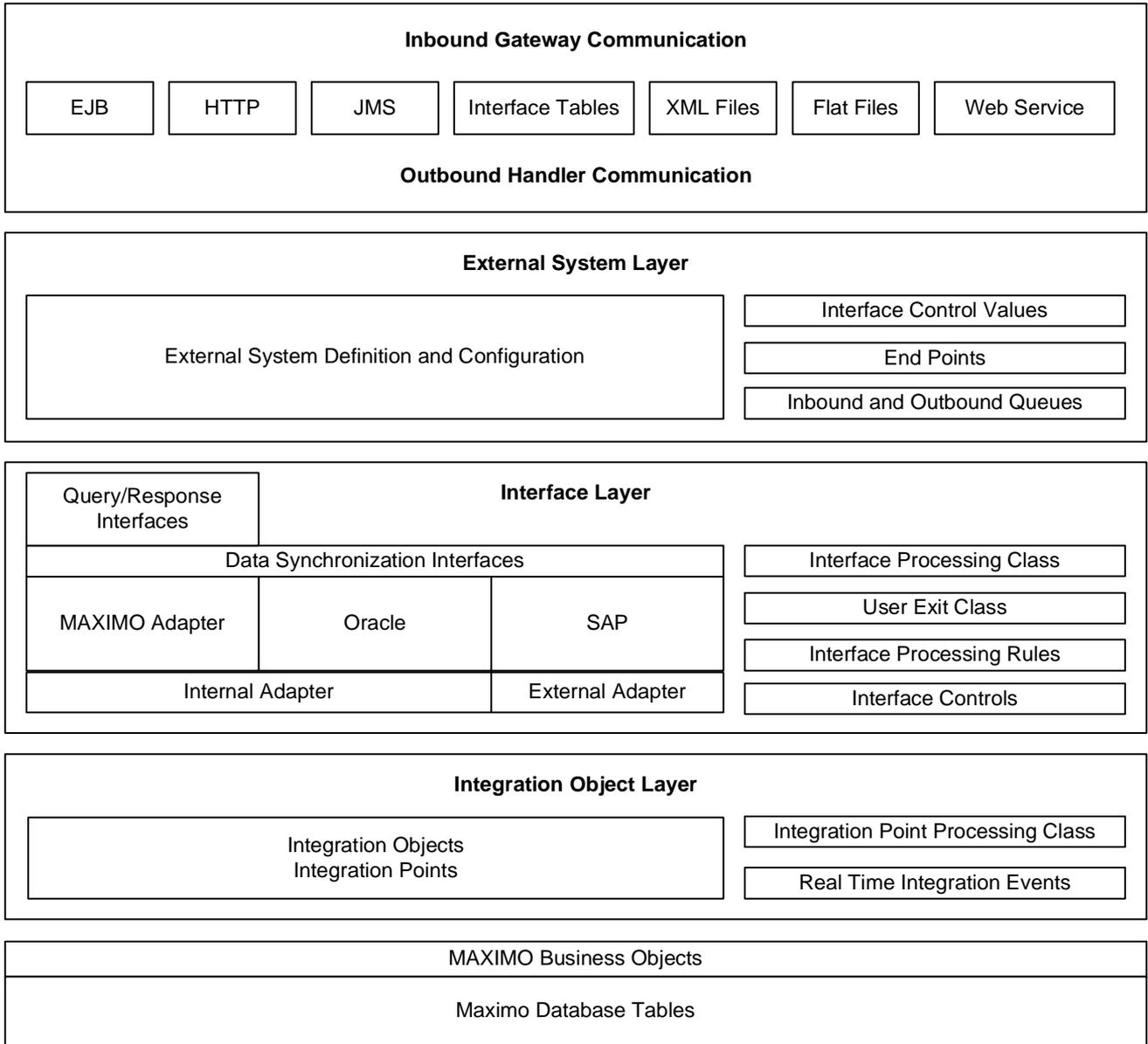
Maximo Integration processing can be represented in three layers, as described in the following table:

Integration Processing Layers

Integration Layer	Description
Integration Object layer	Create and manage integration objects and integration points. Each integration object is built from one or more MBOs that provide the content needed for a specific integration point. Integration points provide a framework for accessing the MBOs in the integration object and any methods defined on the MBOs.
Interface layer	Create and manage interfaces, including business rules processing and data transformations. Interfaces implement one or more integration points in either direction (outbound or inbound) and each interface-integration point combination can have a processing class, a user exit class, and processing rules associated with it.
External System layer	Create and manage external systems and their interfaces. This includes defining external systems that are exchanging data with Maximo, identifying the specific interfaces applicable to each external system in either direction (outbound or inbound), setting up interface control values where applicable for each interface, and identifying queue parameters for the system and the communication method used for sending data to the system.

In addition to the three layers, the integration includes specific entities for outbound (Maximo to external system) and inbound (external system to Maximo) communication. These appear in the Inbound Gateway Communication and Outbound Handler Communication sections of the following diagram.

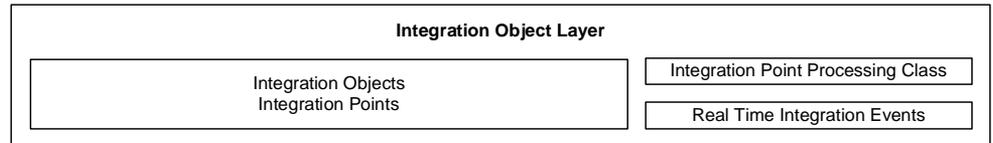
Maximo Integration Architecture



Integration Object Layer

The integration object layer of Maximo interacts with the Maximo Business Objects and facilitates their creation and maintenance.

Maximo Enterprise Adapter Integration Object Layer



Integration Objects

An integration object consists of one or more sub-records that derive their content from a particular Maximo Business Object (MBO, or “may-bo”). A MBO is a functional unit of the Maximo application server that defines a set of fields and business rules and may update one or more Maximo database tables.

Each sub-record contains fields from a specific MBO. When you create an integration object, you specify the MBO(s) whose fields make up the object. You can then modify the integration object by excluding unneeded fields and adding user-defined fields. The name of the sub-record is the same as that of the corresponding MBO.

MBOs and sub-records are two distinct entities and it is important to distinguish between them.

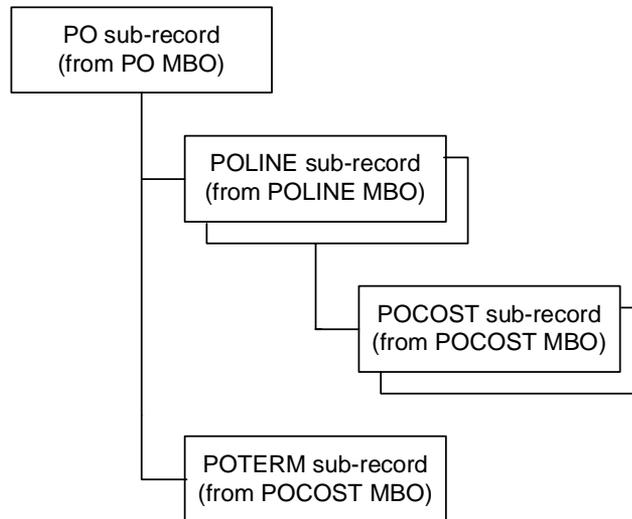
MBOs and Sub-records

Entity	Description
MBO	The Maximo Business Objects that Maximo uses to directly update the database. During inbound integration processing, MBOs are created from the integration object sub-records. During outbound integration processing, integration object sub-records are created from MBOs.
Sub-record	A copy of a Maximo MBO that is included in an integration object. It may or may not include all the persistent and non-persistent fields in the original MBO. During outbound processing, Maximo populates the sub-record fields from the corresponding fields in the original MBO. An integration object consists of one or more sub-records.

Example

The predefined purchase order integration object, MXPO, contains sub-records that correspond to the MBOs in the following diagram.

MXPO Integration Object



If multiple sub-records are defined for an integration object, valid parent-child relationships must exist between the corresponding MBOs. These relationships are defined within the framework of the MBOs and are used to navigate between the various MBOs involved in defining a specific business entity.

Each MBO has persistent and non-persistent fields in its definition. A persistent field is one that maps directly to a database column in Maximo, and a non-persistent field is one that is included in the MBO definition but not stored in the database. By default, all persistent fields are included in the corresponding sub-record in an integration object, and all non-persistent fields are excluded. Users can optionally exclude persistent fields and include non-persistent ones. Users can also add user-defined fields to support data requirements beyond what is available from the MBOs.

Integration Points

An integration point provides access to an integration object in a given direction (inbound or outbound). Outbound integration points retrieve data from the MBOs to build the integration object, while inbound integration points create, update, or query MBOs, depending on the operation associated with the point. An integration object can have multiple integration points associated with it, in either direction.

Maximo provides predefined integration points for its predefined integration objects. Most integration objects have inbound and outbound integration points; some, such as the chart of accounts, general ledger components, and journal entries, have only one or the other.

Integration Point Properties

Integration points have two primary properties, direction and operation.

The direction property indicates the origin and destination of transactions that use the point, as follows:

Outbound and Inbound Transactions

Direction	Description
Outbound	The data transaction originates in Maximo and is sent to an external system or application.
Inbound	The data transaction originates in an external system or application and is sent to Maximo.

The operation property indicates the purpose of the integration point. Some operations are permitted only in specific directions:

Operation Properties

Operation	Purpose	Direction
Notify	The integration point performs data synchronization.	Outbound, Inbound
Query	The integration point processes queries.	Inbound only
Response	The integration point provides responses to queries.	Outbound only

Query and Response Integration Points

Maximo provides a framework for external systems or applications to query Maximo using integration objects and query type integration points; and to return the response to the query using response type integration points. Query integration points can be defined only in the inbound direction and response integration points can be defined only in the outbound direction.

Integration Point Processing Class

An integration point processing class is a Java class that provides access to the corresponding integration object and the MBOs associated with that object. Processing classes act in conjunction with the MBOs to facilitate the transfer of data to and from Maximo. Integration point processing classes are optional; an integration point can have one or no processing classes associated with it. Users can create custom integration point processing classes.

Inbound integration point processing classes are more common than outbound ones. They often filter data; invoke specific methods on the MBOs or otherwise preprocess data; and convert integration objects back into MBOs that can be processed by Maximo.

The predefined outbound integration points typically do not use a processing class. However, in cases where Maximo uses the same MBO for different business processes or applications, an outbound integration point processing class filters the data from the MBOs to ensure that only the relevant transactions are sent out via the integration point.

Example

The MXISSUE integration object uses the MATUSETRANS MBO, which handles issues, returns, direct receipts, and invoice variance transactions. Since the MXISSUEOUT integration point sends only issue and return transactions, it uses a processing class to filter out direct receipts and invoice variance transactions.

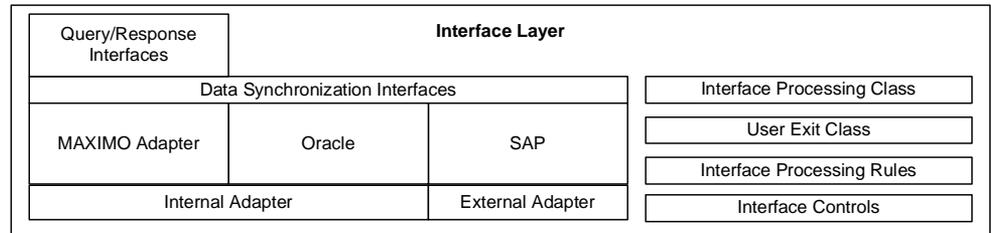
Real Time Integration Events

During the creation of an outbound integration point, an integration event listener is automatically registered on the primary MBO of the integration object. When the listener is enabled, it monitors Maximo for activity on the corresponding MBO. Whenever any instance of that MBO is created or updated, outbound integration processing is initiated for all interfaces tied to that point.

Interface Layer

The interface layer of the Maximo Integration exposes integration points to external systems and applications. Interfaces provide the ability for multiple external systems and applications to access inbound integration points, and outbound integration points to send data to multiple external systems and applications.

Maximo Enterprise Adapter Interface Layer



Adapters

All interfaces are defined within an adapter, which is a set of related interfaces, programs, mappings, and controls.

By default, all interfaces provided with Maximo are defined within the MAXIMO adapter. Predefined adapters for integration with major application providers like Oracle and SAP are available from MRO Software. Users can add new interfaces to an existing adapter and create new adapters, if necessary.

Adapters can be of an internal or external type, depending on the data format of the interfaces within the adapter.

Internal Type Adapters

Interfaces defined within internal type adapters derive their content definition directly from the corresponding integration objects; that is, there is no difference between the integration object data format and the interface data format.

Since the formats of the interface and integration object are the same, internal type adapters allow the use of interface tables (database tables) as well as XML messages to process interfaces defined within these adapters. Interface tables are one of the mechanisms available to Maximo users for processing inbound and outbound data. Their format mirrors that of corresponding interfaces and they are available only for interfaces that are defined within internal type adapters. For more information about interface tables, see Chapter 5, "Interface Tables," on page 5-1.

The MAXIMO adapter provided with Maximo Integration is an internal type adapter. By default, new adapters are created as internal type adapters.

NOTE Maximo Web services are available only for interfaces defined within the MAXIMO adapter.

External Type Adapters

Interfaces defined within external type adapters use a data format different from that used by Maximo. Mapping between the external format and Maximo format is done using Java code or XSL style sheets. Interfaces defined for external type adapters cannot use interface tables to process data between Maximo and an external system.

Interfaces

Maximo uses interfaces to transform data from Maximo format to an external format, and vice versa; and to apply additional business rules to the data beyond the rules implemented in the inbound or outbound integration point associated with the interface.

For example, Maximo might need to send accounting transactions to a general ledger application, purchasing requisitions to a central purchasing application, and so on. Each external system or application uses different data formats and business rules. Application- and external system-specific interfaces process the transactions according to the formatting and processing requirements of each external system.

Maximo provides predefined application-specific interfaces and system interfaces. The latter are primarily for updating metadata in Maximo. For more information about system interfaces, see "System Interfaces" on page B-50.

If an integration object is specified for an interface, it restricts the integration points that can be associated with the interface, as follows:

An integration object must be defined for an interface within an internal type adapter. These interfaces use the content definition of the integration object that is associated with the interface.

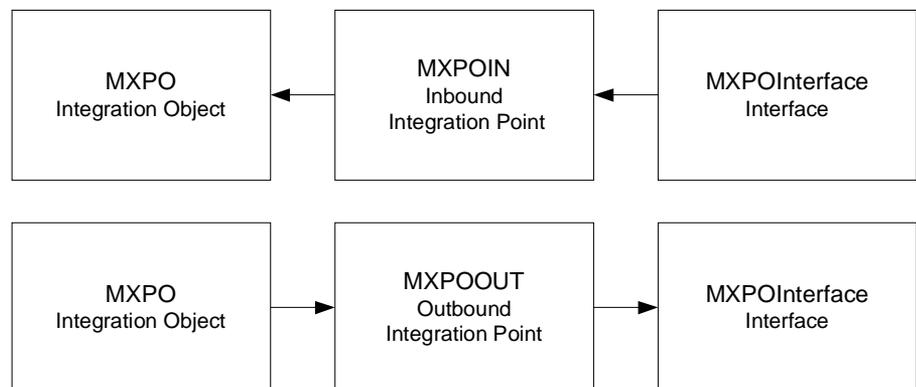
Integration objects cannot be specified for interfaces within an external type adapter. The format of the interface is not based on an integration object. A Java class or XSL style sheet must be used to create the necessary format.

Interfaces in Internal Type Adapters

Direction	Restrictions
Outbound	Only one integration point can be specified for the interface. The integration point must be defined on the integration object associated with the interface.
Inbound	Multiple inbound integration points can be specified for the interface, and they do not need to be defined for the integration object associated with the interface. If multiple inbound integration points are specified, they must belong to different integration objects; that is, for a given interface, there cannot be two inbound integration points specified for the same integration object.

Interfaces in External Type Adapters

Direction	Restrictions
Outbound	Multiple integration points can be specified for an interface. If multiple points are specified, they must belong to different integration objects; that is, for a given interface, there cannot be two inbound integration points specified for the same integration object.
Inbound	Same as outbound.

Maximo Enterprise Adapter Purchase Order Components

Interface Operation Property

Like integration points, every interface has an operation property (Notify, Query, or Response), which indicates the purpose of the interface. An operation must be specified for an interface before integration points are associated with the interface.

The operation specified for the interface restricts the integration points that can be associated with the interface. Only integration points with the same operation property can be associated with an interface; that is, notify type interfaces can be associated only with notify type integration points; query type interfaces with query type integration points; and response type interfaces with response type integration points.

Query and Response Type Interfaces

Query and response operations are available only for interfaces defined within the MAXIMO adapter. They expose the Query and response type integration points defined on an integration object and allow a user to query Maximo for data using XML documents. The Query and response type interfaces are available only via Maximo Web services.

Interface Processing Class and User Exit Class

Like integration point processing classes, interface processing and user exit classes are Java classes that contain processing logic. An interface maps to one or more integration points in either direction; for each interface-integration point combination, you can optionally specify one interface processing class and one user exit class.

The MAXIMO adapter does not implement any interface processing classes. The ERP adapters provided by MRO Software reserve the interface processing classes for predefined, interface-specific processing that includes data format conversion and the application of business rules.

Users who wish to customize predefined interfaces can use the user exit class for that purpose. A user exit class executes before and after any interface processing class, thereby overriding or supplementing the logic in the corresponding interface processing class.

NOTE Since the MAXIMO adapter does not use the interface processing classes, users can identify a custom class as an interface processing class. For the sake of standardization, however, you might prefer to identify all custom classes as user exit classes.

For more information about customizing and determining whether to add custom code as an integration processing class, an interface processing class, or a user exit class, see Chapter 15, "Customization with User Exits," on page 15-1.

Data Formats

Maximo and external systems can exchange data transactions via XML messages, interface tables, and flat files. Maximo accepts XML and interface table transactions for the real-time exchange of data and flat files for the bulk import and export of data.

Maximo XML

Maximo XML is the XML representation that the MBOs recognize. Maximo writes all outbound XML messages in this format and requires that all inbound non-Maximo XML messages be converted to this format. If an external system uses another XML format, you must provide Java code or XSL style sheets to convert the data.

Interface Tables

Interface tables are relational database tables that you can use in place of XML messages to transfer data between Maximo and external systems. Each table contains the same data fields as the corresponding Maximo XML interface, in a flat, non-hierarchical format.

NOTE The use of interface tables is available only with internal type adapters.

For more information, see Chapter 5, "Interface Tables," on page 5-1.

Flat Files

A flat file is a non-hierarchical, non-relational representation of the data columns in a Maximo interface or interface table. You can use flat files to load initial master data into Maximo, and to perform the periodic import and export of non-system data to and from Maximo.

Interface Data Format Conversion

In predefined interfaces, data format conversion occurs in the integration point processing class associated with the interface. Users can override or supplement this code by writing a user exit class or an XSL style sheet and associating it with the interface-integration point combination.

All interfaces defined within external type adapters use a data format different from that used by Maximo, thereby requiring a user exit class or XSL style sheet to perform the conversion between the Maximo format (as defined in the integration objects) and the external format.

Interface Processing Rules

Interface processing rules let users change the behavior of any interface without having to write Java classes. Processing rules can access and evaluate values in XML and MBO fields, MBO sets, and controls; and they can change the values in XML and MBO fields, or stop or skip processing of all or part of a transaction.

Processing rules can apply to any interface, regardless of the adapter in which the interface is created. However, data referenced by a rule must be in Maximo format, so users must first transform any data in inbound interfaces associated with an external type adapter.

Inbound and outbound processing of the same interface require separate sets of processing rules. Like interface processing classes and user exit classes, processing rules are defined for an integration point-interface combination. In many cases, you can use either a processing rule or a processing class to achieve the same result.

For more information, see Chapter 14, "Customization with Processing Rules," on page 14-1.

Interface Controls

Interface controls give users the ability to override the behavior of certain predefined interface processing and to configure interfaces according to the requirements of individual organizations and sites. Processing rules can access interface controls, as can Java classes.

Each adapter has its own set of controls, which are associated with interfaces within that adapter. Each external system that uses the adapter has a configurable copy of the controls. Two external systems that process the same interface can share the same processing logic, class files and processing rules, yet process the data differently due to different control settings. For example, two systems using the same purchase requisition (PR) outbound interface may use different control settings that direct one system to send the PR out on status APPR (approved) and the other on status CLOSE.

Maximo provides four types of interface controls.

Interface Control Types

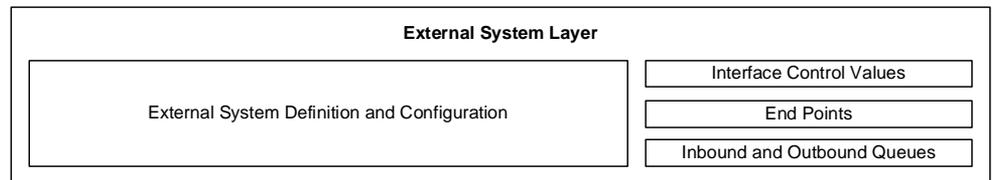
Control Type	Description
Boolean	Specifies a value of 0 (false) or 1 (true)
Cross-reference	Replaces one value with another
List	Specifies a list of values
Value	Specifies a single value

For more information, see Chapter 14, "Customization with Processing Rules," on page 14-1.

External System Layer

Any business application that sends data to Maximo or receives data from Maximo is considered to be an external system. The external system layer enables the flow of data between Maximo and external systems by defining the location and characteristics of external systems, and identifying the adapter and interfaces that each external system uses.

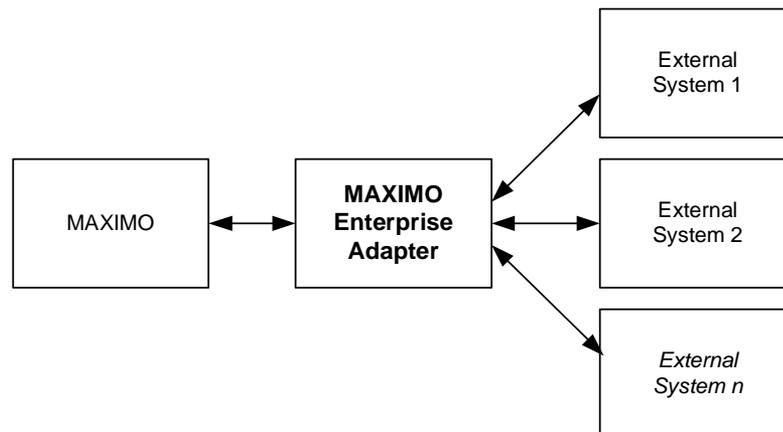
Maximo Enterprise Adapter External System Layer



External System Definition and Configuration

An external system interacts with Maximo, either as an end point (location) to which Maximo sends outbound data, or as a source from which Maximo receives inbound data. An external system can process inbound interfaces, outbound interfaces, or a combination of both. Maximo can be integrated with any number of external systems. Each external system uses a single adapter to exchange messages with Maximo in the format identified by the adapter, and a single end point to process outbound messages.

Maximo Enterprise Adapter External System Structure



The name given to the external system is the name by which Maximo recognizes the external system. Inbound XML messages and interface table transactions must provide this name in the SenderID field, and Maximo writes this name in the RecipientID field of outbound XML and interface tables.

In outbound transactions, the SenderID is the value of MAXVARS.MXSYSID.

The MAXIMO adapter provides a predefined external system, EXTSYS1, which you can duplicate and modify based on your needs.

CAUTION Do not modify external system EXTSYS1 in any way.

Interface Control Values

When you specify an adapter for an external system, Maximo includes in that system all the interface controls defined for the corresponding adapter. The external system inherits any default, system-level values for the controls.

You can change the default value of the controls or add new values if applicable. If the definition of a control allows organization or site overrides, you also can specify values for specific organizations or sites.

Configure only those controls that will be used by the external system. This will depend on the interfaces, processing rules, and Java classes that the system will process.

End Points

An end point is a location to which an outbound queue sends data. End points are independent of adapters and external systems, although two systems that use different adapters generally have different end points. An end point typically has an application component that processes the data sent from Maximo.

NOTE With the exception of interface tables, end points apply only to outbound transactions.

External systems can be associated with end points in multiple ways; exact usage will depend on your implementation. Possible scenarios include, but are not limited to, the following:

- ▼ A single end point per external system

This is the common point-to-point scenario where each individual external system has a different end point.

- ▼ A single end point supporting multiple external systems

Multiple external system use the same set of interface tables, or multiple external systems share a single queue. In this case, you configure Maximo to have multiple systems that use the same end point, and the end point will contain multiple instances of any outbound message (one per external system).

Each end point is associated with a handler, which is a processing class that defines how, and in what format, Maximo sends data from the outbound queue to an end point. For more information, see "Inbound and Outbound Communication," on page 2-18.

Maximo provides the following predefined end points. You can create additional ones if necessary.

Predefined End Points

End Point	Description
MXFLATFILE	Writes flat file data, in the form of rows and columns, to a prespecified directory location.
MXIFACETABLE	Writes data to an interface table (in a relational database) in a prespecified directory location.
MXXMLFILE	Writes data in XML file format.

Inbound and Outbound Queues

A queue is a Java Message Service (JMS) queue, which Maximo uses as a staging area during the exchange of messages between Maximo and external systems. JMS queue functionality is available within the BEA® WebLogic® and IBM® WebSphere® application servers.

Maximo uses one queue for outbound processing and two for inbound processing. The inbound queues differ in the sequence in which they process transactions, as follows:

- ▼ The sequential inbound queue processes transactions in strict FIFO order, and stops processing when it encounters an error in a transaction. Use this queue to process interfaces that are dependent upon the successful processing of previous interfaces.
- ▼ The continuous inbound queue does not process in FIFO order and continues processing transactions after it encounters an error in a transaction. Use this queue to load data that is not dependent upon the successful processing of other interfaces.

Within an external system, you can use the sequential queue for some interfaces and the continuous queue for others, or you can use one queue for all inbound interfaces.

Maximo provides the following predefined queues. You can create additional ones if necessary.

Predefined Queues

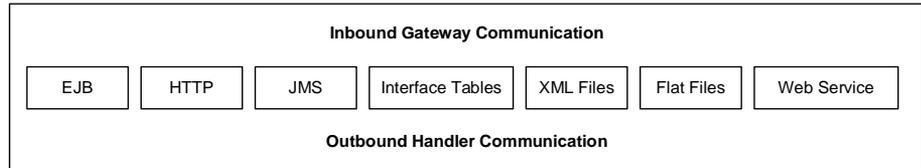
Queue	Description
cqin	Continuous inbound
sqin	Sequential inbound
sqout	Sequential outbound

For more information, see Chapter 11, "JMS Queue Configuration," on page 11-1.

Inbound and Outbound Communication

This section describes the ways in which the Integration can send transactions to, and receive transactions from, external systems.

Maximo Enterprise Adapter Inbound and Outbound Communication



Inbound Gateway Communication

The Maximo integration gateway provides the framework for receiving and queuing XML transactions from an external system. The gateway processes transactions received via Enterprise JavaBeans (EJB), HTTP/HTTPS, and the gateway Web service. It determines if Maximo should process the message, writes the message to the inbound queue, and notifies the external system when the message is successfully processed. For more information, see Chapter 8, "Integration Gateway," on page 8-1.

Maximo can process inbound transactions via flat files, XML files, and interface tables.

Outbound Handler Communication

Maximo sends data from the outbound queue to an end point via a handler, which is a processing class that defines how, and in what format, the data is to be delivered. Most handlers use a set of properties, such as a specific URL, a user name and password, or a specific directory location. The values of these properties depends on the end point associated with the handler.

Maximo provides the following predefined handlers. You can create additional ones if necessary.

Predefined handlers

Handler	Description
EJB	Delivers outbound data to an Enterprise JavaBean (EJB) executing in the local application server or a remote application server
FLATFILE	Delivers outbound data into a flat file whose location is configurable
HTTP	Delivers outbound data as an XML document to a URL over the HTTP or HTTPS protocols
IFACETABLE	Delivers outbound data into interface tables in a relational database
JMS	Delivers outbound data into a queuing system that has been enabled through Java Message Service (JMS)
WEBSERVICE	Delivers outbound data to a Maximo Web services component using SOAP over HTTP
XMLFILE	Delivers outbound data in XML format to a file in the local machine or a shared network folder

For more information, see Chapter 9, "Router," on page 9-1.

Outbound and Inbound Processing

3

This chapter describes the processing of outbound and inbound transactions. Anyone involved in the implementation or customization of the integration with Maximo should read this chapter.

This chapter contains the following sections:

- ▼ Outbound Integration Processing
- ▼ Inbound Integration Processing

Outbound Integration Processing

Maximo performs two types of outbound integration processing:

- ▼ Real time, initiated via data entry in Maximo
- ▼ Batch, initiated via the Data Export feature of Maximo

The following list is an overview of the outbound processing activities. Not every activity applies to every outbound transaction. The diagrams on the following pages show the same activities in a visual format.

- ▼ Initiating the Outbound Integration Process
- ▼ Building the Integration Object
- ▼ Applying Integration Point Processing
- ▼ Duplicating the Integration Object
- ▼ Applying Interface Processing Rules
- ▼ Applying User Exit Preprocessing
- ▼ Applying Interface Class Processing
- ▼ Applying User Exit Postprocessing
- ▼ Applying XSL Mapping
- ▼ Sending the Interface to the External System

The following prerequisites apply to all outbound integrations:

- ▼ All applicable integration objects, integration points, interfaces, and external systems must be completely defined.
- ▼ The external system(s) must be configured with an end point.
- ▼ The following entities must be enabled:
 - External system(s)
 - Applicable interfaces
 - Applicable outbound event listeners
 - The cron task that polls the outbound queue

For information about performing the prerequisite activities, see Chapter 6, "Basic Configuration," on page 6-1.

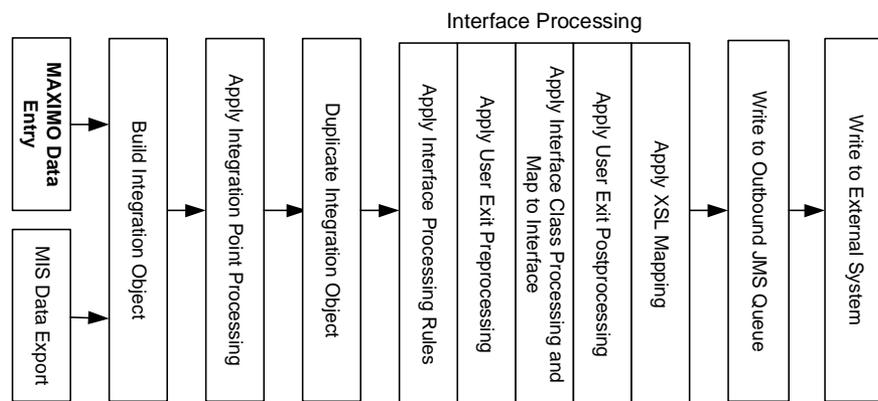
Initiating the Outbound Integration Process

Summary

A Maximo user initiates the outbound integration process. This can be a background activity that is initiated when a user completes a transaction in Maximo (real time processing) or the initiation of the Data Export feature from the External Systems application (batch processing).

The Data Export feature lets you export the result set of a query from Maximo to an external system. The data export process typically uses different interfaces than those used for real time integration. Some processing in real-time interfaces involves changing field values or stopping the user from performing an activity. Neither of these activities applies in a data export mode.

Maximo Enterprise Adapter Outbound Processing Activities



Real Time Integration Processing

- 1 The user completes a transaction in Maximo. This is the only step in the outbound integration process that is visible to the user.
- 2 The primary MBO associated with the transaction identifies the related integration point(s) that have the listener enabled. The outbound integration process is initiated for all these integration points with enabled listeners.

TIP To find out if the event listener is enabled for a particular integration point, go to **Enable/Disable Integration Events** on the **Select Action** menu in the External Systems application.

Batch Integration Processing

- 1 In the External Systems application, the user selects the external system to which data is to be sent.
- 2 On the Outbound Interfaces tab, the user selects an interface, then selects the Data Export feature.
- 3 The user selects the records to be exported by creating a query with Maximo's query by example (QBE) mechanism. The query must act on the primary MBO in the integration object.

TIP To find out the name of the primary MBO in an integration object, look on the Integration Object tab in the Integration Objects application.

If the Merged Object? check box in the top right of the window is not selected, the first MBO in the Source MBOs table window is the primary MBO.

If the Merged Object? check box is selected, you cannot export this interface.

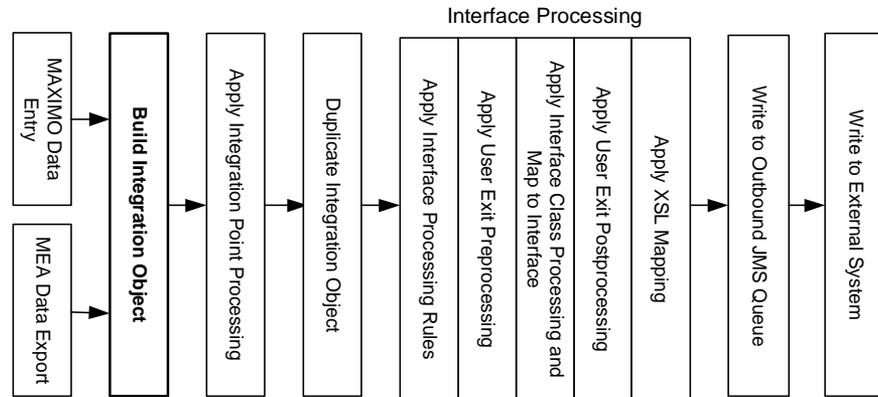
- 4 If the query returns a valid result set, the data export process continues.

Building the Integration Object

Summary

The integration framework builds an integration object from the MBO(s).

Maximo Enterprise Adapter Outbound Processing Activities



- 1 The integration object associated with each integration point is determined.
- 2 The integration object identifies its component MBO(s).
- 3 The integration framework constructs the integration object from the MBOs.
- 4 The integration framework adds the following header information to the integration object:

Tag	Value
<Integration Object Name>	The name of the integration point (temporarily)
<SenderID>	The identifier of the Maximo application server (the value of MAXVARS.MXSYSID)
<MessageID>	Null (temporarily)
<CreationDateTime>	System DateTime
<RecipientID>	Null (temporarily)

Output

The output of this activity is an integration object with the following format and header data:

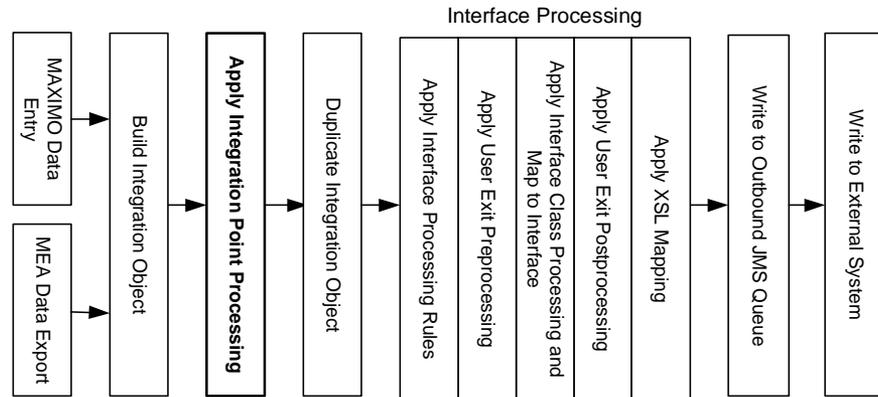
```
<Integration Object Name>
  <Header>
    <SenderID>Value of MAXVAR.MXSYSID</SenderID>
    </MessageID>
    <CreationDateTime>System DateTime
    </CreationDateTime>
    </RecipientID>
  </Header>
  <Content>
    <IntegrationObject>
      .
      .
      .
    </IntegrationObject>
  </Content>
</Integration Object Name>
```

Applying Integration Point Processing

Summary

The integration framework applies predefined processing logic (if specified) to the integration object.

Maximo Enterprise Adapter Outbound Processing Activities



The predefined integration point processing classes verify and filter integration objects, to ensure that their content meets the definition of the integration point. These predefined classes do not change or otherwise edit the data in an integration object. Not all predefined integration points have a processing class.

TIP To find out if an outbound integration point processing class is associated with the integration point, look on the Integration Point tab in the Integration Objects application.

Output

The possible outcomes of this stage are as follows.

Processing Outcome

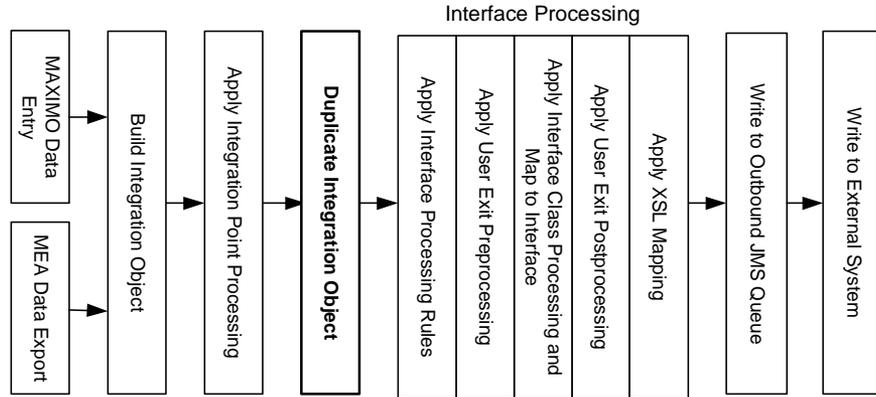
If ...	Output is ...
No processing class exists	The existing integration object, unchanged
The processing class skips the record (due to non-applicable data)	No output, and processing ends
The processing class stops the record (due to an error)	No output, processing ends, and an exception displays on the user interface screen
The processing class completes successfully	The existing integration object, possibly updated; in the case of predefined outbound integration points, the user-defined columns are sometimes updated

Duplicating the Integration Object

Summary

If the integration point is associated with multiple interfaces or external systems, the integration framework creates copies of the integration object.

Maximo Enterprise Adapter Outbound Processing Activities



- 1 The integration framework creates a copy of the integration object for every combination of interface and external system associated with the integration point.
- 2 The integration framework updates the header information in each integration object, as follows

Processing Outcome.

Tag	Value
<MessageID>	Unique identifier assigned by Maximo for each combination of interface and external system
<RecipientID>	The name of the external system that will receive the transaction

Output

The outcome of this activity is one integration object per combination of interface and external system, with the following format and header data:

```

<Integration Object Name>
  <Header>
    <SenderID>Value of MAXVAR.MXSYSID</SenderID>
    <MessageID> MessageID per external system - outbound
    interface</MessageID>
    <CreationDateTime>System DateTime
    </CreationDateTime>
    <RecipientID>External System Name</Recipient>
  </Header>
  <Content>
    <IntegrationObject>
      .
      .
      .
    </IntegrationObject>
  </Content>
</Integration Object Name>

```

From this point on, the actions listed in each stage apply to each copy of the integration object that is created, in the preceding step, for a specific external system-interface combination.

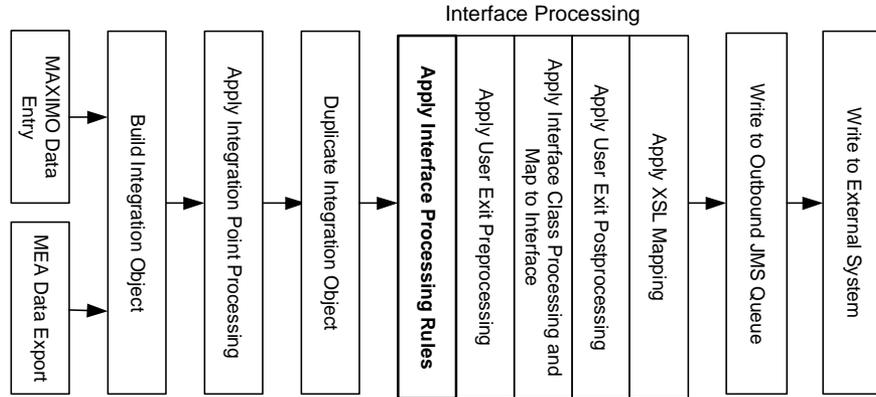
If the outbound processing for an external system-interface determines that a duplicated integration object should be skipped due to inapplicable data, the skip action applies only to that copy of the integration object; that is, to that specific external system-interface. If the processing determines that a duplicated integration object should be stopped due to an error in the data, the stop action applies to all the copies of the integration object created in this step.

Applying Interface Processing Rules

Summary

The integration framework applies the processing rules (if specified) to the integration object.

Maximo Enterprise Adapter Outbound Processing Activities



Interface processing rules define the conditions under which Maximo can skip or stop a transaction, or change the data in an integration object. If any exist, the integration framework applies them to the integration object in the order specified by the processing rule sequence number.

TIP To find out if processing rules exist for the integration object, look on the Outbound Processing Rules tab in the Integration Interfaces application.

Output

The possible outcomes of this activity are as follows

Processing Outcome.

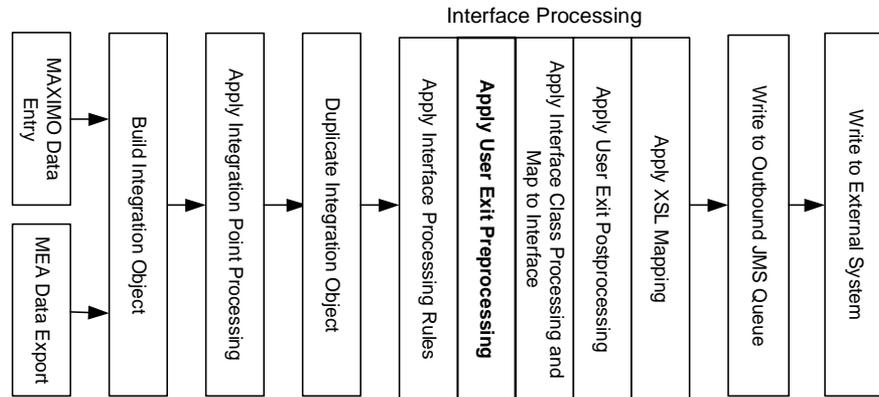
If . . .	Output is . . .
No processing rules exist	The existing integration object, unchanged
A processing rule skips the record	No output, and processing ends
A processing rule stops the record	No output, processing ends, and an exception displays on the user interface screen
The processing rules complete successfully	The existing integration object, possibly updated

Applying User Exit Preprocessing

Summary

The integration framework applies the custom processing logic in the user exit class (if specified) to the integration object.

Maximo Enterprise Adapter Outbound Processing Activities



A preprocessing method in a user exit class allows manipulation of the integration object before any predefined processing takes place on the interface. Users typically use this functionality to customize predefined interfaces.

The predefined adapters do not provide any user exit classes.

TIP To find out if preprocessing customization exists, look at the Interface tab in the Integration Interfaces application. If the Outbound Integration Points subtab shows a user exit class, check that class file for a preprocessing method.

NOTE The same processing class contains the user exit preprocessing and user exit postprocessing (see page 3-13) methods.

Output

The possible outcomes of this stage are as follows.

Processing Outcome

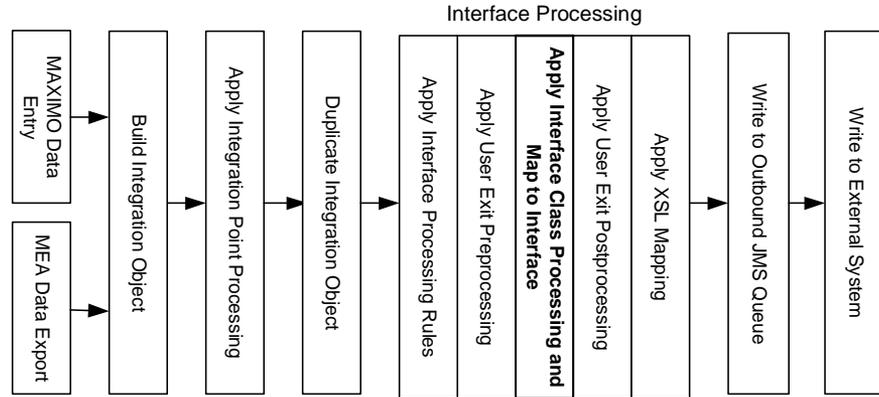
If . . .	Output is . . .
No preprocessing method exists	The existing integration object, unchanged
The preprocessing method skips the record	No output, and processing ends
The preprocessing method stops the record	No output, processing ends, and an exception displays on the user interface screen
The preprocessing method completes successfully	The existing integration object, possibly updated

Applying Interface Class Processing

Summary

The integration framework applies predefined interface processing logic in the interface processing class (if specified) to the integration object.

Maximo Enterprise Adapter Outbound Processing Activities



An interface processing class typically implements additional processing logic and converts data from integration object to interface format.

The MAXIMO adapter does not provide any predefined interface processing classes. The XML format for interfaces defined within the MAXIMO adapter is comparable to the format of the integration object, as no XML mapping takes place.

TIP To find out if an interface processing class exists for an interface, go to the Interface tab in the Integration Interfaces application. Look on the Outbound Integration Points subtab for an Interface Processing class.

Output

The possible outcomes of this activity are as follows.

Processing Outcome

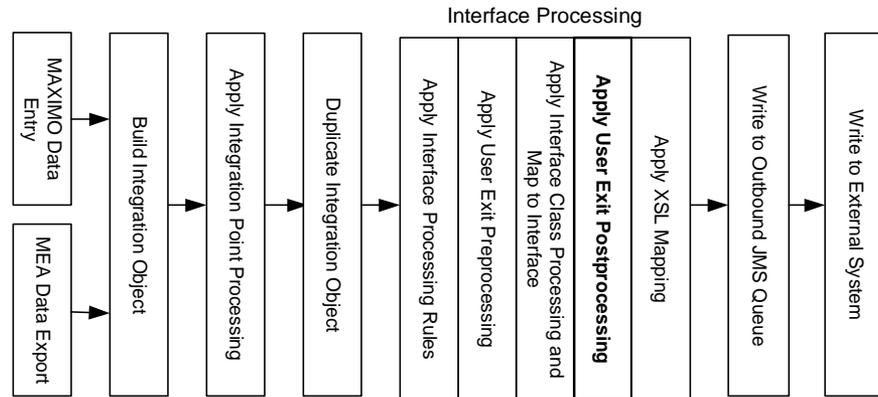
If . . .	Output is . . .
No interface processing class exists	The existing integration object, unchanged
The interface processing class skips the record	No output, and processing ends
The interface processing class stops the record	No output, processing ends, and an exception displays on the user interface screen
The interface processing class completes successfully, without mapping	The existing integration object, possibly updated
The interface processing class completes successfully, with mapping	The interface

Applying User Exit Postprocessing

Summary

The integration framework applies custom processing logic in the user exit class (if specified) to the interface created in the previous stage.

Maximo Enterprise Adapter Outbound Processing Activities



This option is typically used to customize a predefined interface after interface processing takes place. Both the input integration object and the interface created from that integration object are available at this point.

The predefined adapters do not provide any user exit classes.

TIP To find out if postprocessing customization exists, look at the Interface tab in the Integration Interfaces application. If the Outbound Integration Points subtab shows a user exit class, check that class file for a postprocessing method.

NOTE The same processing class contains the user exit preprocessing (see page 3-11) user exit postprocessing methods.

Output

The possible outcomes of this stage are as follows

Processing Outcome.

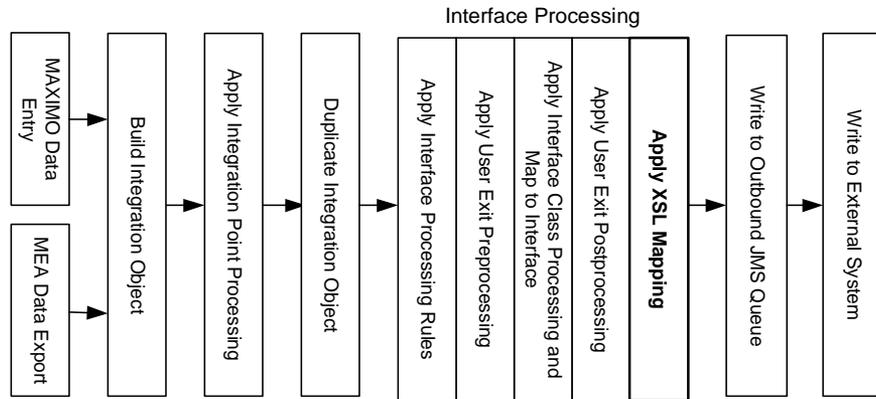
If . . .	Output is . . .
No postprocessing method exists	The existing integration object or interface, unchanged
The postprocessing method skips the record	No output, and processing ends
The postprocessing method stops the record	No output, processing ends, and an exception displays on the user interface screen
The postprocessing method completes successfully	The existing interface, possibly updated

Applying XSL Mapping

Summary

The integration framework applies any custom mapping to the interface.

Maximo Enterprise Adapter Outbound Processing Activities



XSL mapping lets users map user-defined interfaces or customize the mapping done by predefined interface processing classes. Both the integration object and interface are available at this point.

TIP To find out if an XSL map exists for an interface, go to the Interface tab in the Integration Interfaces application. Look on the Outbound Integration Points subtab for an XSL map.

Output

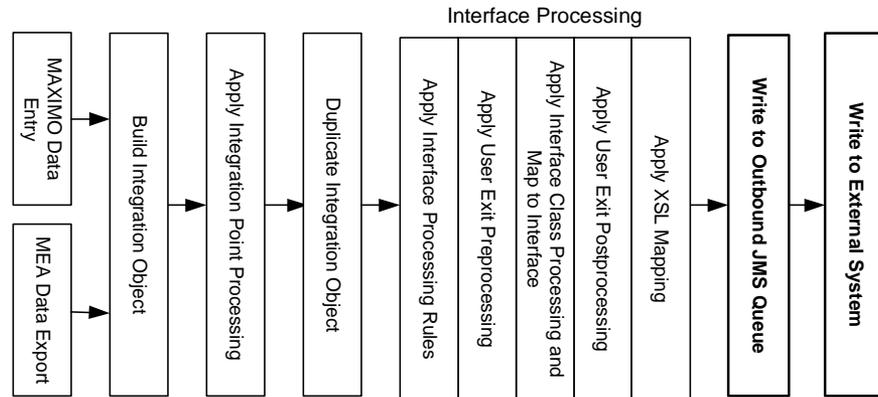
The output of this activity must be an XML message in interface format.

Sending the Interface to the External System

Summary

The integration framework writes the interface to the outbound queue, then sends it to the external system.

Maximo Enterprise Adapter Outbound Processing Activities



- 1 The integration framework writes the XML message to the outbound queue specified for the external system.

TIP To find out which outbound queue an external system uses, look on the System tab in the External Systems application.

- 2 The cron task that polls the outbound queue picks up the message.
- 3 The cron task passes the message to a message router. The router uses the end point associated with the external system to identify and invoke the correct handler.

TIP To find out which end point a system uses, look on the System tab in the External Systems application.

To find out which handler an end point uses, select **Add/Modify End Points** from the Select Action menu in the External Systems application.

- 4 The processing class associated with the handler sends the data to the external system.

If an error occurs, the message remains in the outbound queue until the next processing run of the cron task. For more information, see Chapter 7, "Error Management," on page 7-1.

Inbound Integration Processing

Maximo performs two types of inbound integration processing:

- ▼ Queue-based, initiated via interface tables, the integration gateway or the Data Import feature of Maximo
- ▼ Synchronous, initiated via Maximo Web services

Data synchronization (operation = Notify) interfaces can be processed synchronously or via the queue. Query and response type interfaces can only be processed synchronously (via Maximo Web services).

The following list is an overview of the inbound processing activities. Not every activity applies to every inbound transaction. The diagrams on the following pages show the same activities in a visual format.

- ▼ Initiating the Inbound Integration Process
- ▼ Writing Messages to the Inbound Queues
- ▼ Retrieving Messages from the Inbound Queues
- ▼ Identifying the Integration Point
- ▼ Applying User Exit Preprocessing
- ▼ Applying Interface Class Processing
- ▼ Applying User Exit Postprocessing
- ▼ Applying XSL Mapping
- ▼ Duplicating the Integration Object
- ▼ Applying Integration Object Processing Rules
- ▼ Building the MBOs
- ▼ Applying MBO Processing Rules
- ▼ Applying the Integration Point Processing Class
- ▼ Applying User Exit MBO Processing
- ▼ Applying MBO Processing

For details about these activities, see the following sections of this chapter:

- ▼ “Queue-based Inbound Processing,” on page 3-17
- ▼ “Web Services Processing,” on page 3-36

Queue-based Inbound Processing

This section describes the processing that occurs when an external system sends a message to Maximo using one of the following mechanisms:

- ▼ Data Import (file loading) of XML or flat files
- ▼ Interface tables
- ▼ XML via the integration gateway (via HTTP post, EJB invocation, or gateway Web service invocation)

NOTE Only interfaces defined within internal adapters can use the Data Import feature and interface tables.

The following prerequisites apply to asynchronous inbound processing:

- ▼ All applicable integration objects, integration points, interfaces, and external systems must be completely defined.
- ▼ The following entities must be enabled:
 - External system(s)
 - Applicable interfaces
 - The cron task that polls the inbound sequential queue (if applicable)
 - The cron task that polls the interface tables (if applicable)

For information about performing the prerequisite activities, see Chapter 6, "Basic Configuration," on page 6-1.

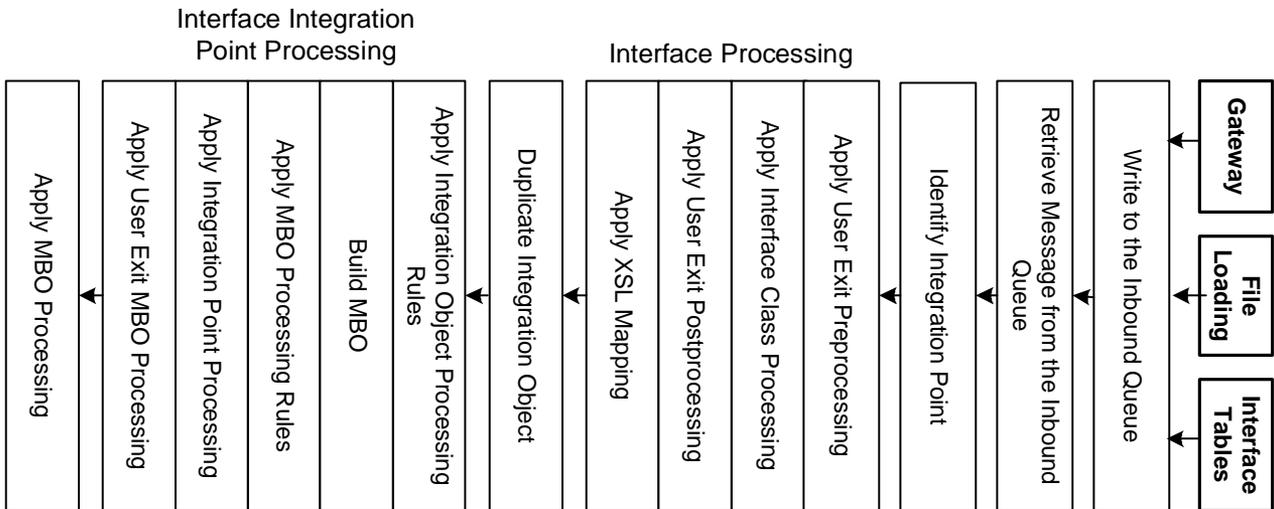
Initiating the Inbound Integration Process

Summary

An external system can send asynchronous messages to Maximo in the following ways:

Inbound processing initiation via:	Available for:
Gateway using HTTP Post, EJB Invocation, gateway Web service invocation	All external systems
Data Import (file loading) feature, using XML or flat files	External systems using an internal type adapter
Interface tables	External systems using an internal type adapter

Maximo Enterprise Adapter Inbound Processing Activities



Writing Messages to the Inbound Queues

Via the Integration Gateway

The following steps describe the initiation of inbound processing via the integration gateway:

- 1 The external system delivers a message to the integration gateway via XML over HTTP or an EJB call. The message can be in any XML format.
- 2 The adapter's interpreter layer identifies the sender (external system) and the interface name from the message.
- 3 The integration framework verifies the following:
 - ▼ The external system is valid and enabled.
 - ▼ The interface is a valid and enabled inbound interface for the system.

If the verification fails, the integration framework notifies the sender of the error and does not process the message.

TIP To find out if an external system is enabled, look on the System tab in the External Systems application.

TIP To find out if an interface is valid and enabled, look on the Inbound Interfaces tab in the External Systems application.

- 4 If the verification is successful, the integration gateway identifies the inbound JMS queue assigned to the selected interface and external system.

TIP To find out which inbound queue (continuous or sequential) is assigned to the interface and external system, look on the Inbound Interfaces tab in the External Systems application.

To find out the location of that queue, look on the System tab in the External Systems application.

- 5 The integration gateway writes the message to the inbound queue. If the message contains multiple instances of a document (for example, if a single message contains ten purchase orders), the application writes the single message, not ten individual messages, to the queue.
- 6 The integration framework updates the message header with the external system and interface names.

Continue with "Retrieving Messages from the Inbound Queues," on page 3-22.

Via the Data Import Feature

The following steps describe the initiation of inbound processing via the Data Import feature.

- NOTE This feature is available only for external systems using an internal adapter.
- 1 A user selects the **Data Import** option from the Select Action menu in the External Systems application.
 - 2 The user identifies the type (XML or flat), delimiter, and location of the file to be imported into Maximo.
 - 3 The adapter identifies the sender (external system) and the interface name from the message.
 - 4 The integration framework verifies the following:
 - ▼ The external system is valid and enabled.
 - ▼ The interface is a valid and enabled inbound interface for the system.If the verification fails, the integration framework notifies the user of the error and does not process the message.
 - 5 If the verification is successful, the integration framework identifies the inbound JMS queue assigned to the interface and external system.
 - 6 The integration framework writes the message to the inbound queue. If the message contains multiple instances of a document (for example, if a single message contains ten purchase orders), the application writes ten messages to the queue.
 - 7 The integration framework updates the message header with the external system and interface names.

Continue with “Retrieving Messages from the Inbound Queues,” on page 3-22.

Via Interface Tables

The following steps describe the initiation of inbound processing via interface tables. For more information about interface tables, see Chapter 5, "Interface Tables," on page 5-1.

NOTE This option is available only for external systems using an internal type adapter.

- 1 The external system writes transaction data to the appropriate interface tables and updates the MXIN_INTER_TRANS queue table with information about the sequence in which Maximo must process the interface table records.
- 2 A Maximo cron task regularly polls the MXIN_INTER_TRANS queue table for records to be processed.
- 3 If any records are ready to be processed, the adapter identifies the sender (external system) and interface name from the MXIN_INTER_TRANS queue table.
- 4 The integration framework verifies the following:
 - ▼ The external system is valid and enabled.
 - ▼ The interface is a valid and enabled inbound interface for the system.

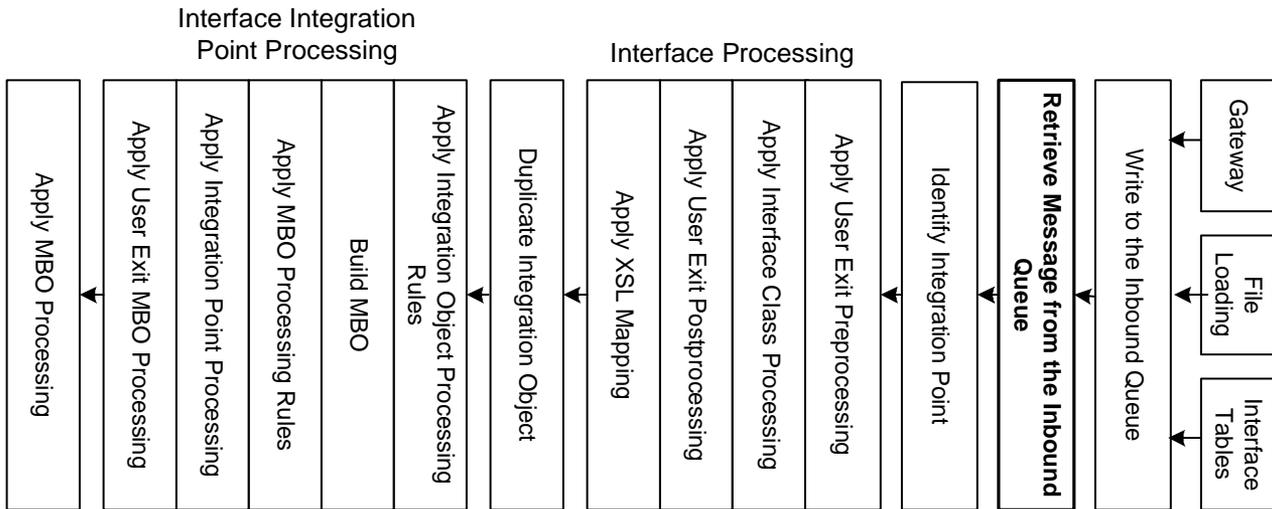
If the verification fails, the integration framework sends an e-mail error notification to the system administrator (defined in the External Systems application) and does not process the inbound message.

- 5 If the verification is successful, the integration framework identifies the inbound JMS queue assigned to the interface and external system and writes the message to that queue.

Retrieving Messages from the Inbound Queues

Summary The integration framework retrieves messages from the inbound queues.

Maximo Enterprise Adapter Inbound Processing Activities



Users can choose to process inbound messages through the sequential queue, the continuous queue, or a combination of the two. The sequential queue processes messages on a strict FIFO basis, while the continuous queue supports multi-threaded processing of transactions.

When an error occurs while processing a message in the sequential queue, the application sends an e-mail message to the system administrator, flags the message as an error, then stops processing messages in the queue until the error is corrected.

When an error occurs while processing a message in the continuous queue, the application sends an e-mail message to the system administrator, flags the message as an error, then continues processing subsequent messages in the queue.

TIP To find out which inbound queue (sequential or continuous) an external system-interface uses, look on the Inbound Interfaces tab in the System External Systems application.

For more information about the use of queues, see Chapter 11, "JMS Queue Configuration," on page 11-1.

At this point, inbound messages that were received into the queue from the interface tables or from file loading are converted into Maximo XML format. This applies to messages from external systems using the MAXIMO adapter or any internal type adapter.

A message remains in the inbound queue until it is fully processed by the integration framework. Once processing is complete, the transaction is deleted from the queue.

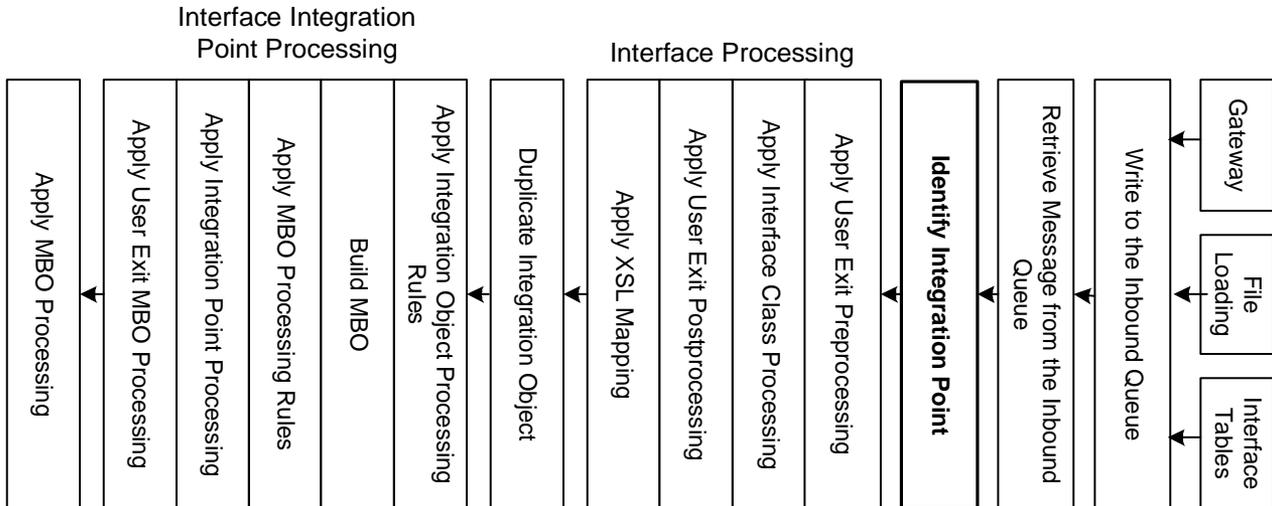
Output The output of this activity is an XML message in the interface format.

Identifying the Integration Point

Summary

The integration framework identifies the integration point(s) associated with the interface and creates a copy of the message (interface) for each integration point.

Maximo Enterprise Adapter Inbound Processing Activities.



The following activities identify the integration point associated with the message:

- 1 The integration framework retrieves the record from the inbound queue.
- 2 The adapter used by the external system is identified.
- 3 The interface definition in the adapter lists the inbound integration point(s) to which the interface is mapped.
- 4 The integration framework creates one copy of the interface for every integration point that is associated with the interface.

The processing sequence associated with the integration points specifies the sequence in which the subsequent integration point processing is to be performed on the interface.

TIP To see the processing sequence of multiple integration points associated with an interface, go to the Interface tab in the Integration Interfaces application. Look at the Process Order field on the Inbound Integration Points subtab.

If the integration framework creates copies of the interface, the remaining inbound processing actions apply to each copy of the interface.

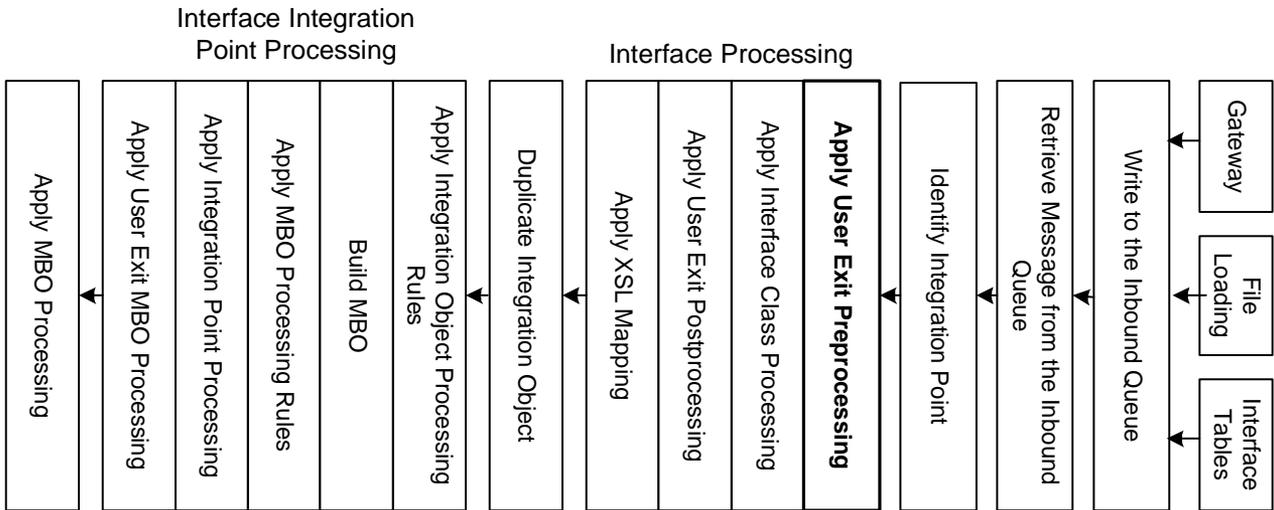
Output

The output of this activity is one copy of the interface per integration point.

Applying User Exit Preprocessing

Summary The integration framework applies the custom processing logic in the user exit class (if specified) to the interface.

Maximo Enterprise Adapter Inbound Processing Activities.



A preprocessing method in a user exit class allows manipulation of an interface before any predefined processing takes place. Users typically use this functionality to customize predefined interfaces.

The predefined adapters do not provide any user exit classes.

TIP To find out if preprocessing customization exists, look on the Interface tab in the Integration Interfaces application. If the Inbound Integration Points subtab shows a User Exit Class, check that class file for a preprocessing method.

NOTE The same processing class contains the user exit preprocessing, user exit postprocessing (see page 3-26), and user exit MBO processing (see page 3-34) methods.

Output The possible outcomes of this activity are as follows.

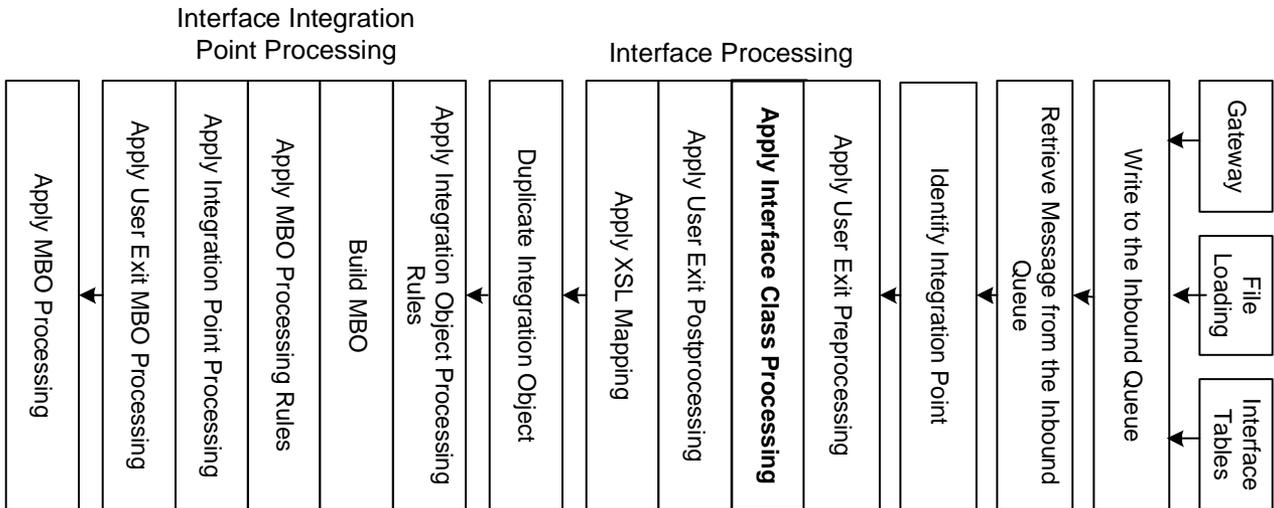
Processing Outcome

If . . .	Output is . . .
No user exit class exists	The existing interface, unchanged
The user exit class skips the record (due to non-applicable data)	No output; processing ends and the transaction is deleted from the queue
The user exit class stops the record (due to an error)	No output; processing ends with the transaction in error and remaining in the queue
The user exit class completes successfully	The existing interface, updated

Applying Interface Class Processing

Summary The integration framework applies predefined interface processing logic in the interface processing class (if specified) to the interface.

Maximo Enterprise Adapter Inbound Processing Activities



The MAXIMO adapter does not provide any predefined interface processing classes. It implements all its integration rules via integration point processing and processing rules.

In general, adapters use the interface processing class for the following purposes:

- ▼ to apply interface-specific business rules that cannot be specified using the processing rules
- ▼ to convert input data from interface format to integration object format

TIP To find out if an interface processing class exists for the interface, go to the Interface tab in the Integration Interfaces application. Look on the Inbound Integration Points subtab for an Interface Processing class.

Output The possible outcomes of this activity are as follows.

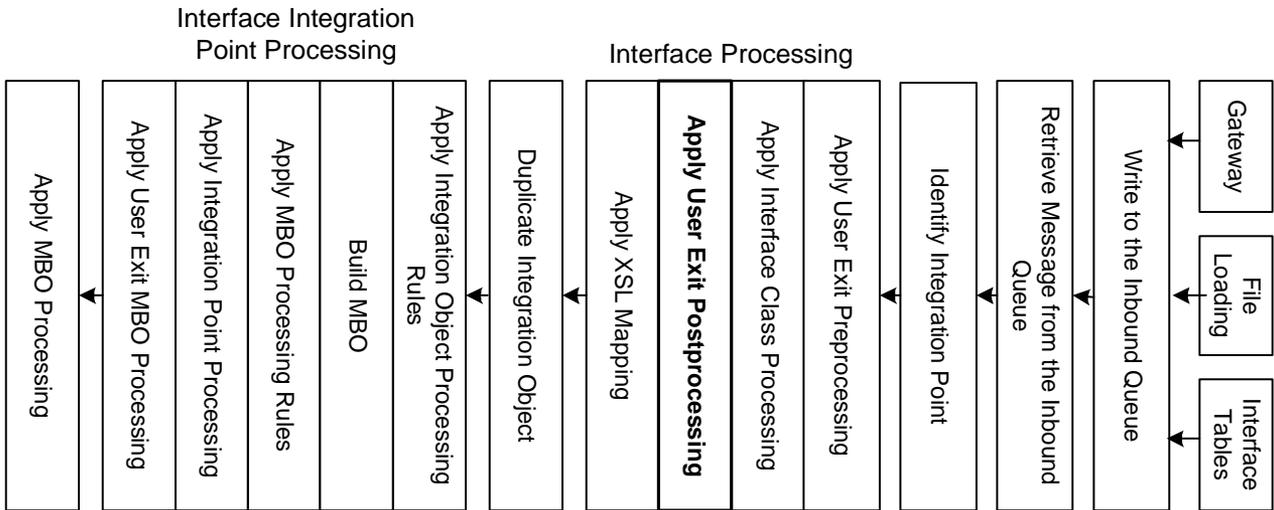
Processing Outcome

If . . .	Output is . . .
No interface processing class exists	The existing interface, unchanged
The interface processing class skips the record	No output; processing ends and the transaction is deleted from the queue
The interface processing class stops the record	No output; processing ends with the transaction in error and remaining in the queue
The interface processing class completes successfully, with mapping	The integration object

Applying User Exit Postprocessing

Summary The integration framework applies predefined processing logic in the user exit class (if specified) to the output from the preceding activity.

Maximo Enterprise Adapter Inbound Processing Activities



A user exit processing class typically customizes the integration object after the execution of any predefined interface processing logic. Both the integration object and the interface are available at this point.

The MAXIMO adapter does not provide predefined user exit classes.

TIP To find out if any postprocessing customization exists, look on the Interface tab in the Integration Interfaces application. If the Inbound Integration Points subtab shows a User Exit Class, check that class file for a postprocessing method.

NOTE The same processing class contains the user exit preprocessing (see page 3-24), user exit postprocessing, and user exit MBO processing (see page 3-34) methods.

Output The possible outcomes of this activity are as follows.

Processing Outcome

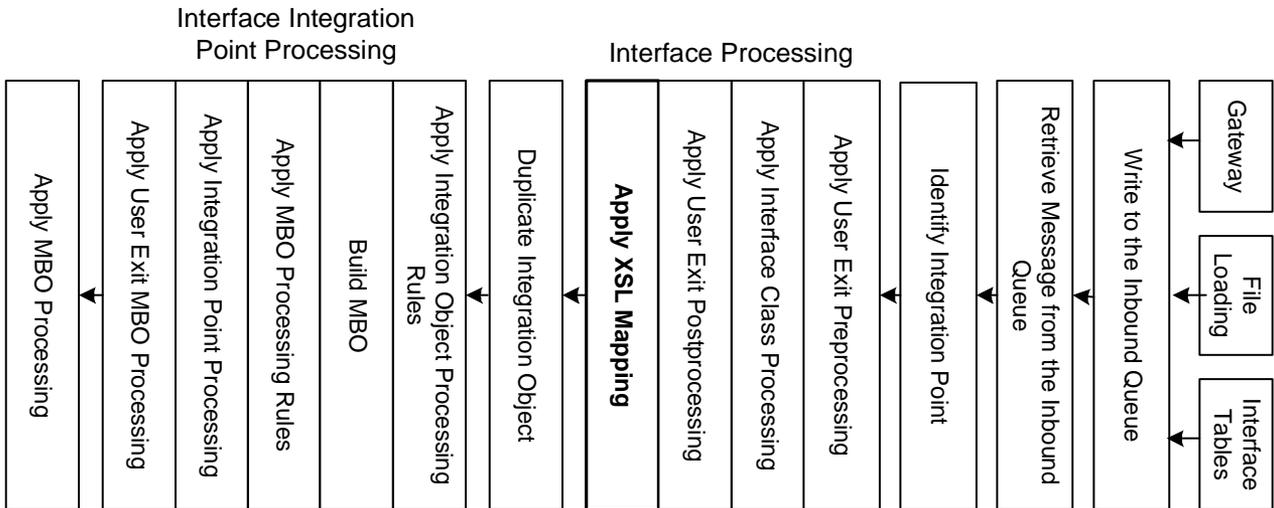
If . . .	Output is . . .
No user exit class exists	The integration object, unchanged
The user exit class skips the record	No output; processing ends and the transaction is deleted from the queue
The user exit class stops the record	No output; processing ends with the transaction in error and remaining in the queue
The user exit class completes successfully	The integration object, updated

Applying XSL Mapping

Summary

The integration framework applies any mapping to the interface, to convert it to integration object format.

Maximo Enterprise Adapter Inbound Processing Activities



The MAXIMO and ERP adapters do not provide predefined XSL maps.

TIP To find out if an XSL map exists for an interface, go to the Interface tab in the Integration Interfaces application. Look on the Inbound Integration Points subtab for an XSL map.

Output

The possible outcomes of this activity are as follows.

Processing Outcome

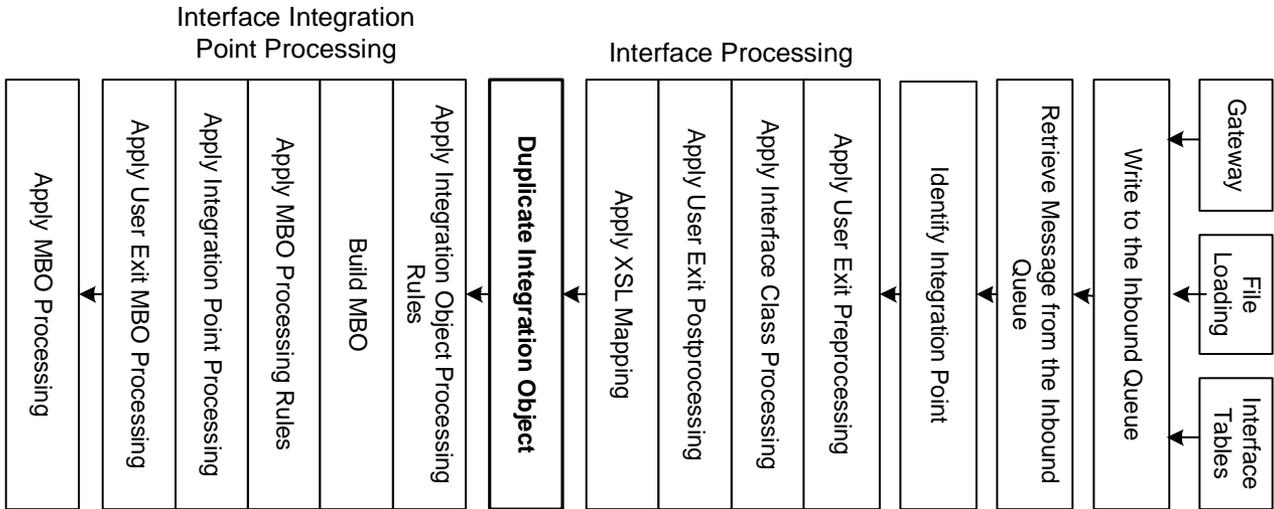
If . . .	Output is . . .
No XSL map exists	The interface, unchanged
An XSL map exists	The integration object

Duplicating the Integration Object

Summary

If the transaction applies to multiple organizations or sites, the integration framework creates a copy of the integration object for each organization or site.

Maximo Enterprise Adapter Inbound Processing Activities.



In most cases, a transaction applies to a single organization or site. However, in cases where the transaction applies to multiple organizations or sites, a multiplication control directs Maximo to create a copy of the integration object for each applicable organization or site.

Example

You want to insert a vendor from an external system into Maximo, under multiple organizations. Instead of sending the vendor from the external system multiple times, you can send it once and apply a multiplication control that will copy it to each organization.

The MAXIMO adapter does not provide any predefined multiplication controls.

If the remaining inbound activities determine that a duplicated integration object for a specific organization or site should be skipped due to inapplicable data, the skip action applies to that one integration object only. If they determine that a duplicated integration object should be stopped due to an error in the data, the stop action applies to all the integration objects created in this step (every copy of the original integration object).

TIP To find out if a multiplication control exists, look on the Inbound Integration Points subtab on the Interface tab in the Interfaces application.

- 1 The integration framework checks for a multiplication control for the integration point and interface.
- 2 If a control exists, the integration framework multiplies the integration object as many times as there are values in the control.

- 3 The integration framework determines if the value in the multiplication control is an organization or site value, and replaces the organization or site in the integration object with the organization or site from the multiplication control.

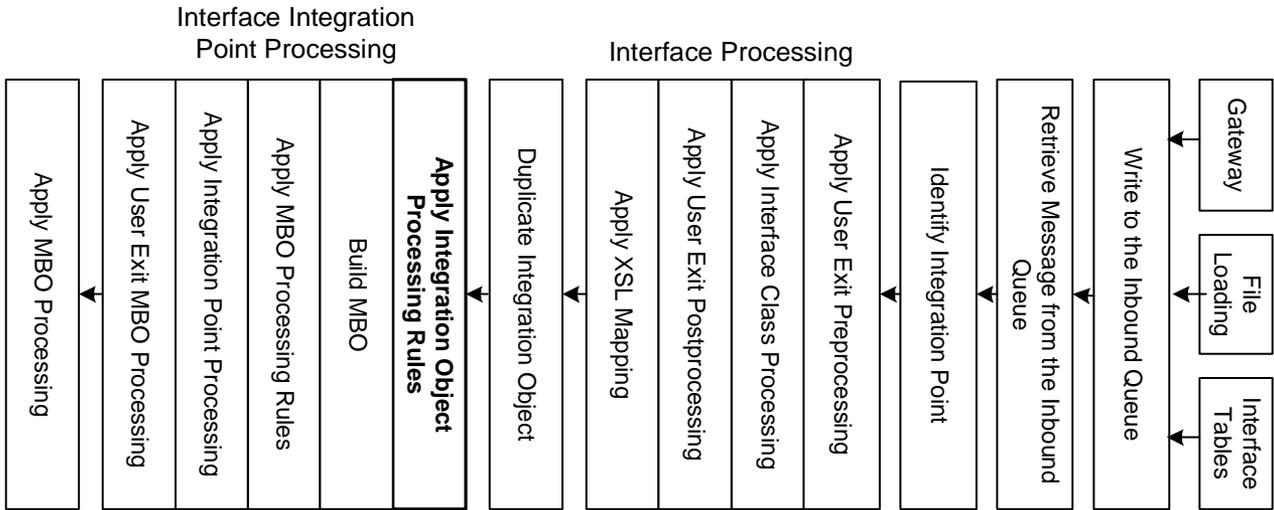
Output

The output of this activity is an integration object for each organization or site specified in the multiplication control.

Applying Integration Object Processing Rules

Summary The integration framework applies any processing rules to the integration object, before it builds the MBOs.

Maximo Enterprise Adapter Inbound Processing Activities



Integration object processing rules define conditions under which Maximo can skip or stop a transaction, or change data in the integration object, prior to the creation of the MBOs. This is the final opportunity to manipulate the primary/unique keys defined for a MBO.

TIP To find out if processing rules exist for the integration object, look on the Integration Object subtab of the Inbound Processing Rules tab in the Integration Interfaces application.

The possible outcomes of this activity are as follows.

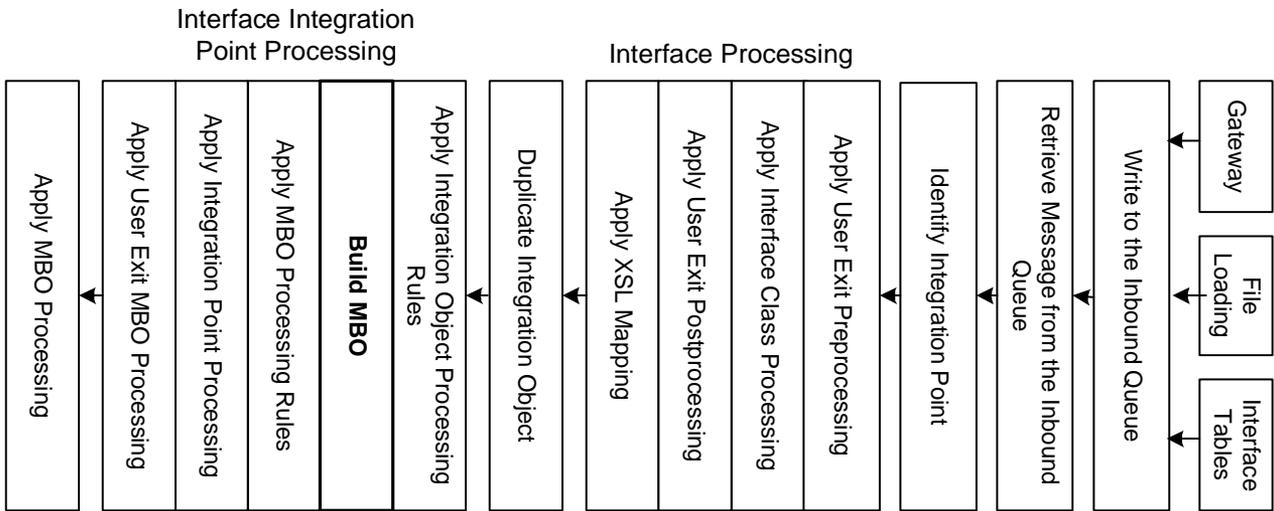
Processing Outcome

If . . .	Output is . . .
No integration object processing rules exist	Integration object, unchanged
The processing rules skip the record	No output; processing ends and the transaction is deleted from the queue
The processing rules stop the record	No output; processing ends with the transaction in error and remaining in the queue
The processing rules complete successfully	Integration object, updated
	Note: The primary keys of the MBOs are set at this point

Building the MBOs

Summary The integration framework builds the MBO(s) using the information in the integration object.

Maximo Enterprise Adapter Inbound Processing Activities

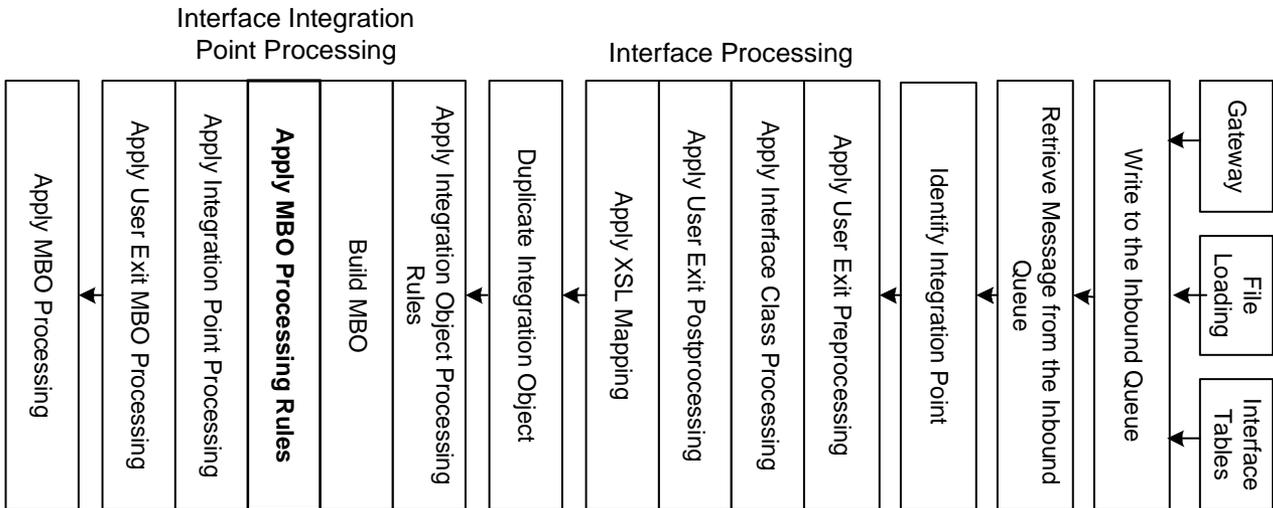


Output The output of this activity is the MBO(s).

Applying MBO Processing Rules

Summary The integration framework applies processing rules (if specified) to the MBOs it has built, before saving the MBOs.

Maximo Enterprise Adapter Inbound Processing Activities



MBO processing rules let you manipulate data in the MBOs, prior to the MBOs being saved. You can also use processing rules to access and retrieve pertinent data from MBOs that are not included in the integration object.

TIP To find out if processing rules exist for the MBO, look on the MBO subtab of the Inbound Processing Rules tab in the Integration Interfaces application.

Output The possible outcomes of this activity are as follows.

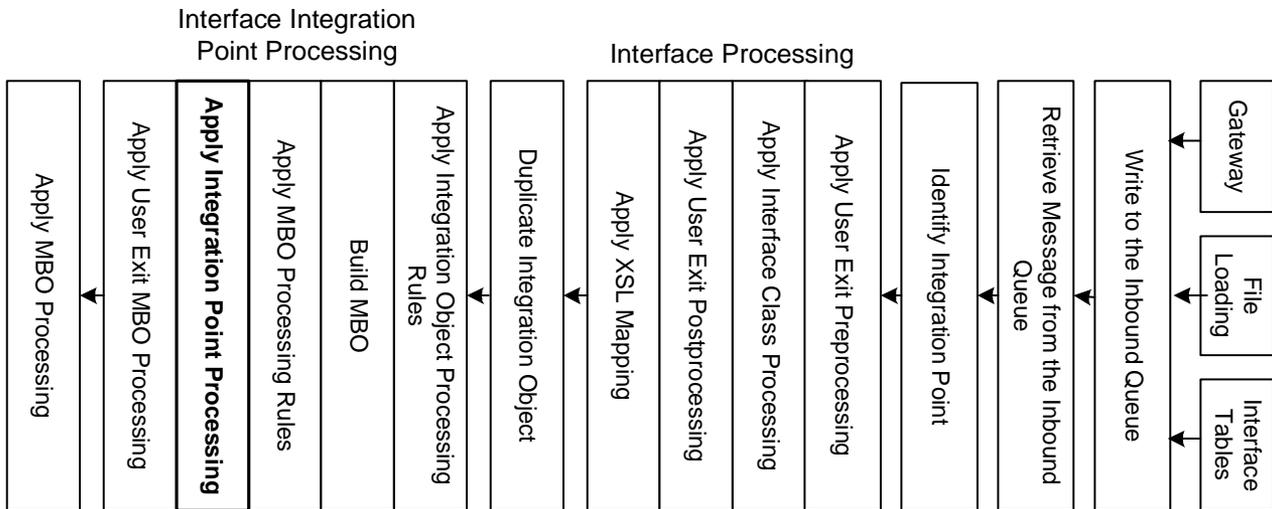
Processing Outcome

If . . .	Output is . . .
No MBO processing rules exist	The MBO
The processing rules skip the record	No output; processing ends and the transaction is deleted from the queue
The processing rules stop the record	No output; processing ends with the transaction in error and remaining in the queue
The processing rules complete successfully	The MBO, possibly updated

Applying the Integration Point Processing Class

Summary The integration framework applies any predefined logic to the integration point.

Maximo Enterprise Adapter Inbound Processing Activities



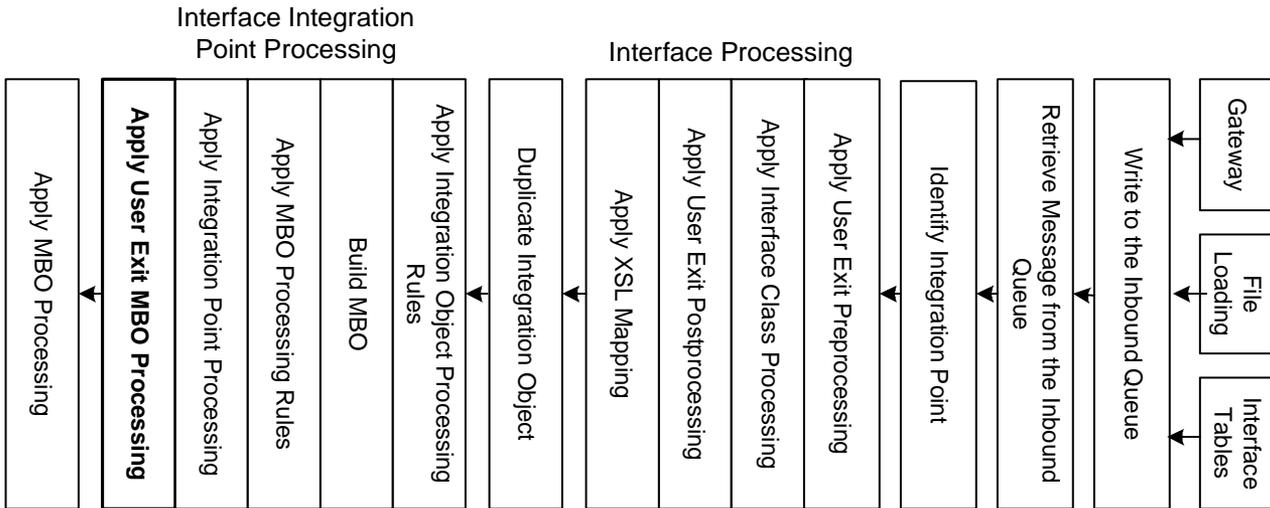
Output The possible outcomes of this activity are as follows.

If . . .	Output is . . .
No integration point processing exists	The MBO, unchanged
The integration point class skips the record	No output; processing ends and the transaction is deleted from the queue
The integration point class stops the record	No output; processing ends with the transaction in error and remaining in the queue
	Note: The predefined interfaces do not implement the Stop action
The integration point processing completes successfully	The MBO, possibly updated

Applying User Exit MBO Processing

Summary The integration framework applies any final custom logic to the MBO.

Maximo Enterprise Adapter Inbound Processing Activities



TIP To find out if a MBO processing customization exists, look on the Interface tab in the Integration Interfaces application. If the Inbound Integration Points subtab shows a User Exit Class, check that class file for a MBO processing method.

NOTE The same processing class contains the user exit preprocessing (see page 3-24), user exit postprocessing (see page 3-26), and user exit MBO processing methods.

Output The possible outcomes of this activity are as follows.

Processing Outcome

If . . .	Output is . . .
No user exit processing	The MBO, unchanged
The user exit class skips the record	No output; processing ends and the transaction is deleted from the queue
The user exit class stops the record	No output; processing ends with the transaction in error and remaining in the queue
The user exit class completes successfully	The MBO, possibly updated

Applying MBO Processing

Summary

The MBOs are passed to Maximo and standard Maximo processing is applied.

NOTE Maximo Integration treats a single message from the inbound queue as a single Maximo transaction. If the original message ultimately results in multiple integration objects, Maximo must successfully process all the MBOs created from all the integration objects created from the message before it performs the database commit. An error in any one of the multiple integration objects will cause the entire transaction to fail.

Web Services Processing

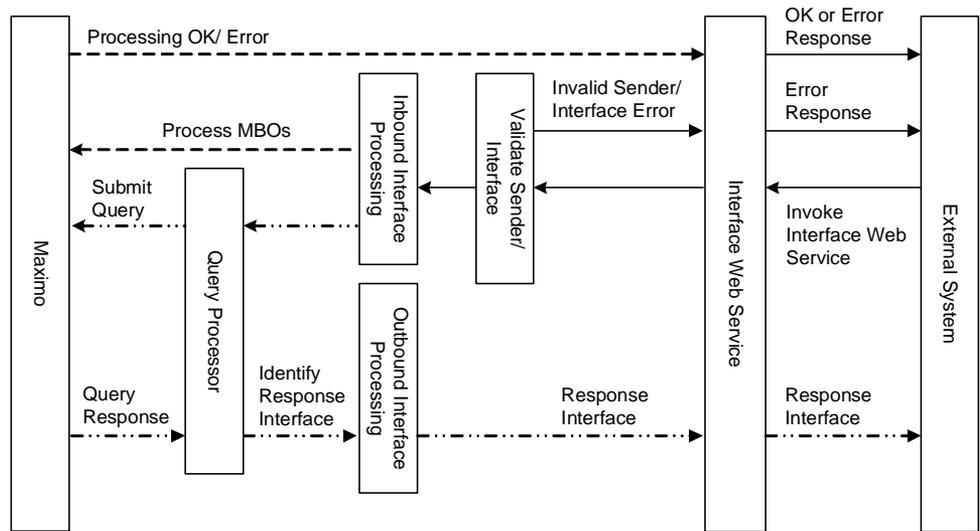
Summary

Two types of interfaces can be processed via Web services:

- ▼ Data Synchronization (operation = Notify)
- ▼ Query (operation = Query)

Web services processing involves the same processing activities as the queue-based transactions, except that the Web services transactions bypass the inbound queues.

Maximo Enterprise Adapter Web Services Processing



Query and Data Synchronization Processing _____
 Data Synchronization Processing Only - - - - -
 Query Processing Only -

Web services processing is always synchronous. If an external system invokes a Maximo Web service, it receives the result of the processing in the same session/transaction.

Data Synchronization Processing

Data synchronization interfaces are processed in the following way. For a visual representation of the processing, see the diagram on page 3-36.

- 1 An external client directly invokes Web services.
- 2 The Web service verifies the following:
 - ▼ The external system is valid and enabled.
 - ▼ The interface is a valid and enabled inbound interface for the system.

If the verification fails, the Web service returns an exception to the client that invoked the service.
- 3 If the verification is successful, the following inbound interface processing activities take place, as described previously in this chapter:
 - ▼ Identifying the Integration Point
 - ▼ Applying User Exit Preprocessing
 - ▼ Applying Interface Class Processing
 - ▼ Applying User Exit Postprocessing
 - ▼ Applying XSL Mapping
 - ▼ Duplicating the Integration Object
 - ▼ Applying Integration Object Processing Rules
 - ▼ Building the MBOs
 - ▼ Applying MBO Processing Rules
 - ▼ Applying the Integration Point Processing Class
 - ▼ Applying User Exit MBO Processing

The integration framework then passes the MBO to Maximo and standard Maximo MBO processing takes place.

If an error occurs, the Web service sends the error to the external system as a response. If processing is successful, the Web service sends a success notification to the external client.

Query Processing

Query functionality is available only with interfaces within the MAXIMO (default) adapter.

Query interfaces are processed in the following way. For a visual representation of the processing, see the diagram on page 3-36.

- 1 An external client directly invokes Web services.
- 2 The Web service verifies the following:
 - ▼ The external system is valid and enabled.
 - ▼ The interface is a valid and enabled inbound interface for the system.

If the verification fails, the Web service returns an exception to the client that invoked the service.
- 3 If the verification is successful, the integration framework hands the transaction to a Query Processor for further processing.
- 4 The Query Processor builds a query and submits it to Maximo's query by example (QBE) framework for execution.
- 5 The following inbound interface processing activities take place, as described previously in this chapter.
 - ▼ Identifying the Integration Point
 - ▼ Applying User Exit Preprocessing
 - ▼ Applying Interface Class Processing
 - ▼ Applying User Exit Postprocessing
 - ▼ Applying XSL Mapping
 - ▼ Building the MBOs
- 6 The following outbound interface processing activities take place, as described previously in this chapter:
 - ▼ Identifying the Integration Point
 - ▼ Applying the Integration Point Processing Class
 - ▼ Applying Interface Processing Rules
 - ▼ Applying User Exit Preprocessing
 - ▼ Applying Interface Class Processing
 - ▼ Applying User Exit Postprocessing
 - ▼ Applying XSL Mapping
- 7 The Web service hands the response to the external client that initiated the query.

Maximo XML and Schema

4

This chapter describes the structure, elements and attributes of XML messages that are created by Maximo.

In general, the content of any XML document created by Maximo is based on the integration object that is associated with the interface. Additional elements that provide information about how the document is to be processed, are added to the content. This information depends on the operation performed by the interface (Notify, Query, or Response). This chapter discusses the XML definition of data synchronization (operation = Notify) interfaces only.

For information about the XML used in query and response type interfaces, see Chapter 17, "Using Integration Queries," on page 17-1.

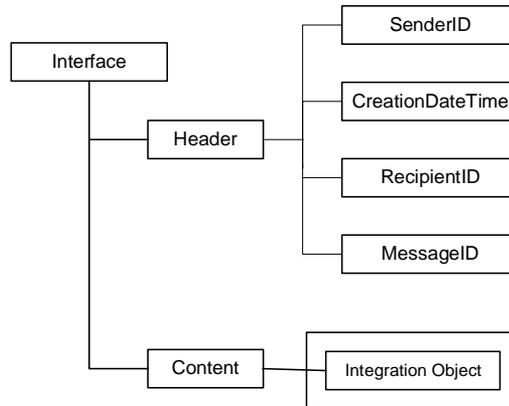
This chapter includes the following sections:

- ▼ Structure of Maximo XML
- ▼ Interface Element
- ▼ Header Element
- ▼ Content Element
- ▼ Additional Considerations
- ▼ XML Schemas for Maximo Interfaces

Structure of Maximo XML

The following diagram shows the standard format used for all XML messages exchanged via the MAXIMO adapter. The root element, Interface, is the name of the interface. Within the Interface element are two required elements, Header and Content. Each XML document has one Header and one Content element.

Maximo XML Structure



Character Encoding

By default, Maximo XML uses UTF-8 encoding. If an inbound transaction has any other encoding specified, the entire message must use the same encoding. If an error is encountered during the processing of an inbound transaction that uses an encoding other than UTF-8, the entire error XML that is written will be encoded as UTF-8.

Example

```
<?xml version="1.0" encoding="ISO-8859-2"?>
```

Interface Element

The Interface element contains the name of the interface, as defined in the Integration Interfaces application. The inbound integration processing verifies that this is a valid and enabled inbound interface.

The Interface element can include the following attributes.

Interface Element Attributes

Attribute	Description	Notes
xmlns	Namespace identifier Value: http://www.mro.com/mx/integration	Optional inbound
language	Identifier of the base language of the fields in the XML message. (Does not apply to language-specific record (for example, L_ITEM, L_ASSET, and so on). Outbound—contains Maximo's base language code; provided for information only. Inbound—Maximo does not evaluate this attribute. It assumes the base language of the document is the same as the base language of Maximo.	Optional inbound

Example

```
<MXGLTXNInterface xmlns="http://www.mro.com/mx/integration"
language="EN">
```

The interface element contains only two child elements—a single Header element and a single Content element.

Header Element

Every XML message contains one header element, which specifies the sender and recipient of the message and uniquely identifies each message.

The Header includes attributes and other elements. Depending on the operation type of the interface (Notify, Query, or Response), the attributes will differ but the elements will be the same.

This section discusses data synchronization interfaces only. For information about query and response type interfaces, see Chapter 17, "Using Integration Queries," on page 17-1.

Header Attributes

The Header element can include the following attributes.

Header Element Attributes

Attribute	Description	Notes
operation	<p>The purpose of the XML message. Its value is based on the operation associated with the interface in the Integration Interfaces application.</p> <p>Valid values are:</p> <ul style="list-style-type: none"> ▼ Notify ▼ Query ▼ Response 	<p>Inbound—Optional, because the interface name identifies the operation from the definition of the interface in Maximo. Any value provided is not validated by inbound processing.</p>
event	<p>The origin of an outbound XML message.</p> <p>Valid values are:</p> <p>0 (false)—Generated via by the Data Export feature</p> <p>1 (true)—Generated via an outbound integration event listener (that is, data entry in Maximo)</p>	<p>Outbound—Provided for information only. Maximo does not evaluate this attribute.</p>

Example

```
<MXGLTXNInterface xmlns="http://www.mro.com/mx/integration"
language="EN">
  <Header operation="Notify" event="1">
```

Header Fields

The Header element includes the following fields.

Header Element Fields

Field	Description	Required/ Optional
SenderID	An identifier for the system or application sending the message. For more information, see "SenderID Attributes," following this table. Outbound—The value of MAXVARS.MXSYSID. Inbound—The name of the external system, as defined in the External Systems application.	Required inbound
CreationDateTime	The date and time the interface was initiated.	Optional inbound
RecipientID	The receiving system or application for which the message is intended. Outbound—The name of the external system, as defined in the External Systems application.	Not applicable inbound
MessageID	Unique identifier for the combination of message and external system.	Optional inbound

SenderID Attributes

The SenderID field can include the following attributes. They apply only to outbound transactions.

SenderID Field Attributes

Attribute	Description
type	"Maximo"
majorversion	Maximo major release number
minorversion	Maximo minor release number
build	Maximo build number
dbbuild	Maximo database build number

Example

```
<MXGLTXNInterface xmlns="http://www.mro.com/mx/integration"
language="EN">
  <Header operation="Notify" event="1">
    <SenderID type="Maximo" majorversion="6" minorversion="0"
build="138" dbbuild="185">MX</SenderID>
```

Content Element

Every XML document contains one Content element, which contains one or more instances of the same integration object. For example, a message containing the MXPOInterface can contain multiple purchase orders.

The format of the content element varies, depending on the operation type of the interface (Notify, Query, or Response) and the type of the related integration object (standard or merged).

This section discusses data synchronization interfaces only. For information about query and response type interfaces, see Chapter 17, "Using Integration Queries," on page 17-1.

Standard Integration Objects

The Content element for a standard integration object has the following generic structure:

```
<InterfaceName>
  <Header></Header>
  <Content>
    <Integration Object Name>
      <Primary MBO Name>
        <Fields>
          .
          .
          .
```

NOTE The bold text in the preceding and following structures indicates the areas where the content of standard and merged integration objects differs.

Example

The MXPO integration object is a standard integration object. It has the following structure:

```
<MXPOInterface>
  <Header></Header>
  <Content>
    <MXPO>
      <PO>
        .
        .
        .
        <PONUM>
          .
          .
          .
        <POLINE>
          <POCOST>
            .
            .
            .
          </POCOST>
        </POLINE>
      </PO>
    </MXPO>
  </Content>
</MXPOInterface>
```

```

    </MXPO>
  </Content>

```

- NOTE** Any field that is part of a parent key and child key appears only in the parent MBO in the integration object. For example, PONUM is part of the key of both the PO and POLINE MBOs, but in the MXPO integration object it appears only in the PO MBO.

Merged Integration Objects

The content element for a merged integration object has the following generic structure:

```

<InterfaceName>
  <Header></Header>
  <Content>
    < Integration Object Name >
      < Integration Object Name >
        .
        .
        .

```

- NOTE** The bold text in the preceding and following structures indicates the areas where the content of standard and merged integration objects differs.

Example

The MXReceipt integration object is a merged integration object that processes both the MATRECTRANS and SERVRECTRANS MBOs. It has the following structure:

```

<MXRECEIPTInterface>
  <Header></Header>
  <Content>
    <MXRECEIPT>
      <MXRECEIPT>
        <ITEMNUM>
        <TOSTORELOC>
        .
        .
        .
      </MXRECEIPT>
    </MXRECEIPT>
  </Content>

```

- NOTE** The name of the integration object—in this case, MXRECEIPT—appears twice in the structure of a merged integration object.

Action Attribute

The action attribute is an optional attribute that can apply to the content of primary and child MBOs in an integration object. It specifies the type of processing the receiving system is to perform on the XML message.

For inbound processing, this attribute can be used in XML documents, flat files or interface tables that perform data synchronization (operation = Notify).

For outbound messages, it is used in data synchronization interfaces defined within the MAXIMO adapter and generated by an outbound integration event (that is, an action in Maximo). The Data Export feature does not update records and therefore does not include an action attribute in the messages it generates.

The following table lists the valid values for the action attribute.

NOTE Action values are case-sensitive

Action Attributes.

Value	Description
Add	Add record(s) to the database in the receiving system
Delete	Delete record(s) from the database in the receiving system
Change*	Update existing record(s) in the database in the receiving system
Replace*	Update existing record(s) in the database in the receiving system
AddChange*	Add or update existing record(s) in the database in the receiving system
Null	Add record(s) or replace record(s) in the receiving system, depending on whether or not the primary record exists in the database

*These actions differ in the information they include in the XML message and the processing they require of the receiving system. Later sections of this chapter detail the differences.

An action attribute at the primary MBO level specifies the overall processing action that applies to the parent and child records. At the child MBO level, it indicates processing specific to that record.

NOTE Maximo's business rules always take precedence over the action attribute. If business rules prohibit the action specified on an inbound XML message, an error occurs. For example, an inbound transaction that attempts to update a closed PO will result in an error.

If a single XML document contains multiple instances of an integration object, each instance of the interface can specify a different action attribute. In the following example, the COMPANIES record has multiple child COMPCONTACT records, each with its own action attribute.

Example

```

<MXVENDOR>
  <COMPANIES action="Change">
    <COMPANY>TEST4</COMPANY>
    <NAME>test</NAME>
    <ADDRESS1>100 Main Str</ADDRESS1>
    <COMPCONTACT action="Add">
      <NAME>SMITH</NAME>
      <TITLE>MANAGER</TITLE>
    </COMPCONTACT>
    <COMPCONTACT action="Change">
      <NAME>JONES</NAME>
      <TITLE>ENGINEER</TITLE>
    </COMPCONTACT>
  </COMPANIES>
</MXVENDOR>

```

Add Action

An add action (action = "Add") indicates that the corresponding data will be added to a database. For inbound transactions, an error occurs if the data already exists. The add action on a primary MBO extends to its child MBOs, so it is not necessary to also specify the add action at the child MBO level. Outbound transactions contain an add action when the insert of a MBO generates the transaction.

Delete Action

A delete action (action = "Delete") indicates that the corresponding MBO and its child MBOs will be deleted from the database. The delete action on a primary MBO extends to its child MBOs, so it is not necessary to also specify the delete action at the child MBO level.

An outbound XML message with a delete action on the primary MBO may not include the child MBOs, but the receiving system is responsible for identifying and deleting them.

When a primary MBO in an inbound XML message contains the delete action, Maximo deletes the child MBOs related to the primary MBO. If the parent MBO does not exist in Maximo, no error is reported to the sending system.

Update Actions

The Change and Replace actions indicate that the existing database records will be updated. The AddChange action can result in an update if the record to be processed already exists in the receiving system.

The change and replace actions are interchangeable in the case of updates to single-level (no child MBOs) standard interfaces and merged interfaces. For hierarchical interfaces, the two actions have different XML content and require different processing by the receiving system.

The following sections explain the differences among the three update actions. Also, see "Content Element," on page 4-12, to understand the differences among these actions.

Change Action

A change action (action = "Change") on the primary MBO in an XML message indicates that the message contains one or more parent or child records that will be added, changed, or deleted. It always contains the parent of any child record to be updated, even if the parent is unchanged.

When the primary MBO in an inbound or outbound XML message contains a change action, each child MBO in the message can contain one of the action codes in the following table.

Child MBO Action Codes

Action Code of Child MBO	Processing Action
action="Add"	Add the child record; if it exists, error
action="Delete"	Delete the child record; if it does not exist, error
action="Change"	Update the child record; if it does not exist, error
action = "" or no action specified	If the child record exists, update it; if child record does not exist, add it

NOTE If an action code not listed in the preceding table is specified, an error will occur in the processing of the XML document.

Replace Action

A replace action (action = "Replace") on the primary MBO in an XML message indicates that the message contains a complete set of MBOs that represent the net result of additions, changes, and deletions to the integration object. These MBOs will replace the existing database records, and any database record that is not referenced in the XML message will be deleted.

NOTE For outbound processing, Maximo always uses the replace action, not the change action.

In inbound processing, Maximo deletes any existing child record that is not explicitly mentioned in the message. External systems must process Replace actions in the same manner; that is, delete any child records that are not part of the XML document.

The replace action can appear only on the primary MBO in an XML message. If a child record in an inbound XML message contains a replace action when the primary MBO contains a change action, Maximo will not be able to process the message. If a child level record contains a replace action when the parent contains any action other than change, Maximo ignores the action on the child record.

AddChange Action

The AddChange action (action = "AddChange") is similar to the replace action, except that any existing child record that is not specifically mentioned in the message will not be deleted. An AddChange action on the primary MBO adds the primary record and all the sub-records provided in the message, if the primary record does not exist in Maximo. If the primary record does exist, it will be updated along with any child record provided, and existing child records that are not provided in the inbound message will not be deleted. The AddChange action does not apply to child MBOs.

The AddChange action is useful in cases where the integration object definition contains elements that are not available in the external system.

Example

The MXVENDORInterface contains both vendor and contact information. If Maximo maintains the contacts for a vendor and external systems maintain the vendor definition itself, sending an inbound vendor record with action = "" (null) will result in the contact information in Maximo being deleted. However, sending a vendor record with action = "AddChange" will result in the vendor information being updated and the contacts remaining as they are.

Default Action Attributes

If an inbound XML message does not specify an action attribute, Maximo processes the message as follows:

If the primary record does not exist in Maximo, it performs add action processing, as described on page 4-9.

If the primary record exists in Maximo, it performs replace action processing, as described on page 4-10.

Comparison of the Change, Replace, and AddChange Actions

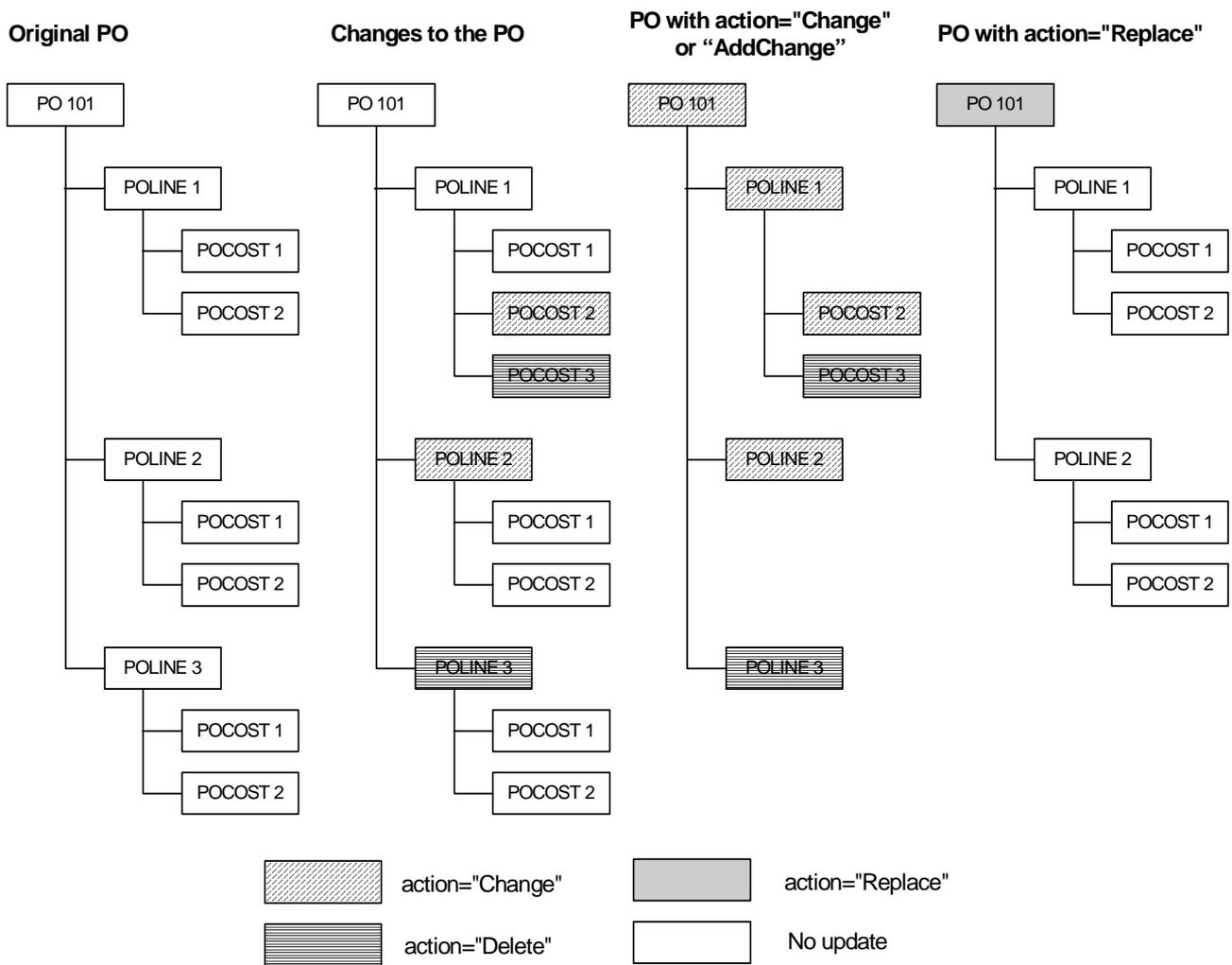
The following diagram contrasts the Change, Replace, and AddChange actions applied to a hypothetical purchase order.

The *Original PO* diagram shows the initial purchase order. It contains three line items, each with two cost lines.

The *Changes to the PO* diagram shows the changes to the purchase order that originated in Maximo or an external system. The changes are:

- ▼ A change to the POCOST2 record associated with POLINE1
- ▼ Deletion of the POCOST3 record associated with POLINE1
- ▼ A change to POLINE2
- ▼ Deletion of POLINE3 and, by default, its child POCOST records

Records Accompanying Changes to a Purchase Order



Records Accompanying the Change Action

The *PO with action="Change" or "AddChange"* diagram shows the records that accompany a change action on the primary (PO) MBO.

For the sample PO, the sending system would send the following records:

- ▼ A change action on the PO record (PO 101), due to the changes in its child POLINE and POCOST records
- ▼ A change action on POLINE 1, due to changes in its child PCOST records
- ▼ A change action on the POCOST 2 record within POLINE 1, due to changes in that record
- ▼ A delete action on the POCOST 3 record within POLINE 2
- ▼ A change action on the POLINE 2 record, due to changes in that record
- ▼ A delete action on the POLINE 3 record (which automatically deletes all its child records)

Records Accompanying the Replace Action

The *PO with action="Replace"* diagram shows the records that accompany a replace action on the primary MBO.

For the sample PO, the sending system would send the following records. Some may contain updated information; some may contains the same data already on the database.

- ▼ The PO header
- ▼ POLINE 1 and POCOST lines 1 and 2
- ▼ POLINE 2 and POCOST lines 1 and 2

The XML message does not include the POCOST 3 record for POLINE 1, or the POLINE 3 record, so the receiving system deletes these records and POLINE 3's child records.

Records Accompanying the AddChange Action

In this example, the same records that accompany the Change action would accompany the AddChange action.

Valid Action Attribute Combinations

The following table summarizes the combinations of action attributes you can include on primary and child records. Find the action attribute for the parent record in the column on the left, then read across the table to find out if the action attribute for the child is valid.

Action Attributes on Primary and Child Records

Child Record	Add	Delete	Change	Replace	AddChange	No Value	Remarks
Primary Record							
Add	N/A	N/A	N/A	N/A	N/A	N/A	All child values ignored
Delete	N/A	N/A	N/A	N/A	N/A	N/A	All child values ignored
Change	Yes	Yes	Yes	No	No	Yes (insert, update)	Replace and AddChange not allowed at child level
Replace	N/A	N/A	N/A	N/A	N/A	N/A	All child values ignored
AddChange	N/A	N/A	N/A	N/A	N/A	N/A	All child values ignored
No value	N/A	N/A	N/A	N/A	N/A	N/A	All child values ignored

Field Attributes

The following attributes apply at the field level on outbound XML messages:

- ▼ changed
- ▼ glorder
- ▼ langenabled
- ▼ maxvalue

These attributes appear in messages generated by an outbound integration event (that is, a Maximo action). All except the changed attribute also appear in messages generated by the Data Export feature.

Changed Attribute

The changed attribute is a Boolean field attribute that contains the value 1 if a Maximo user modified the value in the corresponding field. This information lets external systems and users identify the field-level change that triggered an outbound interface. This attribute is never present in XML created by the Data Export feature.

NOTE The outbound XML contains this attribute only when the transaction meets all the following conditions:

- ▼ An outbound, event-based transaction creates the message.
- ▼ The interface is a data synchronization interface.
- ▼ The action attribute on the primary MBO is Change or Replace.
- ▼ The integration object uses the same parent-child MBO relationship as the corresponding Maximo application. For example, the MXPO integration object and the Purchase Orders application must use the same relationships between PO and POLINE, and POLINE and POCOST.

Examples

```
<Content>
  <MXITEM>
    <ITEM action="Replace">
      <ITEMNUM>560-00</ITEMNUM>
      <DESCRIPTION changed="1" >Tubing, Copper-1 In ID X .030
        In Wall Test</DESCRIPTION>
```

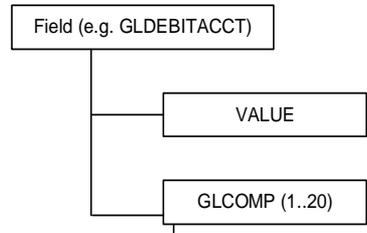
NOTE In the case of GL type fields, the changed attribute appears on the field name, as in the following example:

```
<GLDEBITACCT changed="1">
  <VALUE>6600-800-SAF</VALUE>
  <GLCOMP glorder="0">6600</GLCOMP>
  <GLCOMP glorder="1">800</GLCOMP>
  <GLCOMP glorder="2">SAF</GLCOMP>
</GLDEBITACCT>
```

Glorder Attribute

Fields that identify general ledger accounts (fields with MAXTYPE = GL) have the following XML structure.

General Ledger Account Structure



In outbound XML the value of a GL type field, including delimiters, appears in the VALUE child element within the field. The outbound XML also places the GL type field's individual components, based on Maximo's definition of the components, in the GLCOMP element. The glorder attribute in the GLCOMP element identifies the level of the component (GLORDER1 through GLORDER20) within Maximo.

Example

```

<GLDEBITACCT>
  <VALUE>6600-800-SAF</VALUE>
  <GLCOMP glorder="0">6600</GLCOMP>
  <GLCOMP glorder="1">800</GLCOMP>
  <GLCOMP glorder="2">SAF</GLCOMP>
</GLBDEBITACCT>
  
```

Inbound XML messages can contain GL account numbers in one of the following formats:

- ▼ The external system can provide the individual components, as in the following example:

```

<GLDEBITACCT>
  <GLCOMP glorder="0">6400</GLCOMP>
  <GLCOMP glorder="1">2</GLCOMP>
  <GLCOMP glorder="2">10</GLCOMP>
</GLDEBITACCT>
  
```

In this case, Maximo validates the components and uses the segment delimiter defined in Maximo to recreate the account number.

- ▼ The external system can provide the entire account number, separated by the delimiter defined in Maximo, as in the following example:

```

<GLDEBITACCT>
  <VALUE>6400-2-10</VALUE>
</GLDEBITACCT>
  
```

In this case, the delimiter is used to identify each individual component, and the account number is validated accordingly.

NOTE If the external system provides both an account number and its individual components, Maximo ignores the components.

Langenabled Attribute

The XML generated by Maximo includes the *langenabled* attribute on every translatable column, as shown in the following example:

```
<DESCRIPTION langenabled="1">Item 1 description</DESCRIPTION>
```

Maxvalue Attribute

Fields associated with a synonym type domain can specify the corresponding maxvalue. This value is available for customization or user/interface exit processing. It is informational only and is not used for processing.

For more information about synonym domains, refer to the Maximo Enterprise Suite *System Administrator's Guide*.

Example

```
<MXITEM>  
  <ITEM>  
    <ITEMNUM>560-00</ITEMNUM>  
    <DESCRIPTION>Tubing, Copper-1 In ID X .030 In Wall Test  
  </DESCRIPTION>  
    <LOTTYPE maxvalue="NOLOT">NOLOT</LOTTYPE>
```

Additional Considerations

- Null Columns** If a tag in an inbound transaction contains no value, the MBO updates the corresponding Maximo database column with a null value. If the XML does not include a tag for a particular field, the MBO does not update that field in the Maximo database.
- Boolean Columns** In inbound transactions, a tag that represents a Boolean field must contain a value of 0 (false) or 1 (true). If the tag does not contain a 0 or a 1, the MBO generates an error. If the XML does not include a tag for a Boolean field, the MBO updates the corresponding Maximo database value with the default value (0 or 1) defined for that column.
- Number Format** Regardless of the locale setting of the Maximo application server or the database, all decimal fields must use a period (.) as the decimal placeholder. There is no formatting of numbers to the left of the placeholder. This format applies to inbound and outbound data.
- Example**
- \$1,738,593.64 must be in the following format: 1738593.64
- Date Format** Maximo XML supports the ISO 8601 date format.
- Example**
- 2004-12-06T10:11:58-05:00
- TRANS_LANGCODE Field** Maximo adds the TRANS_LANGCODE field, as a user-defined field, to the primary MBO of all predefined integration objects. For outbound transactions, this field identifies the language code of the logged-in Maximo user who initiated a transaction, and any translatable columns (usually descriptions and long descriptions) in the XML transaction will be in this language.
- If an inbound message contains translatable columns in a language other than the Maximo base language, the TRANS_LANGCODE must contain the language code of the translatable columns. All translatable columns in a single transaction must be in the same language.

XML Schemas for Maximo Interfaces

Users can generate XML schemas for all Notify and query type interfaces defined within the MAXIMO adapter. These schemas can be used to determine the minimum fields required to successfully process an inbound XML message in Maximo.

Schema Content

Maximo supports one-way and request-response message exchange scenarios. Notify operation interfaces are generally used as standalone messages in one-way exchange scenarios, while query and response type interfaces are always paired together in a request-response exchange scenario. Accordingly, the schema file definition for notify type interfaces contains only one interface, while the schema file definition for query type interfaces includes the query type interface and its corresponding response type interface.

The schema generated for an interface is based on the configured integration object associated with the interface. Since users can modify the predefined integration objects, Maximo does not provide generated schemas for the predefined interfaces, but gives users the ability to generate and regenerate them. You do this via the Select Action menu in the Integration Interfaces application.

Key Fields

The generated schema identifies the key fields within an interface, based on the integration object definition and Maximo data dictionary definitions for the corresponding object. Key fields are identified through XML schema annotation.

Example

ITEMNUM is a key field in the MXITEM integration object schema. It is indicated as follows:

```
<xsd:element name="ITEMNUM" minOccurs="0" type="MXString">
  <xsd:annotation>
    <xsd:documentation>ITEMNUM is a key field</xsd:documentation>
  </xsd:annotation>
</xsd:element>
```

Validation

Currently, outbound XML generated by Maximo and inbound XML are not validated against the corresponding interface schema. Maximo business rules apply to inbound data regardless of schema validation.

Schema Attribute

The schema generated for an interface includes the following attribute on a column that is multi-language-enabled:

```
langenabled="1"
```

Schema Directories

Schema creation results in a schema for the interface and the integration object associated with the interface. Maximo writes the generated schema files to the *<Integration Root>/Schemas* directory, where *<Integration Root>* is the global directory location. This directory contains the following three subdirectories:

- ▼ Interfaces
- ▼ Integration-Objects
- ▼ MetaData

The name of the interface schema file is *<interfacename>.xsd*

The MetaData directory contains two supporting schemas that are required for the generation of valid interface schemas:

- ▼ MXDataTypes.xsd contains a schema datatype for each predefined datatype in the Maximo database.
- ▼ MXIntegrationMeta.xsd contains the base definition of a Maximo interface.

CAUTION The MXIntegrationMeta.xsd file is provided by Maximo and should not be changed by users. Changing this file can result in invalid schemas and problems with Web services.

Regeneration of the Schema Definition

Changes to the structure of an integration object require manual regeneration of the schema for all interfaces associated with that integration object. Applicable changes include making a database field required or optional, changing a database field's data type, adding or removing fields from the integration object, or otherwise changing the structure of an integration object.

CAUTION Changes to the integration object or Maximo data dictionary are not automatically reflected in the schemas, so users are responsible for regenerating the affected schemas. You do this via the Select Action menu in the Integration Interfaces application.

Interface Tables

5

Interface tables are an option provided for integration with systems that use database tables to exchange data. The interface tables are generated based on the definition of the integration object associated with the interface.

Interface tables contain a flat (non-hierarchical) representation of the columns in an integration object. Only data synchronization (operation = Notify) messages can be exchanged using interface tables.

This chapter is directed to anyone who will be responsible for configuring Maximo to use interface tables. It contains the following sections:

- ▼ Use of Interface Tables
- ▼ Location of Interface Tables
- ▼ Naming Convention for Interface Tables
- ▼ Interface Queue Tables
- ▼ Creation of Interface Tables
- ▼ Regeneration of Interface Tables
- ▼ Deletion of Interface Tables and Records
- ▼ Format of Interface Tables
- ▼ Interface Table Polling
- ▼ External System Requirements

Use of Interface Tables

A single external system can transfer data via XML messages or interface tables, but not both. If you integrate Maximo with multiple external systems, you can use XML with some external systems and interface tables with others.

To use interface tables for an external system, specify an end point that uses an interface table handler, for that system.

Location of Interface Tables

An external system's end point definition points to the database where the interface tables will reside. This can be a local or a remote database.

The predefined interface table end point (MXIFACETABLE) points to the local Maximo database, and users can add end points for remote databases. One instance of Maximo can support multiple sets of interface tables in different databases.

Naming Convention for Interface Tables

Default interface table names are derived from integration object names. When you create an interface, Maximo generates a name for the corresponding interface table by adding the suffix *_IFACE* to the name of the integration object. For example, MXPO_IFACE is the name of the interface table that corresponds to the MXPO integration object.

You can change the default name, if desired. For more information, refer to the online help for the Integration Interfaces application.

All predefined interfaces use the same interface table for inbound and outbound transactions. For example, the MXPO_IFACE table can contain inbound and outbound purchase orders.

Interface Queue Tables

The interface queue tables identify the sequence in which a receiving system should process the records in the respective interface tables. Two queue tables are provided, one for inbound transactions and the other for outbound transactions.

Interface Queue Tables

Interface Queue Table Name	Direction
MXOUT_INTER_TRANS	Outbound
MXIN_INTER_TRANS	Inbound

Some transactions depend upon the successful processing of a previous transaction—for example, purchase orders must be processed before receipts—making it critical that the receiving system process them in the same sequence that the sending system created them.

All inbound and outbound transactions must have a record inserted into the corresponding (inbound or outbound) queue table. This record contains a unique sequential identifier, called TRANSID, and a value that identifies the interface table to which the transaction data has been written. The corresponding interface table uses the TRANSID to identify the record or records associated with the transaction. This makes it possible to identify the contents of a transaction by looking up all the records with a given TRANSID value in the corresponding interface table.

The sequence of TRANSID identifies the sequence in which records are processed by Maximo. In a case where purchase orders and receipts are loaded into Maximo, the TRANSID values for the purchase orders must be lower than the TRANSID values for the corresponding receipts.

The only difference between the MXIN_INTER_TRANS and MXOUT_INTER_TRANS queue tables is the direction of the interface table records that they track. Maximo writes to, and the external system can read, the MXOUT_INTER_TRANS queue table. The external system must write to, and Maximo will read, the MXIN_INTER_TRANS queue table.

Maximo generates the interface queue tables the first time that you create interface tables for a given end point. Each end point has its own pair of interface table queues and its own counter for maintaining the outbound TRANSID value.

Creation of Interface Tables

Maximo does not create interface tables until you direct it to do so. You create them manually, via the Select Action menu in the External Systems application.

NOTE You can create interface tables only for data synchronization interfaces (operation = Notify) within an internal type adapter. Query, response, and system interfaces do not appear in the Create Interface Tables dialog box in the External Systems application.

Interface tables are created for a specific end point; that is, you must identify the location where the table is to be created. The database location referenced by the end point can be in a local database or a remote database.

When you create interface tables on a local database, the columns are registered in the Maximo data dictionary. Local interface tables that use that table and column automatically reflect any updates (not inserts or deletions) to a base column's attributes (for example, data type) made through Maximo's Database Configure application. However, changes are not automatically reflected in remote databases. You must manually regenerate remote interface tables to reflect these changes.

Regeneration of Interface Tables

The addition or deletion of columns in Maximo database tables affects the integration objects that use those tables and necessitates the regeneration of all local and remote interface tables associated with those integration objects.

You regenerate interface tables via the Create Interface Tables option on the Select Action menu in the External Systems application. The application will optionally back up existing data in an interface table to a table called *ifacetablename_bak*. Restore the data to the new table, if desired.

CAUTION If you do not back up the table, the table will be dropped and the data lost when you regenerate the table.

You cannot regenerate an interface table if the MXIN_INTER_TRANS queue table contains a record that points to that interface table. When a row exists in that queue table, it means the corresponding inbound transaction is pending processing and/or is in error.

NOTE The interface table creation process does not check for records in the MXOUT_INTER_TRANS queue table.

Deletion of Interface Tables and Records

After Maximo successfully processes one or more related inbound transaction records in an interface table, it deletes the corresponding record from the MXIN_INTER_TRANS queue table. This means that the transaction was delivered successfully to the inbound JMS queue.

NOTE Maximo deletes records from the MXIN_INTER_TRANS queue table only, never from the individual interface tables. The system administrator determines when and how to delete records from the interface tables.

For outbound transactions, the external system must manage the deletion and archiving of data in the queue table and interface tables. Users must manage the archiving of data in inbound interface tables.

You cannot delete interface tables through the user interface or through the deletion of the corresponding integration object. A system administrator can manually drop the table, if necessary.

Format of Interface Tables

The format of an interface table is essentially the same as that of the corresponding integration object. The interface table includes the persistent, non-persistent, and user-defined columns included in the integration object, and it excludes the columns excluded from the integration object.

In addition to the columns in the corresponding integration object, the interface tables include additional columns that identify the sequence in which the sending system wrote, and the receiving system must process, the records in the various interface tables. For more information about these columns, see “Integration Processing Columns” on page 5-7.

Key Columns

If the interface table represents a hierarchical integration object (one containing parent-child MBO relationships), the table does not include any part of the child table’s key columns that are already included in the parent table’s key columns.

For example, the key of the PO MBO consists of PONUM and SITE, and the key of the POLINE MBO consists of PONUM, POLINENUM, and SITE. The PONUM and SITE columns appear only at the parent (PO) level in the MXPO_IFACE interface table.

Duplicate Columns and Aliases

The XML representation of a hierarchical integration object allows duplicate column names, but interface table and flat file representation do not. Therefore, any integration object with duplicate non-key column names in both a parent and child MBO will cause a *Duplicate Column Name* error during the generation of an interface table or a flat file record.

To resolve this problem, change the Maximo alias for duplicate column names. Every Maximo database column has an alias, or alternate name, that defaults to the name of the column. Maximo uses the alias, not the actual column name, when it generates interface tables and flat files. Changing the alias will eliminate the duplicate column name error. For for information, see “Update of an Alias” on page 5-6.

Column Name Lengths and Aliases

Column names in interface tables are restricted to eighteen characters. Typically this restriction is not an issue with database columns in Maximo, but it can affect non-persistent columns defined in the MBOs. For example, the non-persistent column name for a long description field is generally DESCRIPTION_LONGDESCRIPTION, which is more than eighteen characters long.

Integration objects with fields whose names are more than eighteen characters long will cause a *Column Name too long* error during the generation of an interface table. To resolve this problem, change the Maximo alias for such columns to a shorter name.

In most cases a column’s alias will match the column name, but some columns have aliases that have been altered to support Maximo’s predefined integration points and interfaces.

CAUTION A database column can have only one alias, so ensure that any alias you assign to a column will be valid for every integration object that uses that column. If multiple integration objects use the MBO, a change to an alias will affect all interface tables that refer to those integration objects.

Maximo provides unique aliases for the columns in the predefined integration objects, so you have to check for duplicates only when you create a hierarchical integration object or add a MBO to a predefined integration object.

Update of an Alias

If duplicates exist, use the Add/Modify Alias dialog box in the Integration Objects application to override the alias values. You access this dialog box via the Add/Modify Alias option in the Select Action menu.

Check the Add/Modify Alias dialog box whenever you create or update a user-defined integration object. The dialog box displays the fields and aliases for the MBOs within a selected integration object, and identifies any duplicate alias names by a check in the Duplicate column. If a duplicate alias exists, overwrite its value in the Aliasname column. If a duplicate does not exist, you cannot change the alias.

NOTE If you use interface tables, you must regenerate tables that use the integration object containing the changed alias.

Restricted Columns

The HASLD field, which is an internal Maximo column, is excluded from all integration objects. Do not include this column in any integration object that will be associated with an interface table.

Integration Processing Columns

The following table shows the columns used in the sequencing, retrieval and processing of the interface tables. Some appear in either the interface queue tables or the interface tables; some appear in both places. The following sections explain the function of these fields. For information about IMPORTMESSAGE, see "Interface Table Error Handling" on page 7-3.

Interface Table Processing Columns

Column Name	In Interface Queue Tables?	In Interface Tables?
IFACENAME	Yes	No
TRANSID	Yes	Yes
TRANSSEQ	No	Yes
EXTSYSNAME	Yes	No
ACTION	Yes	No
IMPORTMESSAGE	Yes (used inbound only)	No

IFACENAME Column

The IFACENAME column in the interface queue table contains the name of the interface used in a transaction. The interface name is a Maximo-defined property of the interface. For outbound transactions, Maximo populates the IFACENAME column. For inbound transactions, the external system must populate the column with the interface name that corresponds to the row it is inserting into an interface table.

For a list of predefined interfaces and their corresponding interface table names, see Appendix A, "MAXIMO Adapter Interface Components," on page A-1.

TRANSID Column

The TRANSID column in an interface queue table is a sequential number that uniquely identifies an integration transaction. The TRANSID, along with the interface table name, identifies a unique transaction. The interface queue table can contain only one record with a given TRANSID value, but the corresponding interface table can have one or more records with that TRANSID, depending on the number of records written to that interface table as part of that interface.

Example

Assume that a Maximo user creates a purchase order with one line item. Assume also that this transaction uses the predefined MXPOInterface, and that it increments the TRANSID value associated with the MXOUT_INTER_TRANS queue table to 1065. The transaction will result in the following records:

- ▼ One entry in the MXOUT_INTER_TRANS queue table, with IFACENAME equal to MXPOInterface and TRANSID equal to 1065
- ▼ One entry in the MXPO_IFACE interface table, with TRANSID equal to 1065

If the same purchase order has three line items, the transaction will result in the following records:

- ▼ One entry in the MXOUT_INTER_TRANS queue table, with IFACENAME equal to MXPOInterface and TRANSID equal to 1065
- ▼ Three entries in the MXPO_IFACE interface table, each with TRANSID equal to 1065

NOTE In this case, each entry with TRANSID 1065 will have a unique secondary sequence number. For more information, see “TRANSSEQ Column” on page 5-10.

If a transaction writes to multiple interface tables, the interface queue table will contain a separate record, with a unique TRANSID, for each of those interface tables.

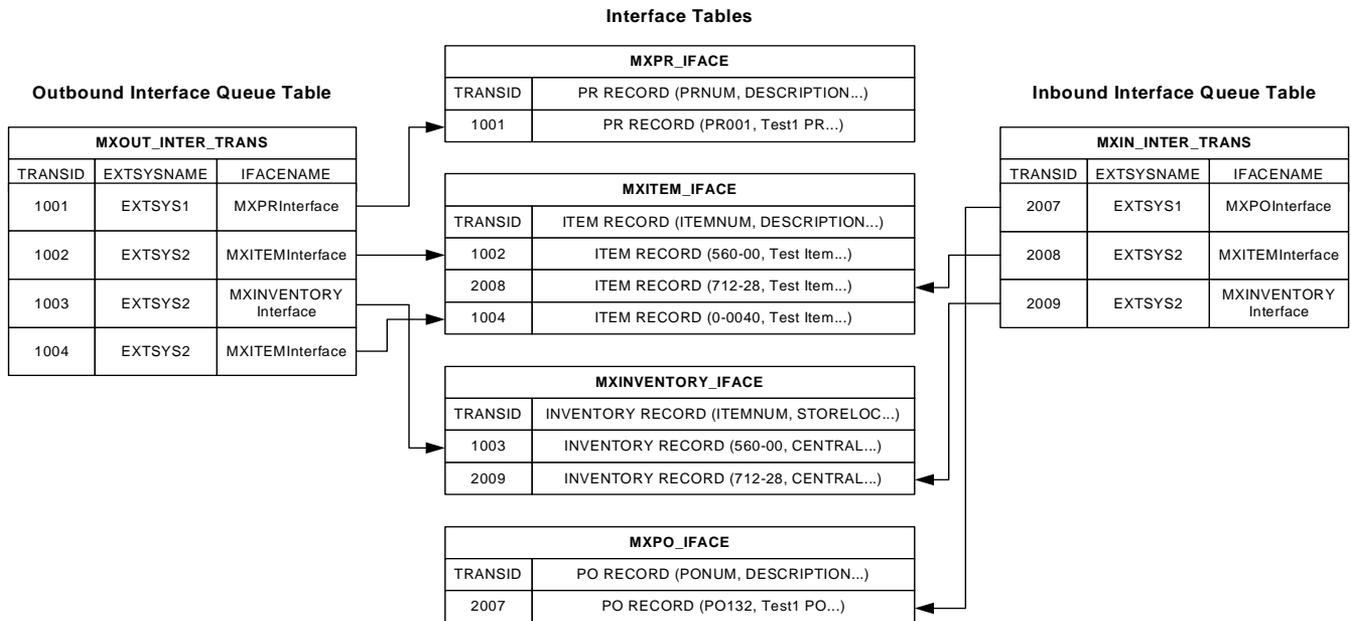
Each interface queue table maintains its own TRANSID counter. Maximo initializes the outbound TRANSID when it generates the interface table queue records. You must manually create and maintain the TRANSID counters that populate inbound queue tables and interface table records.

CAUTION If the external systems do not correctly manage the inbound TRANSID counters, sequential processing by Maximo is not guaranteed. Also, ensure that the TRANSID values that the external system generates will not overlap with the TRANSID values that Maximo generates, or errors will occur. This is important for interfaces that process both inbound and outbound data.

Each end point has its own set of interface table queues and its own outbound TRANSID counter.

The following diagram shows an example of the relationship between the interface queue tables and the interface table records. The interface tables contain both inbound and outbound transactions.

Relationship of Interface Queue Table and Interface Table Records



In the preceding diagram, the data in the MXOUT_INTER_TRANS queue table directs the external system to process the outbound interface table records as follows:

Sequence	Interface Table	Identifier (TRANSID) of Record in Interface Table
1	MXPR_IFACE	1001
2	MXITEM_IFACE	1002
3	MXINVENTORY_IFACE	1003
4	MXITEM_IFACE	1004

The data in the MXIN_INTER_TRANS queue table directs Maximo to process the inbound interface table records as follows:

Sequence	Interface Table	Identifier (TRANSID) of Record in Interface Table
1	MXPO_IFACE	2007
2	MXITEM_IFACE	2008
3	MXINVENTORY_IFACE	2009

TRANSSEQ Column

When multiple records in an interface table share the same TRANSID, the TRANSSEQ column provides a secondary sequence number that indicates the sequence in which those records should be processed.

Consider again the earlier example of a purchase order with three line items. That transaction might result in the following records:

- ▼ One entry in the MXOUT_INTER_TRANS queue table, with IFACENAME equal to MXPOInterface and TRANSID equal to 1065
- ▼ Three entries in the MXPO_INTERFACE table, as follows:
 - One entry (PO line 1) with TRANSID equal to 1065 and TRANSSEQ equal to 1
 - One entry (PO line 2) with TRANSID equal to 1065 and TRANSSEQ equal to 2
 - One entry (PO line 3) with TRANSID equal to 1065 and TRANSSEQ equal to 3

The TRANSSEQ column appears only in the interface tables.

EXTSYSNAME Column

An interface table can contain both inbound and outbound transactions. The EXTSYSNAME column in the interface queue tables indicates whether a record contains inbound or outbound data.

EXYSYSNAME Column

Value of EXTSYSNAME	Direction of Transaction
The external system, as defined in Maximo, that is the destination of the transaction	Outbound (initiated in Maximo)
The value of a valid and enabled external system that is defined in Maximo	Inbound (initiated in an external system)

ACTION Column

The ACTION column in an interface table queue can optionally specify the processing to be applied to the corresponding interface table.

ACTION Column

Value in ACTION Column	Maximo or External System Action
Add	Insert the data provided in the message.
Delete	Delete the parent data, and any related child data, from the database.
Change	Update parent and child data per the contents of the message, but do not delete existing child data not explicitly specified in the message.
Replace	Replace the existing record(s) with the contents of the message and delete existing child data not referenced in the message.
AddChange	If the primary record does not exist, process as Add action; otherwise, process as a Change action.
Null	If the primary record does not exist, process as Add action; otherwise, process as a Replace action.

Maximo populates the ACTION column in outbound messages. If the external system does not populate the column in inbound messages, Maximo tries to retrieve and update the corresponding database record. If the record does not exist, Maximo tries to add it to the database.

For more information about these actions, see Chapter 4, "Maximo XML and Schema," on page 4-1.

Long Description Columns in Oracle Databases

Long description columns in Maximo are stored in a CLOB column in an Oracle database. However, interface tables contain two versions of each long description column, one with data type ALN (alphanumeric, length = 4000) and one with data type CLOB (character large object). The name of the alphanumeric column is the column's alias. The name of the CLOB column is the column's alias with the suffix *2*.

Example

Data Type	Name of Description Column
ALN	PO_DESCRIPTION_LD2
CLOB	PO_DESCRIPTION_LD

Maximo populates both columns in outbound transactions. For inbound transactions, Maximo uses the value in the ALN column if it is not null; otherwise, it uses the value in the CLOB column.

Interface Table Polling

A predefined cron task, IFACETABLECONSUMER, polls the MXIN_INTER_TRANS queue table and uses the IFACENAME, EXTSYSNAME, and TRANSID values in the queue table to sequentially place the corresponding interface table records into the appropriate inbound JMS queue. From there, Maximo processes the individual records. The cron task does not poll the interface tables directly.

The polling process verifies that the record's external system and interface name are valid and currently enabled. If they are not, the record is marked in error and remains in the interface table.

If you disable polling, new records will remain in the interface tables, but Maximo will process any messages already sent to the inbound JMS queue.

Users must set up a mechanism to retrieve outbound transactions from the interface tables. This can be done using a polling program, as Maximo does for inbound transactions; triggers, or any other mechanism.

The cron task has the following configurable parameters. All are optional.

Cron Task Parameters

Parameter	Description
EXITCLASS	Java exit class that allows for the manipulation of data before it is written to inbound queue.
ENDPOINT	End point associated with the interface table. Defaults to the predefined end point that points to the local database.
INTERFACENAME	Interface to be polled. The default (null) is all interfaces. If you specify a value for this parameter, you also must specify a value for EXTSYSNAME parameter.
TARGETENABLED	Optional Boolean flag that controls whether the cron task runs in a specific Maximo application server. The default is 0 (false).
EXTSYSNAME	External system to be polled.
QUEUETABLE	Inbound interface queue table. The default is MXIN_INTER_TRANS.

External System Requirements

To use interface tables, you must create the tables and configure the IFACETABLECONSUMER cron task. For information about these activities, see Chapter 6, "Basic Configuration," on page 6-1.

You also must also program the external system(s) to read and write to interface queue tables and interface tables. Use this section as a checklist for preparing to use interface tables.

Overall Processing

- ▼ Have procedures in place to restore the backups of the interface tables.
- ▼ Create interface tables via the user interface.
- ▼ Manage archiving of interface tables.

Inbound Processing

- ▼ Create and initialize the outbound TRANSID counter.
- ▼ For each interface table that an inbound transaction writes to:
 - Build an interface table record and populate it with the following information:
 - ▼ The transaction data
 - ▼ The incremented TRANSID value
 - ▼ If multiple records for the same interface table, the incremented TRANSSEQ value
 - Build an MXIN_INTER_TRANS queue record with the following information:
 - ▼ The same TRANSID value as in the interface table record
 - ▼ The name of the interface that corresponds to the interface table, in the IFACENAME column
 - ▼ The ACTION value (optional)
 - ▼ The identifier of the external system, in the EXTSYSNAME column
 - Perform a single commit to commit all records for a transaction at one time.

Inbound Null Columns

NOTE If a column in an inbound interface table contains a null value, the applicable MBOs process the column as follows:

By default, the field is not updated by the transaction.

If you add the empty tag via a user exit, the MBO nulls the field in the Maximo database.

Outbound Processing

- ▼ Set up a process to retrieve outbound interface table transactions using the MXOUT_INTER_TRANS queue table. This can be done via a polling program, triggers, or any other mechanism.
- ▼ For the polling program to process transactions sequentially, complete the following steps:
 - Read the records in the MXOUT_INTER_TRANS queue table in TRANSID sequence.
 - For each record in the MXOUT_INTER_TRANS queue table:
 - ▼ Determine the name of the interface table that corresponds to the IFACENAME (interface) value in the queue table. For a list of corresponding predefined interfaces and interface table names, see Appendix A, "MAXIMO Adapter Interface Components," on page A-1.
 - ▼ Access the interface table that you just identified, and retrieve the first record whose TRANSID value matches the TRANSID value in the current MXOUT_INTER_TRANS queue record. If the interface table contains multiple records with the same TRANSID value, retrieve and process them in TRANSSEQ sequence.
 - ▼ Process according to the value in the ACTION column of the interface table queue.
 - Commit all records for a single database transaction at the same time.
 - Delete the current record from the MXOUT_INTER_TRANS queue table.
- ▼ Implement error management, based on your external system's requirements.

Basic Configuration

6

This chapter explains the steps in configuring Maximo for basic integration processing. For information about advanced configuration options and customization, see the Advanced Topics section of this guide.

This chapter is addressed to the system administrator. It includes the following sections:

- ▼ Assumptions
- ▼ Predefined Components and Queues
- ▼ Configuration Checklist
- ▼ Prerequisite Activities
- ▼ Configuring Integration Administration Information
- ▼ Configuring and Enabling the JMS Queues
- ▼ Configuring External System and Interfaces
- ▼ Configuring External System Interface Controls
- ▼ Enabling the External System
- ▼ Restarting the Maximo Application Server
- ▼ Creating Interface Tables
- ▼ Configuring the Data Export Feature
- ▼ Configuring the Data Import Feature

Assumptions

This chapter assumes that you created and configured the JMS queues on your application server and accepted the default queue settings presented during Maximo installation.

NOTE If you did not create and configure the JMS queues during Maximo installation, do so now. See Appendix D, "Creating the JMS Queues," on page D-1.

Predefined Components and Queues

Maximo provides the following predefined integration components:

- ▼ An external system (EXTSYS1)
- ▼ An adapter (MAXIMO)
- ▼ Integration Objects
- ▼ Integration Points
- ▼ Interfaces

In addition, the installation process described in the Maximo Enterprise Suite *Installation Guide* builds the following JMS queues:

- ▼ Inbound sequential (sqin)
- ▼ Inbound continuous (cqin)
- ▼ Outbound sequential (sqout)

CAUTION Do not delete external system EXTSYS1 or any of its interfaces. MRO Software recommends that you create a copy of external system EXTSYS1 and use the copy to configure your interfaces.

The predefined system integration objects, integration points, and interfaces are required during the installation of program patches and other adapters from MRO Software. You cannot disable or update system components.

You can use the predefined queues for development and production. This chapter assumes that you *will* use the predefined queues and default settings, and not change the name of any queue.

Configuration Checklist

The table on the following pages lists basic configuration activities. The codes in the checklist have the following meanings.

Configuration Checklist Codes

Code	Meaning
Y	Required
N	Not applicable
O	Optional

For details about each activity, refer to the page in the *Refer to* column.

Configuration Checklist

Checklist of Configuration Activities

	General Integration	Data Import	Data Export	Web Services	Comments	Refer to
Configure administration information						
Set Maximo user name for inbound processing	Y	Y	Y	Y	Update requires restarting Maximo server	page 6-7
Set Global Directory Location	Y	Y	Y	Y	Update requires restarting Maximo server	page 6-7
Set Sendersysid Update on Export	O	O	O	O	Recommended	page 6-7
Set domain creation	O	O	O	O	Recommended	page 6-7
Set e-mail addresses	O	O	O	O	Recommended; required for e-mail error notification	page 6-7
Set mail server host property	O	O	O	O	Required for e-mail error notification; update requires restarting Maximo server	page 6-7
Configure and enable the JMS queues						
Create queues on the application server	Y	Y	Y	N		page 6-8
Define queue properties in Maximo	Y	Y	Y	N	Not applicable if using default settings	page 6-8
Enable the cron task for the sequential queues	Y	Y	Y	N	Applies only if using sequential queues	page 6-10
Enable the message beans for the continuous queue	Y	Y	N	N	Applies only if using inbound continuous queue	page 6-12
Configure external system and interfaces						
Create external system	Y	Y	Y	Y		page 6-13
Identify the queues to the external system	Y	Y	Y	N	Applies only if not using predefined queues	page 6-14

	General Integration	Data Import	Data Export	Web Services	Comments	Refer to
Configure end point	Y	N	Y	N	Applies only to interface tables and outbound processing	page 6-15
Assign end point to external system	Y	N	Y	N	Applies only to interface tables and outbound processing	page 6-17
Disable unneeded interfaces	O	O	O	O		page 6-19
Add outbound and inbound interfaces to external system	Y	Y	Y	Y		page 6-20
Specify inbound queues	O	O	N	N	Applicable to inbound processing only	page 6-21
Enable outbound integration events	Y	N	N	N	Applicable to outbound processing only	page 6-17
Configure external system interface controls						
Change system level default values	O	O	O	O		page 6-23
Set organization- and site-level values	O	O	O	O	Applies only to controls configured for organization- or site-level settings	page 6-28
Enable the external system	Y	Y	Y	Y		page 6-32
Restart the Maximo application server	O	O	O	O	Required after updating global directory location or mail server host property	page 6-32
Create interface tables						
Create tables	O	N	O	N	Required if using interface tables. Interfaces tables not available with Web services	page 6-33
Enable the cron task	O	N	O	N	Required if using interface tables	page 6-35

Prerequisite Activities

Before you proceed with the configuration process, you must make the following decisions about how you will use Maximo Integration:

- ▼ the inbound and outbound integration points that you will use
- ▼ the end point(s) to which Maximo will send outbound data
- ▼ the queue(s) that inbound interfaces will use

Configuring Integration Administration Information

The Integration Administration dialog box contains several properties, some of which have default values that you should consider updating. They are:

- ▼ Maximo user name
- ▼ Global directory
- ▼ Update SENDERSYSID setting
- ▼ Domain values setting
- ▼ Administrator E-mail Address
- ▼ Sender E-mail address

The following section describes these properties. To update the properties in the Integration Administration dialog box, complete the following steps:

- 1 In the External Systems application, select any system.
- 2 From the Select Action menu, select **Integration Administration Setup**. The Integration Administration Setup dialog box appears.

Integration Administration Setup Dialog Box

The screenshot shows a dialog box titled "Integration Administration Setup". It is divided into two main sections. The first section, "System Settings", includes a text field for "Maximo user name for inbound processing" with the value "mxintadm", a text field for "Global Directory Location", a checkbox for "Update SENDERSYSID on Data Export?" which is unchecked, and a checkbox for "Interface creates Domain values?" which is checked. The second section, "Email settings for Error Notification", includes text fields for "Administrator E-mail Address" and "Sender E-mail Address". At the bottom right of the dialog are "OK" and "Cancel" buttons.

- 3 Update the applicable field(s). For information about a field, press Alt+F1.
- 4 Click **OK**.

Maximo User Name

The Maximo user name is the user ID that is used in all inbound integration transactions. If you do not use the default value, enter a value that points to a valid Maximo user with a status of ACTIVE.

Global Directory

The Global Directory is the name of the directory to be used for all generated schema files, XML files, and error files. Those files are in predefined directories within the global directory. By default, this property has no value and the files are located in the same directory as the Maximo processing logs. If you specify an alternate location, it must be accessible from all Maximo application servers.

NOTE You must restart the Maximo application server after changing this property.

Update SENDERSYSID Setting

Update SENDERSYSID on Data Export? specifies whether Maximo writes the Maximo system identifier (the value of MAXVARS.MXSYSID) to the SENDERSYSID field when it generates an outbound transaction via the Data Export feature. The default value is no.

This setting applies to outbound transactions only.

Domain Values Setting

The Interface creates Domain values? setting specifies whether inbound interface processing automatically adds the value of a field to an ALN or Numeric domain, if the value is not already in the domain. The default value is yes.

This setting applies to inbound transactions only.

Administrator and Sender E-mail Addresses

The Integration Administration dialog box contains two e-mail addresses, the Administrator E-mail Address and the Sender E-mail Address.

Though both addresses are optional, integration processing cannot send e-mail error notifications unless both fields contain an address.

Mail Server Host Property

In order for the system administrator to receive e-mail notification of errors, you must configure the name of the host running the SMTP server. If you configured this value during the Maximo installation, ignore this section. Otherwise, edit the mail.smtp.host property in the maximo.properties file, then rebuild the EAR file.

Configuring and Enabling the JMS Queues

The Maximo installation procedure installs the following JMS queues.

Predefined JMS Queues

Queue Name	Description
cqin	Continuous inbound
sqin	Sequential inbound
sqout	Sequential outbound

Configuring the queues involves the following activities:

- ▼ Defining queue properties in Maximo
- ▼ Enabling the cron task for the sequential queues
- ▼ Enabling the message bean for the continuous queue

Perform these activities only for the queues that you will use. Web services processing does not use the JMS queues. All other integration processes, including data import and data export, require one or more JMS queues.

CAUTION If you have not yet created and configured the JMS queues, do so now. See Appendix D, "Creating the JMS Queues," on page D-1.

Queue Properties

The Add/Modify Queues dialog box displays the predefined settings for the queue properties. You do not need to change any of these values, although you might consider updating the Maximum Try Count value.

The Maximum Try Count, which is not available if you are using the WebLogic application server, is the number of times Maximo tries to process a message before writing the message to the error log and sending an e-mail notification to the system administrator. For this release, valid values for the WebLogic application server are 0, 1, and 2. For WebSphere, valid values are any number equal to or greater than zero.

To update this value, complete the following steps:

- 1 In the External Systems application, select **Add/Modify Queues** from the Select Action menu. The Add/Modify Queues dialog box displays the predefined queues.
- 2 To update a queue, click View Details to the left of the queue name. The Row Details appear.

Add/Modify Queues Dialog Box with Row Details

The screenshot shows the 'Add/Modify Queues' dialog box. At the top, there is a table with columns: Queue JNDI Name, Sequential?, Inbound?, User Defined?, and Maximum Try Count. The table contains three rows of queue information. Below the table is a 'Details' panel for the selected queue, which includes fields for Queue JNDI Name, Queue Connection Factory, Initial Context Factory, Provider URL, User ID, E-mail Address, Sequential?, Inbound?, User Defined?, Maximum Try Count, and Password. The 'Maximum Try Count' field is currently set to 0. At the bottom right of the dialog box, there are buttons for 'New Row', 'OK', and 'Cancel'.

Queue JNDI Name	Sequential ?	Inbound?	User Defined?	Maximum Try Count
jms/mro/int/queues/cqin	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0
jms/mro/int/queues/sqin	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0
jms/mro/int/queues/sqout	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0

Details

Queue JNDI Name:

Queue Connection Factory:

Initial Context Factory:

Provider URL:

User ID:

E-mail Address:

Sequential ?

Inbound?

User Defined?

Maximum Try Count:

Password:

New Row

OK Cancel

- 3 Update the **Maximum Try Count** field.
- 4 Click **OK**.

Enabling the Cron Task for the Sequential Queues

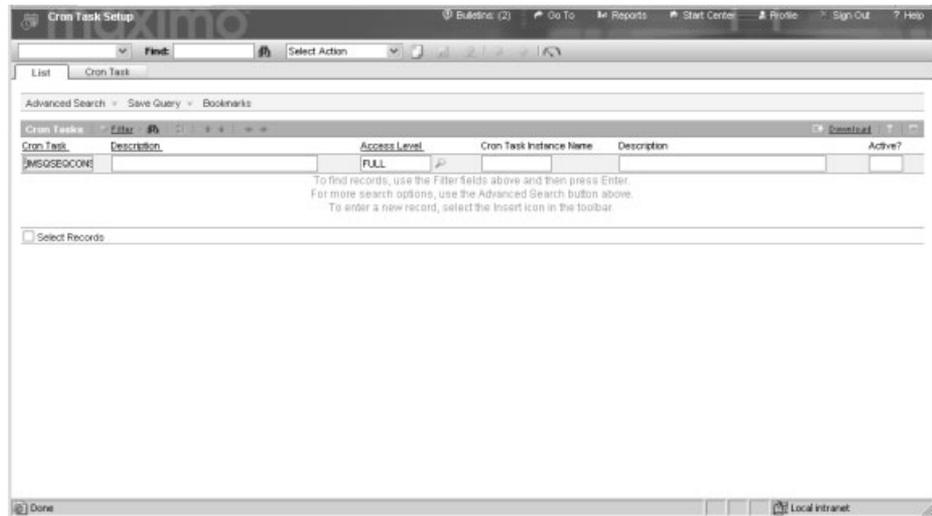
The default settings direct the JMSQSEQCONSUMER cron task to poll the outbound queue, sqout, and the sequential inbound queue, sqin, every 30 seconds. You must activate the applicable instance(s) of the cron task or inbound and outbound messages will remain unprocessed in the queues.

If you will not use one or both of these queues, do not activate these cron task instances.

To configure and activate the cron task, complete the following steps:

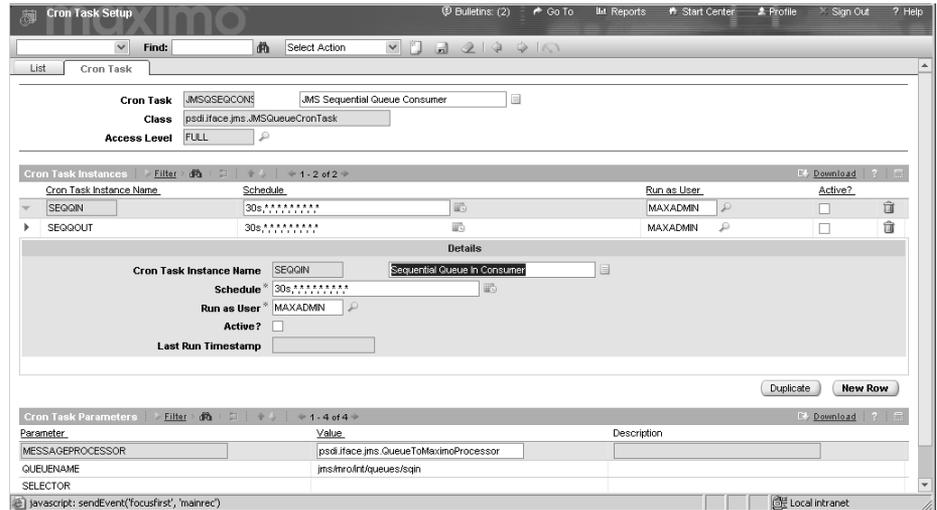
- 1 Go to the Cron Task Setup application in the Configuration module.
- 2 On the List tab, enter JMSQSEQCONSUMER in the **Cron Task** field and select the Cron Task tab.

Selection of JMSQSEQCONSUMER Cron Task



- 3 To update the cron task, perform one or both of the following actions:
 - ▼ To update the cron task that polls the inbound sequential queue, click View Details to the left of cron task instance SEQQIN.
 - ▼ To update the cron task that polls the outbound sequential queue, click View Details to the left of cron task instance SEQQOUT.

Cron Task Tab with Row Details



- 4 To change the polling frequency, update the **Schedule** field.

NOTE The **Run as User** value does not apply to this cron task.
- 5 Update the Cron Task Parameters, as needed. For information about the parameters, see Chapter 11, "JMS Queue Configuration," on page 11-1.
- 6 To activate the cron task instance, select the **Active?** check box.
- 7 Click Save Cron Task Definition.

For more information, refer to the online help for the Cron Task Setup application.

Enabling the Message Beans for the Continuous Queue

If you will not use the continuous inbound queue, cqin, disregard this section.

If you selected the Enable Maximo Enterprise Adapter check box during the Maximo installation, the message beans for the inbound continuous queue were automatically enabled. If this option was not selected, or if you are unsure if this option was selected, perform/verify the following updates to the deployment-application.xml and application.xml files. The files are in the applications\maximo\META-INF directory under the Maximo root directory.

deployment-application.xml

Change from: `<!-- JMS MDB is not deployed by default
<module id="EjbModule_1077124925237">
 <ejb>meajmsejb.jar</ejb>
</module>
-->`

Change to: `<!-- JMS MDB is not deployed by default-->
<module id="EjbModule_1077124925237">
 <ejb>meajmsejb.jar</ejb>
</module>`

application.xml

Change from: `<!-- JMS MDB is not deployed by default
<module>
 <ejb>/meajmsejb/ejbmodule</ejb>
</module>
-->`

Change to: `<!-- JMS MDB is not deployed by default -->
<module>
 <ejb>/meajmsejb/ejbmodule</ejb>
</module>`

NOTE If you update the files, rebuild and redeploy the EAR file. For more information about rebuilding and redeploying EAR files, refer to the Maximo Enterprise Suite *System Administrator's Guide*.

If you use a WebLogic application server, navigate to the WebLogic administrative console and ensure that the meajmsejb module is targeted to the correct server.

Configuring External System and Interfaces

On the System tab in the External Systems application, you perform the following configuration activities:

- ▼ Create an external system
- ▼ Identify the queues to the external system
- ▼ Create/configure an end point
- ▼ Assign the end point to an external system
- ▼ Enable outbound integration events

On the Inbound and Outbound Interfaces tabs in the External Systems application, you perform the following configuration activities:

- ▼ Disable unused interfaces
- ▼ Associate inbound and outbound interfaces with the external system
- ▼ Specify the inbound JMS queue

Creating an External System

The easiest way to create an external system is to duplicate an existing one. Duplicating an external system copies the interfaces, interface controls, end point, and queues from the existing system. You can then modify those entities as needed.

CAUTION Do not modify external system EXTSYS1 in any way.

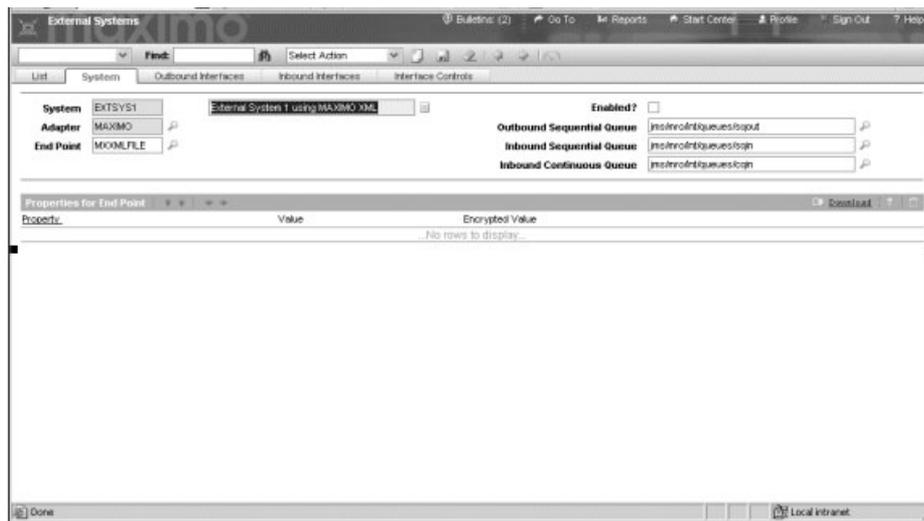
To duplicate an external system, complete the following steps:

- 1 In the External Systems application, display the system that you want to duplicate.
- 2 From the Select Action menu, select **Duplicate External System**. The application displays a copy of the original external system data, without a value in the **System** field.
- 3 Enter a unique value in the **System** field.
- 4 Click **Save External System**.

Identifying the Queues to the External System

The System tab in the External Systems application identifies the inbound (sequential and continuous) and outbound queues that the external system will use. If you duplicated the default system, EXTSYS1, the default queue names appear on the system tab for your new system, and you do not have to update the queue information.

System Tab in External Systems Application



NOTE If you will not use all three queues, it makes no difference if you clear the names of the unused queues from the System tab or leave them there.

Creating or Configuring an End Point

If you will process outbound interfaces, you must specify the end point (output file location), to which the transactions will be delivered and the handler that will route the transactions to the end point. Maximo provides the following predefined end points and handlers:

Predefined End Points

End Point	Description
MXFLATFILE	Receives ASCII data in the form of rows and columns; implements the FLATFILE handler.
MXIFACETABLE	Receives data in an interface table; implements the IFACETABLE handler.
MXXMLFILE	Receives data in XML format; implements the XMLFILE handler.

Predefined Handlers

Handler	Description
EJB	Delivers outbound messages as an XML document to an Enterprise JavaBean (EJB) executing in the local application server or a remote application server.
FLATFILE	Delivers Maximo data into a flat file whose location is configurable.
HTTP	Delivers outbound messages as an XML document to a URL over the HTTP or HTTPS protocols.
IFACETABLE	Delivers outbound messages into the appropriate interface table in a relational database.
JMS	Delivers outbound messages as an XML document into the appropriate queuing system that has been enabled through Java Messaging Service (JMS).
WEBSERVICE	Delivers outbound XML messages as an XML document to a Web services component using SOAP over HTTP.
XMLFILE	Delivers outbound messages as an XML document to the designated file in the local machine or a shared network folder.

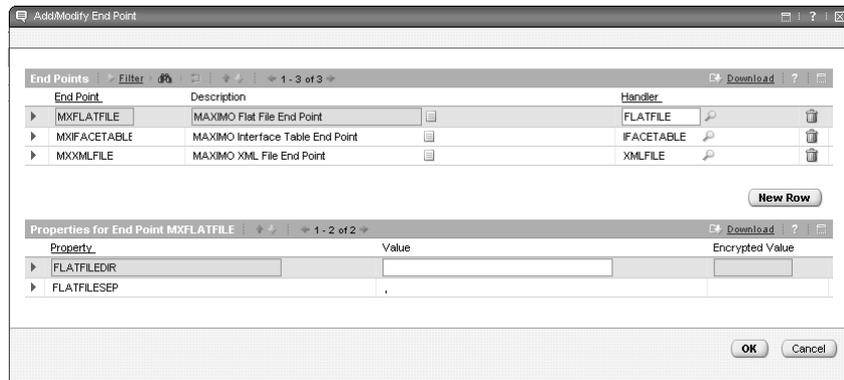
NOTE With the exception of interface tables, end points apply only to outbound transactions.

The first procedure below describes the generic assignment of a handler to an end point. The second procedure describes how to create an HTTP end point, using the generic HTTP handler.

To select the handler that your external system will use, complete the following activities.

- 1 Select **Add/Modify End Point** from the Select Action menu.
- 2 Click View Details to the left of the end point to which your system will send outbound data. The Row Details open.

Add/Modify End Point Dialog Box with Row Details



- 3 In the **Handler** field, enter the name of the handler that will deliver transactions to the selected end point, or click Select Value. Depending on the handler that you select, the Properties for End Point table window might display a list of properties you must define for the combination of end point and handler.
- 4 If the end point and handler combination requires property values, enter those values. For a description of the properties required by each handler, see Chapter 9, "Router," on page 9-1.
- 5 Click **OK**.

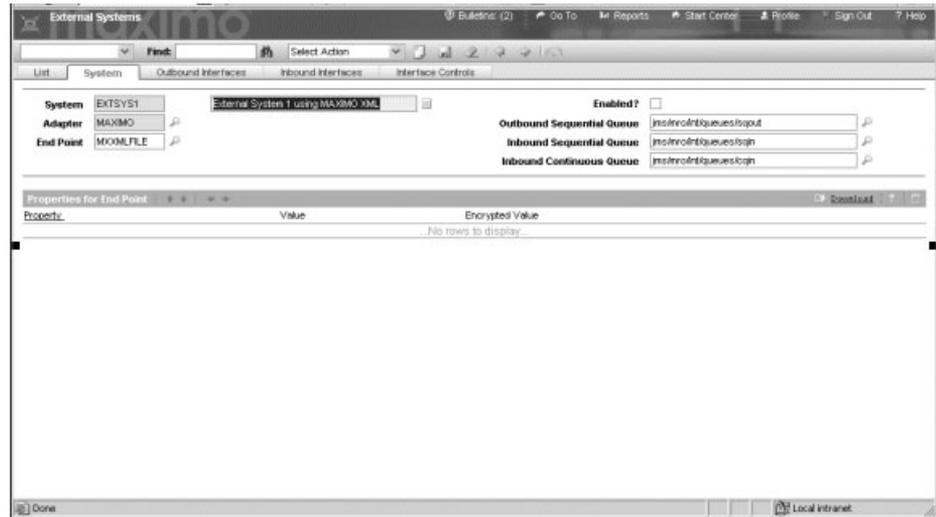
To create an HTTP end point using the predefined HTTP handler, complete the following activities.

- 1 Select **Add/Modify End Point** from the Select Action menu.
- 2 Click **New Row**.
- 3 In the **End Point** field, enter a unique name.
- 4 In the **Handler** field, enter HTTP. The Properties for End Point table window will display the properties you must define for the end point and handler combination. For a description of the properties required by the HTTP handler, see Chapter 9, "Router," on page 9-1.
- 5 Click **OK**.

Assigning the End Point to an External System

The System tab in the External Systems application identifies the end point associated with that system. If you duplicated the default system, EXTSYS1, the default end point is MXMLFILE. If you are using a different end point, update the End Point field on the System tab.

System Tab in External Systems Application



Enabling Outbound Integration Events

Enabling integration event listeners directs Maximo to automatically build and process related outbound interfaces when certain Maximo user actions occur.

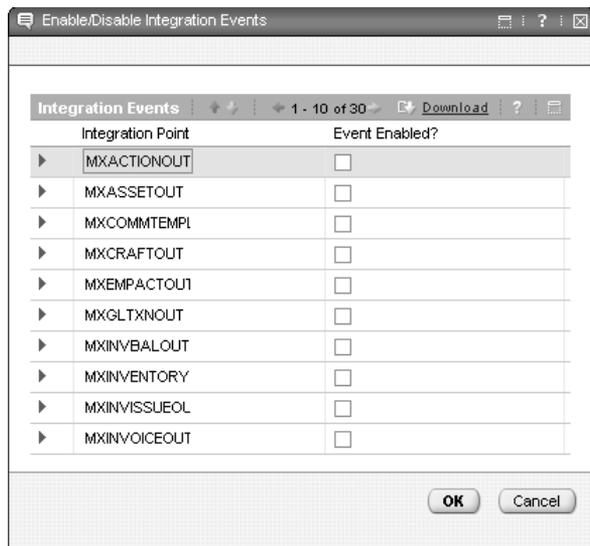
An integration event is associated with an integration point. A user action in Maximo (for example, the update of an item via the Maximo Item application) triggers the event listener, which in turn triggers the processing of the related interface(s). By default, integration events are disabled.

NOTE If you plan to send all outbound data through the Data Export feature, do not enable outbound event listeners. Integration Event listeners do not apply to inbound transactions.

To enable an outbound integration event listener, complete the following steps:

- 1 In the External Systems application, select the system that you want to update.
- 2 Select **Enable/Disable Integration Events** from the Select Action menu.

Enable/Disable Integration Events Dialog Box



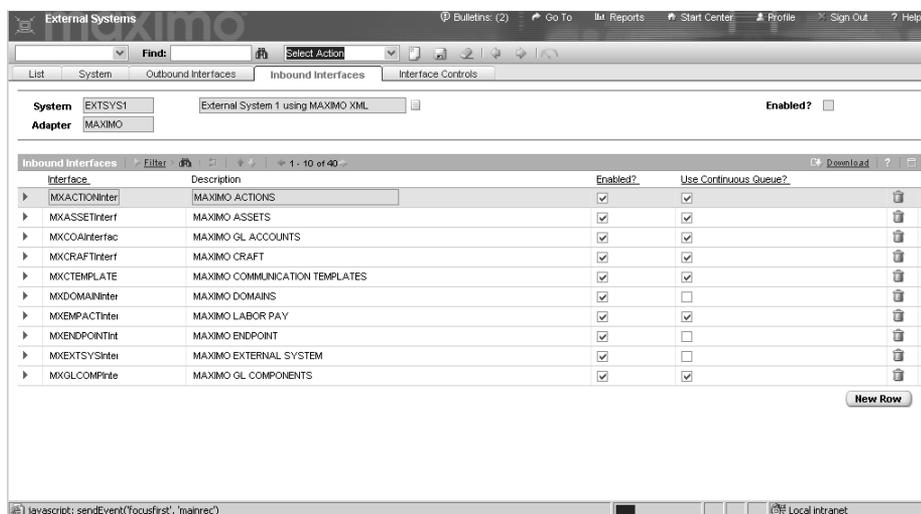
- 3 In the Enable/Disable Integration Events dialog box, select the **Event Enabled?** check box to the right of the integration point(s) for which you want to enable the outbound event listener.
- 4 Click **OK**.

Disabling Unneeded Interfaces

When you duplicate an external system, all the interfaces provided by the corresponding adapter are enabled and available for use by the new system. You can see the interfaces on the Inbound Interfaces and Outbound Interfaces tabs in the External Systems application. If you will not use all the interfaces, disable the unneeded ones. To do so, complete the following steps:

- 1 In the External Systems application, select the external system you want to update.
- 2 On the Inbound Interfaces tab or the Outbound Interfaces tab, clear the **Enabled?** check box to the right of the interface(s) that you want to disable.

Inbound Interfaces Tab in External Systems Application



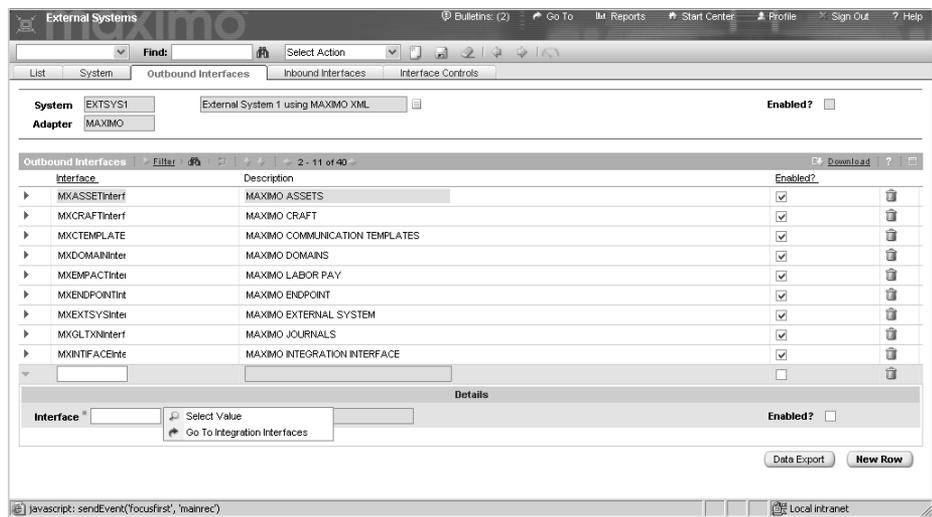
- 3 Click Save External System.

Associating Inbound and Outbound Interfaces

When you create an external system rather than duplicate an existing one, the interfaces within the corresponding adapter are available for use, but you must manually associate them with the new external system. You do this separately for inbound and outbound processing. To do so, complete the following steps:

- 1 In the External Systems application, select the system that you want to update.
- 2 On the Inbound Interfaces tab or the Outbound Interfaces tab, click **New Row**.

Outbound Interfaces Tab in External Systems Application



- 3 In the **Interface** field, click Detail Menu, then click Select Value. The Select Value dialog box displays the available inbound or outbound interfaces.
- 4 Select the interface that the new system will use in the selected direction (inbound or outbound). The selected interface will appear on the Inbound Interfaces or Outbound Interfaces tab.
- 5 To enable the interface, select the **Enabled?** check box to the right of the interface name.
- 6 Repeat steps 2 through 5 for each interface to be used in the selected direction.
- 7 Click Save External System.

Specifying the Inbound Queues

By default, inbound non-system interfaces use the continuous inbound queue and system interfaces use the sequential inbound queue. The primary differences between the two types of queues are:

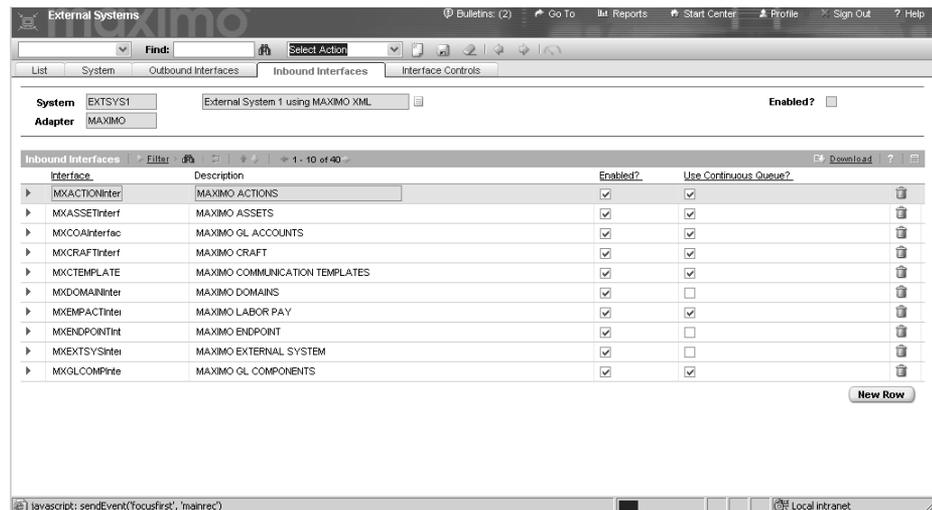
- ▼ The sequential queue processes transactions in FIFO order and stops processing when it encounters an error in a transaction. Use this queue to process interfaces that are dependent upon the successful processing of previous interfaces.
- ▼ The continuous queue processes messages in a multi-threaded mode and continues processing after it encounters an error in a transaction. Use this queue to load data that is not dependent upon the successful processing of previous interfaces.

Within an external system, you can use the sequential queue for some interfaces and the continuous queue for others, or you can use one queue for all the inbound interfaces.

To change the queue that an inbound interface uses, complete the following steps:

- 1 In the External Systems application, select the system that you want to update.
- 2 Click the Inbound Interfaces tab. The application displays the interfaces associated with the system.

Inbound Interfaces Tab in External Systems Application



Interface	Description	Enabled?	Use Continuous Queue?
▶ MXACTIONInterf	MAXIMO ACTIONS	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
▶ MXASSETInterf	MAXIMO ASSETS	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
▶ MXCOAInterfac	MAXIMO GL ACCOUNTS	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
▶ MXCRAFTInterf	MAXIMO CRAFT	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
▶ MXCTEMPLATE	MAXIMO COMMUNICATION TEMPLATES	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
▶ MXDOMAINInter	MAXIMO DOMAINS	<input checked="" type="checkbox"/>	<input type="checkbox"/>
▶ MXEMPACTInter	MAXIMO LABOR PAY	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
▶ MXENDPOINTInt	MAXIMO ENDPOINT	<input checked="" type="checkbox"/>	<input type="checkbox"/>
▶ MXEXTSYSInter	MAXIMO EXTERNAL SYSTEM	<input checked="" type="checkbox"/>	<input type="checkbox"/>
▶ MXGLCOMPInte	MAXIMO GL COMPONENTS	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

3 Perform one of the following actions:

- ▼ To write messages to the sequential inbound queue, clear the **Use Continuous Queue?** check box to the right of the applicable interface(s).
- ▼ To write messages to the continuous inbound queue, select the **Use Continuous Queue?** check box to the right of the applicable interface(s).

4 Click Save External System.

For more information about the inbound and outbound sequential queues, see Chapter 11, "JMS Queue Configuration," on page 11-1.

Configuring External System Interface Controls

Maximo provides system-level default values for the interface controls that are provided by the MAXIMO adapter and used by its predefined processing classes and processing rules. You might want to change the system level default values, assign override values at the organization or site level, or configure multiplication controls to create copies of inbound transactions for multiple Maximo organizations or sites.

You do not have to configure controls associated with interfaces that you are not using. To find out which interfaces use which predefined interface controls, see Appendix B, "MAXIMO Adapter Interface Specifications," on page B-1.

NOTE Most, but not all, predefined interface controls allow for overrides at the organization or site level. By default, all controls use the system-level default if no organization- or site-level value is specified.

Changing System-Level Default Values

The procedure for changing a control's system level default value varies, depending on the type of control (value, Boolean, list, or cross-reference). In all cases, you begin by performing the following actions:

- 1 In the External Systems application, select the system that you want to update.
- 2 On the Interface Controls tab, select the subtab that corresponds to the control type (value, Boolean, list, or cross reference).

Interface Controls Tab in External Systems Application

The subtab displays any predefined controls of the selected type. If the subtab does not display any controls, none exist for that type.

Value Type Controls

To override the system-level default value for a value type control, complete the following steps:

- 1 On the Interface Controls tab in the External Systems application, select the Value subtab.
- 2 Click View Details to the left of the control that you want to update. The Row Details open.

Value Subtab with Row Details

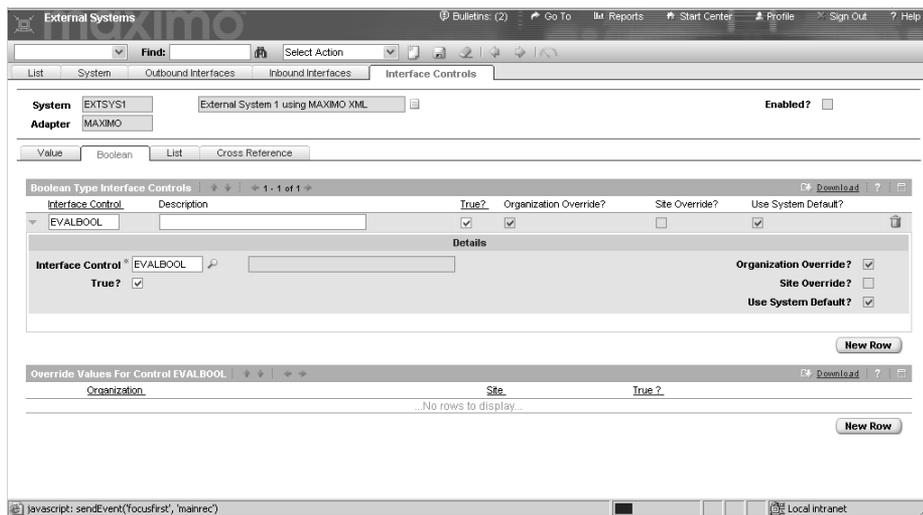
The screenshot displays the 'External Systems' application interface. At the top, there is a navigation bar with 'List', 'System', 'Outbound Interfaces', 'Inbound Interfaces', and 'Interface Controls' tabs. The 'Interface Controls' tab is active. Below the navigation bar, there are fields for 'System' (EXTSYS1) and 'Adapter' (MAXIMO). The main area shows a table titled 'Value Type Interface Controls' with columns: Interface Control, Description, Domain, Value, Organization Override?, Site Override?, and Use System Default?. The first row is selected, showing 'APPRVALUE' in the 'Interface Control' column and 'APPR' in the 'Value' column. A 'Details' panel is open for this row, showing fields for 'Interface Control' (APPRVALUE), 'Value' (APPR), and 'Domain'. There are also checkboxes for 'Organization Override?' (unchecked), 'Site Override?' (checked), and 'Use System Default?' (checked). Below the table is an 'Override Values For Control APPRVALUE' section with columns for 'Organization', 'Site', and 'Value', and a 'New Row' button.

- 3 Update the value in the **Value** field.
- 4 Click Save External System.

Boolean Type Controls

To override the system-level default value for a Boolean type control, complete the following steps:

- 1 On the Interface Controls tab in the External Systems application, select the Boolean subtab.
- 2 Click View Details to the left of the control that you want to update. The Row Details open.

Boolean Subtab with Row Details

- 3 Select or clear the **True?** check box.
- 4 Click Save External System.

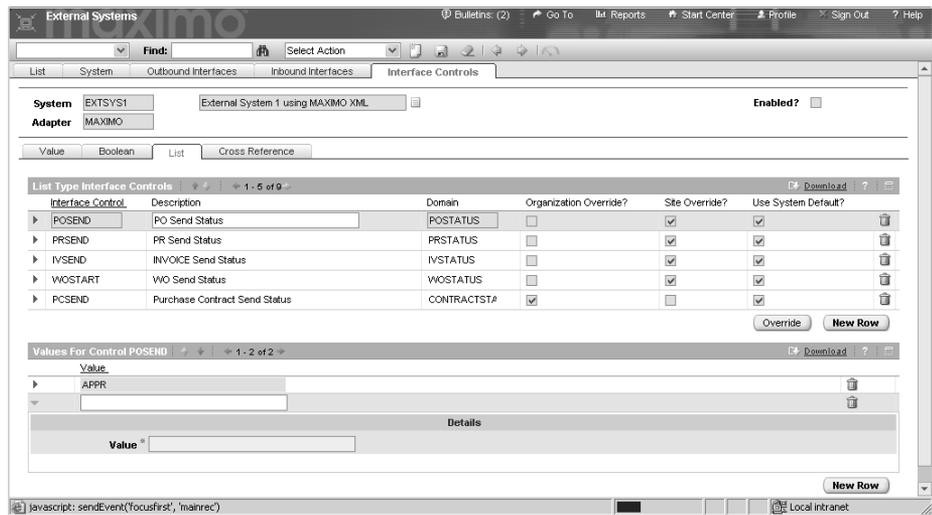
List Type Controls

You cannot overwrite an existing value for a list type control, but you can delete predefined values and add new values.

To override the system-level default value for a list type control, complete the following steps:

- 1 On the Interface Controls tab in the External Systems application, select the List subtab.
- 2 Click View Details to the left of the control that you want to update. The Row Details open and the default value(s) appear in the Values for Control table window.

List Subtab with Row Details



- 3 To delete an existing value, click Mark Row for Delete to the right of the value(s). You can mark multiple rows for deletion.
- 4 To add additional values to the control, perform the following actions:
 - a In the Values for Control table window, click **New Row**.
 - b Enter a value in the **Value** field.
- 5 Click Save External System.

Cross-reference Type Controls

In a cross-reference type control, a one-to-one relationship generally exists between an external system value and a Maximo value. Inbound integration processing converts an inbound transaction's external system value to the corresponding Maximo value, and outbound integration processing converts an outbound transaction's Maximo value to the corresponding external system value.

A multiplication control is a type of cross-reference control that allows for a one-to-many relationship between an external system value and multiple Maximo organizations or sites. When a multiplication control is associated with an interface and integration point, inbound integration processing creates a copy of the inbound transaction for each Maximo organization or site that corresponds to the external system value. You identify the control as a multiplication control in the Integration Interfaces application, on the Inbound Integration Points subtab of the Interface tab.

NOTE Multiplication controls apply to inbound transactions only. They can be used only to multiply a transaction for multiple organizations or sites. You cannot use them in processing rules.

To override the system-level default value for a cross-reference type control, complete the following steps:

- 1 On the Interface Controls tab in the External Systems application, select the Cross Reference subtab.
- 2 Click View Details to the left of the control that you want to update. The Row Details open and the default values appear in the Values for Control table window.

Cross Reference Subtab with Row Details

The screenshot shows the 'External Systems' application window. The 'Interface Controls' subtab is active, and the 'Cross Reference' subtab is selected. The main area displays a table of 'Cross Reference Type Interface Controls'. The table has columns: Interface Control, Description, Domain, Organization Override?, Site Override?, and Use System Default?. The first row is selected, showing 'XREF' in the Interface Control column. Below the table, the 'Values for Control XREF' window is open, showing fields for 'MAXIMO Value' and 'External Value'.

- 3 Update the value in the **Maximo Value** and/or **External Value** fields.
- 4 Click Save External System.

Assigning Organization and Site Level Values

Depending on the definition of an interface control, you might be able to assign values at the organization or site level. When you look at a control in the user interface, you will see the following check boxes; a check indicates the corresponding action is allowed.

- ▼ Organization Override?
- ▼ Site Override?
- ▼ Use System Default?

A check in the Use system default? check box indicates that Maximo uses the default system-level value if no match exists for the organization or control.

Organization override and site override are mutually exclusive. You cannot change these settings.

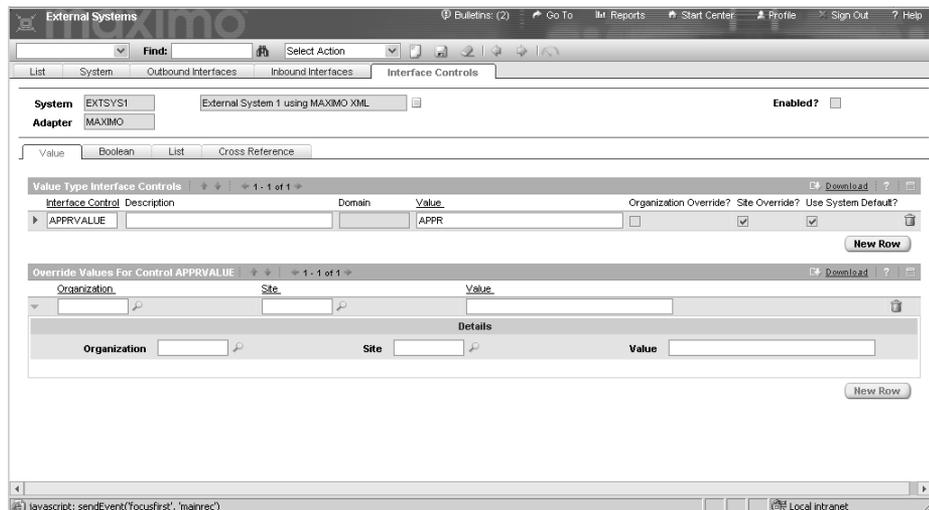
The procedure to assign organization- and site-level values varies, depending on the type of control (value, Boolean, list, or cross-reference).

Value Type Controls

To add an organization- or site-level value for a value type control, complete the following steps:

- 1 On the Interface Controls tab in the External Systems application, select the Value subtab.
- 2 Click View Details to the left of the control that you want to update. The Row Details opens.
- 3 In the Override Values for Control table window, click **New Row**.

Value Subtab with Override Fields



- 4 Perform one of the following actions:
 - ▼ To enter an organization-level value, enter a value in the **Organization** field, or click Select Value.
 - ▼ To enter an site-level value, enter values in the **Organization** and **Site** fields, or click Select Value.
- 5 Enter a value in the **Value** field.
- 6 Click Save External System.

Boolean Type Controls

To add an organization- or site-level value for a Boolean type control, complete the following steps:

- 1 On the Interface Controls tab in the External Systems application, select the Boolean subtab.
- 2 Click View Details to the left of the control that you want to update. The Row Details open.
- 3 In the Override Values for Control table window, click **New Row**.

Boolean Subtab with Override Fields

The screenshot displays the 'External Systems' application window. The 'Interface Controls' subtab is active, showing a table of Boolean type controls. The control 'EVALBOOL' is selected, and its details are shown in a 'Row Details' view. The details view includes a 'True?' checkbox (checked) and three override checkboxes: 'Organization Override?' (checked), 'Site Override?' (unchecked), and 'Use System Default?' (checked). Below the details view is a table titled 'Override Values For Control EVALBOOL' with columns for 'Organization', 'Site', and 'True?'. The 'True?' column has a checkbox (unchecked). A 'New Row' button is located at the bottom right of the table.

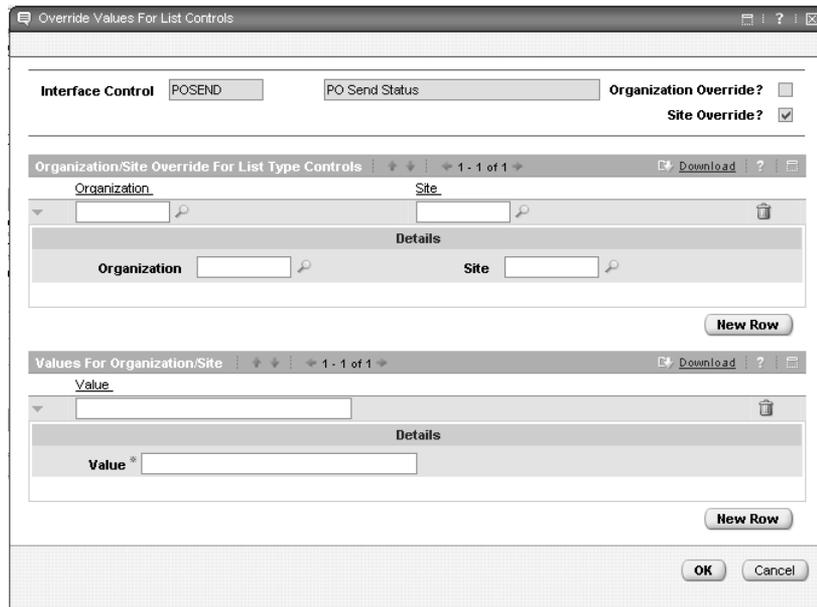
- 4 Perform one of the following actions:
 - ▼ To enter an organization-level value, enter a value in the **Organization** field, or click Select Value.
 - ▼ To enter an site-level value, enter values in the **Organization** and **Site** fields, or click Select Value.
- 5 Clear or select the **True?** check box.
- 6 Click Save External System.

List Type Controls

To add an organization- or site-level value for a list type control, complete the following steps:

- 1 On the Interface Controls tab in the External Systems application, select the List subtab.
- 2 Click View Details to the left of the control that you want to update. The Row Details open.
- 3 In the List Type Interface Controls table window, click **Override**. The Override Values for List Controls dialog box appears.

List Subtab with Override Fields



- 4 In the Organization/Site Override for List Type Controls table window, click **New Row**.
- 5 Perform one of the following actions:
 - ▼ To enter an organization-level value, enter a value in the **Organization** field or click Select Value.
 - ▼ To enter an site-level value, enter values in the **Organization** and **Site** fields or click Select Value.
- 6 In the Values for Organization/Site table window, click **New Row**.
- 7 Enter a value in the **Value** field.
- 8 Click **OK**.

Cross-reference Type Controls

To add an organization- or site-level value for a cross-reference type control, complete the following steps:

- 1 On the Interface Controls tab in the External Systems application, select the Cross Reference subtab.
- 2 Click View Details to the left of the control that you want to update. The Row Details open.
- 3 In the Cross Reference Type Interface Controls table window, click **Override**. The Override Values for Cross Reference Controls dialog box appears.

Cross Reference Subtab with Override Fields

- 4 In the Organization/Site Override for Cross Reference Type Controls table window, click **New Row**.
- 5 Perform one of the following actions:
 - ▼ To enter an organization-level value, enter a value in the **Organization** field or click Select Value.
 - ▼ To enter an site-level value, enter values in the **Organization** and **Site** fields or click Select Value.
- 6 In the Values for Organization/Site table window, click **New Row**.
- 7 Enter values in the **Maximo Value** and **External Value** fields.
- 8 Click **OK**.

Enabling the External System

By default, external systems are not enabled. Enable your external system(s) after you have completed all other configuration activities.

To enable the external system, complete the following steps:

- 1 In the External Systems application, select the system that you want to update.
- 2 On the System tab, select the **Enabled?** check box.
- 3 Click Save External System.

Restarting the Maximo Application Server

If you changed either of the following fields while configuring Maximo for integration, you must restart the Maximo application server for your changes to take effect:

- ▼ Global Directory Location in the Integration Administration dialog box
- ▼ mail.smtp.host properties in the maximo.properties file

If you changed the maximo.properties file, you also must rebuild the EAR file. For more information, refer to the Maximo Enterprise Suite *System Administrator's Guide*.

Creating Interface Tables

If you will use interface tables instead of, or in addition to, XML messages, you also must perform the following additional configuration activities:

- ▼ Create the interface tables
- ▼ Configure cron task

You also must program the external system to read and write transactions from and to the tables. For details, see Chapter 5, "Interface Tables," on page 5-1.

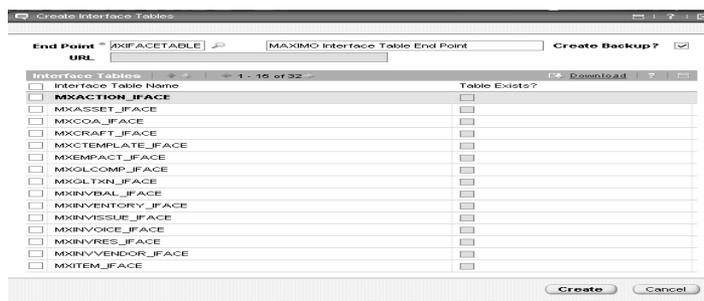
NOTE Whether you use the interface tables to process inbound transactions, outbound transactions, or both, you must configure the appropriate end point. Do this before you create the interface tables, as the table creation process references the end point.

Creating the Tables

To create the interface tables, complete the following steps:

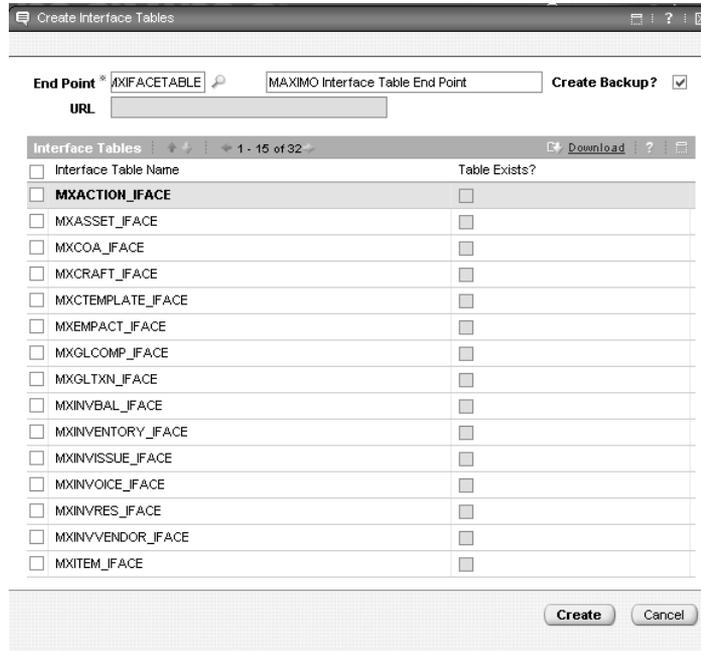
- 1 In the External Systems application, select the system that you want to update.
- 2 Select **Create Interface Tables** from the Select Action menu.

Create Interface Tables Dialog Box



- 3 In the Create Interface Tables dialog box, enter MXIFACETABLE in the **End Point** field, or click Select Value. The application displays the interface tables that you can create.

List of Possible Interface Tables



- 4 In the Interface Tables table window, click the Select Row check box to the left of the interface(s) for which you want to create interface tables. To create interface tables for all the interfaces displayed in the current dialog box, click the Select All Records check box next to the Interface Table Name column header.
- 5 Click **Create**. The Create Table Confirmation dialog box asks for confirmation.
- 6 Click **OK** to continue, or **Cancel** to stop, the table creation. If you click OK, a message box appears and asks you to wait. Depending on the number of interface tables you are creating, the process might take some time. After the creation of the table(s), a confirmation message appears.
- 7 Click **OK**.

Configuring the Cron Task for the Interface Tables

You must configure and activate the cron task that polls the interface tables.

To configure and activate the cron task, complete the following steps:

- 1 Go to the Cron Task Setup application in the Configuration module.
- 2 On the List tab, enter IFACETABLECONSUMER in the **Cron Task** field and select the Cron Task tab.

Cron Task Tab in Cron Task Setup Application

The screenshot shows the 'Cron Task Setup' application. At the top, there's a search bar and navigation options. The main area is divided into sections: 'Cron Task' configuration, 'Cron Task Instances' table, 'Details' form, and 'Cron Task Parameters' table.

Cron Task Configuration:

- Cron Task: IFACETABLECON
- Class: psdi.iface.intertables.ifaceTableCronTask
- Access Level: FULL

Cron Task Instances Table:

Cron Task Instance Name	Schedule	Run as User	Active?
Interface Table Polling Task	Run as User	MAXADMIN	<input type="checkbox"/>

Details Form:

- Cron Task Instance Name: Interface Table Polling Task
- Schedule: Run as User
- Run as User: MAXADMIN
- Active?:
- Last Run Timestamp: (empty)

Cron Task Parameters Table:

Parameter	Value	Description
EXITCLASS		
ENDPOINT		
INTERFACENAME		
TARGETENABLED	0	

- 3 Click **New Row**.
- 4 Enter values in the **Cron Task Instance Name** and **Schedule** fields.

NOTE The **Run as User** value does not apply to this cron task.
- 5 Update the Cron Task Parameters, as needed. For information about the parameters, see Chapter 5, "Interface Tables," on page 5-1.
- 6 To activate the cron task instance, select the **Active?** check box.
- 7 Click Save Cron Task Definition.

For more information, refer to the online help for the Cron Task Setup application.

Configuring the Data Export Feature

You can use Maximo's Data Export feature even if you do not have real time integration enabled. The Data Export feature lets you perform a bulk export of transaction data from Maximo to an external system.

NOTE The Data Export feature is available only for data synchronization (operation = Notify) interfaces defined within an internal adapter. You cannot use flat files to export system interfaces.

Before you use the Data Export feature, read the following sections of this guide to gain a basic understanding of the way in which outbound interfaces are configured and processed:

- ▼ Chapter 2, "Architecture," on page 2-1
- ▼ "Outbound Integration Processing," on page 3-2

You also must perform several configuration activities. For a list of configuration requirements, see the Data Export column of the configuration checklist on page 6-4.

The export takes place at the external system-interface level; that is, you initiate the process for each combination of interface and external system. To initiate the export, you create a query to select records. The export performs the standard outbound processing for the selected interface, on the result set of the query.

If the standard processing executes processing classes or rules that exclude or modify records or fields, you might need to create and use a new integration point that does not filter or modify records.

NOTE To avoid memory limitations when exporting a large number of records, specify the following property in the `maximo.properties` file:

```
mxm.mea.nombocache=true
```

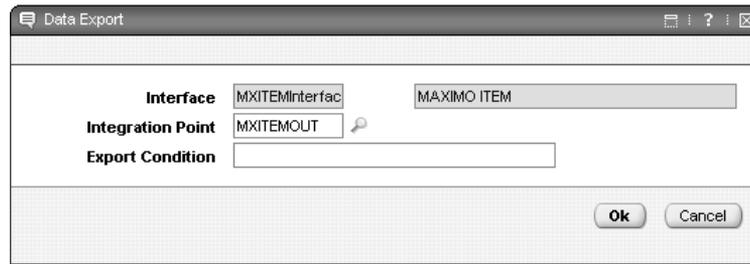
The default value of this property (if not specified) is `false`. If this property is enabled, MBO rules cannot be used for that interface. The MEA will not cache the MBOS and will release them during export.

For each interface that you want to export, complete the following steps:

- 1 In the External Systems application, select the external system to which Maximo will export the data.
- 2 On the Outbound Interfaces tab, select the interface that you want to export.
- 3 Click **Data Export**.

The Data Export dialog box appears.

Data Export Dialog Box



- 4 In the **Integration Point** field, enter the name of the corresponding integration point, or click Select Value.
- 5 In the **Export Condition** field, enter a properly constructed SQL query (optional). The query must be against the primary (top-level) MBO in the integration object.

CAUTION To avoid processing problems due to the size of the XML transaction, use the Export Condition to filter out unnecessary records.

- 6 Click **OK**.

Configuring the Data Import Feature

The Data Import feature lets you perform a bulk import of transaction data from an external system to Maximo.

NOTE The Data Import feature is available only for data synchronization (operation = Notify) interfaces defined within an internal adapter. You cannot use flat files to import system interfaces.

Before you use the Data Import feature, read the following sections of this guide to gain a basic understanding of the way in which inbound interfaces are configured and processed:

- ▼ Chapter 2, "Architecture," on page 2-1
- ▼ "Inbound Integration Processing," on page 3-16

You also must perform several configuration activities. For a list of configuration requirements, see the Data Import column of the configuration checklist on page 6-4.

The data that you import must be in a delimited flat file or Maximo XML format. The flat file data format must be the same as that of the interface table that corresponds to the interface. The Data Import feature can load predefined or user-defined interfaces.

Flat File Restrictions

If the data to be imported is in a flat file format, review the column names within the corresponding integration object to determine if duplicates exist. If they do, modify the Alias attribute for the duplicate columns, to ensure that all column names are unique and Maximo can generate the flat file without errors. For more information about this, see "Duplicate Columns and Aliases" on page 5-6.

If you use multiple languages for translatable columns, any one file can contain only one language.

The FLATFILE handler encodes outbound flat files in the standard UTF-8 format; and the Data Import mechanism assumes that inbound flat files are encoded in UTF-8 format.

If the data to be imported contains the delimiter character or a double quote ("), you must format the data correctly. For more information, see "Flat File Formatting" on page 9-7.

Error Handling

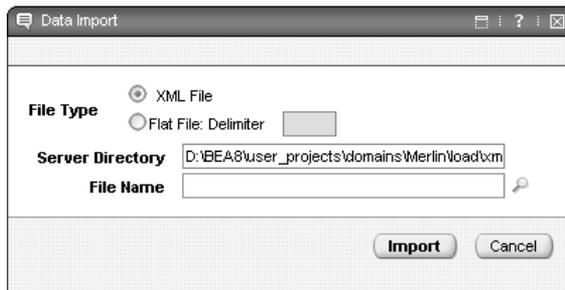
If Maximo encounters a problem while importing a file, it generates a recovery file called *recovery_filename.txt*, which identifies the last record that was successfully imported. Correct the *next* record in the import file, then restart the data import process.

To start or restart the data import process, complete the following steps:

- 1 In the External Systems application, select the external system from which Maximo will import the data.
- 2 From the Select Action menu, select **Data Import**.

- 3 In the Data Import dialog box, do one of the following:
 - ▼ To import a flat file, click **Flat File** and modify the value in the **Delimiter** field, if necessary.
 - ▼ To import an XML file, click **XML File**.

Data Import Dialog Box



- 4 In the **Server Directory** field, enter the location of the file.
- 5 In the **File Name** field, enter the name of the file or click Select Value.
- 6 Click **Import**. Maximo begins the data import process. If the validation of the external system and interface fail, Maximo displays an error message.

Error Management

7

This chapter discusses how Maximo manages errors it encounters while processing outbound and inbound interfaces and how system administrators should address those errors. It contains the following sections:

- ▼ Queue Error Handling
- ▼ Interface Table Error Handling
- ▼ Error Management Configuration
- ▼ Error Notification
- ▼ Error Management Folders
- ▼ Error Correction

Queue Error Handling

Maximo uses JMS queues as a staging mechanism. Inbound messages from external systems are first stored in a queue, then subsequently picked up for processing. Similarly, outbound messages are stored in a queue, from which they are picked up for dispatch to an external system.

Queue error handling takes place when an error occurs as a message is being processed from an inbound or outbound queue.

In outbound transactions, errors can occur as the message is being sent from the queue to the external system. These errors are typically due to a communication failure between the queue and external system or, if writing to interface tables or files, a problem with table or file space. In inbound transactions, errors can occur when Maximo tries to process a message into Maximo. They are typically due to business rule validations in the MBOs or in the inbound processing of Maximo.

The sequential queue processes messages one at a time, in FIFO sequence. When Maximo encounters an error in processing a message in a sequential queue, inbound or outbound, the error management mechanism is initiated and the message is flagged as having an error. Subsequent messages in the queue are not processed until the message in error has been resolved. As a result, only one error at a time can exist in a sequential queue.

The continuous queue processes messages in a multi-threaded mode. When an error is encountered in the continuous queue, the error management mechanism is initiated and the message is flagged as having an error. However, Maximo continues to process subsequent messages in the queue. As a result, multiple errors can exist in a continuous queue.

Depending on your system configuration, Maximo might make several attempts to reprocess the message before determining that the error requires intervention. At this point, Maximo performs the following activities:

- ▼ It sends a notification to a specified e-mail account, informing the recipient that an error has occurred.
- ▼ It creates an error file that contains the original message and information about the error.

Interface Table Error Handling

There are two stages during the processing of inbound interface tables where errors can occur:

- ▼ Writing data from the interface table to the queue
- ▼ Processing data from the queue into Maximo

Maximo does not apply any business rules to the inbound interface table records as it writes them to the inbound JMS queue, so errors that occur at this point will be due to one of the following:

- ▼ The JMS queue is deactivated or freespace is unavailable.
- ▼ The interface name or external system name is invalid.
- ▼ The interface is not enabled for the external system.
- ▼ The external system is not enabled.

When an error occurs during inbound interface table processing, the polling program writes the exception trace in the IMPORTMESSAGE column of the MXIN_INTER_TRANS queue table. If this is the first error in the MXIN_INTER_TRANS queue, the system sends an e-mail notification to the Administrator E-mail Address specified in the Integration Administration Setup dialog box in the External Systems application.

The cron task continues to process subsequent records in the MXIN_INTER_TRANS queue table, then sleeps. When it resumes processing, it tries to process the records in error, as well as new records added to the MAX_INTER_TRANS queue table.

After sending an error notification, the cron task does not send notification of additional errors as long as the queue table contains one transaction marked in error. The assumption is that the person who was notified of, and is researching, the original error will see and correct additional errors when he or she looks at the queue table. After all current errors are corrected, the cron task will send a notification when it encounters a new error.

Any errors that occur after the cron task successfully passes an interface table transaction to an inbound queue will be managed via the error handling process for the queues, as discussed in “Queue Error Handling” on page 7-2.

Error Management Configuration

Error management requires the configuration of several properties before use.

Integration Administration Setup Properties

Configure the following properties in the Integration Administration Setup dialog box within the External Systems application:

▼ Global Directory Location

This property specifies the root folder under which all integration configuration files are located. If this value is null, the folders are created under the directory from which the Maximo application server is started or from the current working directory of the Maximo application server.

This location must be an existing folder that is accessible by a given Maximo application server. In a clustered environment, all Maximo application servers must have access to this location.

If you change this value, you must restart the Maximo application server(s) in order for Maximo to recognize the new location.

▼ Administrator E-mail Address

This property specifies the primary address(es) to which Maximo sends notification of integration processing errors. You can enter multiple addresses, delimited with a comma (.).

You can optionally use the e-mail address property at the queue level to override this address, per queue. This option lets you specify different e-mail addresses for each queue. For more information, see “External Systems Configuration Properties” on page 7-5.

CAUTION

If you do not configure e-mail address properties, there will be no e-mail notification when errors occur in processing messages from the queues.

▼ Sender E-mail Address

This property specifies the *from* address that will appear in error notifications that Maximo sends; for example, MXINTADM@ZZZ.com. Some SMTP servers require this to be a valid e-mail address format; some accept any value.

External Systems Configuration Properties

You configure the following error management properties in the Add/Modify Queues screen in the External Systems application:

▼ Maximum Try Count

This property specifies the number of times Maximo will try to reprocess an error. After the specified number of tries, Maximo notifies the system administrator (if configured to do so) and writes the message to an error file.

If the Maximum Try Count value is set to 0, there is no limit to the number of times Maximo retries the transaction. It notifies the system administrator and writes the message to the error file after the first unsuccessful attempt to process the transaction. This value is typically set to 0 for outbound queues.

NOTE For this release, valid values for the WebLogic application server are 0, 1, and 2. For WebSphere, valid values are any number equal to or greater than zero

If the Maximum Try Count is 2, Maximo will not report an error until it retries the transaction and encounters an error a second time.

▼ E-Mail Address

This is an optional property that can be specified if you want e-mail error notification messages to be sent to different addresses for each queue. You can enter multiple addresses, delimited with a comma (.). The value in this property overrides the value in the Administrator E-mail Address property. If no value is specified, e-mail notifications will be sent to the e-mail address(es) specified for the Administrator E-mail Address property.

Maximo.properties Configuration

You configure the following error management properties in the `maximo.properties` file in the `<Maximo root>` `applications\Maximo\properties` folder.

▼ mail.smtp.host

This property specifies the host running the SMTP server. This property is not unique to the Integration module, and may already have been configured for other Maximo applications.

NOTE If you change the `maximo.properties` file, you must rebuild and redeploy the Maximo EAR file.

Error Notification

When an inbound or outbound transaction results in an error in a queue, Maximo sends an e-mail notification to the system administrator *only if* no other errors are awaiting correction *in the same queue*. The notification informs the system administrator that the queue contains one or more transactions with errors. If multiple errors exist in the queue, the system administrator must resolve all of them before he or she will receive notification of new errors. A typical e-mail error message contains a Java error stack trace and the error file name with its full folder path information, relative to the server location.

Example

```
C:\error\jms.mro.int.queues.cqin\EXTSYS1\EXTSYS1_MXCOAInterface_11017328950785131.xml
```

The notification process works the same way regardless of the type of queue (continuous or sequential) or the processing direction (inbound or outbound) in which the error occurs, or whether Maximo is running in a clustered or non-clustered environment.

Example

Assume that the continuous inbound queue contains ten messages. Maximo successfully processes the first four, then encounters an error in the fifth. (Depending on the value of the Maximum Try Count property, Maximo might have retried the message one or more times.) This is the first error in the queue, so Maximo sends an e-mail notification to the system administrator, then continues to process subsequent messages in the queue. If Maximo encounters another error in the seventh message, it does not send another e-mail notification if the system administrator has not yet resolved the original error. If the system administrator has resolved the original error and no errors are pending, Maximo sends a new e-mail notification to the system administrator.

If the error were encountered in a sequential queue, the only difference in the processing just described is that Maximo would not process subsequent messages until the message with the error had been resolved.

NOTE Multiple errors will exist only in the continuous inbound queue. In a clustered environment, the administrator might receive up to one e-mail error notification per Maximo server, depending upon the timing of the transactions in error.

Error Management Folders

Maximo's error management processing uses the following folders. Subsequent sections of this chapter describe each folder in more detail.

Error Management Folders

Folder	Contents	Owner
error	Messages in which integration processing encountered an error	Maximo
retry	Corrected messages, to be reprocessed by Maximo	User
delete	Messages to be deleted	User
deleted history	Log of deleted messages	Maximo

These folders are created in the location specified in the Global Directory Location property. The Owner column in the preceding table identifies the agent responsible for placing messages into the corresponding directory.

Within each of these folders, messages are grouped by queue name; that is, subfolders exist for each queue defined in Maximo. Within each queue folder, subfolders exist for each external system. These subfolders do not exist by default; they are created by Maximo at the time an error is written for a specific queue-external system combination.

The folders have the following subfolder hierarchy:

```

folder name [error, retry, delete, deletedhistory]
  queue name
    external system name
      error file
      .
      .
      .

```

Error Folder

After Maximo has unsuccessfully tried to process a message from a queue the number of time specified in the Maximum Try Count property for that queue, it writes the message to the corresponding error folder location (<GlobalDirectory>/error/<QueueName>/<ExternalSystemName>). The original message remains in the queue.

The error file contains the error XML for the message. Maximo assigns the file a name, in the following format:

```
external_system_interfacename_messageID.xml
```

Example

```
EXTSYS1_MXCOAInterface_11017328950785131.xml
```

CAUTION Do not change the name of the error file, as Maximo uses this name in reprocessing the message.

The following is an example of an error XML file. It contains the following information:

- ▼ the error message, in the `ERRORMESSAGE` element
- ▼ the message from the queue, in the `ER` element
- ▼ the integration object XML, in the `IR` element

The `IR` element is present only for inbound transactions, and only if interface processing and user exit processing was successfully applied to the message. It represents the integration object created during interface and/or user exit processing.

```
<?xml version="1.0" encoding="UTF-8"?>
<ERROR>
  <ERRORMESSAGE>Error occurred while processing IR record
  CHARTOFACCOUNTS at number 1. Error is:
  Not a valid GL Account. The COST CENTER component value is not
  valid.</ERRORMESSAGE>
  <ER>
    <MXCOAInterface xmlns="http://www.mro.com/mx/integration"
    language="en">
      <Header operation="Notify" event="1">
        .
        .
        .
      </Header>
      <Content>
        <MXCOA>
          <CHARTOFACCOUNTS action="Add">
            .
            .
            .
          </CHARTOFACCOUNTS>
        </MXCOA>
      </Content>
    </MXCOAInterface>
  </ER>
  <IR>
    <MXCOA>
      <CHARTOFACCOUNTS action="Add">
        .
        .
        .
      </CHARTOFACCOUNTS>
    </MXCOA>
  </IR>
</ERROR>
```

NOTE The `ER` element in an error file created for inbound messages from interface tables or flat files has a flat (non-hierarchical) structure.

For more information about the `ER` and `IR` sections of the XML, see Chapter 15, "Customization with User Exits," on page 15-1.

Error Correction

The system administrator can manually change the contents of a message in error, then place the updated message in the retry folder. During its next cycle, Maximo tries to process the message in the retry folder. Only the <ER> element can be edited; the <IR> element is provided for information only and any change to the <IR> is ignored when the message is reprocessed.

CAUTION Correcting an error in the XML file could potentially lead to a mismatch in data between the sending and receiving systems.

The retry process works the same way regardless of the type (continuous or sequential) or direction (inbound or outbound) of the queue in which the error occurred; or whether Maximo is running in a clustered or non-clustered environment.

Common Causes of Errors

Errors that occur when processing a message from an outbound queue are usually related to the delivery of the message to the end point specified for the external system. Typical problems that can cause such an error are a disruption of the communication link between Maximo and the external system, or database table space or file space issues in the external system. Resolving an outbound error normally does not require modification of the XML message.

Errors that occur when processing a message from an inbound queue are usually related to a business rule validation in a MBO or in the inbound processing of the interface. Examples are:

- ▼ A validation failed because related data must first be updated in the Maximo application. In this case, an administrator can move the failed transaction to the retry folder after a user has made the necessary update to Maximo.
- ▼ A related inbound message must be processed first, because it contains data required by the message that failed. For example, an inbound general ledger interface that adds a GL account number to Maximo must be processed before a receipt transaction that uses that account number. In this case, an administrator can move the failed message to the retry folder after the prerequisite interface is processed successfully.
- ▼ The message contains incorrect data. In this case, someone can manually update the XML, then the system administrator can move the updated message to the retry folder.

CAUTION Correcting an error in the XML file could potentially lead to a mismatch in data between the sending and receiving systems.

Researching Errors

Upon receipt of the error notification, the system administrator should evaluate the error message in the e-mail and/or look at the XML file in the error folder for the specified queue and system. Depending on the type of queue (sequential or continuous) and the number of messages in the queue, the system administrator may see zero, one, or multiple error XML files in the error folder.

No XML Files Exist

If no error XML file exists in the folder, the message was retried and the error was not encountered again, so Maximo deleted the error file.

Example

An error occurs in an inbound receipt message due to an invalid general ledger (GL) account. After the error occurs, an online user subsequently enters that GL account in Maximo. Maximo successfully reprocesses the message and the data is saved successfully in Maximo.

Example

An outbound transaction encounters a communication error. When the communication problem is resolved, the message is sent to the external system and the error file is deleted.

One or More XML Files Exist

When an error occurs in a sequential queue (inbound or outbound), processing of the queue stops until the error is resolved. In these cases, one XML file will exist in the error folder for the queue.

When an error occurs in a continuous queue, processing of the queue continues and additional errors may occur before the initial error is resolved. In these cases, multiple XML files will exist in the error folder for the queue.

Updating Message Data

The system administrator has the ability to change the content of inbound or outbound messages. Changes to inbound messages are more common.

To correct the data in an error file and make it available for reprocessing, perform the following actions:

- 1 Copy the file from the error folder to another location; for example, c:\temp.
- 2 Edit the ER data as necessary. The IR data is for informational purposes only.
- 3 Move the modified file to the retry folder for the queue and external system in which the error occurred. Maximo automatically tries to process this file during its next cycle.

If successful, it deletes the transaction from the queue, the error folder, and the retry folder. If unsuccessful, it performs the following actions:

- a Deletes the message from the retry folder
 - b Saves the file in the error folder with extension .bak
 - c Overwrites the original file in the error folder
 - d Retains the original transaction in the queue
- 4 Repeat the previous steps until the message is successfully processed.

NOTE All backups of the error file (extension .bak) remain in the folder for audit purposes. You must manually delete them.

Deleting Errors

You can delete a message from a queue, if necessary.

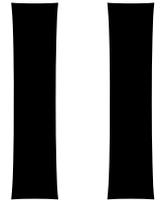
CAUTION Once you delete a message from the error folder, Maximo cannot reprocess it.

To delete a message from a queue, perform the following action:

- ▼ Copy the error file from the error folder to the deleted folder for the queue and external system.

In its next cycle, the error management processing deletes the message from queue. It saves a copy of the message in the appropriate subfolder of the deleted history folder, for logging purposes only, and deletes the XML file from the error and delete folders.

Advanced Topics



Chapter 8: Integration Gateway

Chapter 9: Router

Chapter 10: Advanced Interface Table Polling

Chapter 11: JMS Queue Configuration

Chapter 12: Security

Chapter 13: Cluster Configuration

Chapter 14: Customization with Processing Rules

Chapter 15: Customization with User Exits

Chapter 16: Adding and Modifying Integration Components

Chapter 17: Using Integration Queries

Chapter 18: Maximo Web Services

Chapter 19: Multiple Language Support

The integration gateway provides the framework for receiving XML transactions from an external system and writing them to the inbound queues. The gateway processes transactions received via HTTP/HTTPS, Web services, and Enterprise JavaBeans (EJBs).

The integration gateway is not involved in processing transactions received via interface tables and flat files (using the Data Import feature), and data synchronization and query type interfaces exposed through interface Web services.

This chapter describes the receipt of XML transactions via the integration gateway and the function of the interpretation layer of the gateway. It is directed to developers and support personnel and contains the following sections:

- ▼ Gateway Framework
- ▼ Interpretation Layer
- ▼ Writing Your Own Interpreter
- ▼ Bypassing Interpretation
- ▼ Sending Transactions via EJB
- ▼ Sending Transactions via HTTP/HTTPS
- ▼ Sending Transactions via the Gateway Web Service

For information about inbound interface tables, flat files, and interface Web services, see the following documentation:

- ▼ Chapter 5, "Interface Tables," on page 5-1
- ▼ "Configuring the Data Import Feature," on page 6-38
- ▼ Chapter 18, "Maximo Web Services," on page 18-1

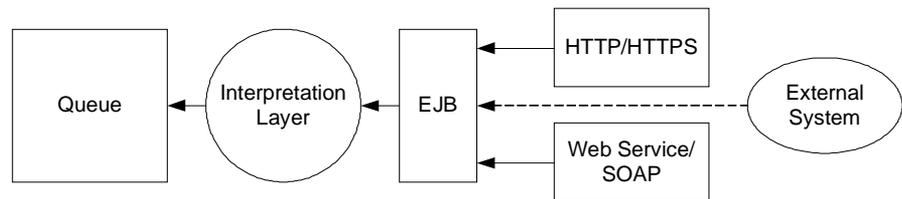
Gateway Framework

The gateway framework provides entry points through which external systems can deliver messages to Maximo. The gateway consists of an Enterprise JavaBean, which provides the following types of support:

- ▼ Remote Method Invocation (RMI)
- ▼ Enterprise JavaBeans (EJB)
- ▼ Java Naming and Directory Interface (JNDI)

The EJB can also be exposed as a Remote Procedure Call (RPC) based Web service, thereby providing SOAP support.

Components in the Gateway Framework



There are two ways to invoke the gateway EJB. One involves interpretation and the other does not.

Interpretation Layer

Before the gateway writes a transaction to an inbound queue, it must obtain and validate the names of the interface and the external system in which the transaction originated. These properties are included in the header of the JMS message that the gateway writes to the queue. Interpretation is the process of parsing an XML document to obtain the information that Maximo needs to process the document.

If these values are in a consistent location in the XML for all interfaces within an adapter, or if you can provide a fixed value for either property, you define the location of these properties on the Gateway Properties tab. Otherwise, you must write a custom interpreter class that will identify the sender and interface names. If you write an interpreter class, you define the interpreter class, but no properties, on the Gateway Properties tab. To include additional data in the message header, define that data as one or more properties in the Add/Modify Adapters dialog box.

The MAXIMO adapter uses the following two gateway properties:

- ▼ INTERFACE (the interface name), derived from the root element (top tag) in the XML message
- ▼ SENDER (the external system name), derived the SenderID tag

CAUTION Do not delete these predefined gateway properties from the MAXIMO adapter.

When you define the gateway properties, Maximo interprets their values as follows:

- ▼ If you select the XML Tag? check box and leave the Value field null, the gateway uses the name of the root element in the XML message as the value for the corresponding property.
- ▼ If you select the XML Tag? check box and enter a tag name in the Value field, the gateway uses the value for that tag as the value for the corresponding property. If the tag appears multiple times in the XML message, the adapter uses the value of the first occurrence of the tag.
- ▼ If you clear the XML Tag? check box and enter a data value in the Value field, the gateway uses that data as the value for the corresponding property.

Example

If you do not define a value for the INTERFACE property, and the top tag of an inbound XML message is `<MxItemInterface>`, the gateway uses `MXItemInterface` as the value for INTERFACE property.

Writing Your Own Interpreter

Use the base interpreter, `interpreter.java`, when the names of the interface and sender are derived from XML tags in the transaction or have a fixed value. If the adapter's interfaces communicate with a single external system, for example, you can prespecify the external system identifier in the SENDER property.

If the interface and sender names must be derived in another way, the adapter must implement its own interpreter. You can create this class by extending the base interpreter class and overriding the following method:

```
public Map interpretMessage(byte[] extData)
```

In this method, `extData` is the input XML to be interpreted.

The properties are protected variables, called `props`, in the base class. The return from this method is a map, which contains the property name as the key and the property value as the value.

Bypassing Interpretation

An external system can provide the interface and sender names by invoking the following method of the EJB

```
processExternalDataWithParams(byte[] extData, String ifaceName,  
String sender)
```

The EJB bypasses the interpreter layer and writes data directly to the appropriate inbound queue. Using this approach results in better performance than using the interpreter class.

For more information, see the discussion of this method in the following section, "Sending Transactions via EJB."

Sending Transactions via EJB

EJB invocation can be performed by J2EE clients written as per the Sun Microsystems, Inc. J2EE client specification. Invocation can be done with or without the interface and sender names.

To invoke the EJB without the interface and sender names, call the following method:

```
public String processExternalData(byte[] extData, String
ifaceType)
```

In this method, `ifaceType` is the name of the adapter (for example, `Maximo`).

This method uses the XML data and the adapter as parameters and determines the sender and interface details by parsing the XML data.

To invoke the EJB with the interface and sender names, call the following method:

```
public String processExternalDataWithParams(byte[] extData,
String ifaceName, String sender)
```

A client can use the JNDI name of the gateway EJB (`syncMaximoDataService`) to look up the EJB reference and invoke either method. The client also needs the following:

- ▼ access to the Home and Remote interface class files
- ▼ access to the J2EE jar files for the server
- ▼ the URL of the server hosting the EJB
- ▼ the context factory class name

The client code must instantiate the default `InitialContext` object. The context derives the provider URL and the context factory from the environment.

NOTE To keep the client code server- and URL-neutral, set the provider URL and context factories as `-D` parameters in the `.bat` or `.sh` script for the J2EE client.

To see an example of a J2EE client `.bat/.sh` file, go to the following folder:

```
tools\maximo\j2eeclient folder
```

Security

For information about security for EJB transactions, see Chapter 12, "Security," on page 12-1.

Response

If the invocation is successful, the EJB returns `null`.

If the invocation is unsuccessful, the EJB raises an exception detailing the error.

Sending Transactions via HTTP/HTTPS

A servlet provides the ability for external systems to post transactions to the integration gateway. Use the following URL to post the transactions:

```
http://<domain>:port/meaweb/measervlet/<adapter>
```

where *<domain>* is the machine or domain name and *<adapter>* is the name of the adapter (for example, MAXIMO).

The maximum size of a message that can be sent to Maximo via HTTP POST is controlled by the `IntegrationPostSize` parameter in the `web.xml` file of the meaweb application. The default value is 5MB, and you can change this value as needed. For security reasons, a message is rejected if it exceeds the size specified in this parameter. A very large message can cause an `OutOfMemoryError` when an XML parser tries to parse it.

If the XML transaction uses character encoding other than UTF-8, the message must contain the encoding attribute, as in the following example:

```
<?xml version="1.0" encoding="ISO-8859-2"?>
```

If the message does not contain this attribute, Maximo assumes that the XML message uses UTF-8 encoding. Since the integration servlet does not look at the `charset` value in the HTTP `Content-Type` header, simply providing the `charset` value is not sufficient.

The XML data should be contained directly in the body of the HTTP Post message. You can set the HTTP `Content-Type` header to `text/xml`.

Security

For information about security for HTTP transactions, see Chapter 12, "Security," on page 12-1.

Response

If the transaction is successful, the servlet returns a status code of 200 and the return message, if any, as part of the response body. The response content type is `text/plain` and is encoded in UTF-8.

If the transaction is unsuccessful, the servlet returns a status code of 500 and the error message it encountered. The response content type is `text/plain` and is encoded in UTF-8.

Sending Transactions via the Gateway Web Service

The gateway Web service, which is deployed out of the box, can be used as an alternative to posting data into Maximo. The two methods described in "Sending Transactions via EJB," on page 8-5, are available for invocation via SOAP-RPC client. The client code can be written in any language and can use any SOAP-RPC tool which works with that language. For example, in Java, any JAX-RPC implementation can be used to invoke this Web service.

To invoke this Web service, the client must use the following values.

Gateway Web Service Parameters

Parameter	Value
wsdl URL	http://<host>:<port>/meaweb/services/syncMaximoDataService?wsdl
service name	MEAGatewayService
portname	syncMaximoDataService
target namespace	http://<host>:<port>/meaweb/services/syncMaximoDataService

Security

For information about security for gateway Web service transactions, see Chapter 12, "Security," on page 12-1.

Response

If the invocation is successful, the response is a SOAP message with an empty SOAP body.

If the invocation is unsuccessful, the response is a SOAP fault message detailing the error.

The router is responsible for routing outbound messages from the outbound JMS queue to an end point associated with an external system.

The outbound queue cron task process invokes the router and passes the message body and the header properties to it. The router uses the header properties to determine the external system and the handler and end point properties for that system. The router executes the handler, which sends the data to the external system specified by the end point with which the handler is associated.

This chapter is addressed to anyone who will configure Maximo's predefined handlers or create new ones. It contains the following sections:

- ▼ End Points
- ▼ Handlers
- ▼ Writing Custom Handlers

End Points

An end point represents an application component to which Maximo delivers outbound transactions. Maximo provides the following predefined end points.

Predefined End Points

End Point	Handler	Description
MXFLATFILE	FLATFILE	Writes flat files to a prespecified directory location.
MXIFACETABLE	IFACETABLE	Writes outbound transactions to local interface tables.
MXXMLFILE	XMLFILE	Writes XML files to a prespecified directory location.

The configuration of an end point involves the definition of the end point, the association of a handler to the end point, and the setting of the handler properties, if any, for that end point.

From an architectural and implementation perspective, an end point is an instance of a handler with specific properties that the handler needs in order to connect and write outbound data.

You can use the predefined handlers or create new ones that enable physical entities, such as FTP servers, for which predefined handlers do not exist. You must define the handler before you define the end point. You configure end points and handlers via the Select Action menu in the External Systems application.

To define an end point for an existing handler, complete the following activities:

- 1 Use the Add/Modify End Point action to define a new end point or associate the handler with an existing end point.
- 2 Set the handler properties that apply to the corresponding end point.
- 3 Associate the end point with one or more external systems.

NOTE A property is associated with a handler, but the property value is specific to the end point implementing the handler. For example, three external systems (end points) that use the EJB handler can have different values in the property fields. Therefore, you enter property values at the time you associate the handler with an end point.

Handlers

This section describes the predefined handlers and their required and optional properties.

Maximo provides the following predefined handler types, which you can access through the Select Action menu in the External Systems application.

- ▼ EJB
- ▼ FLATFILE
- ▼ HTTP
- ▼ IFACETABLE
- ▼ JMS
- ▼ WEBSERVICE
- ▼ XMLFILE

EJB Handler

The EJB handler is a Java component that delivers Maximo data to an Enterprise JavaBean (EJB) executing in the local application server or a remote application server.

NOTE If the EJB is in a remote application server, the remote and home interface classes of the EJB must be available in the local Maximo application server. For more information, refer to the documentation for your application server.

The EJB handler has the following properties:

CONTEXTFACTORY Property

This required property specifies a J2EE context. Refer to the documentation for your application server for the name of the default context factory.

CONTEXTFACTORY Property Values

Server	Value
BEA WebLogic	weblogic.jndi.WLInitialContextFactory
IBM WebSphere	com.ibm.websphere.naming.WsnInitialContextFactory

EJBEXIT Property

This optional property is used for customization. It specifies the fully qualified name of a custom Java class that implements the EJBExit interface.

If you do not specify a value for this property, Maximo executes the default exit, DefaultEJBExit, which attempts to resolve the EJB's method signature and parameters.

If your EJB has its own method signature and parameters, create a Java class that contains your version of the EJBExit interface and implementations of the following four methods.

```
public Class[] getClassParams()
```

The `getClassParams()` method returns the method signature in the form of an array of Java classes.

```
public Object[] getObjectParams(byte[] data, String
interfaceName, String destinationName) throws MXException
```

The `getObjectParams()` method returns the parameters of the EJB business method in the form of an array of Java objects.

```
public void responseOk(Object response) throws MXException
```

The `responseOk()` method is called after a successful EJB invocation.

```
public void responseError(Exception e) throws MXException
```

The `responseError()` method is called with the originating exception as a parameter if an error is encountered during EJB invocation.

Examples

If your EJB has a business method with a byte array and a string, your implementation of `getClassParams()` will look like the following:

```
Class[] classParams = {byte[].class, String.class};
return classParams;
```

If your EJB has a business method with a byte array and a string, your implementation of `getObjectParams()` would look like the following:

```
byte[] data;
String ifaceType;

Object[] objParams = {data,ifaceType};
return objParams;
```

To identify the location of the package structure for the EJBExit class file, complete one of the following actions:

- ▼ Place the class in the maximo java package structure applications/maximo/businessobjects/classes folder.
- ▼ Modify the mboweb\webmodule\META-INF\MANIFEST.MF classpath to include the package structure.

NOTE Rebuild the Maximo EAR file and include this file in it. For more information about the EJBEXIT property, see Chapter 15, "Customization with User Exits," on page 15-1.

JNDINAME Property

This required property specifies the name by which the EJB is registered in the application server's Java Naming and Directory Interface (JNDI) tree.

JNDINAME Property Values

Server		Value
BEA WebLogic	weblogic-ejb-jar.xml	<weblogic-enterprise-bean> <ejb-name>syncMaximoDataEJB</ejb-name> <jndi-name>syncMaximoDataService</jndi-name> </weblogic-enterprise-bean>
IBM WebSphere	ibm-ejb-jar-bnd.xml	<ejbBindings xmi:id="Session_syncMaximoDataEJB_Bnd" jndiName="syncMaximoDataService"> <enterpriseBean xmi:type="com.ibm.etools.ejb:Session" href="META-INF/ejb-jar.xml#Session_syncMaximoDataEJB"/> </ejbBindings>

METHODNAME Property

This required property specifies the public business method exposed by the EJB that is invoked through this handler.

PROVIDERURL Property This required property specifies the URL that provides access to the EJB component.

PROVIDERURL Property Values

Server	Value
BEA WebLogic	t3://<hostname>:<port>
IBM WebSphere	corbaloc:iiop:<hostname>:<iiopport>

**USERNAME and
PASSWORD Properties**

If access to the EJB requires a user name and password, these properties specify those values. The user name must match the value configured during the definition of Users and Groups in the application server.

For more information about EJB security, refer to the documentation for your application server.

FLATFILE Handler

The FLATFILE handler converts outbound data from the queue into a flat file and writes it to a directory whose location is configurable. Flat files contain ASCII data in the form of rows and columns. Each line of text constitutes one row, and a separator separates each column in the row.

The FLATFILE handler encodes outbound flat files in the standard UTF-8 format; and the Data Import mechanism assumes that inbound flat files are encoded in UTF-8 format.

NOTE The FLATFILE handler can be used only with external systems that use an internal type adapter.

Flat File Naming Convention

File names have the following format:

externalsystemname_interface_name_uniqueidentifier.DAT

where

- ▼ *externalsystemname* is the identifier of the Maximo system (the value of MAXVARS.MXSYSID)
- ▼ *interface_name* is the name of the interface
- ▼ *uniqueidentifier* is a number based on current system time.

Example

The file name MX_MXASSETInterface_10971102668641498.dat indicates the following:

- ▼ The file was generated from a Maximo system with MXSYSID = "MX"
- ▼ The file contains the MXASSETInterface interface

The first two lines of the file contain header information. The first line has the following format:

```
<externalsystemname><separator><interface name>[separator]
[action]
```

The second line of the file contains the names of the columns, separated by the separator character. The column names are the same as those in the corresponding interface table.

Flat File Formatting

If the data within the flat file contains the flat file delimiter character, the data will be wrapped in the text qualifier, which is " (double quote). If the data contains a double quote, the handler escapes the double quote.

NOTE You cannot use a double quote as the delimiter character.

Example

The following data uses a comma (,) as a delimiter. The INVOICEDESC value (Rotating Custom Item, No 71) contains a comma. When the flat file is written, the INVOICEDESC value will be wrapped in double quotes.

```
EXTSYS1,MXINVOICEInterface,Add
INVOICENUM, INVOICEDESC, PONUM, VENDOR, CONTACT, PAYMENTTERMS
1071,"Rotating Custom Item, No 71",1000,A0001,,
```

Example

The following data uses a comma (,) as a delimiter. The INVOICEDESC value (Rotating "Custom" Item No 71) contains double quotes. When the flat file is written, the double quote in INVOICEDESC data is escaped with another double quote and the entire string is wrapped in double quotes.

```
EXTSYS1,MXINVOICEInterface,Add
INVOICENUM, INVOICEDESC, PONUM, VENDOR, CONTACT, PAYMENTTERMS
1071,"Rotating ""Custom"" Item No 71",1000,A0001,,
```

Example

The following data uses a comma (,) as a delimiter. The INVOICEDESC data (Rotating "Custom" Item, No. 71) contains the delimiter character and double quotes. When the flat file is written, the INVOICEDESC value will appear as in the following example.

```
EXTSYS1,MXINVOICEInterface,Add
INVOICENUM, INVOICEDESC, PONUM, VENDOR, CONTACT, PAYMENTTERMS
1071,"Rotating ""Custom"" Item, No. 71",1000,A0001,,
```

Flat File Properties

This handler has the following properties:

FLATFILEDIR Property

This required property specifies the location of the flat file. The location must already exist, on the local machine where the Maximo application server is executing or on a shared network drive.

FLATFILESEP Property This required property specifies the character that separates the columns in each row.

HTTP Handler

The HTTP handler is a Java component that delivers data as an XML document to a URL using HTTP or HTTPS protocols, and evaluates the response code received from the external system.

This handler has the following properties:

HTTPEXIT Property This optional property is used for customization. It specifies the fully qualified name of a Java class that interprets the HTTP response. An external system might require additional code to interpret the HTTP response, and this exit lets users implement the necessary code.

The Java class must be available in the classpath specified for the application server or the Maximo EAR file.

HTTPEXIT Property Values

Property	Value
Java class	PSFTHTTPExit.java
Package	psdi.iface.router
HTTPEXIT Property	psdi.iface.router.PSFTHTTPExit

Maximo provides a default implementation of the HTTP exit. The Java class is DefaultHTTPExit, which is in the psdi.iface.router package and implements the psdi.iface.router.HTTPExit interface. The key method within this class is the processResponseData() method, which has the following signature:

```
public void processResponseData(int responseCode, String responseMsg, byte[] msgBodyData) throws MXException
```

The default implementation compares the response code from the external system to a range of valid codes (values 200 through 299). If the response code falls outside that range, Maximo assumes the transaction was not delivered to the external system. An exception is raised and the message remains in the queue.

If you require additional processing for a specific implementation, extend the default implementation and override the processResponseData () method. As an alternative, you can implement the psdi.iface.router.HTTPExit interface yourself. The overriding method must raise an exception if the response received from the external system does not pass the validation in this class.

If you leave this property empty, Maximo executes the default implementation of HTTPExit.

For more information about the HTTPEXIT property, see Chapter 15, "Customization with User Exits," on page 15-1.

URL Property	This optional property specifies a valid URL to which XML data can be posted. It is expected that a response will be generated whenever an HTTP POST is performed upon this URL.
USERNAME and PASSWORD Properties	If the URL requests basic authorization, these properties specify the required values. Maximo encodes both values and passes them to the URL. For more information about basic authorization for HTTP, refer to the documentation for your HTTP server.

IFACETABLE Handler

The IFACETABLE handler writes data from an outbound queue to an interface table in a local or remote database. There are no Java exits for this handler.

NOTE The IFACETABLE handler can be used only with external systems that use an internal type adapter.

This handler has the following properties:

ISREMOTE Property	This required property specifies if interface tables are available in the local Maximo database in the Maximo schema or in a different schema. Its value can be 0 (zero) or 1. A value of 0 (false) indicates the interface tables are available in the local Maximo database in the Maximo schema. You do not have to enter any other handler properties. For the predefined MAXIFACETABLE handler, the value of this property is 0. A value of 1 (true) indicates the interface tables are in a remote database. If so, you must specify values for all the handler properties.
DRIVER Property	This property specifies the JDBC driver to be used to connect to a remote database containing the interface tables. This property applies only when the value of ISREMOTE is 1.
URL Property	This property specifies the JDBC URL that indicates the location, port number, and database name. This property applies only when the value of ISREMOTE is 1. Example <pre>jdbc:oracle:thin:@localhost:1521:ML2</pre>
USERNAME and PASSWORD Properties	If access to the database instance requires a user name and password, these properties specify those values. These properties apply only when the value of ISREMOTE is 1.

JMS Handler

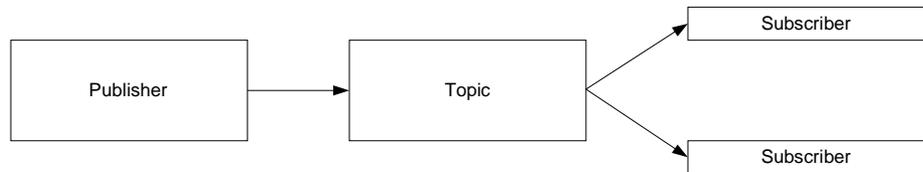
The JMS handler is a Java component that delivers XML data into a messaging system that has been enabled through Java Messaging Service (JMS).

Depending upon the messaging model you implement, messages are placed in a virtual channel called a queue or topic. In the point-to-point messaging model, messages are generated by a sender and placed in a queue. Only one receiver can obtain the message from the queue. In the publish-subscribe messaging model, messages are generated by a publisher and placed in a topic. Multiple subscribers can retrieve the message from the topic.

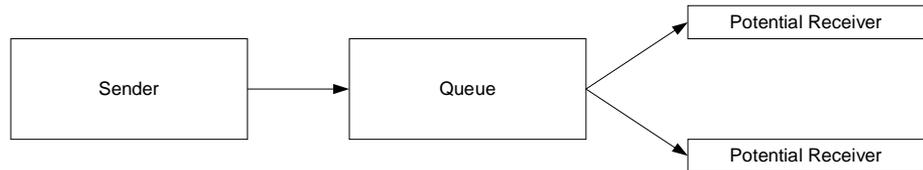
The following diagram illustrates these two messaging models.

Publish-Subscribe and Point-to-Point Messaging Models

Publish-Subscribe (One to Many)



Point-to-Point (One to One)



The messaging system discussed in this section represents a queue or topic available in the local application server, a remote application server, or a remote dedicated queuing system such as IBM MQ Series. To use this handler, all such messaging systems must be enabled through JMS.

For more information, refer to the documentation for the application server.

NOTE The messaging system discussed in this section is distinct from the standard internal queues used by Maximo. The standard internal queues reside in the local application server where Maximo is executing.

This handler has the following properties:

CONFACTORYJNDINAME Property

This required property specifies a Java object that is used to manufacture connections to a Java Message Server provider. Before directly connecting to a queue or topic, Maximo must first obtain a reference to a queue or topic connection factory.

Application servers usually provide a default connection factory. However, implementing your own connection factory lets you tune the resource attributes and properties to suit your implementation. In this case, use the following value for this property:

```
jms/mro/int/qcf/intqcf
```

DESTINATIONTYPE Property

This required property specifies the JMS entity (queue or topic) to which the message will be delivered.

DESTINATIONTYPE Property Values

Destination	Value
Topic	javax.jms.Topic
Queue	javax.jms.Queue

DESTJNDINAME Property

This required property specifies the name by which the JMS queue/topic is registered in the application server's Java Naming and Directory Interface (JNDI) tree.

CONTEXTFACTORY Property

This required property specifies a J2EE context. Refer to the documentation for your application server for the name of the default context factory.

CONTEXTFACTORY Property Values

Server	Value
BEA WebLogic	weblogic.jndi.WLInitialContextFactory
IBM WebSphere	com.ibm.websphere.naming.WsnInitialContextFactory

ISCOMPRESS Property

This required property specifies whether the message will be compressed before being placed into a queue or topic. Compression is an optimization technique that delivers smaller messages to a queue or topic.

ISCOMPRESS Property Values

Option	Value
Do not compress data	0
Compress data	1

NOTE Compressed messages must be decompressed after receipt. Decompress the messages by creating the appropriate JMS receiver or subscriber component and placing Java decompression logic within the receiver or subscriber. Use the standard Java Inflater() class that is part of the java.util.zip package. The Maximo-provided compression uses the standard Java Deflator() class.

JMSEXIT Property This optional property is used for customization. It specifies the fully qualified name of a Java class that extends the JMSExit interface. The Java class must implement the getMessageProperties() method that is defined in the JMSExit interface.

This option lets you change or add header information in the JMS message. If this property does not contain a value, the header attributes for the message are not changed when the message is delivered to the external queue or topic.

For more information about the JMSEXIT property, see Chapter 15, "Customization with User Exits," on page 15-1.

PROVIDERURL Property This required property specifies a local or remote URL where the JMS component can be accessed. It can be local or remote.

PROVIDERURL Property Values

Server	Value
BEA WebLogic	t3://<hostname>:<port>
IBM WebSphere	corbaloc:iiop:<hostname>:<iiopport>

USERNAME and PASSWORD Properties If the application server controls access to the JMS resource, these properties specify the user name and password needed to connect to the resource. The user name must match the value configured during the definition of Users and Groups in the application server.

For more information, refer to the documentation for your application server.

WEBSERVICE Handler

The WEBSERVICE handler is a Java component that invokes a specified Web service with Maximo data as a SOAP request parameter. This handler is a Dynamic Invocation Interface (DII) using the JAX-RPC API. It supports a document-literal type Web service.

This handler has the following properties:

ENDPOINTURL Property This required property specifies a valid Web service URL on which to invoke the document-literal style Web service. You can use the WSEXIT class to override the end point URL just before the Web service is invoked.

ONEWAYWS Property This optional property specifies whether the Web service is one-way. Valid values are 0 (false) and 1 (true). If you do not provide a value, Maximo uses the default value 0 (false). You can use the WSEXIT class to override the value specified in the user interface just before the Web service is invoked.

SERVICENAME Property This optional property specifies the name of the Web service deployed in the URL. If you do not provide a value, Maximo uses the interface name in the XML. You can use the WSEXIT class to override the service name just before the Web service is invoked.

SOAPACTION Property	This optional property specifies the value of SOAPAction HTTP header to be used while invoking the Web service. If you do not provide a value, Maximo uses the default value "" (empty string). You can use the WSEXIT class to override the value specified in the user interface just before the Web service is invoked.
TARGETNAMESPACE Property	This required property specifies the namespace of the Web service.
USERNAME and PASSWORD Properties	If the specified Web service is secured (that is, if HTTP basic authentication is enabled), specify a user name and password. Maximo encodes the password.
WSEXIT Property	This optional property is used for customization. It specifies the fully qualified name of a custom Java class that implements the <code>psdi.iface.router.WSExit</code> interface. This interface defines the following methods:

```
public String getServiceName(Map metaData, String endpointURL,
String serviceName, String interfaceName, String
targetNameSpace) throws MXException
```

The `getServiceName()` method returns the service name of the Web service to be invoked.

```
public String getEndpointURL(Map metaData, String endpointURL,
String serviceName, String interfaceName, String
targetNameSpace) throws MXException
```

The `getEndpointURL()` method returns the end point URL of the Web service to be invoked.

```
public void responseOk(org.w3c.dom.Document response) throws
MXException
```

The `responseOk()` method is called after a successful invocation of the external Web service.

```
public void responseError(Exception e) throws MXException
```

The `responseError()` method is called with the originating exception as a parameter if an error was encountered during the Web service invocation.

```
public boolean getOneWayWsInfo(Map metaData, String endpointURL,
String serviceName, String interfaceName, String
targetNameSpace, boolean oneWayWs) throws MXException
```

The `getOneWayWsInfo()` method returns a Boolean value that specifies whether the Web service being invoked is one-way.

```
public String getSoapAction(Map metaData, String endpointURL,
String serviceName, String interfaceName, String
targetNameSpace, String soapAction) throws MXException
```

The `getSoapAction()` method returns the SOAPAction HTTP header to be used while invoking the Web service.

These methods can be used to override the default Service name and endpoint URL, and to handle the response and error after the Web service invocation.

There is a default implementation of the WSExit interface, `psdi.iface.router.DefaultWSExit`. This class overrides the `getEndpointURL()` method to concatenate the servicename at the end of endpoint URL, to form the new endpoint URL.

NOTE Use this class name in the WSEXIT property if you communicate with a remote MAXIMO system via Web services.

XMLFILE Handler

The XMLFILE handler is a Java component that converts data in the outbound queue into an XML file format, then delivers it to the `xmlfiles` directory within the global directory. You define the global directory in the Integration Administration Setup dialog box in the External Systems application.

This handler does not include any properties.

File names have the following format:

externalsystemname_interface_name_uniqueidentifier.xml

where

- ▼ *externalsystemname* is the identifier of the Maximo system (the value of `MAXVARS.MXSYSID`).
- ▼ *interface_name* is the name of the interface.
- ▼ *uniqueidentifier* is a number based on current system time.

Example

The file name `MX_MXASSETInterface_10971102668641398.xml` indicates the following:

- ▼ The file was generated from a Maximo system where `MXSYSID = "MX"`.
- ▼ The file contains the `MXASSETInterface` interface.

Writing Custom Handlers

To write a custom handler, you must implement the `RouterHandler` interface. That interface has two methods:

```
getParameter()
```

This method returns a list of properties needed for the handler to send data to the desired end point.

- ▼ The `RouterPropsInfo` object represents a property. This method can return a list of `RouterPropsInfo` objects.
- ▼ The `isCrypto` attribute in the `RouterPropsInfo` objects indicates whether to encrypt the property value while storing. For password properties, the value of this attribute generally is `True`.

```
sendData(Map metaData, byte[] data, Map destinationMap)
```

This method sends data to the specified end point.

- ▼ `metaData` provides information about the external system and the interface
- ▼ `data` is the XML data
- ▼ `destinationMap` specifies the end point

You must define the handler and associate it with an end point, in the External Systems application. During this process Maximo introspects the handler class and displays the properties for which you must specify values.

Example

For an example of a handler, see `FTPHandler.java` in the `psdi.iface.samples` directory.

Advanced Interface Table Polling

10

Maximo provides the option of using interface tables to exchange data with external systems. This chapter discusses how to perform advanced configuration of the interface table polling process to improve its performance reading data from interface tables. This chapter is addressed to the system administrator managing Maximo Integration activities.

NOTE Taking steps to improve interface table polling performances is necessary only if you send inbound transactions through the continuous JMS queue and do not require transactions to be maintained in FIFO sequence.

As a prerequisite, read Chapter 5, "Interface Tables," on page 5-1.

This chapter contains the following sections:

- ▼ Cron Tasks
- ▼ Selectors
- ▼ Queue Tables

Unless otherwise indicated, the configuration activities in this section are performed in the Cron Task Setup application in the Maximo Configuration module.

Cron Tasks

The interface table polling process uses a single default cron task called IFACETABLECONSUMER. This cron task reads all transactions from all interface tables for all external systems that write to the tables.

For improved single-server and multi-server performance, you can configure multithreaded interface table polling by defining multiple instances of this task with different property values. Multithreaded polling is particularly useful when running in a clustered configuration, as different threads can run on different servers, thereby balancing the load.

Example

To designate an instance of the cron task to run on a specific Maximo application server, perform the following actions. Assume the name of the cron task instances is *instance1*:

- ▼ In the Cron Task Setup application, set the TARGETENABLED property to 1
- ▼ In the Maximo application *server1* setup, set `-DIFACETBCONSUMER.instance1=1`

For more information about cron tasks, refer to the Maximo Enterprise Suite *System Administrator's Guide* and the online help for the Cron Task Setup application.

CAUTION When implementing multiple cron tasks, you also must implement mutually exclusive selectors to avoid processing a transaction more than once.

Selectors

A selector lets you add a *where* clause to a cron task. If you define multiple instances of the cron task, you must define selectors, so each instance reads mutually exclusive interface table rows. For example, if Maximo exchanges data with two external systems, the first thread might poll one system and the second thread might poll the second system.

You define selectors by assigning values to the EXTSYSNAME (external system) and INTERFACENAME (interface) parameters in the Cron Task Setup application. You can add an *IN* clause to a selector by entering a pipe delimited set of values.

Examples

To direct a cron task to select only purchase order records for system EXTSYS1 from the queue tables, perform the following actions:

- ▼ Set INTERFACENAME=MXPOInterface
- ▼ Set EXTSYSNAME=EXTSYS1

To list multiple interface names in the INTERFACENAME property, perform the following action:

- ▼ Set INTERFACENAME=MXPOInterface | MXPRInterface | ...

CAUTION When you define multiple instances of the cron task, ensure that:

- ▼ The selectors are mutually exclusive, so transactions are not processed multiple times
- ▼ The selectors retrieve all the interfaces that you use, so no transactions are left unprocessed

Queue Tables

Another approach to improving interface table processing is the implementation of multiple queue tables. The MXIN_INTER_TRANS queue table, which Maximo creates when it creates the interface tables, is the default queue table. The IFACETABLECONSUMER cron task reads the MXIN_INTER_TRANS table and uses it as a driver to find and process the corresponding data in the interface tables.

You can improve performance by setting up multiple queue tables. For example, you can write each interface to a separate queue table and define separate cron tasks to process the queue tables independently of one another; or you can set up separate queue tables for each external system and, within each queue table, define selectors for each interface. Depending upon the complexity of your integration, you can use multiple queue tables instead of multiple selectors or in conjunction with them.

To set up multiple queue tables, you must manually create the queue tables in the same database as the interface tables, and include all the columns that are in the MXIN_INTER_TRANS queue table. You must design the external system to write to the appropriate queue table(s).

CAUTION Ensure that the external system does not insert an interface table transaction into more than one queue table, or the transaction will be processed multiple times.

JMS Queue Configuration

11

Maximo writes transactions to JMS queues after receiving inbound messages from an external system via the integration gateway, interface tables or file loading, and before sending outbound messages to external systems. Outbound transactions remain in the outbound queue until they are successfully sent to an external system or deliberately deleted from the queue via error management processing. Inbound transactions remain in an inbound queue until they are successfully processed in Maximo or deliberately deleted from the queue via error management processing.

The use of JMS queues allows for scalability within a single Maximo application server or across a cluster of application servers. There are three default queues—one outbound sequential queue and two inbound queues, one sequential and one continuous.

This chapter discusses the configuration of JMS queues. It is addressed to the system administrator, and contains the following sections:

- ▼ Sequential Queues
- ▼ Continuous Queue
- ▼ Selectors
- ▼ Queue Utilities
- ▼ Queue Creation
- ▼ Queue Security

For information about error management, see Chapter 7, "Error Management," on page 7-1.

For information about queues in a clustered environment, see Chapter 13, "Cluster Configuration," on page 13-1.

Sequential Queues

The sequential queue is a JMS queue with a Maximo cron task as a consumer. Transactions in sequential queues are processed on a strict FIFO (first in first out) basis, ensuring that transactions are processed in the order they were generated/received. When a transaction results in an error, Maximo generates an error file and does not process subsequent transactions in the queue until the error is cleared.

A predefined cron task, JMSQSEQCONSUMER, polls the queues. There are two instances of the task, one that polls the inbound queue and one that polls the outbound queue. The cron task has the following configurable parameters.

Cron Task Parameters

Parameter	Description
MESSAGEPROCESSOR	Java class that processes the transactions from the queue. Maximo provides this class.
QUEUENAME	Queue JNDI name, as defined during the creation of the queue on the application server. Maximo provides a default name.
SELECTOR	Optional <i>where</i> clause for configuring an instance of the cron task to process a subset of transactions in the queue.
TARGETENABLED	Optional Boolean flag that controls whether the cron task runs in a specific Maximo application server. The default is 0 (false).

Continuous Queue

The continuous queue is a JMS queue with a message driven bean (MDB) as a consumer.

By default, this queue is configured for inbound interfaces only. It does not process transactions in FIFO sequence, as the sequential inbound queue does, but in a multi-threaded mode that allows for better performance. When a transaction results in an error, Maximo generates an error file, then continues processing subsequent messages in the queue.

You can configure the following properties of the continuous queue:

- ▼ Number of beans
- ▼ Caching of messages
- ▼ Redelivery delay

Considerations

You can improve performance by increasing the number of MDBs for a particular queue and/or introducing additional application servers via a cluster. However, since transactions are processed in a multi-threaded mode, errors may occur due to the random order of processing.

The following examples describe errors that can occur. In both scenarios, the integration error management processing might successfully reprocess the error before the system administrator is able to review it.

Example

You are batch loading a large volume of item and inventory transactions via the continuous queue, and multiple inventory records exist for the same item number. If an inventory transaction for Item A is processed before the item transaction that adds Item A to Maximo, the inventory transaction will error out because Item A does not exist. Processing will continue with the next transaction. Eventually the item transaction for Item A will be processed and Item A will be added to Maximo. Maximo can then successfully reprocess the inventory transaction that errored out earlier. In this case, the error corrected itself, without manual intervention.

This type of scenario can occur when you load related transactions via the continuous queue at the same time. It is more likely to happen when the volume of transactions is high, but can occur whenever two transactions process related data concurrently.

Example

Two transactions try to update the same Maximo record at the same time. One will succeed and the other will fail. However, Maximo's error management processing should be able to successfully process the second transaction after the first update has been completed.

Number of Beans

You should understand how your application server manages MDBs, before you configure the number of beans yourself. Server-specific extensions control the maximum number of beans that can be created. By default, the server is configured to control the number of beans based on transaction volume.

The following example shows how to set the number of beans. For more information, refer to the documentation for your application server.

Entry to Set Number of Beans

Server	Deployment Descriptor File	Sample Entry
BEA WebLogic	weblogic-ejb-jar.xml	<pre><pool> <max-beans-in-free-pool>1</max-beans-in-free-pool> <initial-beans-in-free-pool>0</initial-beans-in-free-pool> </pool></pre>
IBM WebSphere		From the IBM WebSphere Administrative Console, choose Default messaging provider > JMS activation specification > meajmsact > Maximum concurrent endpoints

Caching of Messages

Continuous queue processing uses a parameter called the pipeline size, which controls the number of messages the server will cache per instance of the MDB. The default value of the parameter is -1, which allows the server to manage the pipeline size. The value is not configurable in this release.

Redelivery Delay

Redelivery delay is the time that elapses between a message erroring out and being reprocessed by the queue. The message is not visible in the queue for the period of time specified for redelivery delay. This delay improves performance by processing other messages instead of immediately processing the error message. The default delay is 30 seconds.

Since the same connection factory is used for both the sequential and continuous queues, set the redelivery delay value in the destination (queue) level configuration rather than the connection factory level configuration, so as not to affect the sequential consumer.

Selectors

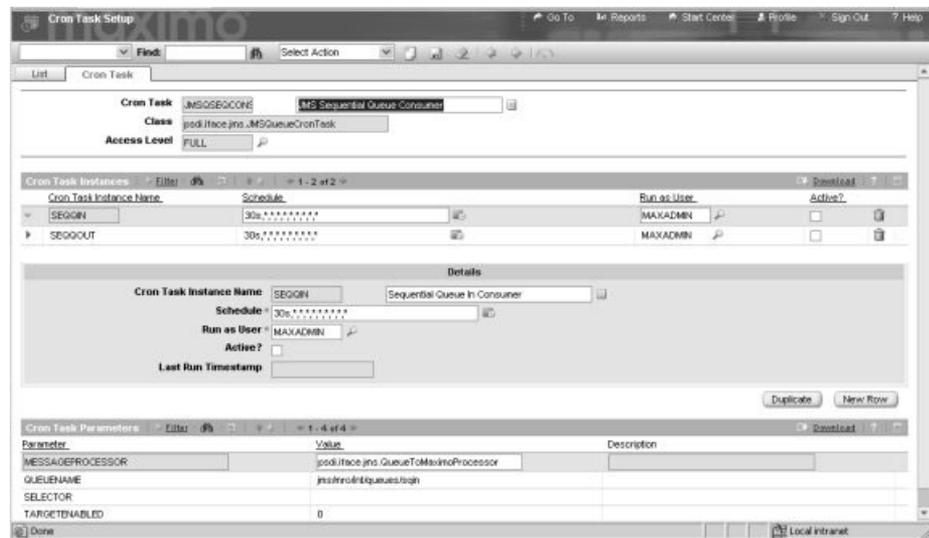
Selectors act as *where* clauses in the JMS queue consumer. They can be applied to header and message properties of a JMS message, in both the continuous and sequential queues.

You specify selectors in the following ways.

Selector Specification

Type of Queue	Where to Identify Selector
Sequential queue	As a property of the cron task
Continuous queue	In the ejb-jar.xml of the MDB

Cron Task Tab with SELECTOR Property



Applying selectors virtually splits a queue into smaller queues, each of which contains a subset of data that is being consumed by a separate cron task. An error in one subset of the data does not stop processing in the others.

While selectors provide flexibility in separating the processing of transactions, they impair the performance of polling processing. Depending on the volume of transactions, you might prefer to implement multiple queues rather than one queue with multiple selectors. The former option generally results in better performance.

Example

Adding the following statement to the SELECTOR property of the SEQQIN instance of the JMSQSEQCONSUMER will cause the cron task to process the MXPOInterface and MXPRInterface transactions from the corresponding external system:

```
SENDER='EXTSYS1' and INTERFACE in  
(`MXPOInterface`, `MXPRInterface`)
```

Example

If two external systems send data to an inbound sequential queue, an error in any record will cause Maximo to stop processing all transactions in that queue, to maintain FIFO order. Creating multiple instances of a cron task, each with a selector that processes a different external system, can prevent an error in one system from stopping transactions from the second system.

CAUTION Ensure that the *where* clauses in selectors identify mutually exclusive sets of transactions, but include all the transactions being inserted into the queues.

Queue Utilities

The application servers let users see the properties and number of messages in a queue, but not the content of the messages. Maximo provides the following utilities for viewing and deleting messages in the queues.

Queue Utility Files

Purpose	File
View messages	viewqueue.bat and viewqueue.sh
Delete messages	deletequeue.bat and deletequeue.sh

The viewqueue utility places the data in the view folder under the integration global directory.

CAUTION Use the deletequeue utility only in a test or development environment. The queue error management processing provides a mechanism for deleting individual messages from production queues.

The utilities require the following properties.

Queue Utility Properties

Property	Description	Required/ Optional
-Dqueuname	Queue JNDI name	Required
-Dserviceurl	RMI URL of Maximo application server	Required
-Dusername	J2EE user (if queue is secured)	Optional
-Dpassword	J2EE user password (if queue is secured)	Optional
-Dselector	As described above	Optional
-Dcount	The number of messages to be viewed or deleted; an asterisk means all messages (based on selector)	Optional

Queue Creation

Users can create additional queues if necessary. To do so, complete the following actions:

- 1 Create the queue on the application server.

For more information, see Appendix D, "Creating the JMS Queues," on page D-1.

- 2 To configure the queue, use the **Add/Modify Queues** option on the Select Action menu in the External Systems application.

Define a queue that uses MDBs as a continuous queue, and a queue that does not use MDBs as a sequential queue.

- 3 If you create a sequential queue, perform one of the following actions:

- ▼ Create an instance of the JMSQSEQCONSUMER cron task to process transactions from this queue.

For more information, refer to the online help for the Cron Task Setup application.

- ▼ Implement a custom consumer.

- 4 To assign the queue to an external system, use the System tab in the External Systems application.

Queue Security

For information about securing the JMS queues, see Chapter 12, "Security," on page 12-1.

This chapter highlights the security options provided for the multiple entry and exit points through which integration transactions can be processed in Maximo. Users can enable security as needed, based on their implementation.

This chapter is directed to the system administrator. It contains the following sections:

- ▼ Securing Integration Queues
- ▼ Securing the Integration Gateway
- ▼ Securing the Gateway Web Service
- ▼ Securing the Servlet (HTTP)
- ▼ Securing Maximo Web Services
- ▼ Securing the Remote Integration APIs (MicService)
- ▼ Securing Interface Tables
- ▼ Outbound Security

Securing Integration Queues

The JMS queues used by integration processing in Maximo support basic J2EE security (user id and password based authentication and authorization).

Assigning a user ID and password prevents unauthorized outside access to the queues, even if the JNDI name of the queue is known. Multiple queues can use the same or different user IDs.

You can set these J2EE restrictions via the server's administrative console. To allow the Maximo Integration producer and consumer programs to access the queue, you must enter the same user ID and password in the Add/Modify Queues dialog box in the External Systems application. You access this dialog via the Select Action menu.

For the continuous queue, update the MDB (the consumer of the continuous queue) deployment descriptors as follows, to access a secured queue.

- 1 Under the `<enterprise-beans>` section in the `ejb-jar.xml` file, add the elements shown below in bold text:

```
<enterprise-beans>
  <message-driven id="MessageDriven_JMSContQueueProcessor_1">
    <ejb-name>JMSContQueueProcessor-1</ejb-name>
    <ejb-class>psdi.iface.jms.JMSContQueueProcessor</ejb-class>
    <transaction-type>Container</transaction-type>
    <message-driven-destination>
      <destination-type>javax.jms.Queue</destination-type>
    </message-driven-destination>
    <env-entry>
      <env-entry-name>MESSAGEPROCESSOR</env-entry-name>
      <env-entry-type>java.lang.String </env-entry-type>
      <env-entry-value>psdi.iface.jms.QueueToMaximoProcessor</env-
entry-value>
    </env-entry>
    <b>security-identity</b>
      <run-as>
        <role-name>integrationuser</role-name>
      </run-as>
    </security-identity>
  </message-driven>
</enterprise-beans>
```

- 2 Under the `<assembly-descriptor>` section in the `ejb-jar.xml` file, add the elements shown below in bold text:

```
<assembly-descriptor>
  <b>security-role</b>
    <role-name>integrationuser</role-name>
  </security-role>
  <container-transaction>
    <method>
      <ejb-name>JMSContQueueProcessor-1</ejb-name>
      <method-name>*</method-name>
    </method>
    <trans-attribute>Required</trans-attribute>
  </container-transaction>
</assembly-descriptor>
```

- 3 Under the `<weblogic-enterprise-bean>` tag in the `weblogic-ejb-jar.xml` (server specific) file, add the elements shown below:

```
<security-role-assignment>  
  <role-name>integrationuser</role-name>  
  <principal-name>secured_user</principal-name>  
</security-role-assignment>
```

secured_user is the user ID assigned to the queue in the application server and to the continuous queue in the Add/Modify Queues dialog box.

Considerations

Refer to the IBM WebSphere Administrative documentation for information on how to configure a WebSphere-specific security setup.

J2EE supports multiple principals acting on the same queue but having different access control, but this is not currently supported for integration processing.

Confidentiality

No data encryption is needed, as the queues are internal to the system.

Securing the Integration Gateway

The integration gateway implements an EJB as the entry point for receiving data from an external system. Being a J2EE core component, an EJB supports the basic J2EE security. Each remote method access in the EJB can be controlled using different principles.

- 1 Under the `<enterprise-beans>` section of the `ejb-jar.xml` file in the `mboejb` module, add the elements shown below in bold text:

NOTE This example shows security using a single principal only.

```
<enterprise-beans>
  <session id="Session_syncMaximoDataEJB">
    <ejb-name>syncMaximoDataEJB</ejb-name>
    <home>psdi.iface.gateway.MEAGatewayHome</home>
    <remote>psdi.iface.gateway.MEAGateway</remote>
    <ejb-class>psdi.iface.gateway.MEAGatewayBean</ejb-class>
    <session-type>Stateless</session-type>
    <transaction-type>Container</transaction-type>
  </session>
  <b>security-role-ref</b>
    <description> User access to MEA Gateway </description>
    <role-name>integrationuser</role-name>
    <role-link> integrationuser </role-link>
  </security-role-ref>
  .
  .
  .
</enterprise-beans>
```

- 2 Under the `<assembly-descriptor>` section in the `ejb-jar.xml` file, add the elements shown below in bold text:

```
<assembly-descriptor>
  <b>security-role</b>
    <description> User access to MEA Gateway</description>
    <role-name> integrationuser </role-name>
  </security-role>
  .
  .
  .
  <b>method-permission</b>
    <description>Gateway permissions</description>
    <role-name> integrationuser </role-name>
    <method>
      <ejb-name>syncMaximoDataEJB</ejb-name>
      <method-name>processExternalData</method-name>
    </method>
  </method-permission>
  .
  .
  .
</assembly-descriptor>
```

NOTE To define more fine-grained access control, you can include multiple method permission tags.

- 3 Under the `<weblogic-enterprise-bean>` tag in the `weblogic-ejb-jar.xml` (server specific) file, add the elements shown below in bold text:

```
<security-role-assignment>
  <role-name>integrationuser</role-name>
  <principal-name>secured_user</principal-name>
</security-role-assignment>
```

Secured_user is the user ID assigned to the EJB on the application server.

NOTE Refer to the IBM WebSphere Administrative documentation for information on how to configure a WebSphere-specific security setup.

- 4 To create a secure context for invoking the EJB, perform one of the following procedures:

- ▼ Add the following sample code to the client code:

```
Properties env = new Properties();
.
.
.
if(userid != null && password != null)
{
env.put(Context.SECURITY_CREDENTIALS, password);
env.put(Context.SECURITY_PRINCIPAL, userid);
}

Context ctx = new InitialContext(env);
//instead of using the default InitialContext() constructor
```

- ▼ Use the default `InitialContext` constructor and pass the security information via the `-D` parameters in the `.bat/.sh` script that launches the client.

```
-Djava.naming.security.principal=<username>
-Djava.naming.security.credentials=<password>
```

Confidentiality

Data encryption can be done using the SSL version of iiop protocol (in the provider URL) while communicating with the EJB. For more information, refer to the documentation for your application server.

Securing the Gateway Web Service

The gateway Web service sits on top of the gateway EJB and inherits all the security features of the gateway EJB. The user ID- and password-based basic authentication for the EJB also applies to the Web service.

The calling client code must pass the secure SOAP context while invoking the Web service. For Web service invocation, ensure that the client program uses the user name and password in the JAX-RPC Call object, as shown below:

```
call.setProperty(Call.USERNAME_PROPERTY, <username>);  
call.setProperty(Call.PASSWORD_PROPERTY, <password>);
```

Username and *password* are the EJB principal/credentials used for the method level permissions.

Confidentiality

Data encryption can be done by using SSL (HTTPS) to invoke the Web service. Set up SSL in the server, following the server documentation. Modify the URL for the invocation as shown below in bold text:

```
https://<host>:<port>/meaweb/services/  
syncMaximoDataService?wsdl
```

For more information, see Chapter 8, "Integration Gateway," on page 8-1.

Securing the Servlet (HTTP)

Inbound HTTP posts to Maximo Integration are handled by a servlet, which is a J2EE component and follows the J2EE security principles.

HTTP basic authentication can be used to secure the servlet provided with Maximo and allow only authorized users with a valid user name and password to post an XML transaction to Maximo. To enable HTTP basic authentication, modify the `web.xml` and `weblogic.xml` files of the MEA Web Application in the following way:

- 1 Remove the comments from the `<security-constraint>` section of the integration servlet, as shown below:

```
<web-app>
  <display-name>MEA Web Application</display-name>
  .
  .
  .
  <security-constraint>
    <web-resource-collection>
      <web-resource-name>Integration Servlet (HTTP POST)</web-
resource-name>
      <description>Integration Servlet (HTTP POST) accessible by
authorized users</description>
      <url-pattern>/measervlet/*</url-pattern>
      <http-method>GET</http-method>
      <http-method>POST</http-method>
    </web-resource-collection>
    <auth-constraint>
      <description>Roles that have access to Integration Servlet
(HTTP POST)</description>
      <role-name>integrationuser</role-name>
    </auth-constraint>
    <user-data-constraint>
      <description>data transmission guarantee</description>
      <transport-guarantee>NONE</transport-guarantee>
    </user-data-constraint>
  </security-constraint>
```

NOTE The preceding `<security-constraint>` section refers to a single role, *integrationuser*, which is defined farther down in `web.xml` file, as shown below. By default, this section is not commented out.

```
<security-role>
  <description>An Integration User</description>
  <role-name>integrationuser</role-name>
</security-role>
```

- 2 In the `weblogic.xml` file, add the following element. This file contains a mapping of role names to principals.

```
<weblogic-web-app>
  <security-role-assignment>
    <role-name>integrationuser</role-name>
    <principal-name>integrationusers</principal-name>
  </security-role-assignment>
  .
  .
  .
</weblogic-web-app>
```

NOTE Refer to the IBM WebSphere Administrative documentation for information on how to configure a WebSphere-specific security setup.

- 3 Change the principal name to match the principal name (user ID) on the application server.

By default, the *integrationuser* role is mapped to a single principal name (user ID) called *integrationusers*. If needed, you can define additional mappings of roles to principal names here.

Confidentiality

Data encryption can be done by using SSL (HTTPS) to post the XML transaction. Set up the SSL in the application server, with the appropriate digital certificates. For information about this setup, refer to the application server documentation.

Modify the URL for posting the transaction as shown below in bold:

`https://<host>:<port>/meaweb/measervlet/ADAPTER`

Securing Maximo Web Services

The object-based Web services can be secured by using HTTP basic authentication via standard J2EE security. This allows only authorized users with a valid user name and password to access Maximo Web services. To enable HTTP basic authentication, you must modify the web.xml and weblogic.xml files of the MEA Web Application.

NOTE Refer to the IBM WebSphere Administrative documentation for information on how to configure a WebSphere-specific security setup.

As part of Web service deployment, XML schema and WSDL files are generated on the server. These are accessible via HTTP using a servlet. Thus, there are two parts to securing the interface-based Web services:

- ▼ Restricting access to Web service resources such as schemas and WSDL files
- ▼ Restricting Web service invocation (transaction)

The web.xml file of the MEA Web application contains two <security-constraint> sections, one for Web service invocation, the other for Web service resources. By default, both sections are commented out. Each can be secured independently of each other.

- 1 Remove the comments from one or both <security-constraint> sections of the integration servlet, as shown below in bold text:

```
<web-app>
  <display-name>MEA Web Application</display-name>
  .
  .
  .
  <security-constraint>
    <web-resource-collection>
      <web-resource-name>Integration Web Services</web-resource-
name>
      <description>Integration Web Services accessible by
authorized users</description>
      <url-pattern>/services/*</url-pattern>
      <http-method>GET</http-method>
      <http-method>POST</http-method>
    </web-resource-collection>
    <auth-constraint>
      <description>Roles that have access to Integration Web
Services</description>
      <role-name>integrationuser</role-name>
    </auth-constraint>
    <user-data-constraint>
      <description>data transmission guarantee</description>
      <transport-guarantee>NONE</transport-guarantee>
    </user-data-constraint>
  </security-constraint>

  <security-constraint>
    <web-resource-collection>
      <web-resource-name>Integration Web Service Resources (XML
Schemas, WSDL)</web-resource-name>
      <description>Integration Web Service resources (XML Schemas,
WSDL) accessible by authorized users</description>
```

```

    <url-pattern>/wsdl/*</url-pattern>
    <url-pattern>/schema/*</url-pattern>
    <http-method>GET</http-method>
    <http-method>POST</http-method>
  </web-resource-collection>
  <auth-constraint>
    <description>Roles that have access to Integration Web Service
Resources (XML Schemas, WSDL)</description>
    <role-name>integrationuser</role-name>
  </auth-constraint>
  <user-data-constraint>
    <description>data transmission guarantee</description>
    <transport-guarantee>NONE</transport-guarantee>
  </user-data-constraint>
</security-constraint>

```

- 2 The preceding `<security-constraint>` elements refer to a single `<role-name>`, *integrationuser*. Add *integrationuser* to the `web.xml` file, as shown below in bold text:

```

<b><security-role></b>
  <description>An Integration User</description>
  <role-name>integrationuser</role-name>
</security-role>

```

- 3 Add the mapping of role to principal in the `weblogic.xml` file, as shown in below in bold text:

```

<weblogic-web-app>
  <b><security-role-assignment></b>
    <role-name>integrationuser</role-name>
    <principal-name>integrationusers</principal-name>
  </security-role-assignment>
  .
  .
  .
</weblogic-web-app>

```

NOTE Refer to the IBM WebSphere Administrative documentation for information on how to configure a WebSphere-specific security setup.

- 4 Change the principal name to match the principal name (user ID) on the application server. By default, the *integrationuser* role maps to a single principal name (user ID) called *integrationusers*. You can define additional mappings of roles to principal names here, if necessary.
- 5 If the Web services are secured by HTTP authentication, configure the user name and password in the Web Service Administration dialog box. You access this dialog box via the Select Action menu in the Integration Interfaces application. For more information, see Chapter 18, "Maximo Web Services," on page 18-1.
- 6 For Web service invocation, ensure that the client program uses the user name and password in the JAX-RPC Call object, as shown below:

```

call.setProperty(Call.USERNAME_PROPERTY, username);
call.setProperty(Call.PASSWORD_PROPERTY, password);

```

Confidentiality

Maximo Web services can be securely deployed/invoked by using SSL (HTTPS). Set up the SSL in the application server, with the appropriate digital certificates. For more information, refer to the documentation for the application server.

When using SSL, modify the URL for accessing the Web service as shown below in bold:

```
https://<host>:<port>/meaweb/services/InterfaceName
```

Also configure the Integration Web Application URL in the Web Service Administration dialog box in the Integration Interfaces application. This URL is used to deploying and undeploy Web services, and can be done securely.

Securing the Remote Integration APIs (MicService)

Some MicService remote APIs have been given a secure access by forcing the user of those methods to provide the UserInfo object. If a valid UserInfo object is not provided, the method throws an exception and the call is not completed. Only remote methods that provide sensitive information or perform sensitive data transaction processing have been protected. They are:

exportData(..)

deleteQueueData(..)

processDataIn(..)

processExternalData(..) (both versions)

query(..)

viewQueue(..)

To invoke these methods, the caller must get a valid UserInfo object and pass it to the method to be able to get in through the secure layer. A UserInfo object is a serialized object containing user details (user, password, locale, language, and time zone information). It is used by Maximo for security purposes.

Confidentiality

Maximo uses RMI/JRMP. You can communicate to Maximo services via a secure version of JRMP protocol using SSL. For more information, refer to your Java RMI documentation.

Securing Interface Tables

Securing interface tables uses the default database authentication and authorization. If authentication and authorization are in effect, external programs that read or write to the interface tables must provide proper authorization. To read from and write to the interface tables, Maximo uses the USERNAME and PASSWORD values configured for the end point that implements the interface table handler. You configure these properties in the Add/Modify End Point dialog box in the External Systems application.

Outbound Security

The outbound router handlers have support for authorization and confidentiality. The EJB, HTTP, JMS, Web service, and interface table handlers have support for security. For more information, see Chapter 9, "Router," on page 9-1.

Maximo can be implemented within a cluster of application servers, and integration services can run across the cluster. This chapter discusses special considerations regarding Maximo Integration components running in a cluster. It is directed to the system administrator and it contains the following sections:

- ▼ Cron Task Configuration
- ▼ JMS Queues
- ▼ Global Directory
- ▼ Integration Gateway

Cron Task Configuration

The interface table cron task, IFACETABLECONSUMER, and the JMS queue cron task, JMSQSEQCOONSUMER, are designed to be cluster aware. By default the cron task framework runs a task in a randomly chosen server.

To target a specific server within a cluster, perform the following configuration. Assume the name of the cron task instance is *instance1*:

- 1 In the Cron Task Setup application, set the TARGETENABLED property for *instance1* to 1.
- 2 In the Maximo application *server1* setup, set `-D crontaskname.instance1` to 1, and restart the server.

In this configuration, the task is not automatically failed over to another server if the targeted server crashes. To target another server in place of the one that crashed, perform configuration step 2 above, then restart the server that will take over the polling.

To configure a group of servers to support failover, set `-D crontaskname.instance1` to 1 in multiple servers. For more information, see the following chapters:

- ▼ Chapter 5, "Interface Tables," on page 5-1
- ▼ Chapter 11, "JMS Queue Configuration," on page 11-1

NOTE The preceding configuration procedures do not apply to the continuous queue, which deploys an MDB consumer instead of a cron task.

JMS Queues

In the default configuration, the WebLogic and WebSphere JMS queues are pinned to one member of the cluster but are accessible via the JNDI tree replication across all the members on the cluster. WebLogic queue messages are persisted in a file store. Since the queue physically resides in one server, the queue must be transferred to another server in the event of a server crash. To move the queue to another server, complete the following steps:

- 1 Identify the JNDI name of the server to which the queue will be moved.
- 2 Copy the store file to a location in the new server. The folder structure must be the same as that of the original file, as set up during the JMS queue creation on the application server.
- 3 Use the WebLogic Server Administration Console to move the queue from the crashed server to the new server.

NOTE In WebSphere, the server automatically moves the message queue to a different server in the event of a server crash.

The preceding procedure applies to all JMS queues. For more information, refer to the WebLogic and WebSphere documentation regarding queue configuration.

Global Directory

In a cluster environment, the global directory must be accessible to all members of the cluster.

Integration Gateway

This section describes how the following gateway components are implemented within a cluster:

- ▼ EJB
- ▼ Servlet (HTTP)
- ▼ Web service

EJB

With a single server, the provider URL for accessing the JNDI tree is the single server URL. With a cluster, the provider URL is the URL of any one of the servers which has the EJB deployed. All members of the cluster share the JNDI tree, so accessing the JNDI tree of any member accomplishes the lookup. As a result of the lookup, the client will get a cluster aware proxy of the EJB, which will load balance all the subsequent calls using that proxy. This happens transparently to the client code, so there is no difference in the code for a single server and for a cluster setup.

Servlet (HTTP)

The integration servlet is deployed across all members of the server. With a single server, the URL is the HTTP(S) URL of that server. With a cluster, the URL is the HTTP(S) URL of the cluster which for the WebLogic or WebSphere server is the URL of the administrative server. All HTTP(S) calls are load balanced by the administrative server.

Gateway Web Service

The gateway Web service is deployed across all members of the server. With a single server, the WSDL URL HTTP(S) address points to the server's HTTP address. With a cluster the WSDL URL HTTP(S) address and the target namespace point to the cluster URL (the administrative server's URL). All the SOAP/HTTP(S) calls are load balanced by the administrative server.

Maximo Web Services

Maximo Web services are homogeneously deployed across all the server members in the cluster. Web service access for a cluster is the same as for a single server, except that the Web service URL and WSDL URL (optional) point to the cluster rather than to a specific machine in the cluster. All the SOAP/HTTP(S) calls are load balanced by the administrative server.

The following properties in the Web Service Administration dialog box must point to the cluster URL:

- ▼ Integration Web Application URL
- ▼ Integration UDDI Registry Inquiry URL
- ▼ Integration UDDI Registry Publish URL

You access that dialog box via the Select Action menu in the Integration Interfaces application.

Customization with Processing Rules

14

Processing rules let you change the behavior of predefined integration processing without having to write Java classes. Processing rules can access and evaluate values in XML and MBO fields, MBO sets, and interface and system controls; and they can change the values in XML and MBO fields, or stop or skip processing all or part of a transaction.

This chapter is directed to developers and support personnel. It contains the following sections:

- ▼ MBOs and Sub-records
- ▼ Defining a Processing Rule
- ▼ Defining Conditions and Evaluations
- ▼ Interface Controls

MBOs and Sub-records

An integration object consists of one or more sub-records that correspond to Maximo MBOs. During inbound integration processing, Maximo creates MBOs and populates the MBO fields from the corresponding sub-record fields in the integration object, before applying standard Maximo application processing. During outbound processing, Maximo populates the sub-record fields from the corresponding fields in the original MBO. With the exception of certain generic integration fields, MBOs are not updated in outbound transactions.

When defining processing rules, use the following guidelines to determine if you should apply the rule to an integration object sub-record or to a MBO:

- ▼ In the outbound direction, you can apply processing rules to integration object sub-records only.
- ▼ In the inbound direction, you can apply processing rules to integration object sub-records or MBOs.
 - If an inbound rule changes the value of a key field, apply it to the integration object sub-record.
 - If an inbound rule does not evaluate or manipulate a MBO or MBO set, apply it to the integration object sub-record.
 - If an inbound rule evaluates or manipulates a user-defined field, apply it to the integration object sub-record.
 - If an inbound rule evaluates or manipulates a MBO or MBO field, apply it to the MBO.

NOTE As much as possible, apply all rules for inbound interfaces to either MBOs or to integration object sub-records; that is, avoid creating rules for both MBOs and integration object sub-records. Defining processing rules for both results in increased processing time for inbound transactions.

Defining a Processing Rule

A processing rule defines an action to be performed on a field in a sub-record or MBO, or on the sub-record or MBO itself. You define a processing rule on the Inbound Processing Rules or Outbound Processing Rules tab of the Integration Interfaces application. The application displays the inbound or outbound integration points for the selected interface. After you select the applicable integration point, the application displays the sub-records that comprise the corresponding integration object. Select the sub-record on which you will apply the processing rule.

The following sections of this chapter address the following aspects of defining a processing rule:

- ▼ Defining the Processing Rule
 - Specifying the sub-record or MBO to which the rule applies
 - Specifying when to trigger the processing rule
 - Specifying the processing rule action
 - Specifying the processing sequence
- ▼ Defining Conditions and Evaluations
 - Specifying a condition
 - Specifying the type of evaluation
 - Specifying the data to be evaluated
 - Specifying when to evaluate data
 - Specify evaluation criteria
 - Specify a comparison field

Specifying the Sub-record or MBO

To define a processing rule, you begin by specifying the sub-record or MBO to which the rule applies.

NOTE If the integration object is a merged integration object, define the rule for each sub-record or MBO within the integration object. Since the sub-records in merged integration objects use common fields, any processing action that applies to a field must be defined for each sub-record or MBO that contains the field. For example, to validate that a receipt does not contain a null GLDEBITACCT field, you have to add the processing rule for that field in both the MATRECTRANS and SERVRECTRANS sub-records or MBOs.

Specifying when to Trigger the Processing Rule

A processing rule is triggered by a database action on the primary MBO within the corresponding integration object (or on any MBO within a merged integration object). You can specify that one or more of the following actions trigger the rule:

- ▼ An insertion to the primary MBO
- ▼ A deletion to the primary MBO
- ▼ An update to the primary MBO

NOTE You can place the rule on a primary or a child sub-record or MBO, but the database action that triggers a rule occurs on the *primary* MBO associated with the integration object.

Example

To prevent users from changing the item number on an existing POLINE on a purchase order, place a processing rule with a Stop action on the POLINE MBO and specify that the rule is to be applied when an update occurs on the primary (PO) MBO. This rule will perform the Stop action if a user changes an item number while updating a PO.

NOTE When an outbound transaction is generated via the Data Export feature rather than through a user action in Maximo, all processing rules that are enabled will be applied, regardless of the trigger settings that you specify.

Specifying the Processing Rule Action

A processing rule can act on an interface as a whole—for example, bypass a transaction—or it can manipulate the value in a data field within the transaction.

Three processing rule actions—Stop, Skip, and Skipchildren—act on an interface transaction as a whole. Four processing rule actions—Combine, Split, Set, and Replace—manipulate the value in a data field within an interface transaction.

Message Processing Actions

The following three processing rule actions stop or skip the interface transaction as a whole, or skip entire sub-records within the transaction:

- ▼ SKIP
- ▼ STOP
- ▼ SKIPCHILDREN

Skip Action

The Skip action bypasses a transaction that meets the specified criteria. Maximo will not process the inbound transaction and will not send the outbound transaction to an external system. Skip processing does not generate an error and it updates the maximo.log file with the rule that caused the skip action.

For inbound transactions, Maximo clears the message from the inbound queue, as it would a successfully processed message. For outbound transactions that are skipped, nothing is written to the queue.

Maximo provides some predefined rules with a Skip action. These rules look up interface control values to ensure that outbound transactions are in a valid status before being sent to the external system.

Stop Action

The Stop action halts the processing of a transaction that meets the specified criteria. An outbound transaction is rolled back and an error is thrown to the Maximo user. An inbound transaction remains in the inbound JMS queue and, if the error was the result of a direct invocation of the inbound interface (via a Web service), the calling program is notified of the error.

Maximo does not provide predefined rules with a Stop action. This option is a utility for users to customize the behavior of an interface.

Whenever possible, use the Skip action rather than the Stop action for inbound interfaces. The latter results in a processing error and, depending on the source of the data, the transaction remains in the inbound queue or the initiator receives an error response. These results do not occur when you use the Skip action.

NOTE If a processing rule with a Stop action applies to an interface generated by the Data Export feature, Maximo treats the Stop action as it would a Skip action. If the Stop action evaluates true, the transaction will be skipped and the user will be notified of that action.

Skipchildren Action

The Skipchildren action deletes the child records of the sub-record or MBO to which the rule is applied. Apply the processing rule on the sub-record or MBO whose child level records will be skipped.

Example

Use the Skipchildren action on a PO to strip POLINE data and its children from an purchase order when a status change occurs and the external system does not need the accompanying PO information.

Field Transformation Actions

The four field transformation actions manipulate data fields within a transaction. The four actions are:

- ▼ SET
- ▼ REPLACE
- ▼ COMBINE
- ▼ SPLIT

Apply the field transformation rule to the sub-record or MBO that contains the field to be transformed. A field transformation rule can be applied to a single field or multiple fields in the selected sub-record.

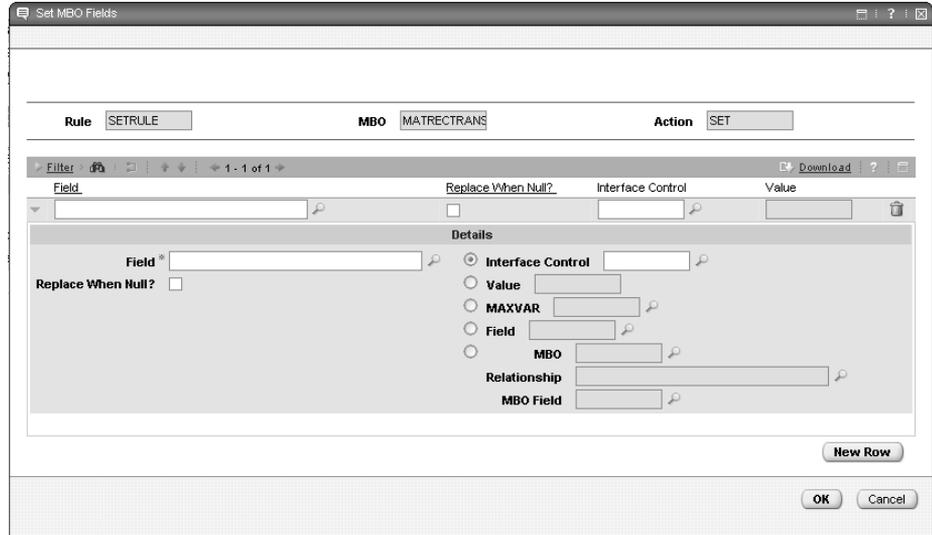
You specify how the rule will manipulate the data, in the action-specific dialog box that you access via the Sub-Record Fields or MBO Fields button on the Inbound Processing Rules tab or the Outbound Processing Rules tab. For details about the fields in these dialog boxes, refer to the online help for the Integration Interfaces application.

NOTE The Data Export feature does not recognize changed fields. An error will be reported if an interface generated by the Data Export feature uses a processing rule that evaluates whether a field has changed. For more information, see “Specifying when to Evaluate the Field” on page 14-15.

Set Action

The Set action writes a value to a specified data field. When you define the rule, you specify the data to be set and the source of the of the new value, and indicate if the rule always writes the new value to the target field or only writes it when the field is null (the default action). You can use this action to initialize the value in a data field.

Set MBO Fields Dialog Box



CAUTION If the rule always writes the new value to the target field, it overwrites any existing value in the field.

The source of the new value can be one of the following:

- ▼ A value type interface control
- ▼ A hard-coded value
- ▼ A system control (in the MAXVARS database table)
- ▼ Another field in the specified sub-record or MBO
- ▼ A field in a related MBO

Replace Action

The Replace action replaces a value in a data field with another value. When you define the rule, you specify the name of a cross-reference control that contains the original and replacement values for the data field. The source of the new value must be a cross-reference type control.

Replace Sub-Record Field Values Dialog Box
Example

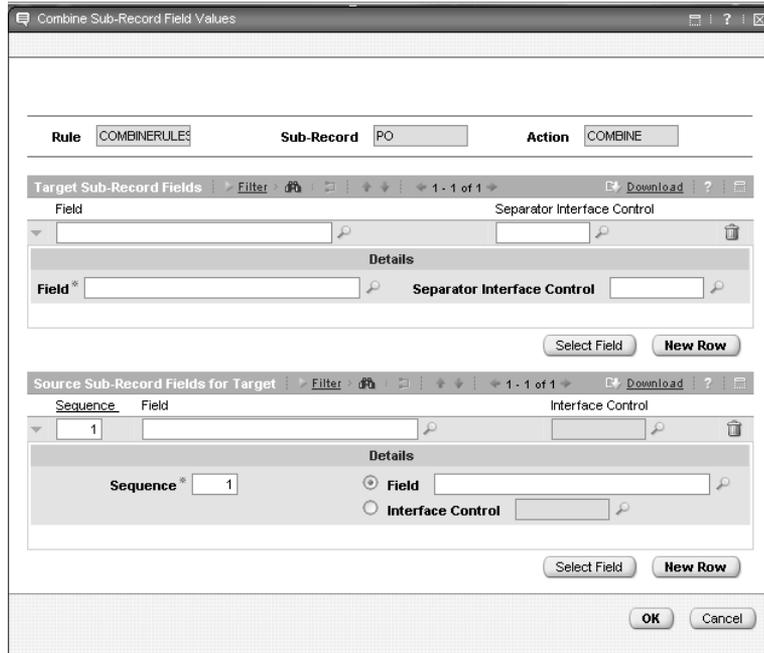
Use this action when an external system and Maximo have different identifiers for the same entity. For example, the plant identifier of an external system might translate to a Maximo site identifier.

NOTE To replace a field value in both inbound and outbound transactions—for example, to replace the Maximo SITEID value in an outbound interface with an external PLANTID value, and to replace the external PLANTID value in an inbound interface with a Maximo SITEID value—you can use a single cross-reference type control. For more information see “Interface Controls” on page 14-18.

Combine Action

The Combine action concatenates values from multiple source fields into a single target field. When you define the rule, you identify the target field, the source fields, and the sequence in which the source data is to be written to the target field. The source data can be a data field or an interface control that contains a data value. You can also specify an interface control containing the delimiter to separate the segments in the target field.

Combine Sub-Record Field Values Dialog Box



Use this action in an inbound processing rule when a mismatch exists between the Maximo definition and the external system definition of an entity; for example, a two-part external system key that maps to a single part key in Maximo.

Example

An inbound processing rule can combine a vendor ID and a vendor location field from an external system into the Maximo COMPANY field when creating the COMPANIES record in Maximo. (An outbound processing rule with the Split action can then separate the combined field into separate values when sending data to the external system.

For more information, see “The Split action is the reverse of the Combine action. The Split action separates the value in one field into multiple fields. When you define the rule, you identify one source field, one or more target fields, and the way in which the rule processor identifies segments of the source field.” on page 14-9.

NOTE The source and target fields must be in the same MBO.

CAUTION This action always overwrites the existing value in the target field. Ensure that the source and target fields are alphanumeric fields, or processing errors might occur.

The Split action is the reverse of the Combine action. The Split action separates the value in one field into multiple fields. When you define the rule, you identify one source field, one or more target fields, and the way in which the rule processor identifies segments of the source field.

Split Sub-Record Field Values Dialog Box

The source field(s) can be the following:

- ▼ A field in the selected sub-record or MBO
- ▼ An interface control containing the delimiter that separates the segments in the source field

The source and target fields must exist in the same MBO.

CAUTION This action always overwrites the existing value in the target fields. Ensure that the source and target fields are alphanumeric fields, or processing errors might occur.

Example

If you combined multiple fields in an inbound transaction, as in the preceding example, you might need to split the combined field into individual fields in the outbound direction.

There are two ways to identify how to split the field. You can specify the length of each segment of the source field, or you can identify a delimiter that separates the segments.

Identifying Fixed Length Data Segments

If the field length of each segment of source data is constant, use the Field Length option. The rule processor breaks up the source field from left to right, based on the length you specify for each field and the sequence of the fields, and sets their values accordingly.

Identifying Variable Length Data Segments If the length of the source field segments is variable but the source field contains a distinct delimiter that identifies the segments, use the separator option. Do this by identifying an interface control that defines the separator. The same separator must delimit all the segments. The rule processor parses the source field from left to right looking for the delimiter, breaks up the string into multiple values, and moves each value into the designated target field.

Specifying the Processing Sequence

Processing rules are applied sequentially for each sub-record or MBO within an integration object, starting with the primary MBO and working down to the child MBOs. If you define multiple processing rules for a single sub-record or MBO, you can modify the default processing sequence on the Inbound Processing Rules or Outbound Processing Rules tab. This is especially important if a rule depends upon the successful result of an earlier rule.

NOTE If Maximo successfully applies a rule with a Stop or Skip action, it does not check subsequent processing rules.

Defining Conditions and Evaluations

Processing rules are generally applied conditionally; that is, after evaluating one or more conditions that must be met in order for Maximo to carry out the record processing or field transformation action specified in the rule. These conditions can involve one or more evaluations, or comparisons, of data in an XML field, a MBO field, a MBO set, an interface control, or a system control.

Specifying a Condition

It is important to understand the difference between a condition and an evaluation. A condition is a grouping of one or more evaluations. Multiple conditions can be specified, and their sequence identified by the condition number.

Each evaluation returns a value of true or false. For example, if an evaluation checks if the values of two fields are equal, it returns true if the fields are equal and false if they are not.

NOTE Conditions also return a value of true or false. If every evaluation within a condition is true, the condition is true. If any evaluation within the condition is false, the condition is false. If a processing rule contains multiple conditions, only one condition must be true in order for Maximo to perform the action associated with the processing rule.

Specifying the Evaluation Category

Before you define the specifics of an evaluation, you select the type of data to be evaluated. You do this by selecting the appropriate subtab in the Add/Modify Conditions dialog box.

The following table describes the evaluation categories.

Processing Rule Evaluation Categories

Category	Use
XML Field	Evaluate a value in an integration object sub-record field or compare the values in two sub-record fields.
MBO Field	Evaluate the value in a MBO field or compare the values in two fields in related MBOs. The MBO field can be part of the integration object definition or part of a MBO that can be accessed via a relationship with a MBO in the integration object definition.
MBO Set	Check for the existence of records in a related MBO.
Control	Evaluate the value in a value type or Boolean type interface control or a system control.

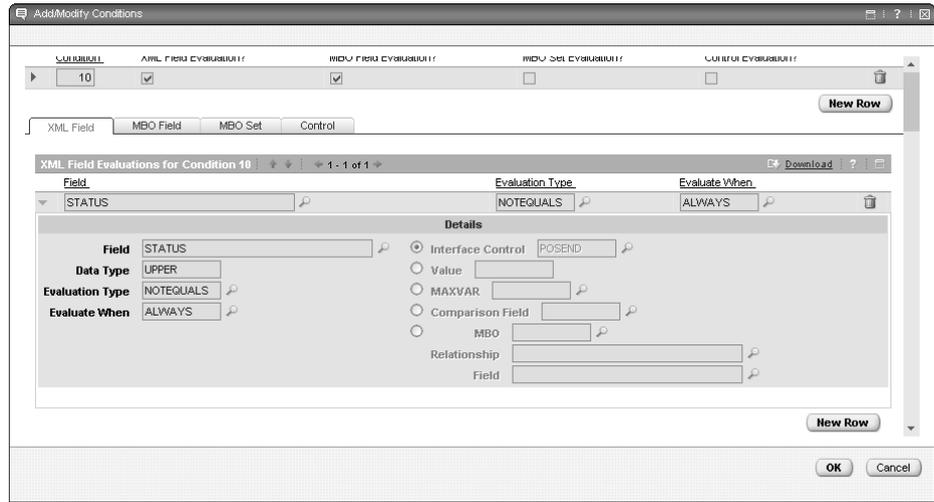
The following table shows valid combinations of evaluation category, processing direction (outbound or inbound), and record type (sub-record or MBO). Because inbound processing rules are applied before MBOs are built, they cannot evaluate MBO fields or MBO sets.

Valid Processing Rule Evaluations

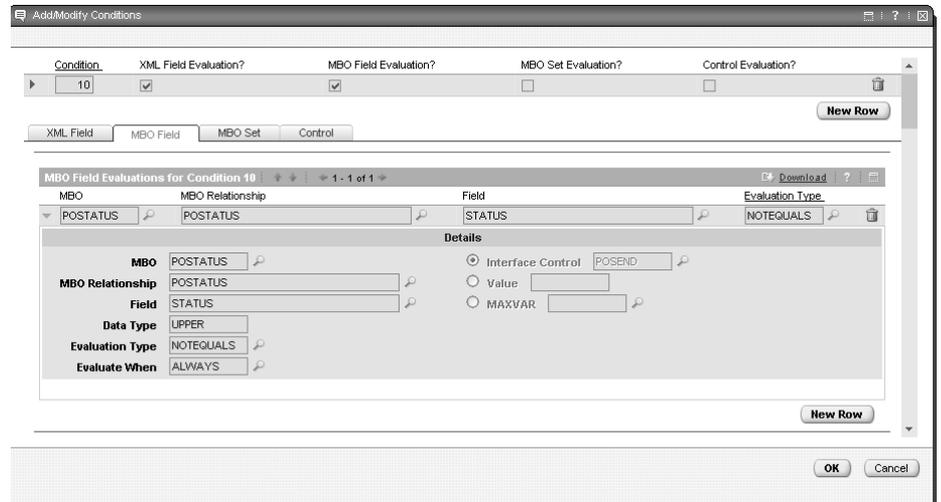
Direction of Processing Rule	XML Field Evaluation	MBO Field Evaluation	MBO Set Evaluation	Control Evaluation
Outbound	Available	Available	Available	Available
Inbound (Sub-record)	Available	Not available	Not available	Available
Inbound (MBO)	Available	Available	Available	Available

The following pages show examples of the user interface for each category of evaluation:

XML Field Evaluation



MBO Field Evaluation



MBO Set Evaluation

The screenshot shows the 'Add/Modify Conditions' dialog box. At the top, the 'Rule' is 'SETEXISTS', 'Sub-Record' is 'PO', and 'Action' is 'SKIPCHILDREN'. Below this, there are four tabs: 'XML Field Evaluation?', 'MBO Field Evaluation?', 'MBO Set Evaluation?', and 'Control Evaluation?'. The 'MBO Set Evaluation?' tab is selected, and a condition '10' is entered. The 'Details' section shows 'XML Field Evaluation?' and 'MBO Set Evaluation?' checkboxes, both of which are unchecked. Below the tabs, there are four sub-tabs: 'XML Field', 'MBO Field', 'MBO Set', and 'Control'. The 'MBO Set' sub-tab is selected, showing 'MBOSET Evaluations for Condition 10'. The 'MBO' field is empty, 'MBO Relationship' is empty, and 'Evaluation Type' is 'EXISTS'. The 'Details' section for this sub-tab shows 'MBO' and 'MBO Relationship' fields, and 'Evaluation Type' is 'EXISTS'. At the bottom right, there are 'OK' and 'Cancel' buttons.

Control Evaluation

The screenshot shows the 'Add/Modify Conditions' dialog box. At the top, the 'Rule' is 'IFACECTRL', 'Sub-Record' is 'MATRECTRANS', and 'Action' is 'SET'. Below this, there are four tabs: 'XML Field Evaluation?', 'MBO Field Evaluation?', 'MBO Set Evaluation?', and 'Control Evaluation?'. The 'Control Evaluation?' tab is selected, and a condition '10' is entered. The 'Details' section shows 'XML Field Evaluation?', 'MBO Field Evaluation?', 'MBO Set Evaluation?', and 'Control Evaluation?' checkboxes, all of which are unchecked. Below the tabs, there are four sub-tabs: 'XML Field', 'MBO Field', 'MBO Set', and 'Control'. The 'Control' sub-tab is selected, showing 'Control Evaluations for Condition 10'. The 'MAXVAR' field is empty, 'Interface Control' is empty, 'Evaluation Type' is 'EQUALS', and 'Value' is empty. The 'Details' section for this sub-tab shows 'MAXVAR' and 'Interface Control' radio buttons, 'Evaluation Type' is 'EQUALS', and 'Boolean' and 'Value' checkboxes, both of which are unchecked. At the bottom right, there are 'OK' and 'Cancel' buttons.

Specifying the Field to Evaluate

For XML field and MBO field evaluations, you specify the field that you will evaluate. For a MBO evaluation, if the field is in a sub-record or MBO other than the one specified on the Inbound or Outbound Processing tab, you specify the MBO and the relationship needed to access the field.

Specifying the Type of Evaluation

Evaluations generally involve the comparison of two values or a check for the existence of a MBO set or a null value.

The following table lists the possible types of evaluations. Depending on the category of evaluation (XML field, MBO field, MBO set, or control), you will see a subset of these options in the user interface

Processing Rule Evaluation Types

Type of Evaluation	Description
EQUALS	The value in the specified field is equal to the value of a second field (the comparison field).
NOTEQUALS	The value in the specified field is not equal to the value of a second field (the comparison field).
GREATER	The value in the specified field is greater than the value of a second field (the comparison field).
GREATEROREQUAL	The value in the specified field is greater than or equal to the value of a second field (the comparison field).
LESS	The value in the specified field is less than the value of a second field (the comparison field).
LESSOREQUAL	The value in the specified field is less than or equal to the value of a second field (the comparison field).
LIKE	The value contains the expected value.
NOTLIKE	The value does not contain the expected value.
ISNULL	There is no value or a null value in the specified field.
ISNOTNULL	There is a value in the specified field.
NONE	This option is available only if the When to Evaluate is selected as “Changed” or “Not Changed”. If this is selected, it means that no further evaluation needs to be done. The field value is not being evaluated; the evaluation is to see if the field had changed or not changed.
EXISTS	Records exist in the specified MBO set.
NOTEXISTS	No records exist in the specified MBO set.

Specifying when to Evaluate the Field

For XML field and MBO field evaluations, the processing rule first determines whether or not it actually needs to evaluate the specified data. It does this by checking the Evaluate When? field, which can have one of the following values

Processing Rule Evaluation Criteria

Value	Action
CHANGED	Maximo continues with the evaluation only if the specified field was changed by the activity that generated the transaction.
NOT CHANGED	Maximo continues with the evaluation only if the specified field was not changed by the activity that generated the transaction.
ALWAYS	Maximo continues with the evaluation whether or not the value of the specified field was changed by the activity that generated the transaction (default). Note: If you specify this option, you cannot specify a comparison type of None (see below).

Under certain conditions, updating a record will result in the changed attribute (changed="1") appearing on the corresponding field in the outbound transaction. Maximo uses this attribute to determine if the field meets the criteria in the Evaluate When? field. For more information about the changed attribute, see Chapter 4, "Maximo XML and Schema," on page 4-1.

This attribute does not appear in transactions generated via the Data Export feature. Evaluations that should be applied only when a value has changed or not changed, might not provide the right output in a Data Export scenario.

NOTE The changed attribute does not apply to inbound transactions.

Specifying the Comparison Field

If a processing rule uses one of the first eight evaluation types (see page 14-14), it must specify the field (comparison field) with which it is making the comparison.

The following table lists the possible types of comparison fields. Depending on the type of evaluation (XML field, MBO field, MBO set, or control), you will see a subset of these options in the user interface.

NOTE Comparison of an alphanumeric source field is case-sensitive.

Processing Rule Comparison Fields

Label	Use
Interface Control	<p>Compare the value in the specified field with the value(s) in a list type or value type interface control. In the case of a list type control with multiple values, the evaluation is true if the value of the field equals any value in the list.</p> <p>Example: Validate the STATUS of a purchase order. The current value in a STATUS field is WAPPR and the possible acceptable values that satisfy the condition are in a list type control called POSEND. The values in POSEND are WAPPR, APPR and CLOSE. If the evaluation type is EQUALS, the evaluation returns a True value.</p>
Value	<p>Compare the value in the specified field with a prespecified value. This option is available for user-defined conditions.</p> <p>Note: Regardless of the locale setting of the Maximo application server or the database, all decimal fields must use a period (.) as the decimal placeholder. There is no formatting of numbers to the left of the placeholder. This format applies to inbound and outbound data. For example, \$1,738,593.64 must be in the following format: 1738593.64.</p> <p>Example: A processing rule compares the value of the POLIN1 field with the value "SPARE". If the evaluation type is EQUALS and the two values are the same, the evaluation returns a True value.</p>
MAXVAR	<p>Compare the value in the specified field with the value in a system control (a value in the MAXVARS database table).</p> <p>Example: Evaluate the OWNERSYSID on any interface to determine if it is the same as MAXVARS.MXSYSID.</p>
Boolean	<p>Compare the value in the specified field with a Boolean value (true or false).</p>

Label	Use
Comparison Field	Compare the value in the specified field with another field in the same MBO. Example: Compare the GLDEBITACCT and GLCREDITACCT on a PO line or a journal entry to determine if they are equal.
MBO/ Relationship/ Field	Compare the value in the specified field with a field in a different MBO. Example: Check the OWNERSYSID of inventory in Maximo for the item-storeroom values on a receipt line or a PO Line.

Interface Controls

Interface controls give users the ability to configure the behavior of any interface according to the requirements of individual organizations and sites. Both processing rules and Java classes can access interface controls for evaluation purposes.

Interface controls are defined separately for each adapter. One control may be used by multiple interfaces within the same adapter. The controls are configurable by external system; that is, two external systems that process the same interface (for example, an inbound purchase order interface) can share the same processing logic, class files and processing rules, yet process the data differently due to different control settings.

The controls that apply to each interface defined within the MAXIMO adapter are documented in Appendix B, "MAXIMO Adapter Interface Specifications," on page B-1. For the predefined interfaces, controls are evaluated only in cases where processing rules are specified for the interface.

Control Levels

All Maximo master data and documents are stored at the system, organization, or site level. For example, item data is stored at the system level, accounting information at the organization level, and storerooms, inventory, and work orders at the site level. An implied hierarchy exists among these levels, as organizations are defined for a system, and sites are defined within organizations. Accordingly, an interface control can be configured to override values at any of these levels.

Interface Control Levels

Control Value	Description
System level	A system-level value applies to all Maximo organizations and sites. If the control is not configured for organization- or site-level values, Maximo processing uses the system default. If the control is configured for organization- or site-level values but none exists for a particular organization or site, Maximo processing uses the system level value.
Organization level	An organization-level value applies to all Maximo sites within an organization. If a control is configured for organization-level values but none exists for a particular organization, Maximo processing uses the system level value.
Site level	A site-level value applies to a specific site within a Maximo organization. If a control is configured for site-level values but none exists for a particular site, Maximo processing uses the system level value.

NOTE Data processed by interfaces that use a control with an organization or site override must be organization- or site-level data, respectively.

Control Types

Maximo gives you the ability to create four types of interface controls:

- ▼ Boolean type controls
- ▼ Cross-reference type controls
- ▼ List type controls
- ▼ Value type controls

Boolean Type Controls

A Boolean type interface control specifies a value of 0 (false) or 1 (true).

List Type Controls

A list type interface control contains a list of values. You can enter multiple values for the control and optionally assign a Maximo domain to the control. Assigning a domain ensures the validation of any value entered for that control, at any level. If a domain is not assigned, there is no validation of the values entered.

Example

Maximo sends work orders to an external system only if the status of the work order is APPR (approved) or COMPLETE. To determine whether to send the work order, Java code or a processing rule can check the status of a work order against a list type control that contains these two values.

Value Type Controls

A value type interface control contains a single value. You can enter a single value for the control and optionally assign a Maximo domain to the control.

Cross-Reference Type Controls

A cross-reference type control replaces one value with another. In an outbound interface, Maximo converts a Maximo value to an external system value and, in an inbound interface, Maximo converts an external system value to a Maximo value. You can optionally assign a Maximo domain to a cross-reference control. If a domain is specified, any Maximo value specified for the control is validated against that domain. If a domain is not assigned, there is no validation of the values entered.

In general, cross-reference controls must have a one to one mapping between the Maximo value and the external value. If two Maximo values are associated with an external system value, or two external system values with a Maximo value, a processing error will occur.

One to many mappings can exist if the cross-reference control is being created to function as a multiplication control. A multiplication control is a cross-reference control that copies, or multiples, an inbound message for multiple organizations or site. It has one external value and multiple Maximo values. Multiplication controls are always external system-specific. You identify the control as a multiplication control on the Inbound Integration Points subtab of the Interface tab.

Examples

Maximo sites correspond to an external system's business units, but the two systems use different values for these entities. A cross-reference control can perform the translation between the two values. For example, a cross-reference control in an inbound interface can translate business unit EX001 to Maximo site MX001. In an outbound direction, the same control can translate MX001 to EX001.

Multiplication Control

A multiplication control can update the company in every organization in the Maximo database.

Creating New Controls

Unless you create a new interface or modify the processing of an existing interface, you probably will not need to create new controls. Modifying control values at the external system level is generally sufficient to customize predefined interface processing.

If you do need to create a new control, you can do so via the Add/Modify Adapters dialog box in the Integration Interfaces application. Keep the following two points in mind:

- ▼ Ensure that the control name is unique across all adapters you have installed.
- ▼ You must manually add the control to existing external systems that will use it. You do this on the Interface Controls tab in the External Systems application.

Customization with User Exits

15

The integration framework provides multiple placeholders within the transaction flow where users can customize transactions via Java programs and XSL. Based on your requirements, you can use one or more of these placeholders, or user exits, for your customizations.

This chapter describes the user exits and, for each one, references a sample Java class or XSL file that has been provided with the Maximo Integration. You can see additional samples in the `psdi.iface.samples` directory.

NOTE After changing Java class files or XSL files, you must rebuild and redeploy the Maximo EAR file.

For a better understanding of the role of exits in the processing flow, read this chapter in conjunction with Chapter 3, "Outbound and Inbound Processing," on page 3-1.

This chapter is directed to developers and support personnel. It contains the following sections:

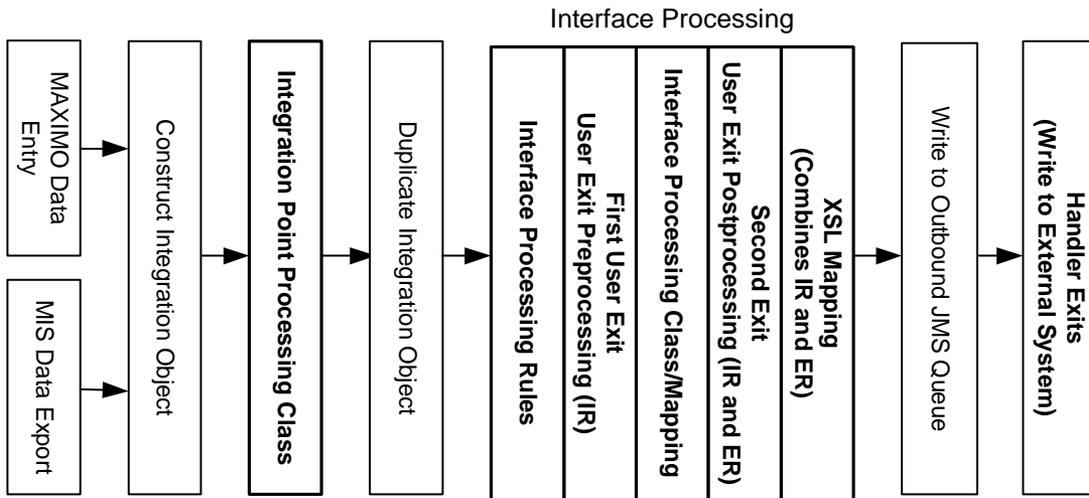
- ▼ Outbound Customization
- ▼ Inbound Customization

Maximo also provides a user interface-based rules processing engine that lets you customize outbound and inbound transactions without writing Java code or using XSL. For more information, see Chapter 14, "Customization with Processing Rules," on page 14-1.

Outbound Customization

This section describes the placeholders, or user exits, within the outbound processing flow of the Maximo Integration.

Outbound Processing Flow

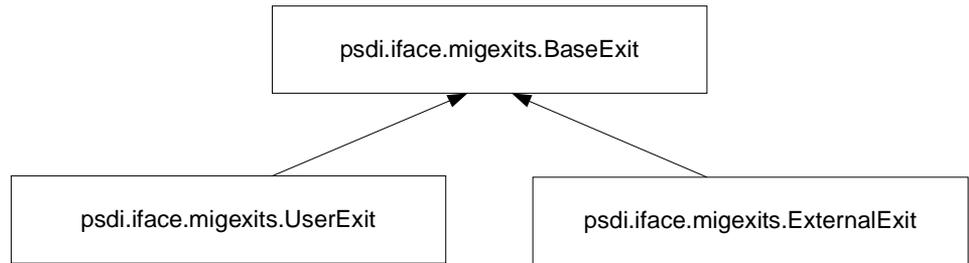


You can customize outbound integration processing in the following ways:

- ▼ In an integration point processing class
- ▼ With interface processing rules
- ▼ In the following Java exits:
 - First user exit (user exit preprocessing)
 - Interface processing class
 - Second user exit (user exit postprocessing)
- ▼ With XSL mapping
- ▼ In a handler exit

The following figure illustrates the hierarchy of standard Java exit classes for outbound processing.

Hierarchy of Java Exit Classes for Outbound Processing



If you use an adapter provided by MRO Software, the interface processing class will likely contain processing logic, in which case you can implement your code in the first or second user exit.

NOTE At various points in the customization process, you can access the integration object XML, the interface XML, or both. This chapter refers to the integration object XML as the IR (internal record) and the interface XML as the ER (external record).

Integration Point Processing

Processing classes exist for some, but not all, predefined integration points. These classes contain business logic to support the processing of the integration object. You can customize the processing class by extending the processing class and overriding specific methods.

The Javadocs list the methods which can be overridden for the integration point processing class.

This class can perform the following processing:

- ▼ Validate data
- ▼ Allow an inbound transaction to generate an event-based outbound transaction (recurrence); by default, Maximo does not allow this

You must create a new integration point and associate the integration point processing class with it. You identify the integration point processing class in the Integration Objects application, in the Outbound Integration Points data window of the Integration Point tab. You associate the new integration point with the interface in the Interfaces application, on the Outbound Integration Points subtab of the Interface tab.

Interface Processing Rules

For information about the interface processing rules engine that lets you customize outbound transactions without writing Java code or using XSL, see Chapter 14, "Customization with Processing Rules," on page 14-1.

User Exit Preprocessing

In the first user exit, you can change data that will affect the processing logic in the interface processing class. In this exit, only the integration object XML (IR) is available, as the XML has not yet been transformed to external system XML (ER). In the second exit, both the IR and ER are available for processing.

Integration processing for outbound transactions is based on Maximo events or initiated via the Data Export feature. Integration processing listeners subscribe to these events after the Maximo transaction is saved (after SQL statements updating the database) but before the transaction and database are committed. The MBO reference that is available in the outbound processing is also available after database update; for this reason you cannot set data to this MBO to update the database.

To update the database you can use JDBC (Prepare Statements) using the connection available in the exit framework, in which case no business validations will be performed. You also can instantiate a new MBO from the database and call save on the transition again. (You cannot call save on the MboSet because internally it will call save and commit.) If you create your own MBO, the save will be called a second time and all logic associated with this save will be performed twice, once from the Maximo save and second time from the exit save, possibly leading to some duplication. Therefore, use the

Maximo APIs rather than the integration framework to change data in Maximo.

Outbound transaction customization can be done in the first user exit using the following method:

```
public StructureData setUserValueOut(StructureData irData)
```

This method can perform the following processing:

- ▼ Validate data
- ▼ Change Maximo data by changing the IR record to be sent to the external system
- ▼ Stop the transaction from being saved in the database by throwing a Maximo exception
- ▼ Stop the transaction from being sent to the external system by throwing a SKIP_TRANSACTION exception
- ▼ Log the transaction

You identify the interface user exit class in the Integration Interfaces application, on the Outbound Integration Points subtab of the Interface tab.

Interface Processing Class

If you use an adapter provided by MRO Software, the interface processing class will likely contain processing logic. If it does, implement your code in the first or second user exit.

If you create a new interface, customization can be done in the interface processing class using the following method:

```
public StructureData setDataOut(StructureData sData)
```

This method can perform the following processing:

- ▼ Validate data
- ▼ Change Maximo data by changing the IR record to be sent to the external system
- ▼ Stop the transaction from being saved in the database by throwing a Maximo exception
- ▼ Stop the transaction from being sent to the external system by throwing a SKIP_TRANSACTION exception
- ▼ Log the transaction

You identify the interface processing class in the Integration Interfaces application, on the Outbound Integration Points subtab of the Interface tab.

User Exit Postprocessing

In the second exit, both the IR and ER are available for processing. Outbound transaction customization can be done in the second exit using the following method:

```
public StructureData setUserValueOut (StructureData irData,  
StructureData erData)
```

This method can perform the following processing:

- ▼ Validate data
- ▼ Change data by changing the ER record to be sent to the external system
- ▼ Map additional data from the IR to the ER
- ▼ Stop the transaction from being saved in database by throwing a Maximo exception
- ▼ Stop the transaction from being sent to the external system by throwing a SKIP_TRANSACTION exception
- ▼ Log the transaction

You identify the interface user exit class in the Integration Interfaces application, on the Outbound Integration Points subtab of the Interface tab.

XSL Mapping

After the Java exit processing is completed, there is a placeholder where you can implement an XSL file and manipulate the data to be sent to external system.

The XSL file is always called with the ER and IR. The XML input into the XSL file looks like the following example:

```
<MESSAGE>  
  <IR>  
    .  
    .  
  </IR>  
  <ER>  
    .  
    .  
  </ER>  
</MESSAGE>
```

This XSL file can perform the following types of processing:

- ▼ Change data in the ER before sending the transaction to the external system
- ▼ Map additional data from the IR to the ER

You identify the XSL file in the Integration Interfaces application, on the Outbound Integration Points subtab of the Interface tab.

The XSL file must be part of the EAR and must be under the `businessobjects/classes/. . .` folder structure. Also, it must be registered in the dot notation format.

Example

If XSL file `mapping.xml` is under the `businessobjects/classes/psdi/iface/xsl` folder, it must be registered as follows:

```
psdi.iface.xml.mapping
```

NOTE The `.xml` extension is omitted when `mapping.xml` is registered.

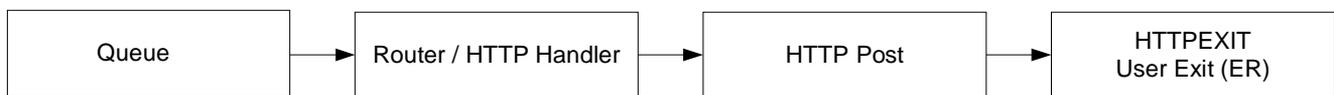
Handler Exits

After a transaction is saved to the outbound queue, the polling process retrieves the transaction from the queue and, based on the end point configuration, sends it to an external system. Maximo provides multiple predefined methods (handlers) of sending data to an external system, including HTTP, EJB call, and interface tables. Some of these methods have user exit placeholders to allow for customization.

The HTTP Processing Exit Class

An exit placeholder allows for customization when sending transactions from Maximo to an external system using HTTP. This exit class is optional and is called as part of the response from the HTTP call.

HTTP Processing Exit Class



In the default implementation, `psdi.iface.router.DefaultHTTPExit`, the response code received from the external system is compared to a range of response codes. The range used by the default implementation is 200 to 299. If the code lies outside that range, then the transaction is assumed to not have been delivered to the external system and an exception is raised.

With some external systems, the HTTP response returned to Maximo from an HTTP call may need to be interpreted. You can apply an exit class that evaluates the response line and determines if the message was accepted by the external system. If it was not, the code must raise an exception so that the XML transaction in the queue is marked in error and not deleted from the outbound queue. If it was accepted, Maximo removes the message from the outbound queue.

This class must implement the `psdi.iface.router.HTTPExit` interface and implement the following method:

```
public void processResponseData(int responseCode, String
responseMsg, byte[] msgBodyData)
```

This class can perform the following processing:

- ▼ Interpret the response code and throw an exception.

You enter the fully qualified name of the Java class in the HTTPEXIT property of the end point that implements the HTTP handler. You do this in the Add/Modify End Point dialog box, which you access via the Select Action menu in the External Systems application.

Example

HTTPResponseUser

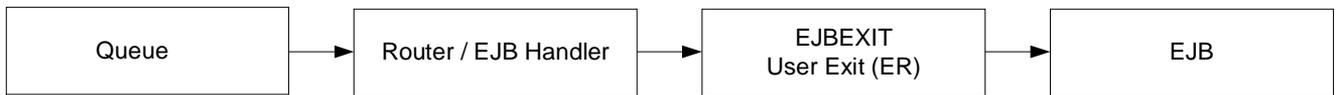
This class does the following processing to analyze the response from the HTTP post:

- 1 Checks the response code from the HTTP post
- 2 If the response code is in the error range, logs the exception on the ERROR level and throws a Maximo exception
- 3 If the response code is valid, logs the transaction on the DEBUG level

The EJB Processing Exit Class

An exit placeholder allows for customization when sending transactions from Maximo to an external system using EJB. This exit class is optional and is called before the EJB is called.

EJB Processing Exit Class



The implementation of this Java class must resolve the method signature of the EJB that is being invoked through this handler and the parameters that method requires. If no value is specified for this property, Maximo applies a default exit called DefaultEJBExit. This default exit attempts to resolve the EJB's method signature and parameters.

This class must implement the psdi.iface.router.EJBExit interface and the following methods:

```
public Class[] getClassParams()
```

The getClassParams() method returns the method signature in the form of an array of Java classes.

This method can perform the following processing:

- ▼ Create an array of parameter types that correspond with the signature of the external EJB method to be called

```
public Object[] getObjectParams(byte[] data, String
interfaceName, String destinationName)
```

The getObjectParams() method returns the parameters of the EJB business method in the form of an array of Java Objects.

This method can perform the following processing:

- ▼ Create an array of parameters that correspond with the signature of the external EJB method to be called. The number of parameters must match the number of parameter types from `getClassParams()` method

```
public void responseOk(Object response) throws MXException
```

The `responseOk()` method is called after a successful EJB invocation.

```
public void responseError(Exception e) throws MXException
```

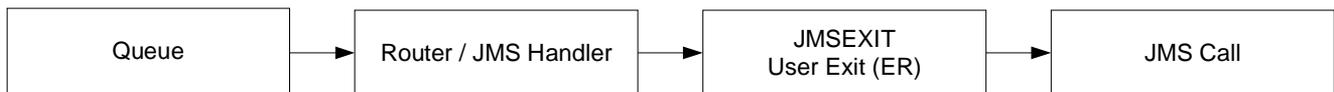
The `responseError()` method is called with the originating exception as a parameter if an error is encountered during EJB invocation.

You enter the fully qualified name of the Java class in the EJBEXIT property of the end point that implements the EJB handler. You do this in the Add/Modify End Point dialog box, which you access via the Select Action menu in the External Systems application.

The JMS Processing Exit Class

An exit placeholder allows for customization when sending transactions from Maximo to an external system using JMS. This exit class is optional and is called before the JMS is called.

JMS Processing Exit Class



This class must implement the `psdi.iface.router.JMSEXit` class and the following method:

```
public Map getMessageProperties(byte[] data, Map origProps)
```

This method can perform the following processing:

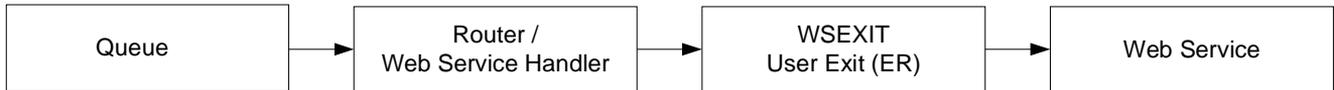
- ▼ Change the properties of the JMS message
- ▼ Split the data to multiple properties, to match the JMS message

You enter the fully qualified name of the Java class in the JMSEXIT property of the end point that implements the JMS handler. You do this in the Add/Modify End Point dialog box, which you access via the Select Action menu in the External Systems application.

The Web Service Processing Exit Class

An exit placeholder allows for customization when sending transactions from Maximo to an external system using a Web service. This exit class is optional and is called before the Web service is invoked.

Web Service Processing Exit Class



This class must implement the `psdi.iface.router.WSExit` interface and the following methods:

```
public String getServiceName(Map metaData, String endpointURL,
String serviceName, String interfaceName, String
targetNameSpace) throws MXException
```

The `getServiceName()` method returns the service name of the Web service to be invoked.

```
public String getEndpointURL(Map metaData, String endpointURL,
String serviceName, String interfaceName, String
targetNameSpace) throws MXException
```

The `getEndpointURL()` method returns the end point URL of the Web service to be invoked.

```
public void responseOk(org.w3c.dom.Document response) throws
MXException
```

The `responseOk()` method is called after a successful invocation of the external Web service.

```
public void responseError(Exception e) throws MXException
```

The `responseError()` method is called with the originating exception as a parameter if an error was encountered during the Web service invocation.

```
public boolean getOneWayWsInfo(Map metaData, String endpointURL,
String serviceName, String interfaceName, String
targetNameSpace, boolean oneWayWs) throws MXException
```

The `getOneWayWsInfo()` method returns a Boolean value that specifies whether the Web service being invoked is one-way.

```
public String getSoapAction(Map metaData, String endpointURL,
String serviceName, String interfaceName, String
targetNameSpace, String soapAction) throws MXException
```

The `getSoapAction()` method returns the SOAPAction HTTP header to be used while invoking the Web service.

You enter the fully qualified name of the Java class in the WSEXIT property of the end point that implements the Web service handler. You do this in the Add/Modify End Point dialog box, which you access via the Select Action menu in the External Systems application.

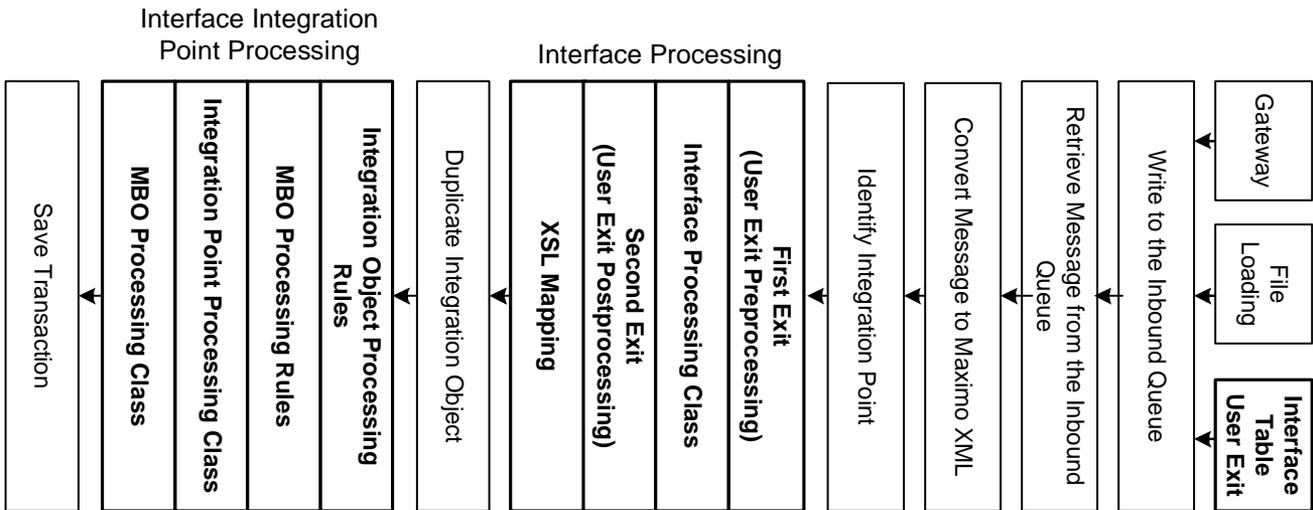
There is a default implementation of the WSExit interface, `psdi.iface.router.DefaultWSExit`. This class overrides the `getEndpointURL()` method to concatenate the servicename at the end of endpoint URL, to form the new endpoint URL.

NOTE Use this class name in the WSEXIT property if you communicate with a remote MAXIMO system via Web services.

Inbound Customization

This section describes the placeholders, or user exits, within the inbound processing flow of Maximo Integration.

Inbound Processing Flow

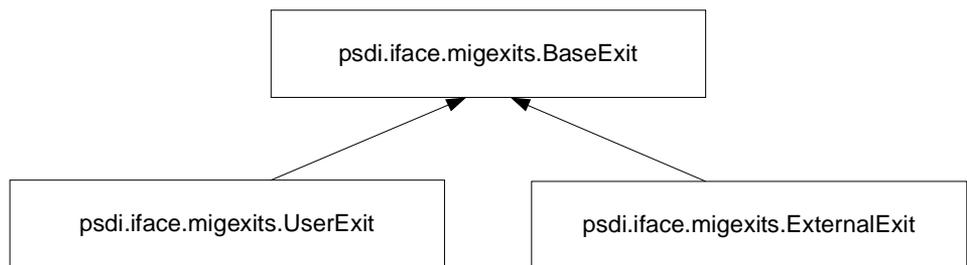


You can customize inbound integration processing in the following ways:

- ▼ In an interface table user exit
- ▼ In the following Java exits:
 - First user exit (user exit preprocessing)
 - Interface processing class
 - Second user exit (user exit postprocessing)
- ▼ With XSL mapping
- ▼ With integration object and MBO processing rules
- ▼ In an integration point processing class
- ▼ In a MBO user exit

The following figure illustrates the hierarchy of standard Java exit classes for inbound processing.

Hierarchy of Java Exit Classes for Inbound Processing

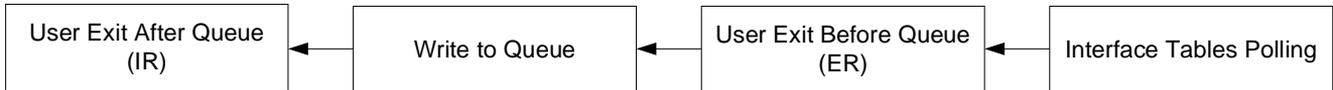


If you use an ERP adapter provided by MRO Software, the interface processing class will likely contain processing logic, in which case you can implement your code in the first or second user exit.

Interface Table User Exit

When using interface tables to receive transactions from an external system, you can perform customization in the polling program that retrieves the data from the interfaces and sends it to Maximo.

Interface Table User Exit



The interface table polling program is run via the Maximo cron task manager. The cron task, IFACETABLECONSUMER, has an optional property called EXITCLASS, where you can place the fully qualified name of a Java exit class.

The IR record from the interface tables will be represented as Java data structure [List], where the first element is always the action of the transaction. The remaining elements of the list are Map data structures with each Map representing a row in the interface table for that transaction. The keys in the Map are the column names and the values are the corresponding column values. All the column values [Integers, Date, Float, Double] are converted to their localized string format before setting them to the Map.

The class must implement the `psdi.iface.intertables.IfaceTbExit` interface and the following three methods:

```
public void beforeQueue(long transid, String extSys, String
ifaceName, List data, Connection conn)
```

This method is called after the data is pulled from the interface table and before the data is insert into one of the inbound queues.

```
public void afterCommit(long transid, String extSys, String
ifaceName, Connection conn)
```

This method is called after the data has been inserted to an inbound queue and deleted from the interface queue table, and the database commit is done

```
public void afterRollback(long transid, String extSys, String
ifaceName, Connection conn)
```

This method is similar to the `afterCommit` method but called if the transaction rolled back.

This class can perform the following processing:

- ▼ Validate data
- ▼ Change external data by changing the IR record to be saved in Maximo
- ▼ Stop the transaction from to be saved in queue by throwing an exception. In this case the transaction will remain in the `MXIN_INTER_TRANS` table with error message and will be re-tried

- ▼ Stop the transaction from being sent to external system by throwing a SKIP_TRANSACTION exception. In this case transaction will not be saved in Maximo and removed from the queue
- ▼ Log the transaction

The user exit using the afterCommit or afterRollback method can perform the following processing:

- ▼ Perform custom processing and cleanup
- ▼ Log the transaction

You identify this class in the Cron Task Setup application in the Configuration module.

XSL Mapping

The XSL file is always called with a combination of ER and IR, and the user can manipulate data to be sent to Maximo. The XML input into the XSL file looks like the following example:

```
<MESSAGE>
  <IR>
    .
    .
    .
  </IR>
  <ER>
    .
    .
    .
  </ER>
</MESSAGE>
```

This XSL file can perform the following processing:

- ▼ Change the data to be saved in Maximo by changing the IR
- ▼ Map additional data from the ER to the IR

You identify the XSL file in the Integration Interfaces application, on the Inbound Integration Points subtab of the Interface tab.

The output of the XSL map must be in Maximo XML format. The root element of this XML must be the name of the integration point for which this XSL map is intended.

The XSL file must be part of the EAR and must be under the businessobjects/classes/. . . folder structure. Also, it must be registered in the dot notation format.

Example

If XSL file mapping.xml is under the businessobejcts/classes/psdi/iface/xsl folder, it must be registered as follows:

```
psdi.iface.xsl.mapping
```

NOTE The *.xsl* extension is omitted when mapping.xml is registered.

User Exit Preprocessing

In the first user exit, you can change data that will affect the processing logic in the interface processing class. In this exit, only the interface XML (ER) is available, as the XML has not yet been transformed to integration object XML (IR). In the second exit, both the IR and ER are available for processing.

Inbound transaction customization can be done in the first exit using the following method:

```
public StructureData setUserValueIn(StructureData erData)
```

This method can perform the following processing:

- ▼ Validate data
- ▼ Change external data by changing the ER record before it is mapped to the IR record and saved in Maximo
- ▼ Stop further processing of the transaction throwing an exception. In this case the transaction remains in the queue to be retried
- ▼ Stop the transaction from being sent to the external system by throwing a SKIP_TRANSACTION exception. In this case transaction is not saved in Maximo and is removed from the queue
- ▼ Log the transaction

You identify the interface user exit class in the Integration Interfaces application, on the Inbound Integration Points subtab of the Interface tab.

Interface Processing Class

If you use an adapter provided by MRO Software, the interface processing class will likely contain processing logic. If it does, implement your code in the first or second user exit.

If you create a new interface, customization can be done in the interface processing class using the following method:

```
public StructureData setDataIn(StructureData sData)
```

This method can perform the following processing:

- ▼ Validate data
- ▼ Change external data by changing the ER record before it is mapped to the IR record and saved in Maximo
- ▼ Stop further processing of the transaction throwing an exception. In this case the transaction remains in the queue to be retried
- ▼ Stop the transaction from being sent to the external system by throwing 'SKIP_TRANSACTION' exception. In this case the transaction is not saved in Maximo and is removed from the queue
- ▼ Log the transaction

You identify the interface processing class in the Integration Interfaces application, on the Inbound Integration Points subtab of the Interface tab.

User Exit Postprocessing

In the second exit, both the IR and ER are available for processing. Inbound transaction customization can be done in the second exit using the following method:

```
public StructureData setUserValueIn(StructureData irData,  
StructureData erData)
```

This method can perform the following processing:

- ▼ Validate data
- ▼ Change external data by changing IR record to be saved in Maximo
- ▼ Map additional data from the ER to the IR
- ▼ Stop further processing of the transaction throwing an exception. In this case the transaction remains in the queue to be retried
- ▼ Stop the transaction from being sent to the external system by throwing a SKIP_TRANSACTION exception. In this case the transaction is not saved in Maximo and is removed from the queue
- ▼ Log the transaction

You identify the interface user exit class in the Integration Interfaces application, on the Inbound Integration Points subtab of the Interface tab.

NOTE The Java user exits also provide an exit point that is executed just before the MBO is saved in Maximo. For more information, see "MBO User Exit Processing," on page 15-18.

Integration Object and MBO Processing Rules

For information about the processing rules engine that lets you customize integration objects and MBOs in inbound transactions without writing Java code or using XSL, see Chapter 14, "Customization with Processing Rules," on page 14-1.

Integration Point Processing

Processing classes exist for some, but not all, predefined integration points. These classes contain business logic to support the processing of the integration object. You can customize the processing class by extending the processing class and overriding specific methods.

The Javadocs list the methods which can be overridden for the integration point processing class.

CAUTION If you replace the predefined processing class associated with a predefined integration point, the integration object might not support the same functionality that it supported with the predefined processing class.

This class can perform the following processing:

- ▼ Validate data
- ▼ Change the data in an integration object
- ▼ Create new MBOs
- ▼ Call specific methods on a MBO

You must create a new integration point and associate the integration point processing class with it. You identify the integration point processing class in the Integration Objects application, in the Inbound Integration Points data window of the Integration Point tab. You associate the new integration point with the interface in the Interfaces application, on the Inbound Integration Points subtab of the Interface tab.

MBO User Exit Processing

The Java user exits also provide an exit point that is executed just before the MBO is saved in Maximo. This MBO user exit is called after Maximo processing and can process MBO objects created in Maximo by using the following method:

```
public void setUserMboIn(MboRemote mbo)
```

where the mbo parameter is a reference to a primary MBO in the integration object

This method will be called only once for the primary MBO. For an XML transaction with multiple nouns, the MBO exit will be called once for each noun.

This method can perform the following processing:

- ▼ Validate data
- ▼ Stop the transaction from being saved in Maximo by throwing a Maximo exception. In this case the transaction remains in the queue and is retried
- ▼ Log the transaction

You identify the interface user exit class in the Integration Interfaces application, on the Inbound Integration Points subtab of the Interface tab.

Adding and Modifying Integration Components

16

Maximo lets you create new integration components (adapters, integration objects, interfaces, and external systems) and modify existing ones that do not completely meet your business requirements. This chapter explains how to create new components and modify existing ones. It is directed to developers and support personnel.

This chapter contains the following sections:

- ▼ Adding or Modifying a Component
- ▼ Creating an Integration Object
- ▼ Modifying a Predefined Integration Object
- ▼ Creating an Integration Point
- ▼ Modifying a Predefined Integration Point
- ▼ Creating Adapters and Interfaces
- ▼ Modifying Predefined Adapters and Interfaces
- ▼ Creating an External System
- ▼ Modifying a Predefined External System

Adding or Modifying a Component

Depending on the scope and requirements of your implementation, you can create new components or duplicate, modify, or extend the predefined components.

Duplicating an integration component and modifying the copy has several advantages. The copy becomes a user-defined entity, and modification restrictions that apply to the predefined component do not apply to the copy. Duplication also retains the original version of the component, in case you have to revert back to it.

Creating an Integration Object

Maximo provides numerous predefined integration objects, which form the basis for interfaces across multiple functional areas such as purchasing, work management, and inventory. If your business requires an integration for which a predefined object does not exist, you can create an integration object and interface to support this exchange of data to and from Maximo.

To create an integration object, you must complete the following activities:

- ▼ Determine the required data objects and fields
- ▼ Build the integration object

Determining the Required MBOs

Determining which data to include in an integration object requires some knowledge of the Maximo applications and MBOs. Begin by using the related application and examining the data model to determine which MBOs, database tables, and/or views contain the data you need to transfer between Maximo and an external system.

NOTE An integration object is built from MBOs, so even if you determine the database tables where the required data is maintained, you must find out which MBOs populate these tables. Generally, Maximo has a one to one relationship between a MBO and a database table, though there are cases where multiple MBOs write data to a single table.

Example

Assume that you need to send purchase requisitions to and from Maximo, but Maximo does not provide a predefined integration object with purchase requisition data.* After using the purchasing requisition application, you determine that the data you need resides in the following tables: PR, PRLINE, PRCOST, PRTERM. The tables have the same name as the corresponding MBOs, so you will include the PR, PRLINE, PRCOST, and PRTERM MBOs in the integration object that you create. The resulting interface will contain the data fields in those MBOs.

* Maximo actually does provide a predefined purchase requisition integration object, MXPR.

NOTE In this example, the Maximo database tables and the corresponding MBOs have the same name. This will not be true in all cases.

Building the Integration Object

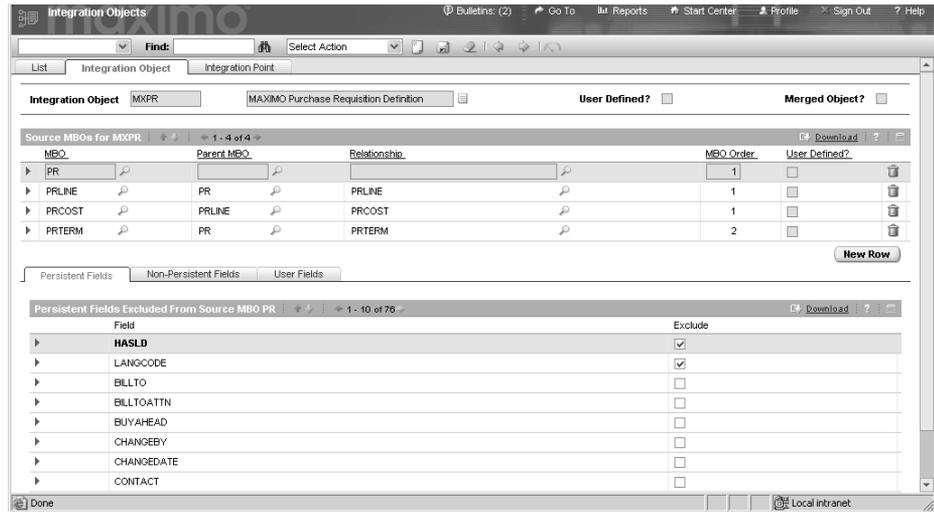
After identifying the necessary MBOs, you create the integration object on the Integration Object tab in the Integration Objects application. To build an integration object containing the purchase requisition MBOs in the preceding example, perform the following activities. For step by step procedures, refer to the online help for the Integration Objects application.

CAUTION Due to XML requirements, the name of the integration object must begin with an alphabetic character.

- 1 Enter PR as the primary (top-level) source MBO, then PRLINE as the child MBO. PR becomes the parent of PRLINE.
- 2 Select the predefined MBO relationship that contains the appropriate *where* clause linking the PR and PRLINE MBOs. If the application displays multiple relationships, examine the *where* clauses to determine which one to use.
- 3 Repeat the preceding steps for the remaining required MBOs. PRLINE becomes the parent to PRCOST, and you must indicate the relationship between those two MBOs. Do the same with PR (parent) and PRTERM (child).

When you finish, your screen will look like the following example:

Integration Object Tab in Integration Objects Application



NOTE The preceding steps describe the process of creating a standard, hierarchical integration object. A merged integration object contains multiple MBOs that are mutually exclusive in a transaction and therefore do not have a hierarchical relationship. For example, the receipts integration object, MXRECEIPT, contains the material receipt MBO (MATRECTRANS) and the service receipt MBO (SERVRECTRANS). These two MBOs do not have a relationship; each is independent of the other, but they are processed by the same integration point and presented to the external system in the same interface. This structure lets the external system use one interface (for material and service receipts), rather than two, to integrate receipts with Maximo.

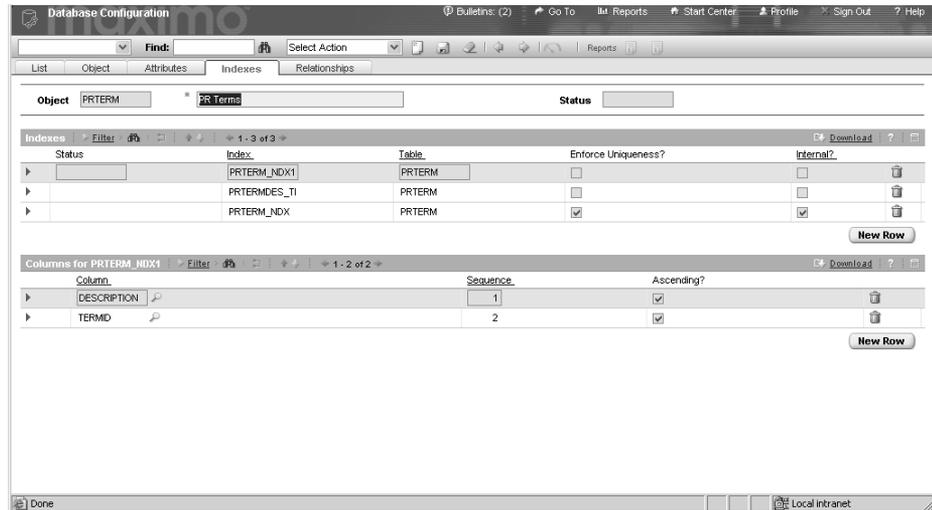
Alternate Keys

An inbound transaction normally uses the primary key of a MBO to look up and process records in Maximo. However, in some cases a primary key is an internally generated value that is not available to an external system. In such cases, the external system passes an alternate key, and Maximo uses that value to process the MBO.

If you need to specify an alternate key for a MBO in your integration object, do so by identifying the alternate key as a Maximo index, in the Database Configuration application of the Configuration module. That application also identifies the primary keys of the MBOs.

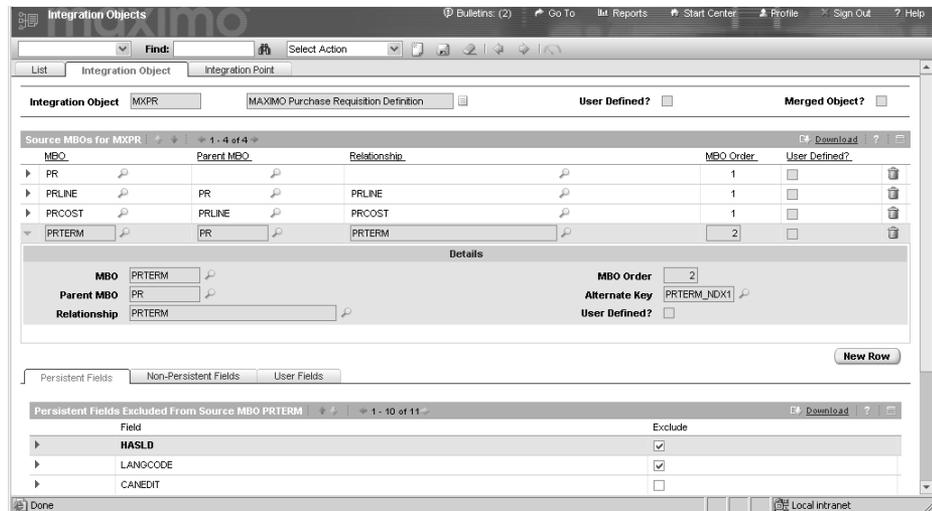
CAUTION When using alternate keys, do not change or drop associated indexes relevant to the interfaces that you use. Doing so can result in the failure of inbound transactions.

Indexes Tab in Database Configuration Application



To instruct Maximo integration processing to use the alternate key, enter the name of the alternate key on the Integration Object tab in the Integration Objects application.

Integration Object Tab with Alternate Key



Example

The primary key of the PR MBO consists of PRNUM and SITEID. On an inbound transaction, Maximo normally tries to find the PR MBO by using the PRNUM and SITEID. If the integration object indicates an alternate key, Maximo uses that value, instead of the primary key, to access the MBO.

Required Fields

Maximo and the external system will likely need to exchange only a subset of the data columns in the MBOs within the integration object. Subject to certain restrictions, you can add and exclude integration object columns. You do this via the Persistent Fields, Non-Persistent Fields, and User Fields subtabs on the Integration Object tab.

Persistent Fields

By default, Maximo includes in integration objects all persistent columns in the component MBOs. A persistent column is a data field whose value a MBO writes to a database table after processing. You can exclude persistent columns that you are not mapping. For outbound transactions, Maximo writes only included persistent columns to the XML message. For inbound transactions, Maximo only updates only the MBO columns that are included in the integration object.

CAUTION Do not exclude any column that is part of a primary or alternate key.

Non-Persistent Fields

By default, Maximo excludes from integration objects most non-persistent columns in the component MBOs. A non-persistent column is a temporary data field whose value a MBO uses for calculations, interim storage, and so on. You can include additional non-persistent columns in the integration object. For example, MBOs that contain the persistent column DESCRIPTION also contain the non-persistent column DESCRIPTION_LONGDESCRIPTION. The integration object automatically includes the former column and excludes the latter.

User Columns

You also can add user fields to an integration object. A user field is a data field that is required by processing rules, non-MAXIMO adapters, or custom code. It becomes part of the definition of the integration object, but it is not part of any MBO definition and no MBO uses it. You set the value of user fields through interface processing rules or Java exit classes.

Interface Table and Flat File Considerations

If you will use the integration object in interfaces tables or flat files, review the column names within the integration object to determine if duplicates exist. If they do, modify the Alias value for the duplicate columns, to ensure that all column names are unique and Maximo can generate the interface table or flat file without errors. For more information, see “Duplicate Columns and Aliases” on page 5-6.

Interface tables require that all columns included in the corresponding MBO have an Alias name of eighteen or fewer characters. Use the Add/Modify Alias dialog box in the Integration Objects application to change the Alias value for a MBO column. You access this dialog box via the Add/Modify Alias option in the Select Action menu.

Inbound Setting Restrictions

Most MBOs have a unique identifier column whose value is generated when the record is written to the database. A setting restriction on such columns ensures that the MBO will always generate the column value and not set it using a value sent from an external system. The Inbound Setting Restrictions dialog box displays predefined restrictions and lets you enter additional ones if necessary. You access this screen via the Select Action menu in the Integration Objects application.

Inbound Setting Restrictions Dialog Box

The screenshot shows the 'Inbound Setting Restrictions' dialog box. At the top, the 'Integration Object' is set to 'MXPR' (MAXIMO Purchase Requisition Definition). Below this, there is a table titled 'Source MBOs for MXPR' with columns for MBO, Parent MBO, Relationship, and MBO Order. The table contains the following data:

MBO	Parent MBO	Relationship	MBO Order
PR			1
PRLINE	PR	PRLINE	1
PRCOST	PRLINE	PRCOST	1
PRTERM	PR	PRTERM	2

Below the source MBOs table is another table titled 'Inbound Setting Restrictions For MBO PR'. It has two columns: 'Field' and 'Restricted?'. The fields listed are PRID, STATUSDATE, STATUS, BILLTO, BILLTOATTN, BUYAHEAD, CHANGEBY, CHANGEDATE, CONTACT, and CONTRACTREFID. The 'Restricted?' column contains checkboxes, with PRID, STATUSDATE, and STATUS checked.

Field	Restricted?
PRID	<input checked="" type="checkbox"/>
STATUSDATE	<input checked="" type="checkbox"/>
STATUS	<input checked="" type="checkbox"/>
BILLTO	<input type="checkbox"/>
BILLTOATTN	<input type="checkbox"/>
BUYAHEAD	<input type="checkbox"/>
CHANGEBY	<input type="checkbox"/>
CHANGEDATE	<input type="checkbox"/>
CONTACT	<input type="checkbox"/>
CONTRACTREFID	<input type="checkbox"/>

At the bottom right of the dialog box, there are 'OK' and 'Cancel' buttons.

Modifying a Predefined Integration Object

You can modify predefined integration objects, subject to the following restrictions.

Content MBOs of an Integration Object

You can add MBOs to a predefined integration object, but you cannot delete predefined MBOs from the integration object. You can circumvent this restriction by duplicating the predefined integration object, thereby creating a user-defined integration object, and deleting MBOs from the copy.

MBO Columns

You can include and exclude persistent, non-persistent, and user columns, within the scope of the standard validations.

Outbound transactions automatically include the columns for MBOs that you add to an integration object. Test inbound transactions to ensure that the added MBO columns are processed successfully. If not, add an integration point processing class to handle the inbound processing.

Inbound Setting Restrictions

Do not remove any predefined setting restrictions, or inbound processing might fail.

Interface table and Flat File Considerations

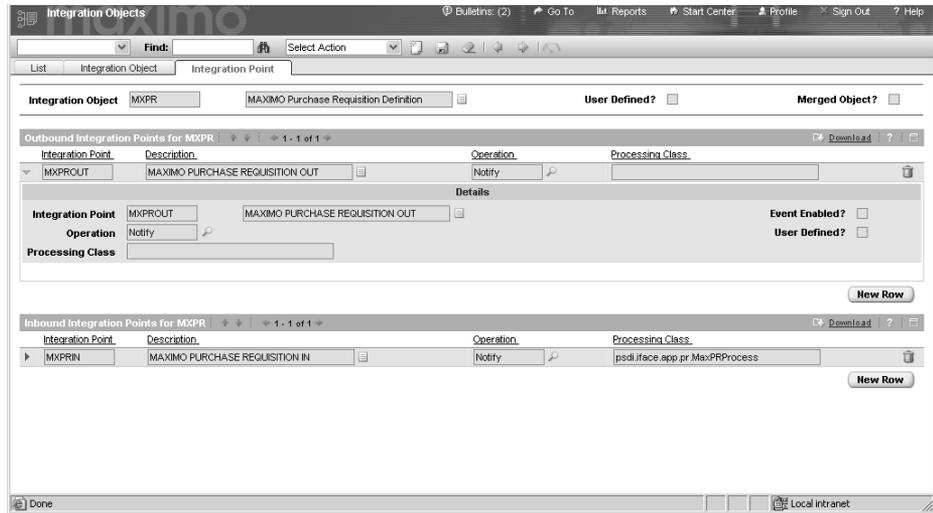
If you will use the integration object in interfaces tables or flat files, see "Interface Table and Flat File Considerations," on page 16-6.

If you use interface tables, regenerate the table for every interface that uses the modified integration object.

Creating an Integration Point

After you create an integration object, you identify one or more integration points for the object. The integration point specifies the type of operation (Notify, Query, or Response) and the processing direction (inbound or outbound) that the integration object will support. You perform this activity on the Integration Point tab in the Integration Objects application.

Integration Point Tab in Integration Objects Application



Notify Operation

Integration points with a Notify operation are used to synchronize data between Maximo and an external system. The Notify operation applies to inbound and outbound transactions.

Query and Response Operations

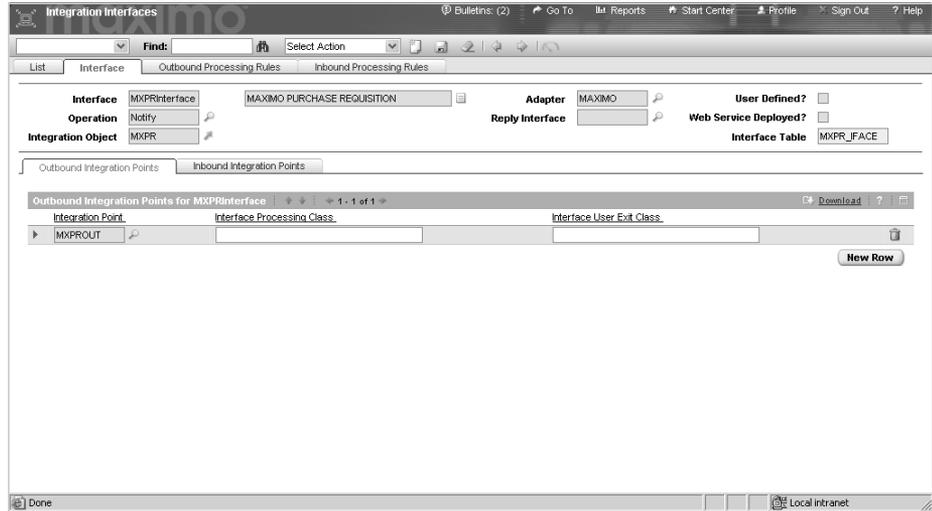
Integration points with a Query operation are used to execute inbound queries on Maximo. The query result set is returned via an integration point with a Response operation. For more information about query and response operations, see Chapter 17, "Using Integration Queries," on page 17-1.

Processing Classes

You can optionally associate a custom Java class with an integration point.

Maximo automatically generates outbound transactions in the XML format of the integration object. Unless you are mapping the data to a different XML format, you do not need to provide an outbound processing class. If you do provide one, associate it with the appropriate interface. You do this in the Integration Interfaces application, on the Outbound Integration Points subtab of the Interface tab.

Outbound Integration Points Subtab in Integration Interfaces Application



Inbound transactions sometimes require a processing class to direct a MBO to perform certain processing. For example, changing the status of a purchase requisition (PR) requires that a processing class associated with the integration point call a specific method to do a PR status change. This behavior varies from MBO to MBO, as some inbound transactions require a processing class to direct the MBO to insert, update, or delete data, and some do not.

NOTE If multiple interfaces are associated with the same integration point, the processing class executes for each of those interfaces.

Modifying a Predefined Integration Point

You cannot delete predefined inbound or outbound integration points. To change the behavior of a predefined processing class associated with an integration point, create a new integration point for the corresponding integration object and use a custom processing class in place of the predefined class. For more information about extending a predefined processing class, see Chapter 15, "Customization with User Exits," on page 15-1.

Creating Adapters and Interfaces

After defining an integration object and integration point, you define the interface that will exchange the data in the integration object with the external system. This section details considerations in defining interfaces.

Creating an Adapter

Interfaces are grouped together by adapter type, so first determine whether you need to create an adapter or you can use the predefined MAXIMO adapter.

The following restrictions apply to your choice of adapter type:

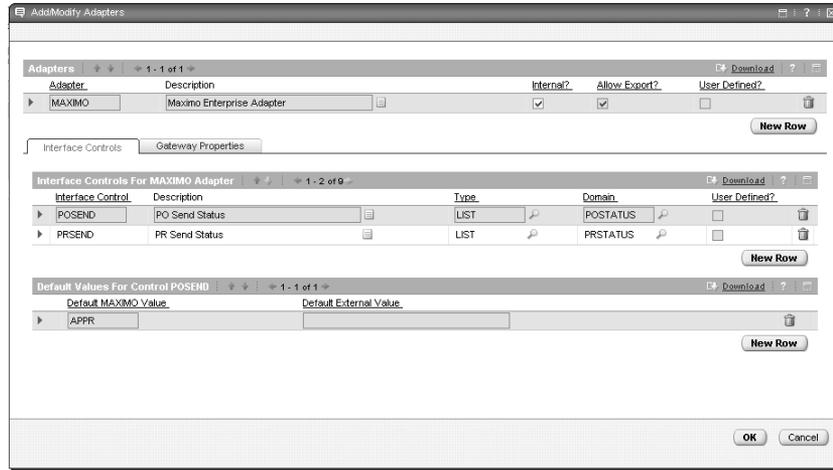
- ▼ If you plan to expose your interfaces as Web services, you must use the MAXIMO adapter. Only interfaces defined within the MAXIMO adapter can be Web services-enabled.
- ▼ If you plan to use interface tables or the Data Import or Data Export feature, you must use an internal type adapter. The MAXIMO adapter is an internal type adapter.

The Add/Modify Adapters dialog box contains a check box called Internal? A check in this box indicates an internal type adapter; no check indicates an external type adapter.

- ▼ To use the Maximo XML format, you can use the MAXIMO adapter or define your own internal type adapter.
- ▼ To map to a different XML format, create an external type adapter.

You maintain adapters in the Add/Modify Adapters dialog box, which you access via the Select Action menu in the Integration Interfaces application. You can create multiple adapters, if necessary.

Add/Modify Adapters Dialog Box



Gateway Properties

The gateway properties of an adapter identify the location of the interface name and external system name within an XML transaction that is received via the integration gateway. You maintain these properties on the Gateway Properties tab of the Add/Modify Adapters dialog box. For more information about the gateway properties, see Chapter 8, "Integration Gateway," on page 8-1.

Interface Controls and Processing Rules

Interface controls are adapter properties that help to implement the data mapping and business rules performed by Java classes and processing rules. Each adapter has its own set of interface controls, and you can configure different values for each external system that uses the adapter. You maintain interface controls on the Interface Controls tab of the Add/Modify Adapters dialog box. For more information about interface controls and processing rules, see Chapter 14, "Customization with Processing Rules," on page 14-1.

Creating Interfaces

After determining which adapter to use, you can create new interfaces for the adapter. You perform most of the activity on the Interface tab in the Integration Interfaces Application.

Interface Tab in Integration Interfaces Application

The screenshot shows the 'Integration Interfaces' application window. The 'Interface' tab is active, displaying configuration for 'MXPRInterface'. The 'Operation' is set to 'Notify', and the 'Integration Object' is 'MXPR'. The 'Adapter' is 'MAXIMO'. The 'Interface Table' is 'MXPR_FACE'. Below this, there are sections for 'Outbound Integration Points' and 'Inbound Integration Points'. The 'Outbound Integration Points' section shows a table with columns for 'Integration Point', 'Interface Processing Class', and 'Interface User Exit Class'. The 'Integration Point' is 'MXPROUT'. The 'Details' section shows fields for 'Integration Point', 'Interface Processing Class', 'Interface User Exit Class', and 'XSL Map'. A 'New Row' button is visible at the bottom right of the table.

Integration Objects

For an internal type adapter, specify the integration object that is the basis for the interface. For an external type adapter, do not specify an integration object.

Interface Tables

For an internal type adapter, you can optionally change the interface table name for the interface.

Query and Response Type Interfaces

To create integration queries, you must first create a reply interface (operation = Response). You then create the query type interface (operation = Query) and associate the reply interface with it. For more information, see Chapter 17, "Using Integration Queries," on page 17-1.

Ignore the Reply Interface field when creating a data synchronization (operation = Notify) interface.

Inbound and Outbound Processing

Associate an outbound interface with the outbound integration point whose integration object will provide the content of the interface. By default, Maximo writes outbound transactions in the XML format of the integration object. If the external system requires a different XML format, you can use an interface processing class, a user exit class, and/or an XSL map file to map the XML to that format or to apply business rules.

Associate an inbound interface with an inbound integration point. As with outbound processing, you can provide an interface processing class, a user exit class, and/or an XSL map file, if necessary, to map the interface XML to the integration object XML. If the inbound data is not in the XML format of the integration object following the execution of the interface processing class, a processing error will occur.

For more information about XML, see Chapter 4, "Maximo XML and Schema," on page 4-1.

You also can implement processing rules or Java classes to customize inbound or outbound interface processing. For more information, see the following chapters:

- ▼ Chapter 14, "Customization with Processing Rules," on page 14-1
- ▼ Chapter 15, "Customization with User Exits," on page 15-1

Integration Points

An inbound interface can map to one or more integration points. For example, provided the interface contained all the required data elements, a purchase order interface could update a vendor and a purchase order by mapping to the PO integration point (MXPOIN) and the vendor integration point (MXVENDORIN).

When mapping to multiple integration points, specify the sequence in which Maximo must process the integration points, in the Process Order field.

NOTE Mapping to multiple integration points involves a single database transaction, so an error in one part of the processing will cause the whole transaction to fail.

Multiplication Controls

An inbound interface can use a multiplication control, which is an interface control that multiplies a transaction for multiple sites or organizations within Maximo. For example, a multiplication control can direct inbound processing to multiply a single vendor transaction and make it available to every organization within Maximo. For more information, see Chapter 14, "Customization with Processing Rules," on page 14-1.

Web Services

If the interfaces are defined within the MAXIMO adapter, you can expose your inbound interface as a Web service. For more information, see Chapter 18, "Maximo Web Services," on page 18-1.

Modifying Predefined Adapters and Interfaces

Rather than create a new adapter and new interfaces, you might prefer to duplicate predefined interfaces and change the copies. You can modify predefined adapters and interfaces, subject to the following restrictions.

Adapters

Within an adapter, you can modify the value of predefined interface controls and create new controls. Changes to an adapter do not filter down to external systems already using the adapter, so if you add new controls to an adapter, you must manually add them to the applicable external systems.

You cannot change the gateway properties of a predefined adapter.

Interfaces

You can assign a multiplication control to multiply an inbound transaction to multiple Maximo organizations or sites.

You can change the interface table name of a predefined interface. After making the change, regenerate the interface table.

You can associate only one integration point with the outbound interfaces provided with the MAXIMO adapter. You cannot delete predefined outbound integration points.

You can associate additional integration points with the predefined inbound interfaces. If you do, provide an interface processing class, interface user exit class, and/or an XSL map file to map the interface XML to the XML format of the integration object associated with the integration point.

The MAXIMO adapter does not include any interface processing classes.

Creating an External System

After creating or modifying integration objects, integration points, and interfaces, you create an external system and associate the applicable interfaces with it. You perform these activities in the External Systems application.

Adapters and External Systems

An external system is associated with a single adapter. The predefined external system, EXTSYS1, uses the MAXIMO (default) adapter. If you create a new adapter, you must create a new external system to process that adapter.

Queues

A new external system can use the predefined JMS queues or queues that you create. Assign at least one inbound or outbound queue to the external system.

End Points and Handlers

Select the end point and handler that Maximo will use to send transactions to the external system, and define the properties for end point and handler combination. For more information, see Chapter 9, "Router," on page 9-1.

Interfaces

Identify and enable the interfaces that the external system will process.

For outbound interfaces:

- ▼ Decide if an interface will be generated via the Data Export feature or event based transactions (data updated via a Maximo application).

In the former case, enter the Data Export properties. You do this via the Data Export button on the Outbound Interfaces tab.

In the latter case, enable the event that will trigger the transaction. You do this via the Enable/Disable Integration Events option on the Select Action menu.

- ▼ Enable the interface for outbound processing.

For inbound interfaces:

- ▼ Indicate whether the interface will be processed through the sequential or continuous JMS queue.
- ▼ Enable the interface for inbound processing.
- ▼ The external system must provide an action attribute to indicate the processing that the MBO must perform. For more information, see Chapter 4, "Maximo XML and Schema," on page 4-1.

NOTE If you use interface tables, see Chapter 5, "Interface Tables," on page 5-1 for processing requirements.

Modifying a Predefined External System

You can modify any property of a predefined external system except the name of the adapter. You can create a new external system for an existing adapter by duplicating the predefined system, then updating the copy. Duplicating an external system copies its interfaces and their settings, and its interface controls and their values.

Maximo's XML query framework lets an external system send an XML query to Maximo and receive a synchronous XML response back. A query can be executed using RMI and SOAP request (Web service).

This chapter is addressed to anyone who will use the query framework to send queries to Maximo. Before reading this chapter, read Chapter 4, "Maximo XML and Schema," for an overview of Maximo's XML structure.

This chapter contains the following sections:

- ▼ Query Creation
- ▼ Header Attributes for Query Type Interfaces
- ▼ Header Attributes for Response Type Interfaces
- ▼ Content Element for Query Type Interfaces
- ▼ Content Element for Response Type Interfaces
- ▼ Web Service Queries

Query Creation

Creating a query is a two-part process that consists of defining the query and the corresponding response. Like data synchronization transactions, query and response transactions require integration objects, integration points, and interfaces. They can use existing integration objects, but they cannot use integration points and interfaces defined for data synchronization transactions. Maximo provides a sample query and response type interface, `MXINVBALQInterface`, that you can use as a reference when building your own interfaces.

Note the following points about the query framework:

- ▼ The query framework is intended to provide a mechanism for external systems to query Maximo for information.
- ▼ Only interfaces within the MAXIMO (default) adapter can perform queries.
- ▼ The integration object associated with a query type interface must be a standard, not a merged, integration object.
- ▼ A query and its corresponding response interface must use the same integration object.

To create a query, perform the following tasks:

- 1 Identify the MBOs that the query needs to access, and create an integration object containing those MBOs.
- 2 Define an inbound query (operation = Query) integration point and an outbound response (operation = Response) integration point for the integration object.
- 3 In the MAXIMO adapter, define a query interface and a response interface that use these integration points.
- 4 Associate the query and response type interfaces with an external system, and enable them.

Header Attributes for Query Type Interfaces

The following attributes apply to the Header element in query type interfaces (operation= Query). They provide information about the response that the query expects to receive. All are optional.

Header Element Attributes for Queries

Attribute	Description
uniqueResult	<p>1 = The query expects to receive a single record as a response. Maximo returns an error if the result set contains multiple records.</p> <p>0 = The result set can contain multiple records. This is the default behavior if this attribute is not included in the Header.</p>
maxItems	<p>If the result set can contain multiple records, this attribute identifies the number of records the response type interface will return at a time. This lets you limit the number of records in the response, in case the query's result set contains a large volume of records. If this attribute is not specified, the response type interface will contain the entire result set.</p>
rsStart	<p>Used in conjunction with maxItems to specify the first record to be returned in a response type interface.</p> <p>Example: If maxItems=10 and rsStart is not specified, the response type interface returns results 1 through 10. To receive results 11 through 20, resend the query with rsStart=11.</p> <p>If rsStart is not specified, the response type interface starts with the first record in the result set. If the number of records in the query's result set is lower than the value of rsStart, the response type interface returns no records.</p>

Example

The response to this query will return records 11 through 20 of the query result set.

```
<MXPOQueryInterface xmlns="http://www.mro.com/mx/integration"
language="EN">
  <Header operation="Query" uniqueResult="0" maxItems="10"
rsStart="11">
```

Header Attributes for Response Type Interfaces

The following attributes apply to the Header element in response type interfaces (operation = Response). They provide information about the content of the response.

Header Element Attributes for Responses

Attribute	Description
rsStart	<p>The first record in the response type interface. This value matches the rsStart value in the corresponding query type interface.</p> <p>If the corresponding query contains a maxItems attribute, its requests for additional records should have the following value in the rsStart attribute: $rsStart + rsCount + 1$.</p> <p>If not specified, the response type interface starts with the first record in the result set and includes the number of records specified by the rsCount attribute.</p>
rsCount	The number of records in the response type interface.
rsTotal	<p>The total number of records in the query result set.</p> <p>If the query does not specify a value for maxItems, the rsTotal value is the same as the rsCount value.</p>

Example

This response contains records 11 through 20 of the query result set. The query result set contains 35 records.

```
<MXPOQueryInterface xmlns="http://www.mro.com/mx/integration"
language="EN">
  <Header operation="Response" rsStart="11" rsCount="10"
rsTotal="35">
```

NOTE The XML in a response type interface looks the same as the XML in a data synchronization interface. The primary difference is that a response uses a different set of attributes for the Header element.

Content Element for Query Type Interfaces

The Content element in a query type interface contains the selection criteria for the query. Queries can select records based on a single value or a range of values.

NOTE The selection criteria can apply only to the top-level MBO in the integration object. However, the response can include data from all the MBOs in the integration object.

For example, a query against the predefined purchase order integration object (MXPO) must select records based on values in the top-level MBO (PO), but the response can include data from the PO, POLINE, POCOST, and POTERM MBOs. For this integration object, you cannot build a query that selects records based on, for example, the item number in the POLINE MBO.

Operator Attribute

The operator attribute compares the value of a database field with one or more other values. It has the following format:

```
operator = "value"
```

The value attribute can use the following values.

Operator Attribute Values

Value	Description
=	equal
!=	not equal
<	less than
<=	less than or equal
>	greater than
>=	greater than or equal

The operator attribute applies to query type interfaces only. Maximo ignores the operator attribute if it appears in non-query type interfaces. Use the less than and greater than attributes with numeric and date fields only.

Example

To find all POs in a currency other than US dollars, format the query as follows:

```
<MXPOQueryInterface xmlns="http://www.mro.com/mx/integration"
language="EN">
  <Header operation="Query">
    <SenderID>EXTSYS1</SenderID>
  </Header>
  <Content>
    <MXPO>
      <PO>
        <CURRENCYCODE operator="!=">USD</CURRENCYCODE>
      </PO>
    </MXPO>
  </Content>
</MXPOQueryIface>
```

Field Selection

A field-based query compares the value in a database field with a prespecified value. The value is not case-sensitive.

Examples

The following query searches for purchase orders where VENDOR is equal to *ATI* and STATUS is equal to *APPR*.

```
<MXPO>
  <PO>
    < VENDOR operator="=">ATI</VENDOR>
    < STATUS operator="=">APPR</STATUS>
  </PO>
</MXPO>
```

The following query searches for purchase orders where VENDOR is like *%ATI%* and STATUS is like *%APPR%*.

```
<MXPO>
  <PO>
    < VENDOR>ATI</VENDOR>
    < STATUS>APPR</STATUS>
  </PO>
</MXPO>
```

NOTE The preceding query format treats *ATI* and *APPR* as if *%* wildcards exist before and after the hard-coded values. You cannot further restrict the search criteria (that is, you cannot specify *%API* or *API%*).

The following queries search for inventory balances that do not have a bin number. The first one uses the operator attribute; the second one does not.

```
<MXINVBAL>
  <INVBALANCES>
    <BINNUM operator = "NULL"></BINNUM>
  </INVBALANCES >
</MXINVBAL>

<MXINVBAL>
  <INVBALANCES>
    <BINNUM >NULL</BINNUM>
  </INVBALANCES >
</MXINVBAL>
```

The following query searches for purchase orders with a status of APPR (approved) or CLOSED, by using the equivalent of an SQL *IN* clause.

```
<MXPO>
  <PO>
    <STATUS>APPR, CLOSED</STATUS>
  </PO>
</MXPO>
```

Range Selection

A query can search for database records with a value that falls within a range of values. The format varies, depending on whether the selection criteria is open ended or contains an upper and lower range.

Examples

The following query searches for purchase orders where TOTALCOST is greater than \$1000.

```
<MXPO>
  <PO>
    < TOTALCOST operator="> ;=">1000</TOTALCOST >
  </PO>
</MXPO>
```

The following query searches for purchase orders where TOTALCOST is greater than \$1000 and less than \$20000. It uses two instances of the integration object, the first with the *from* selection criteria, and the second with the *to* selection criteria:

```
<Content>
  <MXPO>
    <PO>
      < TOTALCOST operator="> ;=">1000</TOTALCOST >
    </PO>
  </MXPO>
  <MXPO>
    <PO>
      < TOTALCOST operator="< ;=">20000</TOTALCOST >
    </PO>
  </MXPO>
</Content>
```

NOTE A query can contain a maximum of two instances of the integration object. If others exist, the query use the first two instances in the XML and ignores the others.

Content Element for Response Type Interfaces

The content element for response type interfaces is an integration object similar to the data synchronization (operation = Notify) interface.

Web Service Queries

A query can be executed using RMI and SOAP request (Web service). For RMI examples, see the following file:

```
psdi.iface.samples.QueryClient.java
```

A successful response to a query executed via a Web service returns the query result set. If the result set is empty (it contains no records), the XML returned in the SOAP body will contain the Header element and an empty Content element.

If an error occurs, an HTTP response code of 500 is returned, along with a SOAP fault detailing the error message.

Use the following URL for the Query Web service:

```
http://<host>:<port>/meaweb/services/<interfacename>
```

where *<interfacename>* is the name of the query type interface.

NOTE You must expose the query type interface as a Web service. Do this via the Select Action menu in the Integration Interfaces application. For more information, see Chapter 18, "Maximo Web Services," on page 18-1.

All data synchronization (operation = Notify) and query (operation = Query) interfaces defined within the MAXIMO adapter can be exposed as a Web service, and these Web services can be used by external systems to query or send transactions to Maximo.

The Web services provided by Maximo are document-literal style Web services and comply with the Web services Interoperability Organization (WS-I) Basic Profile. Maximo generates XML schema files that contain the definition of each interface and a WSDL file to describe the service; and optionally registers the service in any private UDDI registry. Maximo uses Apache Axis 1.1 as the Web services engine.

NOTE Any inbound interface defined within the MAXIMO adapter can be deployed as a Web service.

This chapter discusses the configuration and deployment of Web services. It is directed to the system administrator and it contains the following sections:

- ▼ Web Services Configuration
- ▼ Web Service Deployment Actions
- ▼ XML Schema Generation
- ▼ WSDL Generation
- ▼ Web Service Deployment
- ▼ UDDI Registration
- ▼ Invoking a Maximo Web Service
- ▼ Web Services Security

Web Services Configuration

To configure Web services, complete the following steps:

- 1 Before starting the WebLogic or WebLogic server, specify the following system property in the application server JVM:

```
-Daxis.EngineConfigFactory=psdi.iface.webservices.WSEngineConfigFactory
```

This property ensures that the Web services information is persisted in an XML file (server-config.wsdd) and any deployed Web services are automatically made available on a system restart.

If you use BEA WebLogic and start the server with the startWeblogic script file, specify this property in the JAVA_OPTIONS section of that file.

If you use IBM WebSphere, use the WebSphere administrative console to specify this property in the Generic JVM arguments section. Go to:

Process Definition > Additional properties >
Java Virtual Machine > Generic JVM arguments

For more information on setting this property, refer to your application server documentation.

- 2 Start the WebLogic or WebSphere server.
- 3 In the Integration Interfaces application, select **Web Service Administration** from the Select Action menu.

- 4 Configure the following properties in the Web Service Administration dialog box.

Web Service Properties

Property	Required/Optional
Integration UDDI Registry Inquiry URL	Optional Required if the user wants to register the Web services in a UDDI registry
Integration UDDI Registry User ID	Optional Required if the UDDI Registry is protected by a user name and password.
Integration UDDI Registry Password	Optional Required if the UDDI Registry is protected by a user name and password
Integration UDDI Registry Publish URL	Optional Required if the user wants to register the Web services in a UDDI registry
Integration Web Application User ID	Optional Required if the integration Web application is protected by HTTP authentication
Integration Web Application Password	Optional Required if the integration Web application is protected by HTTP authentication
Integration Web Application URL	Required

- 5 If necessary, change the IntegrationPostSize parameter in the web.xml file of the MEA Web application.

This parameter specifies the maximum size message that can be sent to Maximo via a Web service. The default value is 5MB, and anything larger will be rejected. This limitation exists because a very large message can cause an OutOfMemoryError when an XML parser tries to parse it.

After completing these configuration activities, you can deploy a Web service for the applicable interface(s).

Web Service Deployment Actions

You deploy a Web service via the Deploy Web Service option in the Select Action menu in the Integration Interfaces application. Web service deployment is by interface; you must select the interface for which the Web service is to be deployed before you perform the deployment action.

When you deploy a Web service for an interface, the following events occur.

- ▼ If they do not already exist, schemas are generated for the interface and the integration object used by the interface.

NOTE To generate a schema file without deploying a Web service, use the Generate Schema option on the Select Action menu.

- ▼ The Web Services Description Language (WSDL) file is generated for the interface.
- ▼ The Web service is deployed for the selected interface.
- ▼ If UDDI registry properties are configured, the Web service is registered in the UDDI registry.

The following sections of this chapter describe these activities.

XML Schema Generation

The generated schema files are stored in a folder called `schema`, which is located under the global directory. This folder contains the following subfolders:

- ▼ Interfaces
- ▼ IntegrationObjects
- ▼ MetaData

The subfolders contain the following files.

XML Schema Subfolders

Subfolder	File(s)	Contents
Interfaces	Integration interface schema files	The interface schema definitions. These refer to the integration object schema file via XML schema import mechanism.
Integration Objects	Integration object schema files	The integration object schema definitions. When multiple interfaces use the same integration object, a single integration object schema is used by all the interfaces.
MetaData	MXDataTypes.xsd	The common data types used across all the schemas. This file defines mapping between Maximo data types (for example, Amount, GL, YORN, and so on) and XML data types. It contains the operator attribute for all complex data types. This is a static schema file that is copied to the MetaData subfolder the first time a schema is generated for any integration object.
MetaData	MXIntegrationMeta.xsd	Common components (for example, header definitions and common base types) used across all the schemas. This is a static schema file that is copied to the MetaData subfolder the first time a schema is generated for any integration object.

You can view the generated integration interface schema in the View Schema dialog box in the Integration Interfaces application. You access this dialog box via the View Schema option in the Select Action menu.

You also can view the generated schema files at the following URLs.

URLs of Generated Schema Files

Schema	URL
Data Types	<code>http://<host>:<port>/meaweb/schema/MetaData/MXDataTypes.xsd</code>
Meta Data	<code>http://<host>:<port>/meaweb/schema/MetaData/MXIntegrationMeta.xsd</code>
Integration Object	<code>http://<host>:<port>/meaweb/schema/IntegrationObjects/ IntegrationObjectName.xsd</code>
Interface	<code>http://<host>:<port>/meaweb/schema/Interfaces/InterfaceName.xsd</code>

where

`<host>:<port>/meaweb` is the value of the Integration Web Application URL property (see "Web Services Configuration," on page 18-2).

`IntegrationObjectName` is the name of the integration object whose schema you are retrieving.

`InterfaceName` is the name of the interface whose schema you are retrieving.

WSDL Generation

The Web service description Language (WSDL) files are generated during the deployment of a Web service. The generated file refers to the XML Schema Interface file via schema import. The WSDL file defines a single operation, processDocument, and it uses the schema definitions to specify the XML structure of the input and output messages to this operation. The Web service style is *document* and the binding for the input and output messages is *literal*, as mandated by Web Services Interoperability Organization (WS-I) Basic Profile 1.0. The WSDL also specifies the URL on which to invoke the Web service.

A client program needs just the schema definitions and WSDL to generate client stubs/programs in any programming language (Java, C#, and so on) to invoke the Web service. A client program that generically invokes Maximo Web services is also provided (psdi.iface.webservices.WSCallClient).

The generated WSDL files are stored in a folder called wsd, which is located under the global directory. You can view the generated WSDL files in the View WSDL dialog box in the Integration Interfaces application. You access this dialog box via the View WSDL option in the Select Action menu.

You also can view the generated WSDL files at the following URL:

```
http://<host>:<port>/meaweb/wsdl/InterfaceName
```

where

<host>:<port>/meaweb is the value of the Integration Web Application URL property.

InterfaceName is the name of the interface whose WSDL you are retrieving.

Web Service Deployment

You deploy a Web service for an interface in the Deploy Action dialog box. You access this dialog box via the Deploy Web Service option in the Select Action menu.

If the admin service is protected by HTTP authentication, specify the HTTP user name and password in the Integration Web Application User ID and Integration Web Application Password properties, respectively, in the Web Service Administration dialog box.

The deployed Web service will be available at the following URL:

```
http://<host>:<port>/meaweb/services/InterfaceName
```

where

<host>:<port>/meaweb is the value of the Integration Web Application URL property property.

InterfaceName is the name of the interface for which the Web service is deployed.

Information about deployed Web services is written to an XML file called `server-config.wsdd`, which is stored under the global directory. If the application server is restarted, this information remains in the file and the Web services are automatically redeployed on startup.

To obtain the list of deployed (available) Web services, go to the following URL:

```
http://<host>:<port>/meaweb/services
```

where

<host>:<port>/meaweb is the value of the Integration Web Application URL property.

UDDI Registration

You can optionally register deployed Web services in a UDDI registry by configuring the following properties in the Web Service Administration dialog box:

- ▼ Integration UDDI Registry Publish URL
- ▼ Integration UDDI Registry Inquiry URL
- ▼ Integration UDDI Registry User ID
- ▼ Integration UDDI Registry Password

NOTE If you use a WebLogic application server, the UDDI registry is set up and enabled out of the box. If you use a WebSphere application server, refer to the WebSphere documentation for instructions on setting up the UDDI registry.

If you specify values for the UDDI registry publish URL and inquiry URL properties, Maximo will register the Web service in the UDDI registry. To bypass UDDI registration, do not specify any values for these properties.

Only the tModel for the WSDL is registered in the UDDI registry; businessEntity, businessService, and bindingTemplate are not registered. The UDDI registration entry contains the URL to the WSDL document.

Invoking a Maximo Web Service

Maximo Web services can be invoked using two different approaches:

- ▼ Dynamic Invocation Interface (DII) using the JAX-RPC API. A client program, `psdi.iface.webservices.WSCallClient`, is provided.
- ▼ Generate client stub programs using a Web services tool of your choice (for example, Axis or .NET) by referencing the Maximo generated WSDL and schema files. Axis provides such a tool (WSDL2Java).

When the Web service is invoked, the response is synchronous. A successful response returns an HTTP response code of 200, with a valid SOAP response message consisting of an empty SOAP body (the SOAP envelope only). This applies to data synchronization (operation = Notify) interfaces.

By default, SOAP faults that are returned do not contain the server side stack trace, as it represents a potential security risk. However, you can change this default by changing *false* to *true* in the following parameter in the `web.xml` file:

```
<init-param>
  <param-name>axis.development.system</param-name>
  <param-value>false</param-value>
</init-param>
```

When a Web service invokes a notify type interface, the inbound processing flow is the same as that of general integration processing, except that the Web service does not process through the integration gateway or use the JMS queues. For more information, see Chapter 3, "Outbound and Inbound Processing," on page 3-1.

For information about using Web services for query type interfaces, see Chapter 17, "Using Integration Queries," on page 17-1.

Web Services Security

For information about Web services security, see Chapter 12, "Security," on page 12-1.

Maximo can save some elements, such as descriptions and long descriptions, in multiple languages. These translated columns are included in the definition of interfaces and are processed in both directions; that is, Maximo can send and receive non-base language values to and from external systems.

This chapter is directed to the system administrator. As a prerequisite, read the section of the Maximo Enterprise Suite *System Administrator's Guide* that addresses multiple languages.

This chapter contains the following sections:

- ▼ Default Processing for Translatable Columns
- ▼ Outbound Multi-Language Processing
- ▼ Inbound Multi-Language Processing
- ▼ Additional Multi-Language Support

Default Processing for Translatable Columns

When a user logs into Maximo, he or she can choose a language code other than that of the Maximo base language. For any application in Maximo, the user can then enter language-specific values for columns that are designated as translatable.

When outbound transactions are generated, Maximo sends the applicable column values in the language associated with the logged-in user. This is true of transactions triggered via a Maximo activity or the Data Export feature.

Example

The Maximo base language is English. A user logs in as a French user, and updates an item record with a French description. The outbound message that is generated will have the item description in French, even if the description also exists in English or a third language.

Outbound Multi-Language Processing

The following columns and attributes apply to outbound multi-language transactions.

TRANS_LANGCODE Column

Outbound transactions contain a column called TRANS_LANGCODE, which contains the language code for translated columns within the transaction. The TRANS_LANGCODE column has been added to all predefined integration objects that have translatable columns. If you want to support translatable columns, add this field to the top-level MBO if you build new integration objects.

Many Maximo MBOs have a persistent column called LANGCODE. This column is used by the Maximo user interface for text searching column and it does not apply to the language of the transaction. By default, this column is excluded from integration objects. Do not include it in integration objects that you create.

Language Attribute

The root element of interfaces defined within the MAXIMO adapter contains a language attribute that identifies the Maximo base language, as shown in the following example:

```
<MXGLTXNInterface xmlns="http://www.mro.com/mx/integration"  
language="EN">
```

Langenabled Attribute

The XML generated by Maximo includes the *langenabled* attribute on every translatable column, as shown in the following example:

```
<DESCRIPTION langenabled="1">Item 1 description</DESCRIPTION>
```

Inbound Multi-Language Processing

The following column applies to inbound multi-language transactions.

TRANS_LANGCODE
Column

Inbound transactions containing language-specific values for translated columns must specify that language in the TRANS_LANGCODE column. A transaction can support only one language, so translated columns in a single transaction must be in the same language.

Additional Multi-Language Support

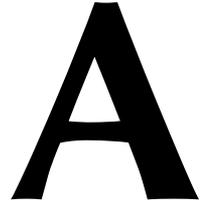
For every Maximo database table that contains translatable columns, there is a related table called *L_TABLENAME*, where *TABLENAME* is the name of the corresponding Maximo database table. The *L_TABLENAME* table stores the non-base language values for every translated column, with the exception of long description. Long descriptions in both the base and non-base languages are stored in the LONGDESCRIPTION table.

If you want your XML transactions to include every translated value (in a single message), include the *L_TABLENAME* and LONGDESCRIPTION MBOs in the applicable integration objects.

Example

If the Maximo base language is English, the ITEM table contains the English description of an item, the L_ITEM table contains the French and German descriptions of the item, and the LONGDESCRIPTION table contains the English, French, and German long descriptions.

MAXIMO Adapter Interface Components



This appendix provides an overview of the predefined components provided with the MAXIMO adapter. It lists each interface and the following information corresponding to each interface:

- ▼ Processing direction (I = inbound, O = outbound)
- ▼ Inbound and outbound integration points
- ▼ Inbound and outbound interface processing classes
- ▼ Integration object
- ▼ Default interface table name

This appendix has two sections. The first lists application interfaces, and the second lists system interfaces.

For detailed information about each interface, see Appendix B, "MAXIMO Adapter Interface Specifications," on page B-1.

Application Interfaces

Name of Interface	Direction(s)	Inbound Integration Point Outbound Integration Point	Inbound Processing Class Outbound Processing Class	Integration Object Default Interface Table
MXASSETInterface	I, O	MXASSETIN MXASSETOUT	psdi.iface.app.asset.MaxAssetProcess psdi.iface.app.asset.MoutAssetProcess	MXASSET MXASSET_IFACE
MXCOAInterface	I	MXCOAIN None	psdi.iface.app.coa.MaxCOAProcess Not applicable	MXCOA MXCOA_IFACE
MXCRAFTInterface	I, O	MXCRAFTIN MXCRAFTOUT	None None	MXCRAFT MXCRAFT_IFACE
MXEMPACTInterface	I, O	MXEMPACTIN MXEMPACTOUT	psdi.iface.app.empact.MaxEmpactProcess None	MXEMPACT MXEMPACT_IFACE
MXGLCOMPInterface	I	MXGLCOMPIN None	None Not applicable	MXGLCOMP MXGLCOMP_IFACE
MXGLTXNInterface	O	None MXGLTXNOUT	Not applicable psdi.iface.app.MoutGLProcess	MXGLTXN MXGLTXN_IFACE
MXINVBALInterface	I, O	MXINVBALIN MXINVBALOUT	psdi.iface.app.invbances.MaxInvBalances Process psdi.iface.app.invbances.MoutInvBalances Process	MXINVBAL MXINVBAL_IFACE
MXINVENTORYInterface	I, O	MXINVENTORYIN MXINVENTORYOUT	None psdi.iface.app.inventory.MoutInvProcess	MXINVENTORY MXINVENTORY_IFACE
MXINVISSUEInterface	I, O	MXINVISSUEIN MXINVISSUEOUT	psdi.iface.app.isu.MaxISUProcess psdi.iface.app.isu.MoutISUProcess	MXINVISSUE MXINVISSUE_IFACE
MXINVOICEInterface	I, O	MXINVOICEIN MXINVOICEOUT	psdi.iface.app.ap.MaxAPPProcess None	MXINVOICE MXINVOICE_IFACE
MXINVRESInterface	I, O	MXINVRESIN MXINVRESOUT	None psdi.iface.app.inventory.MoutRSVProcess	MXINVRES MXINVRES_IFACE
MXINVVENDORInterface	I, O	MXINVVENDORIN MXINVVENDOROUT	psdi.iface.app.invvendor.MaxInvVendorProcess psdi.iface.app.invvendor.MoutInvVendorProcess	MXINVVENDOR MXINVVENDOR_IFACE
MXITEMInterface	I, O	MXITEMIN MXITEMOUT	psdi.iface.app.item.MaxItemProcess psdi.iface.app.item.MoutItemProcess	MXITEM MXITEM_IFACE
MXLABORInterface	I, O	MXLABORIN MXLABOROUT	psdi.iface.app.labor.MaxLaborProcess psdi.iface.app.labor.MoutLaborProcess	MXLABOR MXLABOR_IFACE

Name of Interface	Direction(s)	Inbound Integration Point Outbound Integration Point	Inbound Processing Class Outbound Processing Class	Integration Object Default Interface Table
MXOPERLOCInterface	I, O	MXOPERLOCIN MXOPERLOCOUT	psdi.iface.app.location.MaxOperLocProcess psdi.iface.app.location.MoutOperLocProcess	MXOPERLOC MXOPERLOC_IFACE
MXPCInterface	I, O	MXPCIN MXPCOUT	psdi.iface.app.pc.MaxPurchaseContract None	MXPC MXPC_IFACE
MXPERSONInterface	I, O	MXPERSONIN MXPERSONOUT	psdi.iface.app.person.MaxPersonProcess None	MXPERSON MXPERSON_IFACE
MXPOInterface	I, O	MXPOIN MXPOOUT	psdi.iface.app.po.MaxPOProcess None	MXPO MXPO_IFACE
MXPRInterface	I, O	MXPRIN MXPROUT	psdi.iface.app.pr.MaxPRProcess None	MXPR MXPR_IFACE
MXPROJInterface	I, O	MXPROJIN MXPROJOUT	None None	MXPROJ MXPROJ_IFACE
MXRCVROTITMInterface	I, O	MXRCVROTITMIN MXRCVROTITMOUT	psdi.iface.app.rcv.MaxRcvRotItmProcess None	MXRCVROTITM MXRCVROTITM_IFACE
MXRECEIPTInterface	I, O	MXRECEIPTIN MXRECEIPTOUT	psdi.iface.app.rcv.MaxRCVProcess psdi.iface.app.rcv.MoutRCVProcess	MXRECEIPT MXRECEIPT_IFACE
MXSERVITEMInterface	I, O	MXSERVITEMIN MXSERVITEMOUT	None None	MXSERVITEM MXSERVITEM_IFACE
MXSTORELOCInterface	I, O	MXSTORELOCIN MXSTORELOCOUT	psdi.iface.app.MaxLocProcess psdi.iface.app.MoutLocProcess	MXSTORELOC MXSTORELOC-ITEM
MXTOOLITEMInterface	I, O	MXTOOLITEMIN MXTOOLITEMOUT	psdi.iface.app.MaxToolItemProcess psdi.iface.app.MoutToolItemProcess	MXTOOLITEM MXTOOLITEM_IFACE
MXVENDORInterface	I, O	MXVENDORIN MXVENDOROUT	psdi.iface.app.company.MaxComProcess None	MXVENDOR MXVENDOR_IFACE
MXVENDORMSTRInterface	I, O	MXVENDORMSTRIN MXVENDORMSTROUT	None None	MXVENDORMSTR MXVENDORMSTR_IFACE
MXWODETAILInterface	O	Not applicable MXWODETAILOUT	Not applicable psdi.iface.app.MoutWORsvProcess	MXWODETAIL MXWODETAIL_IFACE
MXWOInterface	I, O	MXWOIN MXWOOUT	psdi.iface.mic.StatefulMicSetIn None	MXWO MXWO_IFACE

System Interfaces

Interface	Inbound (I) Outbound (O)	Inbound Integration Point Outbound Integration Point	Inbound Processing Class Outbound Processing Class	Integration Object Default Interface Table
MXACTIONInterface	I, O	MXACTIONIN MXACTIONOUT	None None	MXACTION MXACTION_IFACE
MXCTEMPLATEInterface	I, O	MXCOMMTEMPLATEIN MXCOMMTEMPLATEOUT	None None	MXCTEMPLATE MXCTEMPLATE_IFACE
MXDOMAINInterface	I, O	MXDOMAININ MXDOMAINOUT	None None	MXDOMAIN None
MXENDPOINTInterface	I, O	MXENDPOINTIN MXENDPOINTOUT	None None	MXENDPOINT None
MXEXTSYSInterface	I, O	MXEXTSYSIN MXEXTSYSOUT	None None	MXEXTSYSTEM None
MXINTIFACEInterface	I, O	MXINTIFACEIN MXINTIFACEOUT	None None	MXIFACE None
MXINTOBJInterface	I, O	MXINTOBJIN MXINTOBJOUT	None None	MXINTOBJECT None
MXINTTYPEInterface	I, O	MXINTTYPEIN MXINTTYPEOUT	None None	MXIFACETYPE None
MXMAXROLEInterface	I, O	MXMAXROLEIN MXMAXROLEOUT	None None	MXMAXROLE MXMAXROLE_IFACE
MXMESSAGEInterface	I, O	MXMESSAGEIN MXMESSAGEOUT	None None	MXMESSAGE None
MXOBJECTCFGInterface	I, O	MXOBJECTCFGIN MXOBJECTCFGOUT	psdi.iface.app.configure.MaxObjcfgProcess None	MXOBJECTCFG None
MXWFInterface	I, O	MXWFIN MXWFOUT	psdi.iface.app.wf.MaxWFProcess None	MXWF None

MAXIMO Adapter Interface Specifications

B

This appendix provides details about the predefined interfaces provided with the MAXIMO adapter.

It contains the following sections:

- ▼ Master Data Interfaces
- ▼ Item Interfaces
- ▼ Document Interfaces
- ▼ Transaction Interfaces
- ▼ System Interfaces

Master Data Interfaces

This section describes the following types of interfaces:

- ▼ Asset
- ▼ Chart of Accounts
- ▼ Craft
- ▼ General Ledger Components
- ▼ Labor
- ▼ Operating Locations
- ▼ Person
- ▼ Financial Projects
- ▼ Storeroom Locations
- ▼ Vendor
- ▼ Vendor Master

MXASSETInterface—Asset Interface

Interface	MXASSETInterface
Detail Description	<p>Asset Interface</p> <p>This interface allows for bidirectional synchronization of asset information, including meters, between Maximo and any external system.</p> <p>This interface synchronizes individual assets, but not the asset hierarchy as a whole. It supports the addition and update of meters tied to an asset, but not the update of meter reading values.</p> <p>Inbound processing of ASSETMETER is restricted to attributes that define the meter (not meter reading values or other information pertaining to meter readings).</p>
Outbound Implementation Details	
Integration Point Processing Class Functionality	None
Interface Processing Rules	None
Interface Controls	None
Inbound Implementation Details	
Integration Point Processing Class Functionality	None
Interface Processing Rules	None
Interface Controls	None
Comments	<p>Prerequisite: Synchronize applicable operating locations, storerooms, meters, and items before using this interface.</p> <p>The MBO relationship used to retrieve the ASSETMETER MBO is different from the one used in the Assets application. Therefore, the changed attribute in the Maximo XML is not set for any values from this MBO.</p>

MXCOAInterface—Chart of Accounts Interface

Interface	MXCOAInterface
Detail Description	<p>Chart of Accounts Interface</p> <p>This interface allows for inbound synchronization of chart of accounts data.</p>
Outbound Implementation Details	
Integration Point Processing Class Functionality	Not applicable
Interface Processing Rules	Not applicable
Interface Controls	Not applicable
Inbound Implementation Details	
Integration Point Processing Class Functionality	<p>Processes accounts that are specified in the following ways:</p> <ul style="list-style-type: none"> ▼ As a combination of delimited segments <p>Example:</p> <pre><GLACCOUNT> <VALUE>6400-2-10</VALUE> </GLACCOUNT></pre> <p>The interface validates each segment, then creates the COA record in Maximo with:</p> <pre>GLACCOUNT=6400-2-10 GLCOMP01-6400 GLCOMP02=2 GLCOMP03=10</pre> <p>This option is available for XML and interface tables. You can specify GL Account this way in all interfaces.</p> <ul style="list-style-type: none"> ▼ As individual components that are part of the GLACCOUNT datatype definition <p>Example:</p> <pre><GLACCOUNT> <GLCOMP glorder="0">6400</GLCOMP> <GLCOMP glorder="1">2</GLCOMP> <GLCOMP glorder="2">10</GLCOMP> </GLACCOUNT></pre> <p>The interface validates the components and creates the account, using the delimiter defined in the GLCONFIGURE table for each segment.</p> <p>This option is available for XML only.</p>

Interface (Continued)	MXCOAInterface
	<p>▼ As individual components that are part of the CHARTOFACCOUNTS MBO definition</p> <p>Example:</p> <pre><CHARTOFACCOUNTS> <GLCOMP01>6400</GLCOMP01> <GLCOMP02>2</GLCOMP01> <GLCOMP03>10</GLCOMP01> </CHARTOFACCOUNTS></pre> <p>This option is available for interface tables and XML.</p> <p>The first two options apply to all GLACCOUNT type fields across all interfaces. A GL account can be specified using either option, in all interfaces.</p>
Interface Processing Rules	None
Comments	Prerequisite: Use the GL Component interface to create components before using this interface.

MXCRAFTInterface—Craft Interface

Interface	MXCRAFTInterface
Detail Description	<p>Craft Interface</p> <p>This interface allows for bidirectional synchronization of craft information, including rates and skill levels, between Maximo and any external system.</p>
Outbound Implementation Details	
Integration Point Processing Class Functionality	None
Interface Processing Rules	None
Interface Controls	None
Inbound Implementation Details	
Integration Point Processing Class Functionality	None
Interface Processing Rules	None
Interface Controls	None
Comments	<p>Prerequisite: If the craft references a skill or contracts, that information must exist in Maximo.</p> <p>A craft can have a standard rate; a rate for each skill-level for the craft; or different rates for each contract that provides the craft, with an optional skill-level rate for each contract.</p> <p>The CRAFT and CRAFTSKILL records have a STANDARDRATE field for the hourly rate for each craft or skill associated with the craft.</p> <p>The CRAFTRATE record specifies rates for vendors that supply the craft (and, optionally, different rates for each skill-craft-vendor combination). It does not include standard rates for the craft or skills associated with the craft. An inbound CRAFTRATE record must include a vendor.</p>

MXGLCOMPIInterface—General Ledger Components Interface

Interface	MXGLCOMPIInterface
Detail Description	General Ledger Components interface This interface allows for inbound synchronization of general ledger component data.
Outbound Implementation Details	
Integration Point Processing Class Functionality	Not applicable
Interface Processing Rules	Not applicable
Interface Controls	Not applicable
Inbound Implementation Details	
Integration Point Processing Class Functionality	None
Interface Processing Rules	None
Interface Controls	None
Comments	None

MXLABORInterface—Labor Interface

Interface	MXLABORInterface
Detail Description	<p>Labor Interface</p> <p>This interface allows for bidirectional synchronization of labor information between Maximo and any external system.</p> <p>If a person record does not exist, the inbound processing automatically creates one.</p>
Outbound Implementation Details	
Integration Point Processing Class Functionality	None
Interface Processing Rules	None
Interface Controls	None
Inbound Implementation Details	
Integration Point Processing Class Functionality	<p>Sets the PERSONID on the PERSON record, based on the PERSONID in the LABOR record</p> <p>No business rules</p>
Interface Processing Rules	None
Interface Controls	None
Comments	<p>Prerequisite: Synchronize any associated craft, work location, or storeroom location before adding or updating the labor</p> <p>There can be only one Person record for a Labor record.</p>

MXOPERLOCInterface—Operating Locations Interface

Interface	MXOPERLOCInterface
Detail Description	<p>Operating Locations Interface</p> <p>This interface allows for bidirectional synchronization of operating location information including meters, between Maximo and any external system.</p> <p>This interface synchronize individual operating locations, but not the location hierarchy as a whole. It supports the addition and update of meters tied to an operating location, but not the update of meter reading values.</p> <p>Inbound processing of LOCATIONMETER is restricted to attributes that define the meter, but not meter reading values or other information pertaining to meter readings.</p>
Outbound Implementation Details	
Integration Point Processing Class Functionality	Skips all outbound LOCATION records that are not of type OPERATING or its synonyms.
Interface Processing Rules	None
Interface Controls	None
Inbound Implementation Details	
Integration Point Processing Class Functionality	If no LOCTYPE is specified, sets value as default value of the OPERATING domain.
Interface Processing Rules	None
Interface Controls	None
Comments	Prerequisite: If applicable, synchronize meters before using this interface.

MXPERSONInterface—Person Interface

Interface	MXPERSONInterface
Detail Description	<p>Person Interface</p> <p>This interface allows for bidirectional synchronization of person information, including phone and e-mail details, between Maximo and any external system.</p> <p>Note: When updating a person record, the inbound processing always deletes then recreates the phone and e-mail information, based on the information provided in the inbound interface.</p>
Outbound Implementation Details	
Integration Point Processing Class Functionality	None
Interface Processing Rules	None
Interface Controls	None
Inbound Implementation Details	
Integration Point Processing Class Functionality	<p>Deletes, then re-inserts, phone and e-mail information</p> <p>Handles status changes</p> <p>No business rules</p>
Interface Processing Rules	None
Interface Controls	None
Comments	None

MXPROJInterface—Financial Projects Interface

Interface	MXPROJInterface
Detail Description	<p>Financial Projects interface</p> <p>This interfaces provides for bidirectional synchronization of financial project and task information between Maximo and any external system.</p> <p>This interface synchronizes individual tasks and projects as separate messages. It does not synchronize a project and all its child tasks in a single message.</p>
Outbound Implementation Details	
Integration Point Processing Class Functionality	None
Interface Processing Rules	None
Interface Controls	None
Inbound Implementation Details	
Integration Point Processing Class Functionality	None
Interface Processing Rules	None
Interface Controls	None
Comments	None

MXSTORELOCInterface—Storeroom Location Interface

Interface	MXSTORELOCInterface
Description	Storeroom Location Interface This interface allows bidirectional synchronization of storeroom, labor, and courier location between Maximo and any external system.
Outbound Implementation Details	
Integration Point Processing Class Functionality	Filters out all locations except Storeroom, Labor, Courier, and any synonyms for these.
Interface Processing Rules	None
Interface Controls	None
Inbound Implementation Details	
Integration Point Processing Class Functionality	If no location type is specified, sets LOCTYPE to the default value for Storeroom.
Interface Processing Rules	None
Interface Controls	None
Comments	None

MXVENDORInterface—Vendor Interface

Interface	MXVENDORInterface
Detail Description	This interface allows for bidirectional synchronization of organization level vendor data between Maximo and any external system. Maximo optionally creates the company master record, if necessary. (See Comments.)
Outbound Implementation Details	
Integration Point Processing Class Functionality	None
Interface Processing Rules	None
Interface Controls	None
Inbound Implementation Details	
Integration Point Processing Class Functionality	Creates a company master record in the corresponding organization, if necessary.
Interface Processing Rules	None
Interface Controls	None
Comments	Prerequisite: To enable this interface to create the company master record, select the Automatically Add Companies to Company Master flag for the set associated with the organization where the vendor record is being added.

MXVENDORMSTRInterface—Vendor Master Interface

Interface	MXVENDORMSTRInterface
Detail Description	<p>Vendor Master interface</p> <p>This interface allows for bidirectional synchronization of set level vendor master data between Maximo and any external system.</p> <p>This interface does not support synchronization of master contacts.</p>
Outbound Implementation Details	
Integration Point Processing Class Functionality	None
Interface Processing Rules	None
Interface Controls	None
Inbound Implementation Details	
Integration Point Processing Class Functionality	None
Interface Processing Rules	None
Interface Controls	None
Comments	None

Item Interfaces

This section describes the following types of interfaces:

- ▼ Item
- ▼ Service item
- ▼ Tool item
- ▼ Inventory
- ▼ Inventory balance
- ▼ Item vendor
- ▼ Inventory reservations
- ▼ Issues

MXITEMInterface—Item Interface

Interface	MXITEMInterface
Detail Description	<p>Material item interface</p> <p>This interface provides for the bidirectional synchronization of material item information between Maximo and any external system. It does not process service or tool type items.</p>
Outbound Implementation Details	
Integration Point Processing Class Functionality	Filters out service and tool type items.
Interface Processing Rules	None
Interface Controls	None
Inbound Implementation Details	
Integration Point Processing Class Functionality	<p>If the inbound transaction is an item update and the capitalized flag of the item has changed, calls a Maximo method to change the capitalized status of the item.</p> <p>If the item type is not ITEM or a valid synonym, reports an error.</p>
Interface Processing Rules	None
Interface Controls	None
Comments	None

MXSERVITEMInterface—Service Item Interface

Interface	MXSERVITEMInterface
Detail Description	<p>Service Item Interface</p> <p>This interface provides for the bidirectional synchronization of service item information between Maximo and any external system. It does not process material or tool type items.</p>
Outbound Implementation Details	
Integration Point Processing Class Functionality	None
Interface Processing Rules	None
Interface Controls	None
Inbound Implementation Details	
Integration Point Processing Class Functionality	None
Interface Processing Rules	None
Interface Controls	None
Comments	None

MXTOOLITEMInterface—Tool Item Interface

Interface	MXTOOLITEMInterface
Detail Description	<p>Tool Item Interface</p> <p>This interface provides for the bidirectional synchronization of tool item information between Maximo and any external system. It does not process material or service type items.</p>
Outbound Implementation Details	
Integration Point Processing Class Functionality	None
Interface Processing Rules	None
Interface Controls	None
Inbound Implementation Details	
Integration Point Processing Class Functionality	If the inbound transaction is an item update and the capitalized flag of the item has changed, calls a Maximo method to change the capitalized status of the item.
Interface Processing Rules	None
Interface Controls	None
Comments	Tool items cannot be condition-enabled. They behave like material items in all other respects.

MXINVENTORYInterface—Inventory Interface

Interface	MXINVENTORYInterface
Detail Description	<p>Inventory Interface</p> <p>This interface provides for the bidirectional synchronization of inventory (item-storeroom) definitions, reorder details, and costing information between Maximo and any external system.</p> <p>In the outbound direction, this interface also provides balance information at the storeroom level.</p>
Outbound Implementation Details	
Integration Point Processing Class Functionality	Sets the value of ITEMTYPE from the Item table.
Interface Processing Rules	Skips the record if its ITEMTYPE is in the SKIPITEMTYPE interface control.
Interface Controls	<p>The SKIPITEMTYPE control specifies the item type of inventory records to be skipped.</p> <p>Note: This control applies to the inventory (MXINVENTORYInterface) and inventory balance (MXINVBALInterface) interfaces, so using it causes both interfaces to skip transactions for the specified item type(s). It is not possible for only one of those interfaces to skip the item type.</p>
Inbound Implementation Details	
Integration Point Processing Class Functionality	None
Interface Processing Rules	None
Interface Controls	None
Comments	The user-defined ITEMTYPE field identifies whether the item is a material, service, or tool type item. By default, this interface processes material and tool type items.

MXINVBALInterface—Inventory Balance Interface

Interface	MXINVBALInterface
Detail Description	<p>Inventory balance interface</p> <p>This interface provides for the bidirectional synchronization of inventory balances between Maximo and any external system.</p> <p>The balance change information in this interface is for the lowest level (BIN or LOT) within Maximo.</p>
Outbound Implementation Details	
Integration Point Processing Class Functionality	None
Interface Processing Rules	Skips the record if its ITEMTYPE is in the SKIPITEMTYPE interface control.
Interface Controls	<p>The SKIPITEMTYPE control specifies the item type of inventory records to be skipped.</p> <p>Note: This control applies to the inventory (MXINVENTORYInterface) and inventory balance (MXINVBALInterface) interfaces, so using it causes both interfaces to skip transactions for the specified item type(s). It is not possible for only one of those interfaces to skip the item type.</p>
Inbound Implementation Details	
Integration Point Processing Class Functionality	The inbound inventory balance interface internally calls the current balance adjustment method provided by Maximo, and this creates a CURBALADJ financial transaction in INVTRANS. This is not a valid adjustment transaction, and should be ignored for financial reporting.
Interface Processing Rules	None
Interface Controls	None
Comments	The user-defined ITEMTYPE field identifies whether the item is a material, service, or tool type item. By default, this interface processes material and tool type items.

MXINVENDORInterface—Item-Vendor Interface

Interface	MXINVENDORInterface
Detail Description	<p>Item Vendor Interface</p> <p>This interface provides for the bidirectional synchronization of item-supplier information between Maximo and any external system.</p> <p>Maximo maintains this information at the organization level, and provides an option to specify site-level suppliers for an item.</p>
Outbound Implementation Details	
Integration Point Processing Class Functionality	Sets the value of COMPANIES.CURRENCYCODE to the user-defined CURRENCYCODE field in the outbound message.
Interface Processing Rules	Does not send out the record if its ITEMTYPE is in the ITEMTYPEFORINV interface control.
Interface Controls	<p>The ITEMTYPEFORINV control specifies the item type of inventory records to be skipped.</p> <p>Note: This control should contain the same value(s) as the SKIPITEMTYPE control used by the Inventory (MXINVENTORYInterface) and Inventory Balance (MXINVBALInterface) interfaces.</p>
Inbound Implementation Details	
Integration Point Processing Class Functionality	If the inbound message contains a currency code and that code differs from the vendor's currency code, reports an error.
Interface Processing Rules	None
Interface Controls	None
Comments	The ITEMTYPE field identifies whether the item is a material, service, or tool type item. By default, this interface processes all three types of items.

MXINVRESInterface—Inventory Reservations Interface

Interface	MXINVRESInterface
Detail Description	<p>Inventory Reservations Interface</p> <p>This interface provides for the bidirectional synchronization of inventory (storeroom) reservations between Maximo and any external system.</p> <p>This interface does not process direct issue reservation records created by Maximo.</p>
Outbound Implementation Details	
Integration Point Processing Class Functionality	Filters out reservations created for direct issue items.
Interface Processing Rules	<p>None</p> <p>Note: Unlike several other item interfaces, this one does not use the SKIPITEMTYPE control to skip specific types of items. Therefore, reservations for tool items can be sent to external systems.</p>
Interface Controls	None
Inbound Implementation Details	
Integration Point Processing Class Functionality	None
Interface Processing Rules	None
Interface Controls	None
Comments	The user-defined ITEMTYPE field identifies whether the item is a material, service, or tool type item. By default, this interface processes material and tool type items.

MXINVISSUEInterface—Issues Interface

Interface	MXINVISSUEInterface
Detail Description	<p>Issues Interface</p> <p>This interface provides for the bidirectional synchronization of issues and returns information between Maximo and any external system.</p>
Outbound Implementation Details	
Integration Point Processing Class Functionality	<p>Filters out direct issues from MATUSETRANS (PONUM is not null and ISSUETYPE is ISSUE or RETURN) because they are handled by the receipts (MXRECEIPTInterface) interface.</p> <p>Filters out variance transactions that are written to MATUSETRANS by the invoice approval process.</p>
Interface Processing Rules	<p>None</p> <p>Note: Unlike several other item interfaces, this one does not use the SKIPITEMTYPE control to skip specific types of items. Therefore, issues for tool items can be sent to external systems.</p>
Interface Controls	None
Inbound Implementation Details	
Integration Point Processing Class Functionality	Validates ISSUETYPE to ensure that it is ISSUE, RETURN, or null. If it is any other value, reports an error. If it is null, defaults the value to ISSUE.
Interface Processing Rules	None
Interface Controls	None
Comments	The user-defined ITEMTYPE field identifies whether the item is a material, service, or tool type item. By default, this interface processes material and tool type items.

Document Interfaces

This section describes the following types of interfaces:

- ▼ Purchase contract (PC)
- ▼ Purchase order (PO)
- ▼ Purchase requisition (PR)
- ▼ Invoice
- ▼ Work order (WO)
- ▼ Work order detail

The STATUSIFACE Field

All purchasing and work order interfaces have a status, so it is necessary to identify whether related transactions contain new or updated records, or status changes only. The STATUSIFACE field provides this information.

In general, this field applies to all integration object sub-records that are created from stateful MBOs, which are MBOs that have a STATUS field and support status change actions. All the document interfaces have a stateful primary MBO.

By default, the STATUSIFACE field has been added only to the purchasing document interfaces (PR, PO, PC and invoice), but you can add it to work order interfaces or any other interface that uses an integration object with a stateful primary MBO.

The STATUSIFACE Field and Outbound Processing

While processing an integration object sub-record that has been created from a stateful MBO, Maximo's generic outbound integration point processing looks for a STATUS field in the MBO and a STATUSIFACE field in the corresponding integration object sub-record. If both fields exist, the processing sets the value of the STATUSIFACE field to the value of the changed attribute for the corresponding STATUS field (0 indicates not changed; 1 indicates changed).

This processing applies only to event-generated outbound interfaces, not to interfaces exported via the Data Export feature.

NOTE If an outbound processing class does not exist for an interface, the preceding generic processing still applies.

The STATUSIFACE Field and Inbound Processing

When processing an integration object with a stateful primary MBO, the generic inbound processing looks for a STATUSIFACE field on the corresponding integration object sub-record to determine if the inbound message is to be processed as both a document update and a status change, or as a status change only, as follows:

Value of STATUSIFACE	Document exists in Maximo	Document does not exist in Maximo
Not provided	▼ Updates the document in Maximo	▼ Adds the document to Maximo
0	▼ If the status of the inbound document is different from the status in Maximo, updates the status in Maximo	▼ Sets the status in Maximo to the status of the inbound message
1	▼ Updates the status in Maximo	Error

NOTE The generic processing described in the preceding table applies only to inbound interfaces using integration objects with a stateful primary MBO. It does not apply to any stateful MBO that is included as a child in the integration object.

The inbound integration point processing class for purchase requisitions and purchase orders overrides the generic processing described here. For more information, see the detailed description of the PR and PO interfaces later in this chapter.

Outbound Processing Rules for Purchasing Interfaces

This section applies to the following types of interfaces:

- ▼ Purchase contract
- ▼ Purchase order
- ▼ Purchase requisition
- ▼ Invoice

Purchasing document interfaces are sent out only when the status of the document changes. The processing rules implement the outbound processing described in this section. Users can disable these rules to change the behavior of outbound processing to meet their requirements.

The SEND control associated with each purchasing interface specifies the status(es) at which Maximo sends out the entire document. The interfaces and their corresponding controls are:

Interface	SEND Control
Purchase contract	PCSEND
Purchase order	POSEND
Purchase requisition	PRSEND
Invoice	IVSEND

NOTE This approach allows users to configure when they want the entire document, and to use the STATUSIFACE field to identify if the outbound message is only a status change notification or the entire document.

Any status that you specify in the SEND control is the value, not the MAXVALUE. If multiple synonym values exist for a status, list all applicable synonyms.

The following table describes the conditions for sending outbound purchase documents, and the content of the outbound message.

NOTE All conditions must be met.

Conditions	Output
<ul style="list-style-type: none"> ▼ The status has changed. ▼ The status is not listed in the SEND control. ▼ The document has not been sent out earlier. 	No output.
<ul style="list-style-type: none"> ▼ The status has changed. ▼ The status is listed in the SEND control. 	The entire document. The STATUSIFACE value is changed to 0.
<ul style="list-style-type: none"> ▼ The status has changed. ▼ The status is not listed in the SEND control. ▼ The document has been sent out earlier. 	The header only. The STATUSIFACE value is not changed.

The following processing rules perform the processing described above. The asterisk (*) in the first two rule names represents the acronym for the interface type (PC, PO, PR, or IV).

Rule	Action
SKIP*	Skips the invoice if both of the following conditions are true: <ul style="list-style-type: none"> ▼ The document has not been sent out before. ▼ The new status is not listed in the SEND control.
SKIP*UPDATE	Skips the invoice if the status has not changed.
SETSTATUSIFACE	Sets the value of the STATUSIFACE field to false for all statuses other than the ones in the SEND control.
SKIPCHILDREN	Sends out the header data only (that is, drops all child sub-records) if the new status is not in the SEND control.

MXPCInterface—Purchase Contract Interface

Interface	MXPCInterface
Detail Description	<p>Purchase Contract interface</p> <p>This interface allows for bidirectional synchronization of purchase contract information between Maximo and any external system.</p> <p>Maximo sends out the entire contract when the contract status changes to APPR. For other statuses, Maximo sends a status change notification.</p> <p>Note: This interface currently supports blanket and price type contracts only.</p>
Outbound Implementation Details	
Integration Point Processing Class Functionality	<p>None</p> <p>For information about the generic outbound processing of the STATUSIFACE field, see "The STATUSIFACE Field," on page B-24.</p>
Interface Processing Rules	See "Document Interfaces," on page B-26.
Interface Controls	The PCSEND control specifies the status values at which Maximo sends out the entire contract. It can have multiple values. The predefined value is APPR.
Inbound Implementation Details	
Integration Point Processing Class Functionality	<p>For an overview of the generic inbound processing functionality, see "The STATUSIFACE Field," on page B-25.</p> <p>The purchase contract integration point processing class overrides the generic functionality as follows:</p> <p>If the contract revision number exists in Maximo, the following processing takes place:</p> <p style="padding-left: 40px;">If the message contains an Add action, an error occurs.</p> <p style="padding-left: 40px;">If the status of the contract in Maximo is APPR, the processing does not update the header, terms, or CONTRACTAUTH. It updates existing lines and adds any lines in the message that do not already exist in Maximo.</p> <p style="padding-left: 40px;">If the status of an existing line in Maximo is APPR, the processing attempts to unapprove the line (change the status to WAPPR), update the line, then change the status to the status in the inbound message.</p>

Interface	MXPCInterface
	<p>If the status of the contract in Maximo is not DRAFT, WAPPR, or PNDREV, the processing class skips the processing of CONTRACTAUTH and CONTRACTTERM. If the inbound header or lines have a different status than the Maximo header and lines, the processing class tries to update the Maximo status, first on the header, then on the lines.</p> <p>If the contract revision number does not exist in Maximo, the following processing takes place:</p> <p>If the message contains a Change action, an error occurs.</p> <p>The processing tries to find the current active revision for the contract (a revision with STATUS = synonym of APPR).</p> <p>If it finds that revision, it attempts to create a new revision with the given revision number, update the header/ lines on this revision with data from the inbound message, and change the status on the header/ lines as per the statuses in the inbound message.</p>
Interface Processing Rules	None
Interface Controls	None
Comments	<p>This interface is designed to work with the default configuration for blanket and price contracts. Any change to the blanket and price contract defaults in Maximo may result in the interface not functioning correctly. The MXPC integration object used by this interface does not include payment schedules, per the default configuration of Maximo blanket and price contracts. If you change the default settings in Maximo, test this interface to ensure that it functions correctly.</p>

MXPOInterface—Purchase Order Interface

Interface	MXPOInterface
Detail Description	<p>Purchase Order Interface</p> <p>This interface allows for bidirectional synchronization of purchase order information between Maximo and any external system.</p> <p>Maximo sends out the entire PO or just the PO header, depending on the statuses specified in the POSEND control.</p>
Outbound Implementation Details	
Integration Point Processing Class Functionality	None
Interface Processing Rules	See "Document Interfaces," on page B-26.
Interface Controls	POSEND control identifies all statuses at which Maximo will send out the entire PO. It can have multiple values.
Inbound Implementation Details	
Integration Point Processing Class Functionality	<p>For an overview of the generic inbound processing functionality, see "The STATUSIFACE Field," on page B-25.</p> <p>The purchase order integration point processing class overrides the generic functionality as follows:</p> <p>If the STATUSIFACE field is not present or set to 0, and the PO exists in Maximo with a status that is a synonym of APPR, the inbound processing attempts to unapprove the PO, update it with new values from the inbound message, and change the status to the status in the inbound message.</p> <p>If the inbound PO is a release PO that needs to be added in Maximo, then the PO inbound processing identifies the contract revision details from the PO and attempts to create a release for that PO.</p>
Interface Processing Rules	None
Interface Controls	None
Comments	None

MXPRInterface—Purchase Requisition Interface

Interface	MXPRInterface
Detail Description	<p>Purchase Requisition Interface</p> <p>This interface allows for bidirectional synchronization of purchase request information between Maximo and any external system.</p> <p>Maximo sends out the entire PR or just the PR header, depending on the statuses specified in the PRSEND control.</p>
Outbound Implementation Details	
Integration Point Processing Class Functionality	<p>None</p> <p>For information about the generic outbound processing of the STATUSIFACE field, see "The STATUSIFACE Field," on page B-24.</p>
Interface Processing Rules	See "Document Interfaces," on page B-26.
Interface Controls	The PRSEND control identifies all statuses at which Maximo will send out the entire PO. It can have multiple values.
Inbound Implementation Details	
Integration Point Processing Class Functionality	<p>For an overview of the generic inbound processing functionality, see "The STATUSIFACE Field," on page B-25.</p> <p>The purchase requisition integration point processing class overrides the generic functionality as follows:</p> <p>If the PR currently exists in Maximo, and the inbound message is not a status change but a document update, the following processing takes place:</p> <p>If the STATUSIFACE field is not present or set to 0, and the PR currently exists in Maximo with a status that is a synonym of APPR, then the PR inbound processing attempts to unapprove the PR, update it with new values from the inbound message, and change the status to the status specified in the inbound message.</p> <p>For all other cases, the generic inbound processing takes place.</p>
Interface Processing Rules	None
Interface Controls	None
Comments	None

MXINVOICEInterface—Invoice Interface

Interface	MXINVOICEInterface
Detail Description	<p>Invoice Interface</p> <p>This interface allows for bidirectional synchronization of purchasing contact information between Maximo and any external system.</p> <p>Maximo sends out the entire invoice or just the invoice header, depending on the statuses specified in the IVSEND control.</p>
Outbound Implementation Details	
Integration Point Processing Class Functionality	<p>None</p> <p>For information about the generic outbound processing of the STATUSIFACE field, see "The STATUSIFACE Field," on page B-24.</p>
Interface Processing Rules	See "Document Interfaces," on page B-26.
Interface Controls	The IVSEND control identifies all statuses at which Maximo will send out the entire invoice. It can have multiple values.
Inbound Implementation Details	
Integration Point Processing Class Functionality	<p>The inbound processing creates and updates INVOICECOST lines only if one of the following conditions is met:</p> <ul style="list-style-type: none"> ▼ The invoice line does not reference a PO line. ▼ The corresponding PO line does not have a distribution. ▼ The PO line does not reference a storeroom. <p>In all other cases, the inbound processing ignores INVOICECOST information when creating or updating the invoice.</p> <p>If the inbound message provides INVOICETERMS, the inbound processing deletes the old terms and adds the new ones.</p>

Interface	MXINVOICEInterface
	<p>Users can optionally specify a price variance in the PRICEVAR field on each invoice line, if invoice matching is done in the external system and price variances determined in the external system are sent to Maximo to create variance transactions to update work orders and storerooms. In order for Maximo to process these variances, a value must exist for OWNERSYSID in the inbound invoice, and it cannot be the same as the value of MAXVARS.MXSYSID.</p> <p>The IVMATCH collaboration switch lets Maximo create and approve an invoice without identifying the matched receipt lines for the invoice line and determining the variances for each line. This switch lets the external system provide the variances at line level so Maximo can take those variances and create the corresponding variance transactions in the INVOICETRANS, MATRECTRANS, or SERVRECTRANS table.</p> <p>The IVMATCH collaboration switch requires the following values:</p> <ul style="list-style-type: none"> ▼ OWNER1SYSID value is always “THISMX”. ▼ OWNER2SYSID value is the value of INVOICE.OWNERSYSID. <p>If the evaluation is false, Maximo ignores the line level invoice variances in the invoice processing.</p> <p>If the evaluation is true, Maximo does not carry out any invoice matching and any variance information provided at the line level is used to create the corresponding variance transactions in INVOICETRANS/ MATRECTRANS/ SERVRECTRANS as applicable.</p> <p>The table following this one lists possible INVOICE.OWNERSYSID values, the evaluation that Maximo generates, and the default result of the evaluation.</p>
Interface Processing Rules	None
Interface Controls	None

Interface	MXINVOICEInterface
Comments	<p>Typical scenarios for using the invoice interface are as follows:</p> <p>Invoice Matching in Maximo (AP Outbound): Invoices received from third parties—either electronically or manually—are processed by Maximo; that is, they are matched against receipts, if applicable, and then approved. Alternately, payment schedules created in Maximo will result in approved invoices being created based on the schedule. These approved invoices result in a payment advice being sent to an external AP system. The process of matching also results in accounting entries being posted to the general ledger.</p> <p>Invoice Matching in external system (Variances Inbound): Maximo does not do the invoicing, but accepts matched invoices from external systems and applies any variances back to the respective work orders, storerooms, and so on. The accounting entries related to the accounts payable and/or variances must be recorded in the external system; they will not be sent out by Maximo.</p> <p>The primary intent of this interface is to provide Maximo with any variance information necessary for updating the work order costs.</p>

IVMATCH Collaboration Switch Evaluation

Value of INVOICE.OWNERSYSID	Evaluation	Result (Default)
Null	OWNER1SYSID="THISMX" and OWNER2SYSID="THISMX"	False
MXSYSID	OWNER1SYSID="THISMX" and OWNER2SYSID="THISMX"	False
EXTSYSID	OWNER1SYSID="THISMX" and OWNER2SYSID="EXT"	True
Any other value	OWNER1SYSID="THISMX" and OWNER2SYSID="EXT"	True

Outbound Processing Rules for Work Order Interfaces

This section describes the following types of interfaces:

- ▼ Work order
- ▼ Work order detail

Unlike the purchasing document interfaces, the work order document interfaces do not have a STATUSIFACE field or status change notification functionality. They are first sent out when the work order reaches the status of the WOSTART control and on every update thereafter, regardless of the status of the work order.

Users can configure the start value in the WOSTART control. Any status that you specify in the control is the value, not the MAXVALUE. If multiple synonym values exist for a status, list all applicable synonyms.

The following table describes the conditions for sending outbound work order documents, and the content of the outbound message

NOTE All conditions must be met.

Condition(s)	Output
<ul style="list-style-type: none"> ▼ The status is not listed in the WOSTART control. ▼ The document has not been sent out earlier. 	No output
<ul style="list-style-type: none"> ▼ The status is listed in the WOSTART control. 	The entire document
<ul style="list-style-type: none"> ▼ The status is not listed in the WOSTART control. ▼ The document has been sent out earlier. 	The entire document

The following outbound processing rule performs the processes described above:

Rule	Action
SKIPWO	Skips the work order (does not send it out) if both of the following conditions are true: <ul style="list-style-type: none"> ▼ The document has not been sent out before. ▼ The new status is not listed in the WOSTART control.

MXWOInterface—Work Order Interface

Interface	MXWOInterface
Detail Description	<p>Work Order Interface</p> <p>This interface allows for bidirectional synchronization of work order information between Maximo and any external system.</p> <p>Maximo first sends out a work order when it reaches the status in the WOSTART control, then on all updates thereafter.</p>
Outbound Implementation Details	
Integration Point Processing Class Functionality	<p>None</p> <p>For information about the generic outbound processing of the STATUSIFACE field, see "The STATUSIFACE Field," on page B-24.</p>
Interface Processing Rules	See "Document Interfaces," on page B-35.
	Outbound work orders are sent out on all updates once the work order reaches the start status.
Interface Controls	The WOSTART control specifies the statuses at which Maximo first sends out the work order. It can have multiple values.
Inbound Implementation Details	
Integration Point Processing Class Functionality	<p>See "The STATUSIFACE Field," on page B-25.</p> <p>Note: Since the work order interface does not use the STATUSIFACE field, the only STATUSIFACE inbound processing that applies is that which takes place when the STATUSIFACE is not provided or when its value is 0.</p>
Interface Processing Rules	None
Interface Controls	None
Comments	<p>The work order interface contains all the information defined by Maximo on the work order, but it does not provide additional information about projects/financial control data, equipment, and locations that is not part of the standard work order in Maximo. If necessary, you can add the additional information via user fields.</p> <p>Maximo treats work order tasks as work orders. Both have similar properties and they are stored in the same table. If a user creates a work order, adds tasks/child work orders to the work order, and then approves the work order, the Inherit Status Changes flag on the work order indicates whether approval of the work order also results in approval of all the tasks/child work orders of that particular work order. The default is Y, so when a work order is approved, any child tasks or work orders that inherit the parent's approval based on this flag are also approved.</p> <p>The outbound event listener on the work order MBO receives multiple independent events— one for each work order—and they are processed and sent out independently. Therefore, a work order with three tasks and two child work orders will result in six independent outbound work orders.</p>

MXWODETAILInterface—Work Order Details Interface

Interface	MXWODETAILInterface
Detail Description	<p>Work Order Details interface</p> <p>This interface allows for outbound synchronization of work order detail information between Maximo and any external system.</p> <p>This interface is similar to the work order interface, but it provides additional details about reservations, plan material, plan labor, plan services, and plan tools.</p>
Outbound Implementation Details	
Integration Point Processing Class Functionality	None
Interface Processing Rules	See "Document Interfaces," on page B-35.
Interface Controls	The WOSTART control specifies the statuses at which Maximo first sends out the work order It can have multiple values.
Inbound Implementation Details	
Integration Point Processing Class Functionality	Not applicable
Interface Processing Rules	Not applicable
Interface Controls	Not applicable
Comments	<p>The MBO relationship used to retrieve the RESERVATIONS MBO is different from the one used in the Work Order Tracking application. Therefore, the changed attribute in the Maximo XML is not set for any values from this MBO.</p> <p>This interface does not have any inbound integration points.</p>

Transaction Interfaces

This section describes the following types of interfaces:

- ▼ Receipts
- ▼ Material receipts
- ▼ General ledger transactions
- ▼ Labor time reporting

MXRECEIPTInterface—Receipts Interface

Interface	MXRECEIPTInterface
Detail Description	<p>Receipts interface</p> <p>This interface allows for bidirectional synchronization of site-level purchase order receipt information between Maximo and any external system. The same interface processes material receipts and service receipts.</p> <p>In the outbound direction, this interface processes purchase order receipts, transfers (movements against receipts or receipts against internal POs), and returns (returns to vendors after receipt inspection, or returns to vendor after acceptance and goods movement from the inspection holding location).</p> <p>In the inbound direction, this interface processes receipts and returns. For receipts that require inspection, the user-defined field INSPECTED indicates if the receipt line was inspected in the external system. The interface does not process TRANSFERS independently; each transfer is associated with a receipt.</p> <p>This interface uses a merged integration object with the following sub-records:</p> <ul style="list-style-type: none"> ▼ MATRECTRANS ▼ SERVRECTRANS
Outbound Implementation Details	
Integration Point Processing Class Functionality	<p>Processes receipts with issue type of RECEIPT or RETURN. If no issue type is specified, it is treated as RECEIPT.</p> <p>Processing for RECEIPT issue type and Inspection Required = N:</p> <p>Material and service receipts:</p> <ul style="list-style-type: none"> ▼ Uses inbound RECEIPTQUANTITY (for material receipts) or QTYTORECEIVE (for service receipts) to create the Maximo receipt. ▼ Maps inbound REJECTEDQTY to the REJECTEDQTY field in the Maximo receipt. ▼ Ignores any other quantities. ▼ Does not look at the inbound INSPECTED field. <p>Material receipts (MATRECTRANS records):</p> <p>Sends out only RECEIPT and RETURN type records and TRANSFER type records containing a PONUM (not a storeroom transfer). Sends out new receipts only, not updates to existing receipts.</p>

Interface	MXRECEIPTInterface (Continued)
Integration Point Processing Class Functionality	<p>Service receipts (SERVRECTRANS records):</p> <p>Sends out RECEIPT and RETURN type records. Sends out new receipts and updates to existing receipts.</p>
Interface Processing Rules	<p>Service receipts:</p> <p>Sends out records when the status is equal to a value in the SERVRECSTAT control (default COMP). This occurs under the following conditions:</p> <ul style="list-style-type: none"> ▼ A record that does not require inspection is inserted. ▼ An existing record is updated in Maximo and the status field is changed to COMP.
Interface Controls	<p>SERVRECSTAT control identifies all statuses at which Maximo will send out service receipt transactions. It can have multiple values. By default, its value is COMP.</p>
Inbound Implementation Details	
Integration Point Processing Class Functionality	<p>Processing for RECEIPT issue type and Inspection Required = Y:</p> <p>Material receipts:</p> <p>INSPECTED = N:</p> <ul style="list-style-type: none"> ▼ Uses only the inbound RECEIPTQUANTITY field to create the Maximo receipt; ignores accepted and rejected quantity values. ▼ Creates Maximo receipt with STATUS = WINSP (waiting inspection) and quantity derived from RECEIPTQUANTITY. <p>INSPECTED = Y:</p> <ul style="list-style-type: none"> ▼ Uses the inbound RECEIPTQUANTITY, ACCEPTEDQTY, and REJECTEDQTY fields to create the Maximo receipt. ▼ Does not allow partial inspections or acceptances. RECEIPTQUANTITY must equal ACCEPTEDQTY + REJECTEDQTY. ▼ Creates Maximo receipt with STATUS = WASSET (if rotating item) or COMP (all other items). ▼ Depending on quantities specified, can create up to three transactions—one RECEIPT, one TRANSFER, and one RETURN.

Interface	MXRECEIPTInterface (Continued)
Integration Point Processing Class Functionality	<p>Service receipts:</p> <p>INSPECTED = N:</p> <ul style="list-style-type: none"> ▼ Uses the inbound AMTTORECEIVE (if POLINE order quantity is null) or QTYTORECEIVE (in other cases) to create Maximo receipt; ignores all other quantity values. ▼ Creates Maximo receipt with STATUS = WINSP (waiting inspection) and quantity derived from QTYTORECEIVE. <p>INSPECTED = Y:</p> <ul style="list-style-type: none"> ▼ Uses the inbound QTYTORECEIVE, ACCEPTEDQTY, and REJECTEDQTY fields to create Maximo receipt. ▼ Does not allow partial inspections or acceptances. QTYTORECEIVE must equal ACCEPTEDQTY + REJECTEDQTY. ▼ Creates a single transaction of type RECEIPT, with STATUS = COMP. <p>Processing for RETURN issue type:</p> <p>Material and service receipts:</p> <ul style="list-style-type: none"> ▼ Accepts return transactions for a POLINE only if there was an earlier receipt for the same line; if Inspection Required = Y for the POLINE, the receipt must have been approved. Otherwise, reports an error. ▼ Uses only the inbound RECEIPTQUANTITY (for material receipts) or QTYTORECEIVE (for service receipts) field to create the Maximo receipt; ignores all other quantity values. ▼ Creates a single transaction with issue type RETURN and the credit GL account as the RBNI account.
Interface Processing Rules	None
Interface Controls	None
Comments	<p>You do not have to specify whether an inbound receipt is a material receipt or a service receipt. The integration processing determines this from the POLINE.</p> <p>All quantities, including return quantities, must be positive.</p> <p>You can distinguish between the two types of transfer records by the value in the RECEIPTREFID field, as follows:</p> <ul style="list-style-type: none"> ▼ Null: a receipt against an internal PO ▼ Not null: movement against a receipt <p>Do not specify a RECEIPTFREF value for returns. Returns are processed independently of the corresponding receipt.</p>

MXRCVROTITMInterface—Material Receipts Interface

Interface	MXRCVROTITMInterface
Detail Description	<p>Material Receipts Interface</p> <p>This interface allows for inbound synchronization of site-level material (non-service) receipt and transfer information, including rotating items (assets) defined against a receipt.</p> <p>This interface does not let you specify a status for the receipt; the status is always assumed to be COMP.</p> <p>This interface differs from the MXRECEIPTInterface in that it processes material receipts exclusively and lets you identify serialized rotating assets to be created in the case of rotating item receipts.</p> <p>You can receive rotating items with or without asset numbers. If you receive them without asset numbers, you must manually specify the asset numbers via the Receive Rotating Items dialog box in the Purchasing Receiving application.</p> <p>If you do not process inbound service receipts, you can use this interface for all material receipts.</p>
Outbound Implementation Details	
Integration Point Processing Class Functionality	Not applicable
Interface Processing Rules	Not applicable
Interface Controls	Not applicable
Inbound Implementation Details	
Integration Point Processing Class Functionality	<p>Reports an error if the PO line being processed has LINETYPE = SERVICE or STDSERVICE.</p> <p>Processing is the same as the Inbound Integration Point Processing Class Functionality for material receipts using the MXRECEIPTInterface, with the following additional processing:</p> <p>Receipts: If the line item is a rotating item and Inspection Required = N, or INSPECTED = Y, checks for asset information corresponding to the item provided in the interface. If the information is available, validates the number of asset records to ensure it equals the RECEIPTQTY or ACCETPTEDQTY (whichever applies). If it does, invokes the Maximo receiving functionality and creates asset as required.</p> <p>Returns: If the item being returned is a rotating item, ignores any asset information. In Maximo, return of a rotating type item does not affect the assets created by the original receipt. The asset records remain unchanged; only the item balances are updated (if applicable).</p>
Interface Processing Rules	None
Interface Controls	None

Interface	MXRCVROTITMInterface (Continued)
Comments	For rotating items, the number of inbound transactions is one more than the number of rotating items. There is one transaction for the total receipt quantity, and one transaction for each rotating item associated with the receipt. For example, for a receipt of ten rotating items, there will be eleven transactions.

MXGLTXNInterface—General Ledger (Journal Entry) Interface

Interface	MXGLTXNInterface
Detail Description	<p>General Ledger (Journal Entry) Interface</p> <p>This interface allows for the posting of site-level transactions generated in Maximo to an external general ledger application for accounting reconciliation.</p> <p>This interface is available for outbound processing only.</p> <p>This interface uses a merged integration object with the following sub-records:</p> <ul style="list-style-type: none"> ▼ SERVRECTRANS ▼ MATRECTRANS ▼ INVTRANS ▼ INVOICETRANS ▼ MATUSETRANS ▼ LABTRANS ▼ TOOLSTRANS <p>The SOURECEMBO field identifies the table in which the transaction originated. Its value is derived from the GLSOURCEMBO synonym domain.</p>
Outbound Implementation Details	
Integration Point Processing Class Functionality	<p>Service Receipts</p> <p>Service receipts include the following:</p> <ul style="list-style-type: none"> ▼ Accounting entries for non-distributed service receipts created by the Receiving application for services ordered on POs (ISSUETYPE = RECEIPT, COSTINFO=1) ▼ Accounting entries for distributed service receipts created by the Receiving application for services ordered on POs (ISSUETYPE = POCOST) ▼ Accounting entries for PO services with Receipt Required = N that are directly invoiced instead of being received (ISSUETYPE = INVOICE) ▼ Accounting entries for services that are not against POs and are invoiced directly (ISSUETYPE = INVOICE) ▼ Invoice variance transactions recorded against service receipts (ISSUETYPE = INVOICE)

Interface	MXGLTXNInterface (Continued)
Integration Point Processing Class Functionality	<p>Service receipts (SERVRECTRANS) processing:</p> <p>Sets SOURCEMBO to SERVRECTRANS and ISSUETYPE to value listed above.</p> <p>INVOICE type transactions: sends out on insert.</p> <p>POCOST and RECEIPT type transactions: if Inspection Required = N for the corresponding POLINE, sends out on insert. If inspection required = Y, sends out when status is changed to COMP.</p> <p>Material receipts:</p> <p>Material receipts include the following:</p> <ul style="list-style-type: none"> <li>▼ Accounting entries for non-distributed material receipts created by the Receiving application for items/ tools ordered on POs (ISSUETYPE = RECEIPT, COSTINFO = 1) <li>▼ Accounting entries for distributed material receipts created by the Receiving application for items/ tools ordered on POs (ISSUETYPE = POCOST) <li>▼ Accounting Entries for Item transfers between storerooms (ISSUETYPE = TRANSFER and PONUM=NULL) <li>▼ Accounting entries for receipt inspection transfers of items between the receipt inspection storeroom and the PO line storeroom (ISSUETYPE = TRANSFER and RECEIPTREF!=NULL and PONUM!=NULL) <li>▼ Accounting entries for receipts against internal POs (ISSUETYPE = TRANSFER and RECEIPTREF=NULL and PONUM!=NULL) <li>▼ Accounting entries for receipt inspection goods return of items and materials (ISSUETYPE = RETURN) <li>▼ Accounting entries for return to vendor from a storeroom or direct issue PO lines (ISSUETYPE = RETURN) <li>▼ Invoice variance transactions recorded against material receipts (ISSUETYPE = INVOICE) <li>▼ Accounting transaction for increasing the kit item's INVENTORY control account value when kits are made (ISSUETYPE = KITMAKE). <li>▼ Accounting transactions for increasing the INVENTORY control account for each constituent item of a kit when a kit is disassembled (ISSUETYPE = KITBREAK)

Interface	MXGLTXNInterface (Continued)
Integration Point Processing Class Functionality	<p>Material receipts (MATRECTRANS) processing:</p> <p>Sets SOURCEMBO to MATRECTRANS and ISSUETYPE to value listed above.</p> <p>Sends out INVOICE, RECEIPT, TRANSFER, RETURN, KITMAKE and KITBREAK type transactions on insert.</p> <p>For POCOST type transactions on insert if status is COMP (that is, on insert if Inspection Required = N, and when status changed to COMP if Inspection Required = Y).</p> <p>Inventory Adjustments</p> <p>Inventory adjustment transactions include the following:</p> <ul style="list-style-type: none"> <li>▼ Inventory current balance adjustments (ITTYPE = CURBALADJ) <li>▼ Inventory standard/ average cost adjustments (ITTYPE = STDCOSTADJ/ AVGCOSTADJ) <li>▼ Cost difference when a kit is disassembled and there is a difference between the value of the kit and the sum of the kit component values (ITTYPE = KITCOSTVAR) <li>▼ Physical count reconciliation (ITTYPE = RECBALADJ) <li>▼ Capitalized cost adjustment (ITTYPE = CAPCSTADJ) <li>▼ Standard cost receipt adjustment (ITTYPE = STDRECADJ) <p>Inventory adjustment (INVTRANS) processing:</p> <p>Sets SOURCEMBO to INVTRANS and ITTYPE to value listed above.</p> <p>Does not send out transactions with ITTYPE = INSERTITEM, CREATEASSET and PHYSCNT, as they are considered audit records rather than accounting transactions.</p> <p>Sends out all other transactions on insert.</p>

Interface	MXGLTXNInterface (Continued)
Integration Point Processing Class Functionality	<p>Invoice Transactions</p> <p>Invoice transactions include the following transactions created by invoice approval:</p> <ul style="list-style-type: none"> <li>▼ Invoice TOTAL transaction (amount payable to invoice vendor, TRANSTYPE = TOTAL) <li>▼ Invoice line tax transactions (tax accounting for each TAX code for an invoice line, TRANSTYPE = TAX1 . . . TAX5) <li>▼ Invoice currency variance transaction (TRANSTYPE = CURVAR) <li>▼ Invoice price variance transactions (TRANSTYPE = INVCEVAR) <p>Invoice transaction (INVTRANS) processing:</p> <p>Sets SOURCEMBO to INVOICETRANS and TRANSTYPE to the value listed above.</p> <p>Sends out all transactions when they are created.</p> <p>Material Issues and Returns</p> <p>Material issue and return transactions include the following:</p> <ul style="list-style-type: none"> <li>▼ Accounting entries for items issued from a storeroom in Maximo (ISSUETYPE = ISSUE) <li>▼ Accounting entries for items returned to a storeroom (ISSUETYPE = RETURN) <p>Material issue and return (MATUSETRANS) processing:</p> <p>Sets SOURCEMBO to MATUSETRANS and ISSUETYPE to value listed above.</p> <p>Does not send out direct issue transactions that are created by PO receiving/ invoice variances in MATUSETRANS, as they are accounted for in MATRECTRANS. Identifies such transactions by their PONUM, so all MATUSETRANS transactions that have a PO reference are not sent out by this interface.</p> <p>Sends out all other transaction at time of creation.</p>

Transaction Interfaces

Interface	MXGLTXNInterface (Continued)
Integration Point Processing Class Functionality	<p>Labor Transaction (LABRTRANS) processing</p> <p>Sets SOURCEMBO to LABTRANS.</p> <p>If approval not required, send out labor actuals against work orders on insert.</p> <p>If approval required, sends out transaction after it is approved (when GENAPPSERVRECEIPT is Y).</p> <p>Tool Transaction (TOOLTRANS) processing:</p> <p>Sets SOURCEMBO to TOOLTRANS.</p> <p>Sends out usage of tools on work orders on creation of TOOLTRANS.</p>
Interface Processing Rules	None
Interface Controls	The GLSOURCE control defines the SOURCEMBO values that the processing skips. By default, this control has no values.
Inbound Implementation Details	
Integration Point Processing Class Functionality	Not applicable
Interface Processing Rules	Not applicable
Interface Controls	Not applicable
Comments	None

MXEMPACTInterface—Labor Time Reporting Interface

Interface	MXEMPACTInterface
Detail Description	<p>Labor time reporting interface</p> <p>This interface allows for posting site-level actual time reported in Maximo to external applications.</p> <p>Maximo sends out approved labor actuals and accepts all inbound labor actuals regardless of status.</p> <p>Note: Maximo does not update the status of existing records when processing inbound transactions.</p>
Outbound Implementation Details	
Integration Point Processing Class Functionality	None
Interface Processing Rules	Sends out the labor actual record only if it is approved.
Interface Controls	None
Inbound Implementation Details	
Integration Point Processing Class Functionality	<p>Treats a transaction with a null action as an Add.</p> <p>LABTRANSID is not allowed; if provided, it causes an error.</p>
Interface Processing Rules	None
Interface Controls	None
Comments	None

System Interfaces

Some MBOs are flagged as *system* objects in Maximo. These MBOs are generally used for application or metadata configuration, and updating data through these MBOs may require specific post processing activities in Maximo (for example, reconfiguring the database). Any interface that uses system MBOs is defined as a system interface. System interfaces are typically used to exchange configuration data between different instances of Maximo, install adapters, or apply updates and patches to Maximo or the adapters.

CAUTION Do not modify these interfaces or their corresponding integration objects and points in any way. Do not disable these interfaces for the default external system, EXTSYS1. Doing so could result in problems with applying product updates and patches from MRO Software.

The following restrictions apply to the use of system interfaces and integration objects:

- ▼ You cannot enable listeners on outbound system interfaces.
- ▼ You cannot process system interfaces via interface tables or flat files.
- ▼ External systems that use interface table type end points cannot use system interfaces.
- ▼ You must specify an action code on inbound system interfaces.

MXINTOBJInterface—Integration Object Interface

Interface	MXINTOBJInterface
Detail Description	<p>Integration object interface</p> <p>This interface allows for the inbound and outbound synchronization of integration objects, including specific columns and integration points.</p> <p>This interface is used internally for loading adapter configurations into Maximo.</p> <p>You can use this interface to export new and modified integration objects from one system to another.</p>
Outbound Implementation Details	
Integration Point Processing Class Functionality	None
Interface Processing Rules	None
Interface Controls	None
Inbound Implementation Details	
Integration Point Processing Class Functionality	None
Interface Processing Rules	None
Interface Controls	None
Comments	The validations that apply to users deleting and modifying predefined integration objects also apply to the modification of integration objects by inbound integration transactions.

MXINTTYPEInterface—Integration Adapter Interface

Interface	MXINTTYPEInterface
Detail Description	<p>Integration adapter interface</p> <p>This interface allows for the inbound and outbound synchronization of adapters, adapter configuration data, and interface controls and their default values.</p> <p>This interface is used internally for loading adapter configurations into Maximo.</p> <p>You can use this interface to export new and modified adapters from one system to another.</p>
Outbound Implementation Details	
Integration Point Processing Class Functionality	None
Interface Processing Rules	None
Interface Controls	None
Inbound Implementation Details	
Integration Point Processing Class Functionality	None
Interface Processing Rules	None
Interface Controls	None
Comments	The validations that apply to users deleting and modifying predefined adapters apply to the modification of adapters by inbound integration transactions.

MXINTIFACEInterface—Integration Master Interface

Interface	MXINTIFACEInterface
Detail Description	<p>Interface master interface</p> <p>This interface allows for the inbound and outbound synchronization of interfaces, their inbound and outbound definitions, and rules and conditions defined for the interfaces.</p> <p>This interface is used internally for loading adapter configurations into Maximo.</p> <p>You can use this interface to export new and modified interfaces from one system to another.</p>
Outbound Implementation Details	
Integration Point Processing Class Functionality	None
Interface Processing Rules	None
Interface Controls	None
Inbound Implementation Details	
Integration Point Processing Class Functionality	None
Interface Processing Rules	None
Interface Controls	None
Comments	The validations that apply to users deleting and modifying predefined interfaces apply to the modification of interfaces by inbound integration transactions.

MXENDPOINTInterface—End Point Master Interface

Interface	MXENDPOINTInterface
Detail Description	<p>End point master interface</p> <p>This interface allows for the inbound and outbound synchronization of end point information.</p> <p>This interface is used internally for loading end points into Maximo.</p> <p>You can use this interface to export new and modified end points from one system to another.</p>
Outbound Implementation Details	
Integration Point Processing Class Functionality	None
Interface Processing Rules	None
Interface Controls	None
Inbound Implementation Details	
Integration Point Processing Class Functionality	None
Interface Processing Rules	None
Interface Controls	None
Comments	If the end point uses a user-defined handler, that handler must be created first, or errors can occur during inbound processing.

MXEXTSYSInterface—External System Interface

Interface	MXEXTSYSInterface
Detail Description	<p>External system interface</p> <p>This interface allows for the inbound and outbound synchronization of the definition of an external system, the interfaces used by the system, and the interface controls values for the system.</p> <p>This interface is used internally for loading sample external systems into Maximo.</p> <p>You can use this interface to export new and modified external systems from one system to another.</p>
Outbound Implementation Details	
Integration Point Processing Class Functionality	None
Interface Processing Rules	None
Interface Controls	None
Inbound Implementation Details	
Integration Point Processing Class Functionality	None
Interface Processing Rules	None
Interface Controls	None
Comments	<p>The validations that apply to users adding, deleting and modifying predefined external systems apply to the modification of external systems by inbound integration transactions.</p> <p>All interfaces, end points, and controls that the system uses must be added before the external system is added.</p>

MXMESSAGEInterface—Message Interface

Interface	MXMESSAGEInterface
Detail Description	<p>Message interface</p> <p>This interface allows for the inbound and outbound synchronization of system error and warning messages.</p> <p>This interface is used internally for loading messages into Maximo.</p> <p>You can use this interface to export new and modified messages from one system to another.</p>
Outbound Implementation Details	
Integration Point Processing Class Functionality	None
Interface Processing Rules	None
Interface Controls	None
Inbound Implementation Details	
Integration Point Processing Class Functionality	None
Interface Processing Rules	None
Interface Controls	None
Comments	MRO Software recommends that you manually update the messages.xml file with the messages that you add via this interface.

MXOBJECTCFGInterface—MBO Configuration Interface

Interface	MXOBJECTCFGInterface
Detail Description	<p>MBO configuration interface</p> <p>This interface allows for the inbound and outbound synchronization of MBO definition information, including MBO attributes.</p> <p>This interface is used internally for loading sample MBO configurations into Maximo.</p> <p>You can use this interface to export new and modified MBO configurations from one system to another.</p>
Outbound Implementation Details	
Integration Point Processing Class Functionality	None
Interface Processing Rules	None
Interface Controls	None
Inbound Implementation Details	
Integration Point Processing Class Functionality	Delay the save validation on MAXOBJECTCFG until all the attributes are successfully added into Maximo.
Interface Processing Rules	None
Interface Controls	None
Comments	<p>Use this interface with caution.</p> <p>Use only Add, AddChange, or Change action codes when importing data through this interface. Do not use the Replace action unless you <i>completely replace</i> the MAXOBJECTCFG and MAXATTRIBUTECFG data.</p> <p>The delete action presents the risk of deleting predefined records in these tables.</p> <p>There is an inbound setting restriction on the CHANGED column, so the XML value is not set to the MBO.</p> <p>After importing data with this interface, bring down the Maximo application server and run Maximo's Database Configuration application (configdb) in order for the changes to take effect. For more information, refer to the Database Configuration chapter in the Maximo Enterprise Suite <i>System Administrator's Guide</i>.</p>

MXDOMAINInterface—Domain Interface

Interface	MXDOMAINInterface
Detail Description	<p>Domain interface</p> <p>This interface allows for the inbound and outbound synchronization of domain information.</p> <p>This interface is used internally for loading domains into Maximo.</p> <p>You can use this interface to export new and modified domains from one system to another.</p>
Outbound Implementation Details	
Integration Point Processing Class Functionality	None
Interface Processing Rules	None
Interface Controls	None
Inbound Implementation Details	
Integration Point Processing Class Functionality	None
Interface Processing Rules	None
Interface Controls	None
Comments	None

MXWFInterface—Workflow Definition Interface

Interface	MXWFInterface
Detail Description	<p>Workflow definition interface</p> <p>This interface allows for bidirectional synchronization of workflow definition information, including workflow processes, tasks, nodes, actions and other configuration data required for creating/ maintaining workflow processes in Maximo.</p> <p>It is intended primarily as a mechanism to facilitate movement of workflow definitions from test to production systems.</p> <p>This interface does not support the deletion or modification of existing workflow processes. If the process exists in the importing system, a new revision of the process is created and must be enabled manually by the user.</p>
Outbound Implementation Details	
Integration Point Processing Class Functionality	None
Interface Processing Rules	None
Interface Controls	None
Inbound Implementation Details	
Integration Point Processing Class Functionality	<p>Verifies that action is ADD or Null</p> <p>Creates a new process revision</p> <p>For notification templates that are in use by a process, the SENDTO, SUBJECT and MESSAGE attributes of the template are not updated.</p> <p>If the communication template is created by the workflow interface, it is created with the data provided in the workflow file.</p>
Interface Processing Rules	None
Interface Controls	None

Interface (Continued)	MXWFInterface
Comments	<p>Prerequisite: You must process communication templates, actions, and roles before you process workflow transactions.</p> <p>All workflow transactions must be in XML format.</p> <p>There is an inbound setting restriction on the ENABLED and ACTIVE columns, so the XML value is not set to the MBO. You must manually enable and activate processes. To do so, complete the following steps:</p> <ol style="list-style-type: none"> 1 In the Workflow Designer application, display the process that you want to update. 2 Select Enable Process from the Select Action menu. 3 Select Activate Process from the Select Action menu. 4 Click Save Process.

MXCTEMPLATEInterface—Communication Template Interface

Interface	MXCTEMPLATEInterface
Detail Description	<p>Communication template interface</p> <p>This interface allows for bidirectional synchronization of communication templates that are used to create/maintain workflow processes in Maximo.</p> <p>A communication template is a definition of a mail message with subject, message, and recipient information that is processed when certain nodes become current, or along specified workflow routing paths between nodes.</p> <p>This interface intended to facilitate movement of workflow definitions from test to production systems.</p>
Outbound Implementation Details	
Integration Point Processing Class Functionality	None
Interface Processing Rules	None
Interface Controls	None
Inbound Implementation Details	
Integration Point Processing Class Functionality	None
Interface Processing Rules	None
Interface Controls	None
Comments	All workflow transactions must be in XML format.

MXACTIONInterface—Action Interface

Interface	MXACTIONInterface
Detail Description	<p>Action Interface</p> <p>This interface allows for bidirectional synchronization of workflow action definitions required to create/maintain workflow processes in Maximo.</p> <p>An action is one or more data processing events, such as a <i>change status</i> or <i>set value</i>, that are defined within a workflow process to run along specified workflow routing paths between nodes.</p> <p>This interface is intended to facilitate movement of workflow definitions from test to production systems.</p>
Outbound Implementation Details	
Integration Point Processing Class Functionality	None
Interface Processing Rules	None
Interface Controls	None
Inbound Implementation Details	
Integration Point Processing Class Functionality	None
Interface Processing Rules	None
Interface Controls	None
Comments	All workflow transactions must be in XML format.

MXMAXROLEInterface—Maximo Role Interface

Interface	MXMAXROLEInterface
Detail Description	<p>Maximo Role interface</p> <p>This interface allows for bidirectional synchronization of role definitions that are used in configuring workflow processes in Maximo.</p> <p>A role is a pointer to a certain table column whose data value will be that of a person ID at run time. Workflow in box assignments and workflow notifications are always made to roles.</p> <p>This interface is intended to facilitate movement of workflow definitions from test to production systems.</p>
Outbound Implementation Details	
Integration Point Processing Class Functionality	None
Interface Processing Rules	None
Interface Controls	None
Inbound Implementation Details	
Integration Point Processing Class Functionality	None
Interface Processing Rules	None
Interface Controls	None
Comments	All workflow transactions must be in XML format.

Collaboration Switches

C

Collaboration switches have been designed from an inbound integration point of view to provide users with a way to better manage data synchronization between Maximo and external systems using a concept of ownership. These switches provide the ability to control sub-processes within specific Maximo application functionality based on ownership of different data objects within a transaction.

Most master data and document integration objects in Maximo have an OWNERSYSID attribute present in the primary MBO of the integration object. By default, Maximo's inbound integration processing does not specify any value in this field, and processing of inbound interfaces proceeds as per standard Maximo functionality.

This appendix contains details on the available collaboration switches and their effect on standard Maximo processing.

Format of Collaboration Switches

Collaboration switches provide a flexible, user-defined way to control the processing of some inbound transactions, by letting Maximo bypass the default processing for certain types of transactions.

The collaboration switches reside in the Maximo MXCOLLAB table. Each collaboration switch contains four elements, three of which combine to create a unique key. The following table lists these elements. An asterisk (*) indicates the elements that comprise the key.

Collaboration Switch Elements

Element	Corresponding MXCOLLAB field
Process control ID*	PCID
System ID 1*	OWNER1SYSID
System ID 2*	OWNER2SYSID
Process control value	PCVALUE

Process Control ID

The process control ID identifies a business process in a Maximo application, such as the validation of an invoice match, the creation of a blanket PO release, or the update of a physical inventory count. The prefix of the process control ID indicates the application to which it applies.

Process Control ID Prefixes

Prefix of Process Control ID	Corresponding Application
INV	Invoice
ITM	Item
IV	Inventory
LT	Labor
PO	Purchase order
PR	Purchase requisition
WO	Work order

For example, the IVRC, IVRCY, and IVWO collaboration switches are all related to inventory processing. For a complete listing of the collaboration switches by application, see page C-9.

System ID 1 and System ID 2

System ID 1 and System ID 2 identify your Maximo system and/or an external system.

The values in these fields vary, depending on the transaction and the objects in the transaction. In general, System ID 1 identifies the system (Maximo or external) that created the object, and System ID 2 identifies the system that created the record being referenced or updated.

Process Control Value

The process control value specifies whether the Maximo business components should bypass default processing for the type of transaction indicated by the process control ID, System ID 1, and the System ID 2. The process control value can be Y (yes) or N (no), or the equivalent in another language. Y and N mean the following.

Process Control Values

Value of Process Control	Description
N	Performs default processing
Y	Bypasses default Maximo processing

Default Collaboration Switches

Maximo creates three default collaboration switches, with different combinations of system ID values, for each process control ID. Authorized users can create additional switches as needed.

The default switches use various combinations of the following values in the System ID 1 and System ID 2 fields.

System ID Values

System ID Value	Meaning
THISMX	The Maximo system identified in MAXVARS.MXSYSID*
EXT	Any system other than the one identified in MAXVARS.MXSYSID

* The collaboration switches do not use the actual value in MXSYSID.

Authorized users can update only the process control value in the default collaboration switches.

CAUTION Deleting a default collaboration switch or modifying any field other than the process control value can result in system failure.

Retrieving a Collaboration Switch

Each process control ID has at least three related collaboration switches (the defaults and any that the user adds). Maximo uses the following logic to determine which system ID values to set when retrieving a collaboration switch from the MXCOLLAB table:

- 1 Maximo uses the rules for deriving the System ID 1 and System ID 2 values for the process control ID in question.

Example: For process control ID PRDEL, System ID 1 is the literal THISMX and System ID 2 is the system that owns the PR.

- 2 If the value in System ID 1 is now blank, null, or equal to the value in the MXSYSID row of the Maximo MAXVARS table, Maximo uses THISMX for System ID 1.
- 3 If the value in System ID 2 is now blank, null, or is equal to the value in the MXSYSID row of the Maximo MAXVARS table, and the process control ID is not PRPAB, Maximo uses THISMX for System ID 2.
- 4 If the process control ID is PRPAB, the value in System ID 2 will be null after step 1, and Maximo uses EXT for System ID 2. (if the blanket PO does not exist).
- 5 If both System ID 1 and System ID 2 now equal THISMX, Maximo performs the default Maximo processing (that is, it acts as if it retrieved an MXCOLLAB record with a process control value of N).

If both System ID 1 and System ID 2 equal THISMX, ignore the remaining steps.

- 6 Maximo tries to find a record with the modified key in the MXCOLLAB table.

If the record exists, Maximo uses the record's process control value to determine whether or not to bypass Maximo processing.

If the record exists, ignore the remaining steps.

- 7 If the record does not exist, Maximo modifies the key as follows:

If System ID 1 now equals THISMX and System ID 2 does not equal THISMX, Maximo uses EXT as the System ID 2 value.

If System ID 1 value does not equal THISMX and System ID 2 equals THISMX, Maximo uses EXT as the System ID 1 value.

- 8 Maximo tries to find a record with the modified key in the MXCOLLAB table.

If the record exists, Maximo uses the record's process control value to determine whether or not to bypass Maximo processing.

If the record exists, ignore the remaining step.

- 9 Maximo uses EXT for both System ID 1 and System ID 2.
- 10 Maximo finds the record with the modified key in the MXCOLLAB table.

This record always exists, because every process control value has a default collaboration switch with both system IDs equal to EXT.

- 11 Maximo uses the record's process control value to determine whether or not to bypass Maximo processing.

Viewing Collaboration Switches

You can use any database tool to display the values in the MXCOLLAB table. You can also create a report with the report-writing tools available in Maximo.

To display the collaboration switches for a single process control ID, use the following SQL query:

```
select  pcid, owner1sysid, owner2sysid, pcvalue
from    mxcollab
where   pcid = 'PCID'
order  by pcid, owner1sysid, owner2sysid;
```

To display all collaboration switches, use the following SQL query:

```
select  pcid, owner1sysid, owner2sysid, pcvalue
from    mxcollab
order  by pcid, owner1sysid, owner2sysid;
```

To display a short description of the process control IDs, use the following SQL query:

```
select * from mxcollabref order by pcid;
```

Modifying a Collaboration Switch

Authorized users can use any database tool to modify the process control value of a collaboration switch.

CAUTION Do not change the value of PCID, OWNER1SYSID, or OWNER2SYSID on existing collaboration switches.

To change the process control value in a collaboration switch, use the following SQL statement:

```
update mxcollab
set pcvalue      = 'PCVALUE'
where pcid       = 'PCID'
and owner1sysid = 'OWNER1SYSID'
and owner2sysid = 'OWNER2SYSID';
```

NOTE The values in the MXCOLLAB table are case-sensitive. Also, if you use a language other than English and you modified the values that represent *yes* and *no*, use the translated values in SQL statements that access or update process control values in the MXCOLLAB table. For example, if you use J and N to represent *yes* and *no* in German (*ja* and *nein*, respectively), substitute J for Y in SQL statements that refer to the process control value that represents *yes*.

Adding a Collaboration Switch

Authorized users can add new collaboration switches to the MXCOLLAB table. New switches must use an existing process control ID, but they can use new system IDs.

NOTE Only the default collaboration switches can use the values THISMX and EXT in the system ID fields.

To add a collaboration switch, use the following SQL statement:

```
insert into mxcollab
(pcid, owner1sysid, owner2sysid, pcvalue)
values ('PCID', 'OWNER1SYSID', 'OWNER2SYSID', 'PCVALUE');
```

Example

You use the Maximo Integration to integrate Maximo with an Oracle Financials® system and other systems. When Oracle Financials issues Maximo-owned inventory, you want Maximo to accept the issue and update inventory balances and costs. However, when other systems issue Maximo-owned inventory, you want to accept the issue, but you do not want to update inventory balances or costs.

Before you modify the MXCOLLAB table to reflect these conditions, the INV collaboration switches have the following values.

INV Collaboration Switch Default Values

Process Control ID	System ID 1	System ID 2	Process Control Value
INV	THISMX	EXT	Y
INV	EXT	THISMX	N
INV	EXT	EXT	Y

To accomplish the task, complete the following steps:

- 1 Change the value of the INV/ EXT/ THISMX collaboration switch to Y to bypass normal update processing.

To update the collaboration switch, use the following SQL statement:

```
update mxcollab
set pcvalue      = 'Y'
where pcid       = 'INV'
and owner1sysid = 'EXT'
and owner2sysid = 'THISMX' ;
```

- 2 Select a system ID to represent Oracle Financials.

This example uses ORC as the system ID.

- 3 Add a new collaboration switch–INV/ORC/THISMX–to the MXCOLLAB table.

The single SQL statement following step 5 performs the processing for steps 3, 4, and 5.

- 4 Set the new collaboration switch's process control value to N.

This value directs Maximo to perform the normal balance and cost updates when it receives issues from Oracle Financials.

- 5 Set the OWNERSYSID attribute on the inbound transaction to the system ID you chose in step 2–in this case, ORC.

NOTE If OWNERSYSID is blank, the value in the DEFEXTSYS integration control is used.

To perform the processing described in steps 3, 4 and 5, use the following SQL statement:

```
insert into mxcollab
(pcid, owner1sysid, owner2sysid, pcvalue)
values ('INV', 'ORC', 'THISMX', 'N');
```

After you perform this procedure, the INV collaboration switches will have the following values.

INV Collaboration Switch Updated Values

Process Control ID	System ID 1	System ID 2	Process Control Value
INV	THISMX	EXT	Y
INV	EXT	THISMX	Y
INV	EXT	EXT	Y
INV	ORC	THISMX	N

Example

By setting the value of the ISUIN integration control to Y, you tell Maximo to accept issue transactions from an external system. The INV collaboration switch controls the update of inventory balance and cost related to issues. You can adjust the setting of this switch, if necessary, so that Maximo bypasses that update process.

The INV/EXT/THISMX collaboration switch controls the processing of inventory (Process Control ID = INV) that is issued in the external system (System ID 1 = EXT) and owned by Maximo (System ID 2 = THISMX).

If the value of the INV/EXT/THISMX collaboration switch were N, Maximo would update the inventory balance and cost. This is the default processing.

If the value of the INV/EXT/THISMX collaboration switch were Y, Maximo would bypass the default processing and not update the inventory balance and cost.

In this example, ISUIN accepts any issues into Maximo. The INV/EXT/THISMX collaboration switch then tells the inventory business component how to process a specific type of issue.

Inventory Collaboration Switches

Process Control ID	Description	Value and Action	Derivation of System ID 1	Derivation of System ID 2
INV	Update inventory. Used when creating issues, returns, or miscellaneous receipts or adjustments. Inventory must exist in this system.	N Update inventory. Y Do not update inventory.	INVTRANS or MATUSETRANS	INVENTORY
INVDEL	Delete inventory. Used when deleting externally owned inventory. Caution: If value is Y, the item-storeroom will still exist on related open PRs, POs, RFQs, work orders, and so on. This might result in problems receiving/approving these lines.	N Delete item if it passes normal Maximo validations. Y Delete inventory without any validations and delete INVBALANCES record for the item.	"THISMX"	INVENTORY
INVISS	Enter item issues. Used when issuing material.	N Allow material issues for the inventory. Y Do not allow material issues for the inventory.	MATUSETRANS	INVENTORY
INVISSR	Enter item issue returns. Used when returning material.	N Allow material returns. Y Do not allow issue returns for the material.	MATUSETRANS	INVENTORY
INVISSWO	Update work order actual cost, equipment INVCOSTs. Used when processing issues or returns. Meant to handle Maximo to Maximo cases where these updates will be done separately.	N Update work order actual material cost, equipment INVCOST. Y Do not update work order actual material cost, equipment INVCOST.	MATUSETRANS	WORKORDER

Inventory Collaboration Switches

Process Control ID	Description	Value and Action	Derivation of System ID 1	Derivation of System ID 2
INVPHY	Enter external physical counts. Used when creating physical counts.	N Allow physical count for the inventory. Y Do not allow physical count for the inventory.	INVTRANS	INVENTORY
INVTR	Update the From storeroom on a transfer or the receipt of internal PO. Used when creating transfers or creating a receipt for an internal POs.	N Update INVBALANCES in the From storeroom. Y Do not update INVBALANCES in the From storeroom.	MATRECTRANS	LOCATIONS (storeroom for transfer; vendor for internal PO)
ITMDEL	Delete items. Used when deleting items that this system does not own. Caution: If value is Y, the item will still exist on related open PRs, POs, RFQs, work orders, and so on. This might result in problems receiving/approving these lines.	N Delete item if it passes normal Maximo validations. Y Delete item without any validation. Also delete INVENTORY, INVBALANCES, and INVVENDOR records for the item.	"THISMX"	ITEM

Invoice Collaboration Switches

Process Control ID	Description	Value and Action	Derivation of System ID 1	Derivation of System ID 2
IVILC	Update inventory last cost.	N Update inventory last cost.	INVOICE	INVENTORY
	Used when approving invoices.	Y Do not update inventory last cost.		
IVINV	Update inventory average cost.	N Update inventory average cost.	INVOICE	INVENTORY
	Used when approving invoices.	Y Do not update inventory average cost.		
IVMATCH	Use and validate invoice match.	N Validate match.	"THISMX"	INVOICE
	Used when approving invoices.	Y Do not validate any match provided.		
	If set to Y, IVPO should also be set to Y.			
IVPO	Update POs and receipts.	N Update PO status and receipts.	INVOICE	PO
	Used when approving invoices.	Y Do not update PO status or receipts.		
IVPRO	Check and prorate differences between invoice headers and lines.	N Prorate the difference between the header and the line total.	"THISMX"	INVOICE
	Used when approving invoices.	Y Do not prorate the difference between the header and line total.		
IVRC	Create service receipts for invoice lines without a PO reference.	N Generate a service receipts for the invoice lines that do not have a PO reference.	"THISMX"	INVOICE
	Used when approving invoices that contain a line without a PO reference.	Y Do not generate a service receipt for the invoice lines that do not have a PO reference.		

Invoice Collaboration Switches

Process Control ID	Description	Value and Action	Derivation of System ID 1	Derivation of System ID 2
IVRCY	<p>Create service receipts for invoice lines with a PO reference and RECEIPTREQD = N.</p> <p>Used when approving invoices containing a line with a PO reference, when the corresponding POLINE is a service and RECEIPTREQD = N.</p>	<p>N Generate a service receipt for the invoice line.</p> <p>Y Do not generate a service receipt for the invoice line.</p>	INVOICE	PO
IVTOL	<p>Perform invoice tolerance checking validation.</p> <p>Used when approving invoices.</p>	<p>N Perform all tolerance checks on invoice.</p> <p>Y Do not perform tolerance checks on invoice.</p>	"THISMX"	INVOICE
IVVLC	<p>Update vendor last cost.</p> <p>Used when approving invoices.</p>	<p>N Update vendor last cost.</p> <p>Y Do not update vendor last cost.</p>	INVOICE	INVVENDOR
IVWO	<p>Update work orders.</p> <p>Used when approving invoice.</p>	<p>N Update work order.</p> <p>Y Do not update work order.</p>	INVOICE	WORKORDER

Labor Transaction Collaboration Switches

Process Control ID	Description	Value and Action	Derivation of System ID 1	Derivation of System ID 2
LTSRC	<p>Generate service receipts for POs.</p> <p>Used when creating labor transactions or changing status. PO must exist in this system.</p>	<p>N Allow setting value of LABTRANS.GENAPPRSERVRECEIPT to Y; configurable in Maximo Application Setup.</p> <p>Y Leave value of LABTRANS.GENAPPRSERVRECEIPT as N.</p>	LABTRANS	PO

Purchase Order Collaboration Switches

Process Control ID	Description	Value and Action	Derivation of System ID 1	Derivation of System ID 2
PODEL	<p>Delete POs.</p> <p>Used when deleting POs. Use only when deleting then subsequently re-adding a PO due to changes in the PO.</p> <p>If any PRLINES contain a reference to the PO, clear them. If necessary, reopen the PR. When the PO is re-added, the PRLINES will be established again.</p>	<p>N Do not delete PO.</p> <p>Y Delete PO and PRLINES; do not delete POSTATUS.</p>	"THISMX"	PO
POINV	<p>Do not allow unreferenced external inventory for internal POs.</p> <p>Used when adding or updating PO lines and changing the status of internal POs.</p>	<p>N If the item-vendor combination not in INVENTORY table, error.</p> <p>Y If item-vendor combination not found in INVENTORY table (where PO.VENDOR = LOCATIONS.LOCATION), ignore error.</p>	PO	LOCATIONS, where vendor is the storeroom

Purchase Order Collaboration Switches

Process Control ID	Description	Value and Action	Derivation of System ID 1	Derivation of System ID 2
POIVM	Create inventory vendor information for inventory. Used when approving POs.	N Update or create INVVENDOR record. Y Do not create INVVENDOR record.	PO	ITEM of POLINE
POPR	Update status of PRs. Used when copying PR lines to POs, creating POs from PRs, reopening PRs.	N Change status of PR (auto close based on MAXVAR setting) or reopen when POLINE containing PR reference is deleted, or other instances of reopen. Y Do not change PR status.	PO	PR
POREL	Create releases for blanket POs. Used when approving PR and the PR lines contain a blanket references, and when a release is created directly from a PO without a PR.	N Generate PO release. (If PRLINE.AGREEMENTPONUM not in PO, do not generate PO release). Y Do not regenerate PO releases.	PR	PO of the blanket
PORES	Process material reservations. Used when changing the status of internal POs.	N Generate inventory reservations. If item-vendor combination (where vendor is internal storeroom) not in INVENTORY table, do not generate PO reservations. This might happen if POINV is N. Y Do not generate inventory reservations.	PO	INVENTORY

Purchase Requisition Collaboration Switches

Process Control ID	Description	Value and Action	Derivation of System ID 1	Derivation of System ID 2
PRDEL	<p>Delete PRs.</p> <p>Used when deleting PRs. Use only when deleting then subsequently re-adding a PR due to changes in the PR.</p> <p>If WPMATERIAL or MRLINE contain references to the PR, clear them. They will be reestablished when you read PR.</p>	<p>N Do not delete PR.</p> <p>Y Delete the PR and PRLINES; do not delete PRSTATUS.</p>	"THISMX"	PR
PRINV	<p>Do not allow unreferenced external inventory on internal PRs.</p> <p>Used when storerooms are maintained in an external system. Items are in ITEM master in Maximo; storeroom is defined as a LOCATION; INVENTORY is not defined for item-storeroom combination because it is not owned by Maximo.</p> <p>The owner of the PR is the MXSYSID of the system that creates the PR. Validation occurs when an item-storeroom (INVENTORY) is validated on the PRLINE. The OWNERSYSID of the storeroom is compared with the OWNERSYSID of the PR, and the flag determines if the combination is allowed.</p>	<p>N If the item-vendor combination is not in INVENTORY table, error.</p> <p>Y If the item-vendor combination (vendor is the internal storeroom) is not in INVENTORY table, where PR.VENDOR = LOCATIONS.LOCATION, ignore error. LOCATIONS must exist; that is, pass standard validation for the location.</p>	PR	LOCATIONS, where vendor is the internal storeroom

Purchase Requisition Collaboration Switches

Process Control ID	Description	Value and Action	Derivation of System ID 1	Derivation of System ID 2
PRPAB	<p>Do not allow unreferenced external purchase agreements / blankets.</p> <p>Used when adding or updating PR lines and changing the status of PRs.</p>	<p>N If PRLINE.AGREEMENTPONUM is not in PO, error.</p> <p>Y If PRLINE.AGREEMENTPONUM is not in PO, ignore error.</p>	PR	<p>“EXT”</p> <p>Normally this would be from PO of the blanket, but in this case the blanket PO does not exist</p>

Receipt Collaboration Switches

Process Control ID	Description	Value and Action	Derivation of System ID 1	Derivation of System ID 2
RC	Enter PO receipts.	N Allow receiving against the PO.	MATRECTRANS or SERVRECTRANS	PO
	Used when creating receipts.	Y Do not allow receiving against the PO.		
RCILC	Update inventory last cost.	N Update inventory last cost.	MATRECTRANS	INVENTORY
	Used when approving receipts.	Y Do not update inventory last cost.		
RCINV	Update inventory.	N Update inventory if it exists.	MATRECTRANS	INVENTORY
	Used when receiving, or approving receipts.	Y Do not update inventory.		
RCIV	Generate invoices for PO receipts.	N Generate invoice if value of PayOnReceipt is set.	MATRECTRANS or SERVRECTRANS	PO
	Used when approving receipts.	Y Do not generate invoice, even if value of PayOnReceipt is set.		
RCPO	Update external PO.	N Update PO.	MATRECTRANS or SERVRECTRANS	PO
	Used when approving receipt.	Y Do not update PO.		
RCR	Enter PO receipt return.	N Allow receipt returns for the PO.	MATRECTRANS or SERVRECTRANS	PO
	Used when creating receipt return.	Y Do not allow receipt returns for the PO.		
RCVLC	Update vendor last cost.	N Update vendor last cost.	MATRECTRANS	INVVENDOR
	Used when approving receipt or receiving PO line.	Y Do not update vendor last cost.		
RCWO	Update work orders.	N Update work order.	MATRECTRANS or SERVRECTRANS	WORKORDER
	Used when approving receipts.	Y Do not update work order.		

Work Order Collaboration Switches

Process Control ID	Description	Value and Action	Derivation of System ID 1	Derivation of System ID 2
WORES	Process material reservations.	N Generate inventory reservation.	WORKORDER	INVENTORY
	Used when changing the status of a work order. Inventory must exist in this system.	Y Do not generate inventory reservation.		

Creating the JMS Queues

D

This appendix explains how to create the JMS queues and perform other configuration activities on your WebLogic and WebSphere application servers.

CAUTION Perform these activities only if you did not already do them during Maximo installation.

It includes the following sections:

- ▼ Creating the JMS Queues in WebLogic
- ▼ Configuring the MEA Connection Factory in WebLogic
- ▼ Configuring the Redelivery Delay in WebLogic
- ▼ Configuring Maximum JMS Queue Space in WebLogic
- ▼ Creating the JMS Bus (Queues) in WebSphere
- ▼ Creating the MEA Connection Factory and Queues in WebSphere

After you perform the activities described in this appendix, continue from where you left off in Chapter 6, "Basic Configuration."

Creating the JMS Queues in WebLogic

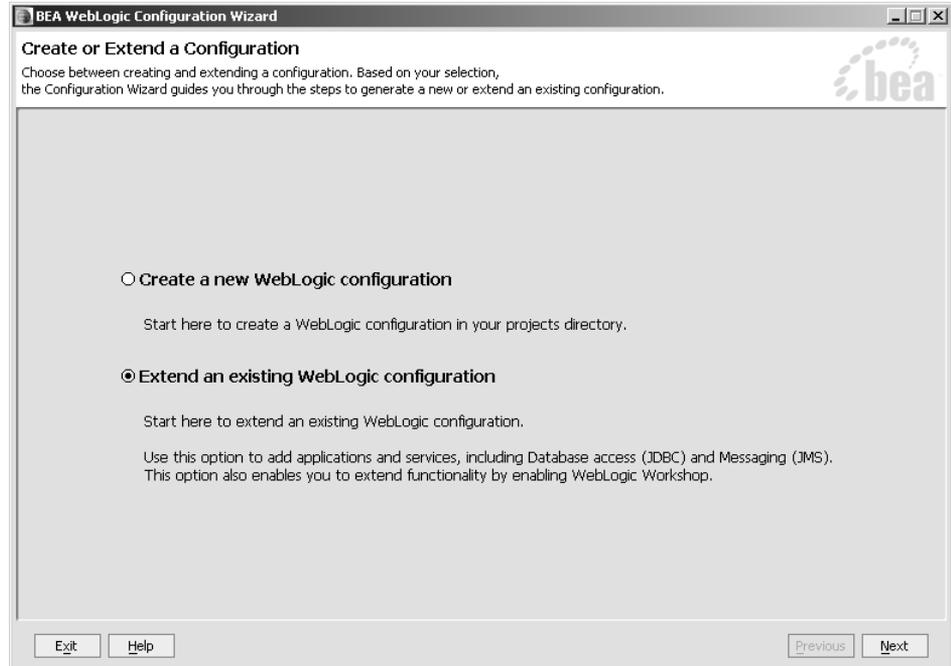
To configure the JMS queues, complete the following steps:

- 1 Access the Configuration Wizard by navigating to:

Start > Programs > BEA WebLogic > Configuration Wizard

The Create or Extend a Configuration screen appears.

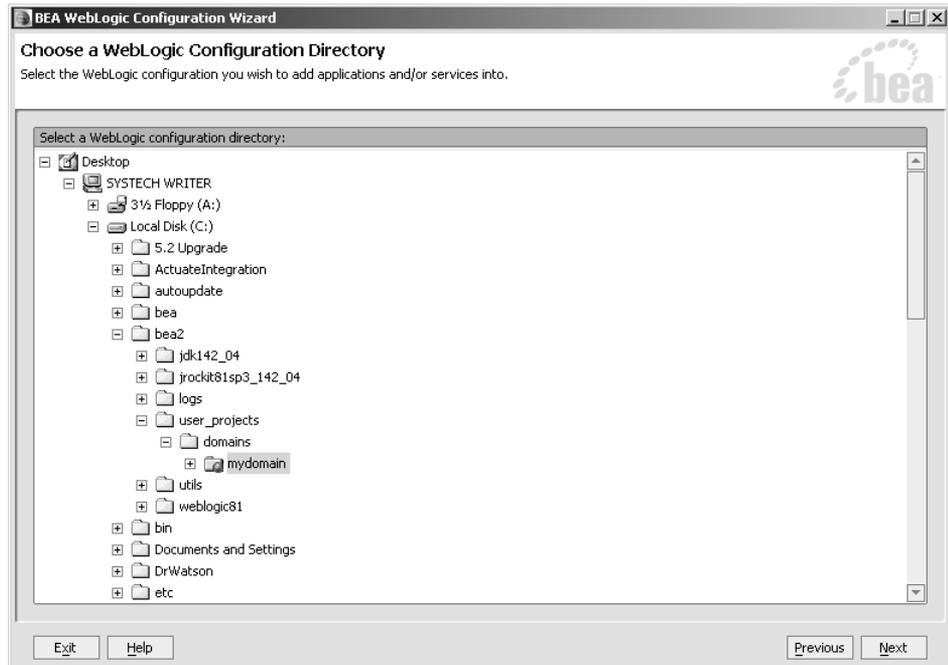
Create or Extend a Configuration Screen



- 2 Select **Extend an existing WebLogic configuration**, then click **Next**.

The Choose a WebLogic Configuration Directory screen appears.

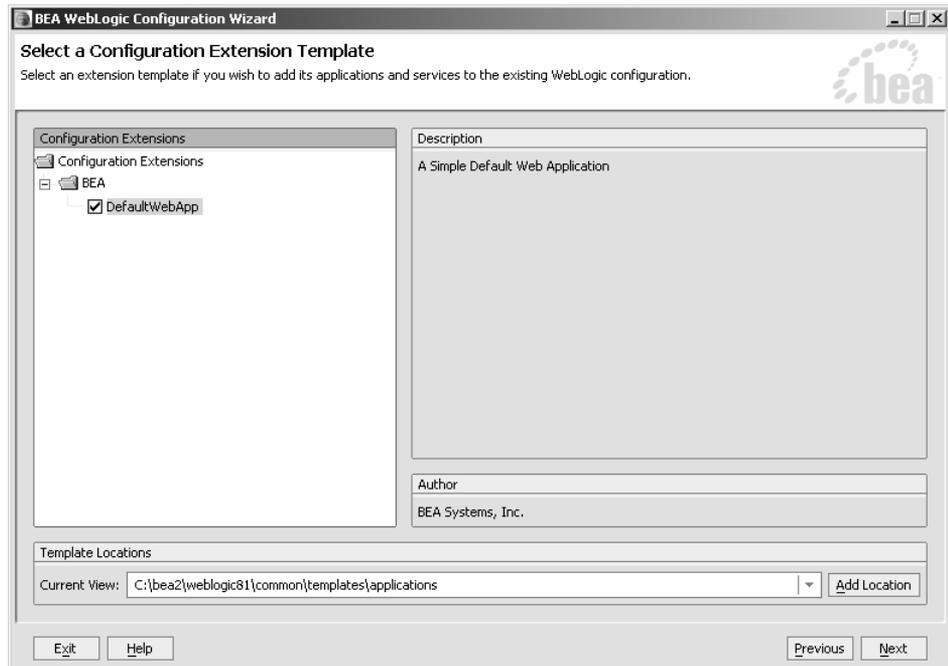
Choose a WebLogic Configuration Directory Screen



3 Select the domain where Maximo is installed, then click **Next**.

The Select a Configuration Extension Template screen appears.

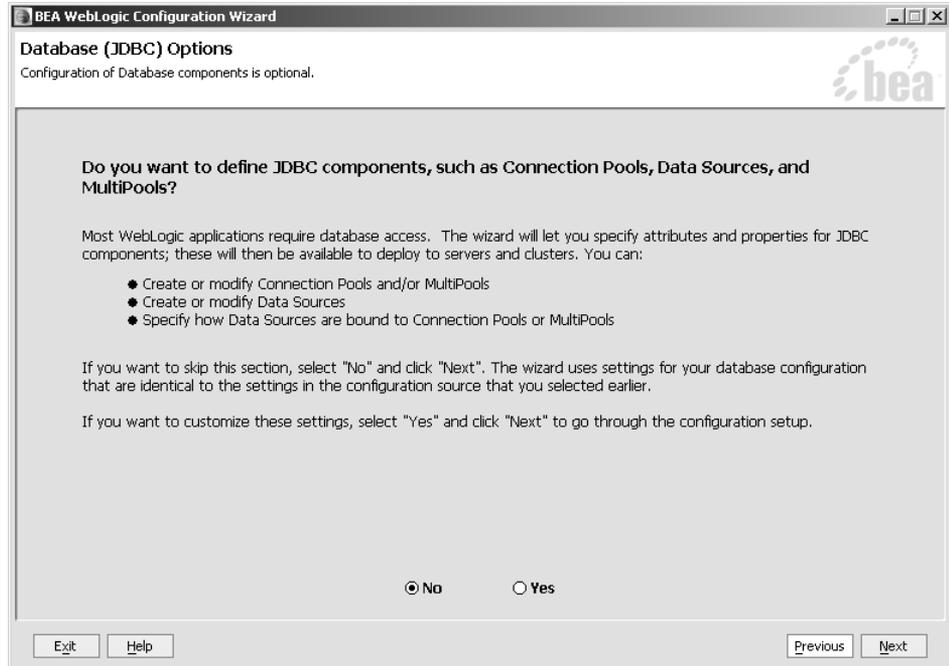
Select a Configuration Extension Template Screen



- 4 Select the DefaultWebApp used for Maximo configuration, then click **Next**.

The Database (JDBC) Options screen appears.

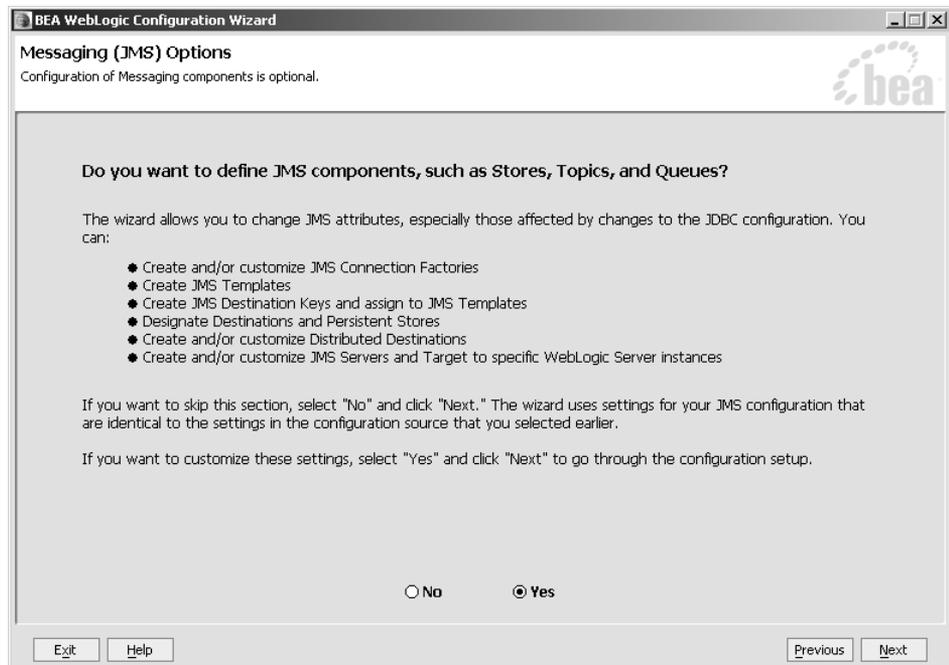
Database (JDBC) Options Screen



- 5 Select **No**, then click **Next**.

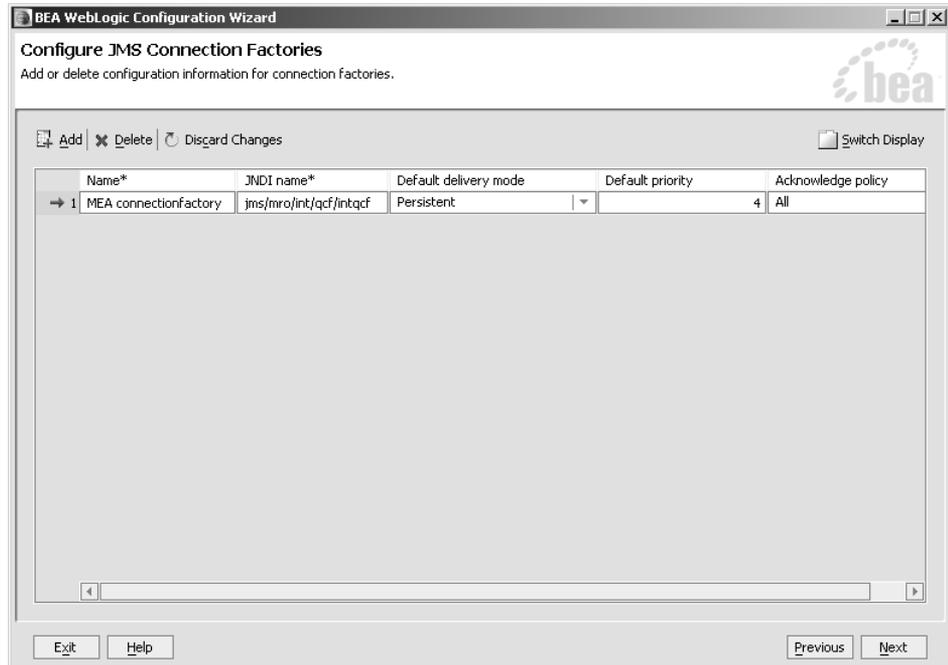
The Messaging (JMS) Options screen appears.

Messaging (JMS) Options Screen



6 Select **Yes**, then click **Next**.

The Configure JMS Connection Factories screen appears.

Configure JMS Connection Factories Screen7 Click **Add**.

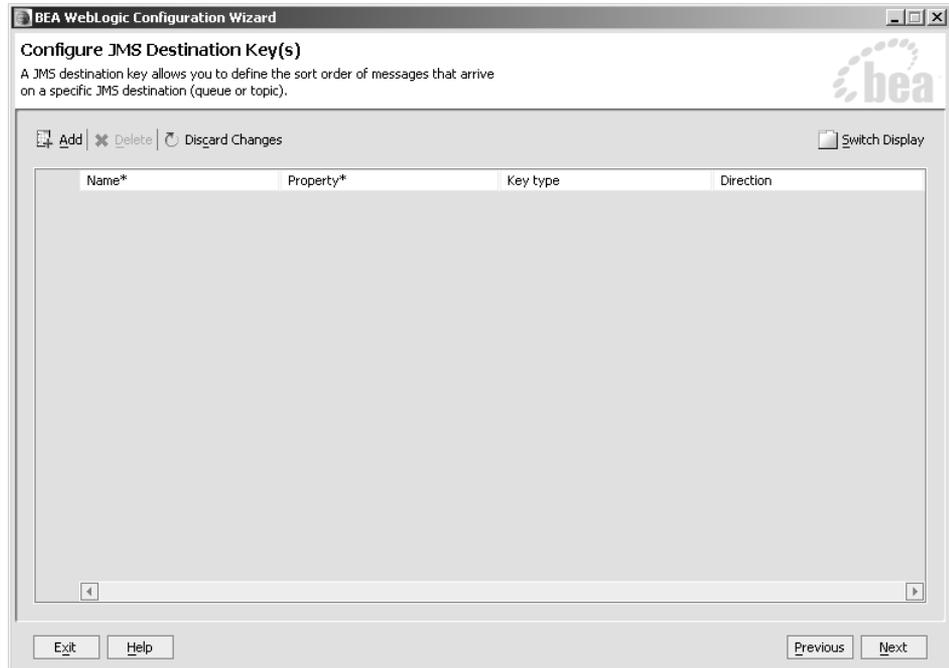
8 Enter or select the following values. Enter the values in the Name and JNDI name columns exactly as shown (case-sensitive).

Column	Value
Name	MEA connectionfactory
JNDI name	jms/mro/int/qcf/intqcf
Default delivery mode	Persistent
Default priority	4
Acknowledge policy	All

9 Click **Next**.

The Configure JMS Destination Key(s) screen appears.

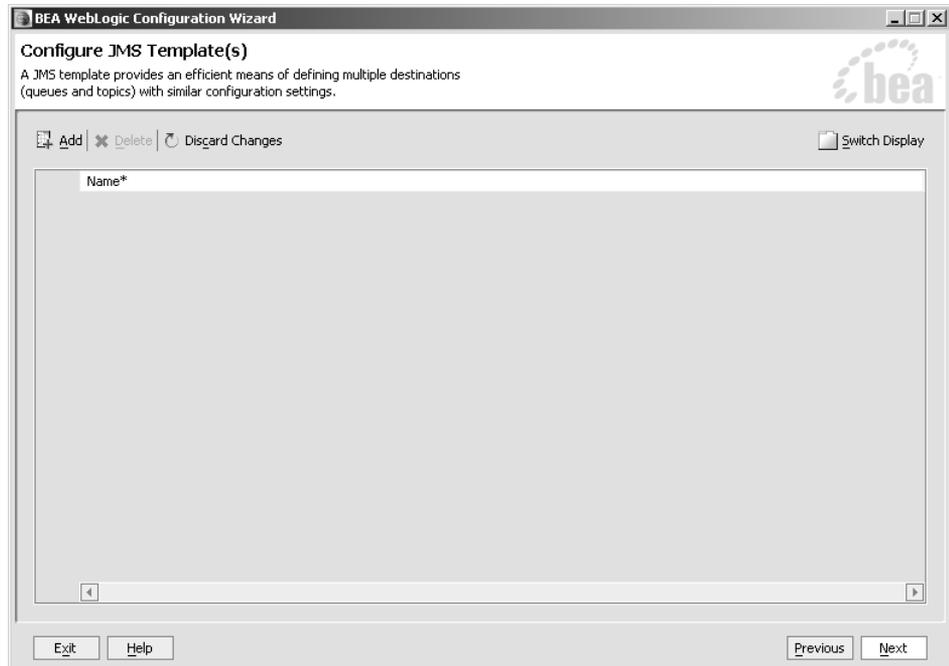
Configure JMS Destination Key(s) Screen



10 Click **Next**.

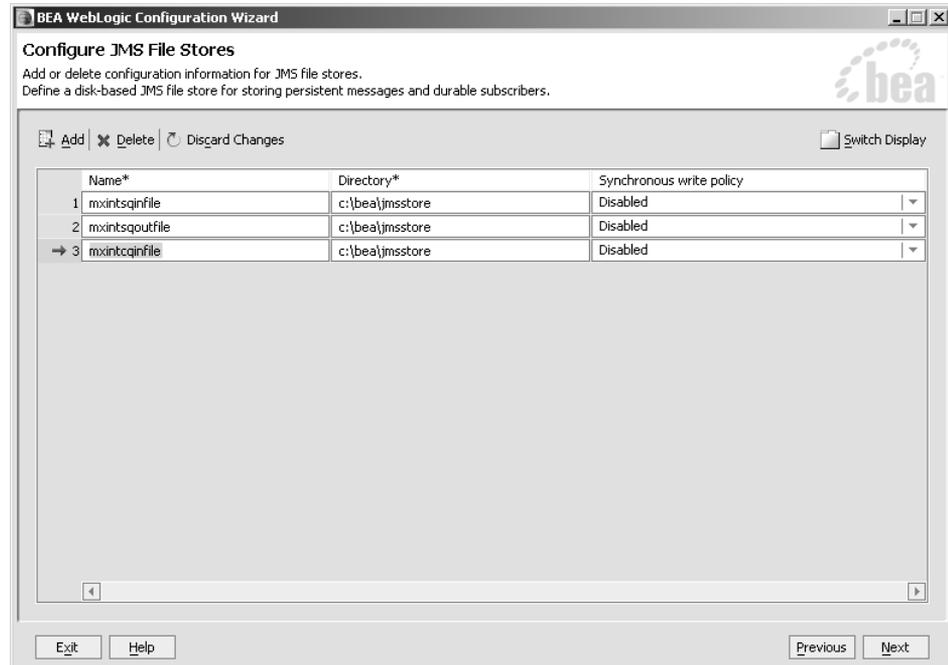
The Configure JMS Template(s) screen appears.

Configure JMS Template(s) Screen



11 Click Next.

The Configure JMS File Stores screen appears.

Configure JMS File Stores Screen**12 Click Add.****13 Enter or select the following values. Enter the value in the Name column exactly as shown (case-sensitive).**

NOTE The directory names shown in the figure (c:\bea\jmsstore) are arbitrary. The directory can be any directory located in your file system. MRO Software recommends that you create a folder named jmsstore in the root of the BEA installation location before continuing with this step. Do not use c:\temp.

Column	Value
Name	mxintsqinfile
Directory	c:\bea\jmsstore
	or
	any existing directory located in your file system (for storing persistent messages)
Synchronous write policy	Disabled

14 Click Add.

15 Enter or select the following values. Enter the value in the Name column exactly as shown (case-sensitive).

Column	Value
Name	mxintsqoutfile
Directory	c:\bea\jmsstore
	or
	any existing directory located in your file system (for storing persistent messages)
Synchronous write policy	Disabled

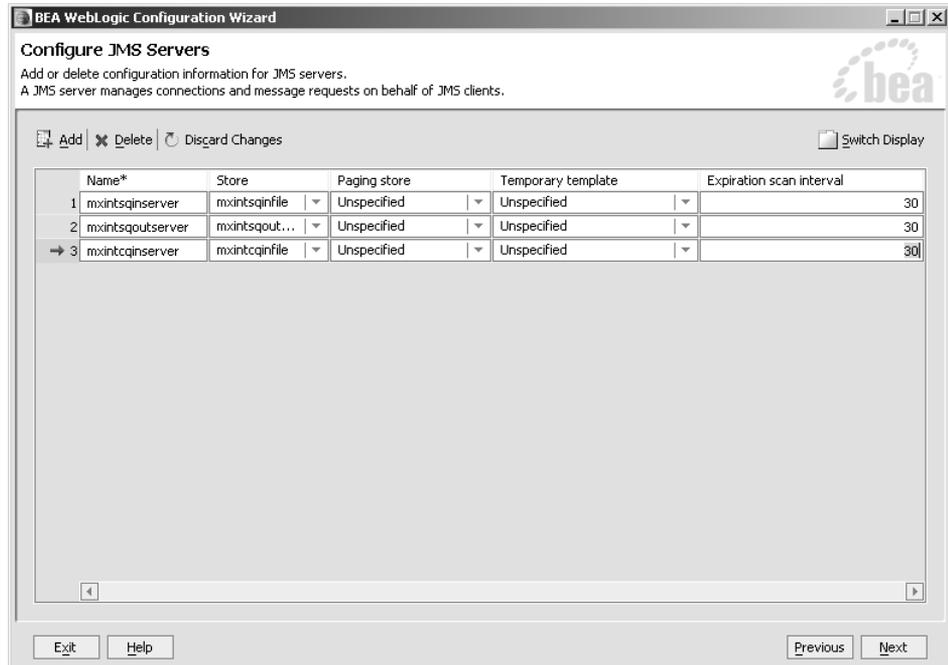
16 Click **Add**.

17 Enter or select the following values. Enter the value in the Name column exactly as shown (case-sensitive).

Column	Value
Name	mxintcqinfile
Directory	c:\bea\jmsstore
	or
	any existing directory located in your file system (for storing persistent messages)
Synchronous write policy	Disabled

18 Click Next.

The Configure JMS Servers screen appears.

Configure JMS Servers Screen**19 Click Add.**

20 Enter or select the following values. Enter the value in the Name column exactly as shown (case-sensitive).

Column	Value
Name	mxintsqinserver
Store	mxintsqinfile
Paging store	Unspecified
Temporary template	Unspecified
Expiration scan interval	30

21 Click Add.

22 Enter or select the following values. Enter the value in the Name column exactly as shown (case-sensitive).

Column	Value
Name	mxintsqoutserver
Store	mxintsqoutfile
Paging store	Unspecified
Temporary template	Unspecified
Expiration scan interval	30

23 Click **Add**.

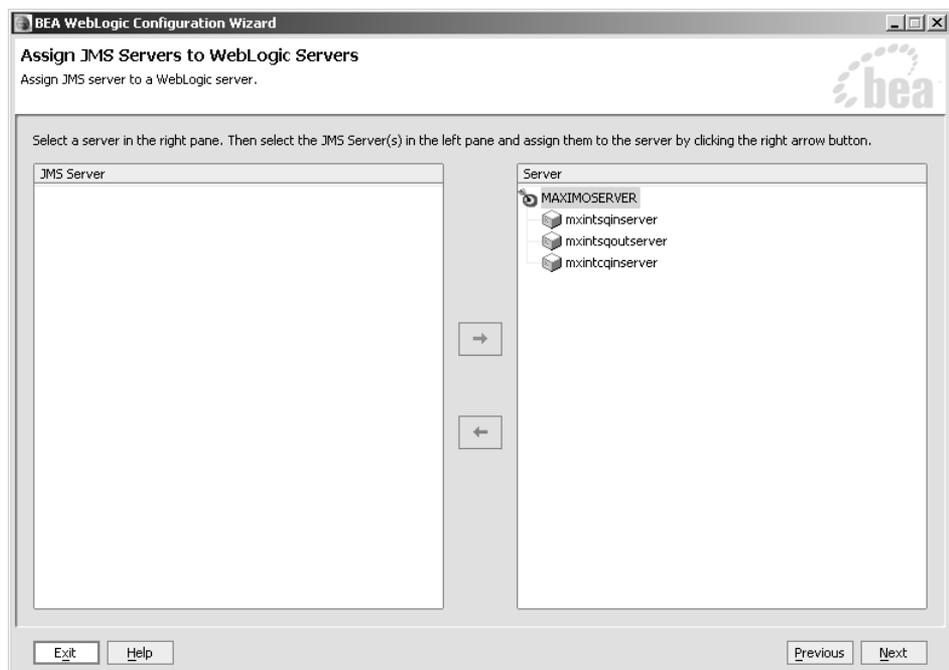
24 Enter or select the following values. Enter the value in the Name column exactly as shown (case-sensitive).

Column	Value
Name	mxintcqinserver
Store	mxintcqinfile
Paging store	Unspecified
Temporary template	Unspecified
Expiration scan interval	30

25 Click **Next**.

The Configure JMS Servers to WebLogic Servers screen appears.

Configure JMS Servers to WebLogic Servers Screen

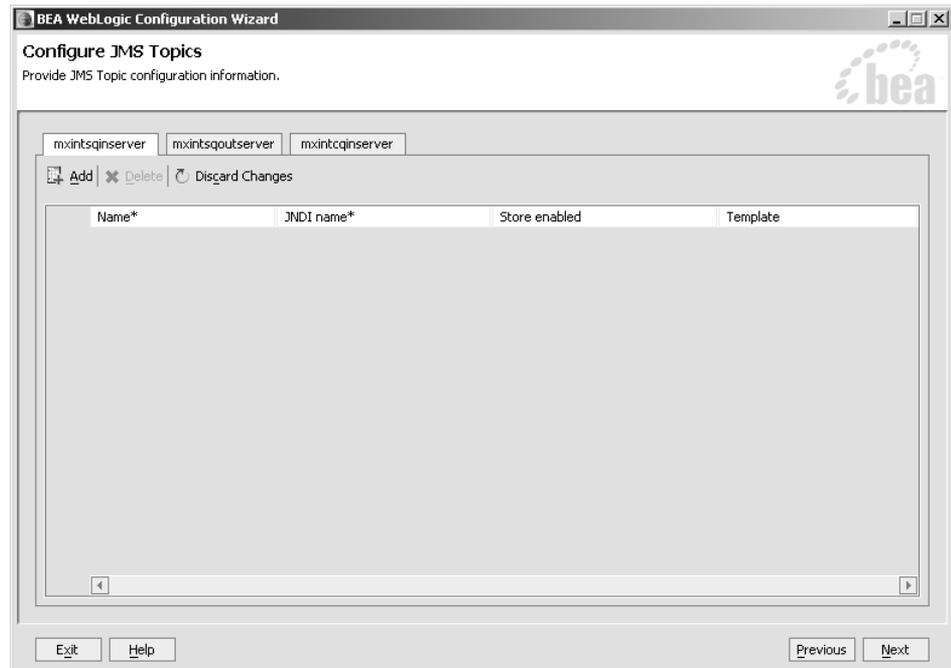


26 Select all the JMS servers that appear in the JMS Server column, and click the right arrow button to assign them to the WebLogic server.

27 Click **Next**.

The Configure JMS Topics screen appears.

Configure JMS Topics Screen

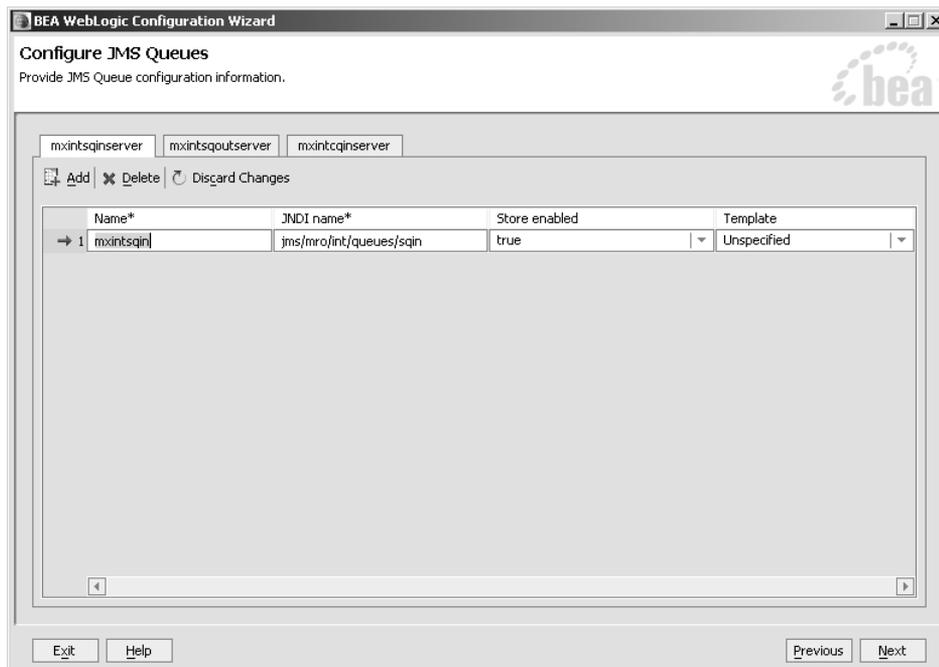


28 Click **Next**.

The Configure JMS Queues screen appears.

29 Select the mqintsqinserver tab.

Configure JMS Queues Screen (mxintsqinserver Tab)



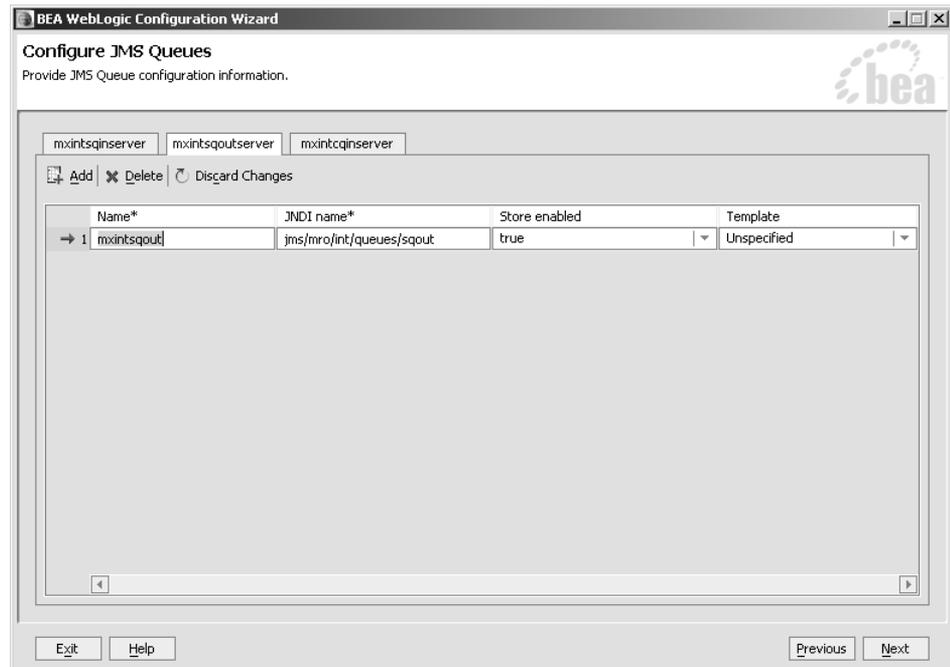
30 Click **Add**.

31 Enter or select the following values. Enter the values in the Name and JNDI name columns exactly as shown (case-sensitive).

Column	Value
Name	mxintsqin
JNDI name	jms/mro/int/queues/sqin
Store enabled	true
Template	Unspecified

32 Select the `mqintsqoutserver` tab.

Configure JMS Queues Screen (mxintsqoutserver Tab)



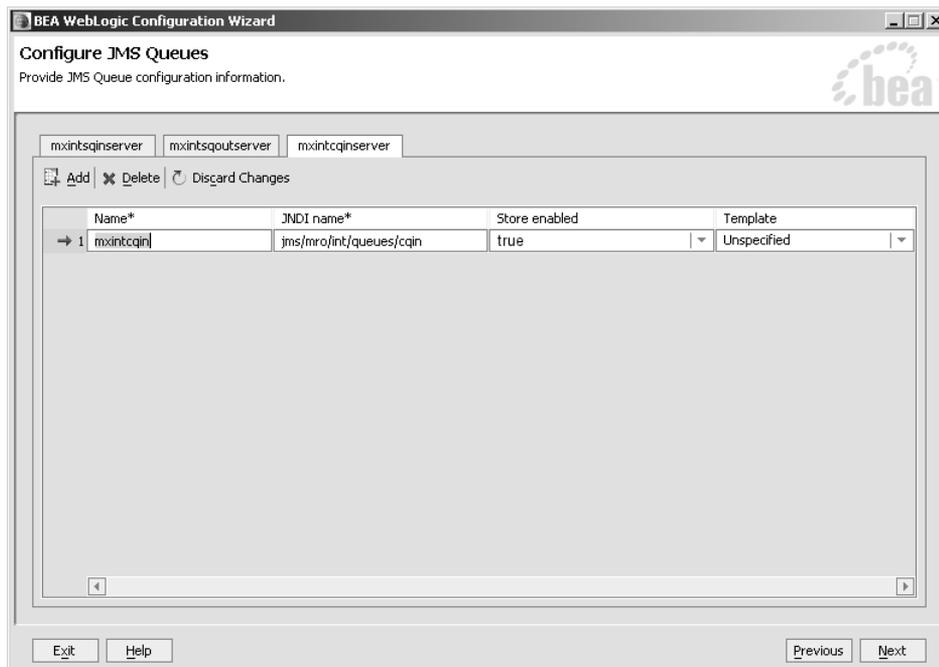
33 Click **Add**.

34 Enter or select the following values. Enter the values in the Name and JNDI name columns exactly as shown (case-sensitive).

Column	Value
Name	mxintsqout
JNDI name	jms/mro/int/queues/sqout
Store enabled	true
Template	Unspecified

35 Select the `mqintcqinserver` tab.

Configure JMS Queues Screen (mxintcqinserver Tab)



36 Click **Add**.

37 Enter or select the following values. Enter the values in the Name and JNDI name columns exactly as shown (case-sensitive).

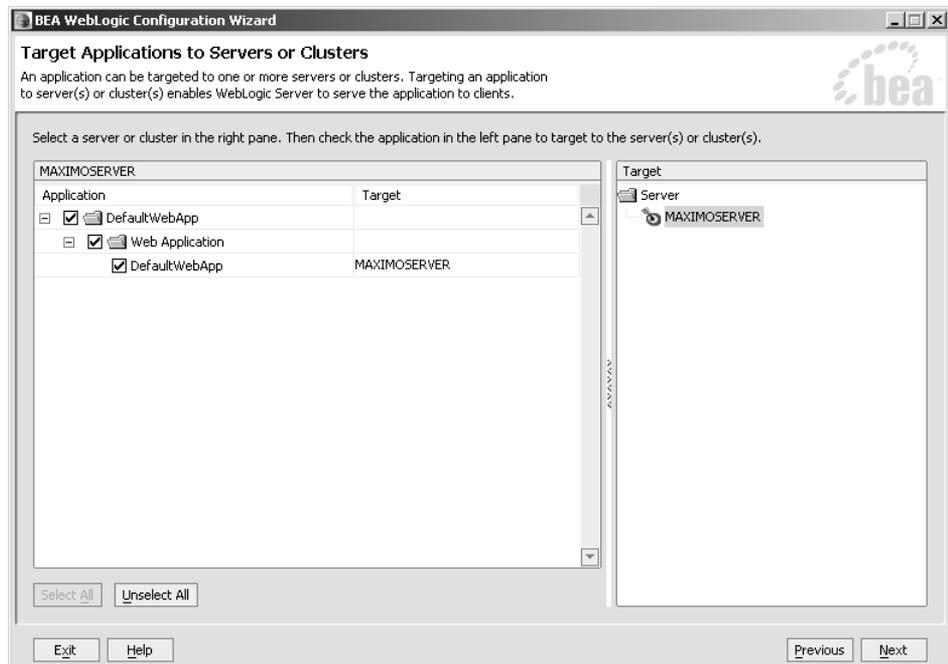
Column	Value
Name	mxintcqin
JNDI name	jms/mro/int/queues/cqin
Store enabled	true
Template	Unspecified

38 Click Next.

The Applications and Services Targeting Options screen appears.

Applications and Services Targeting Options Screen**39 Select Yes, then click Next.**

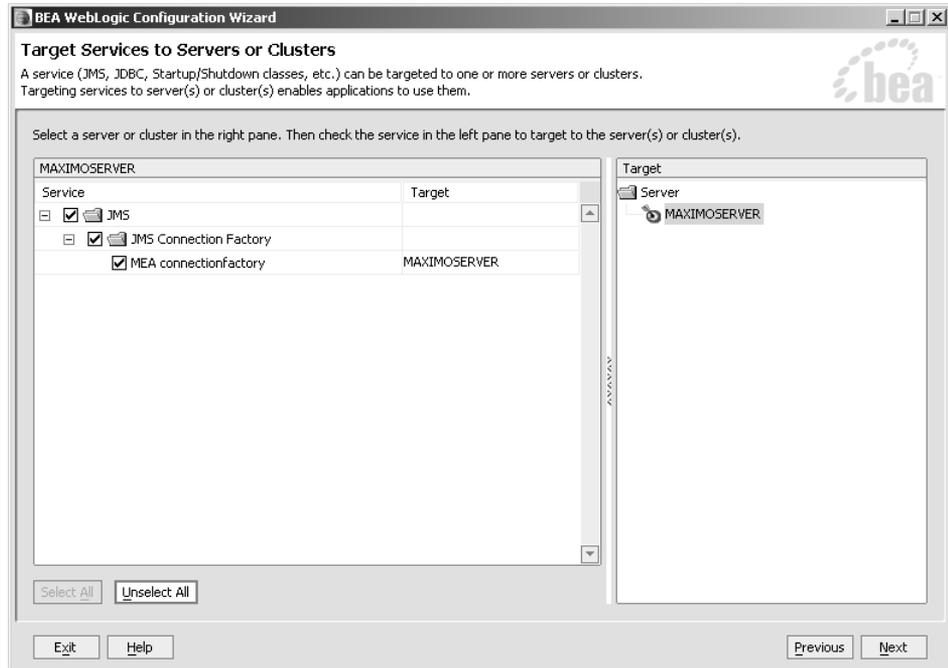
The Target Applications to Servers or Clusters screen appears.

Target Applications to Servers or Clusters Screen

40 Click **Select All**, then click **Next**.

The Target Services to Servers or Clusters screen appears.

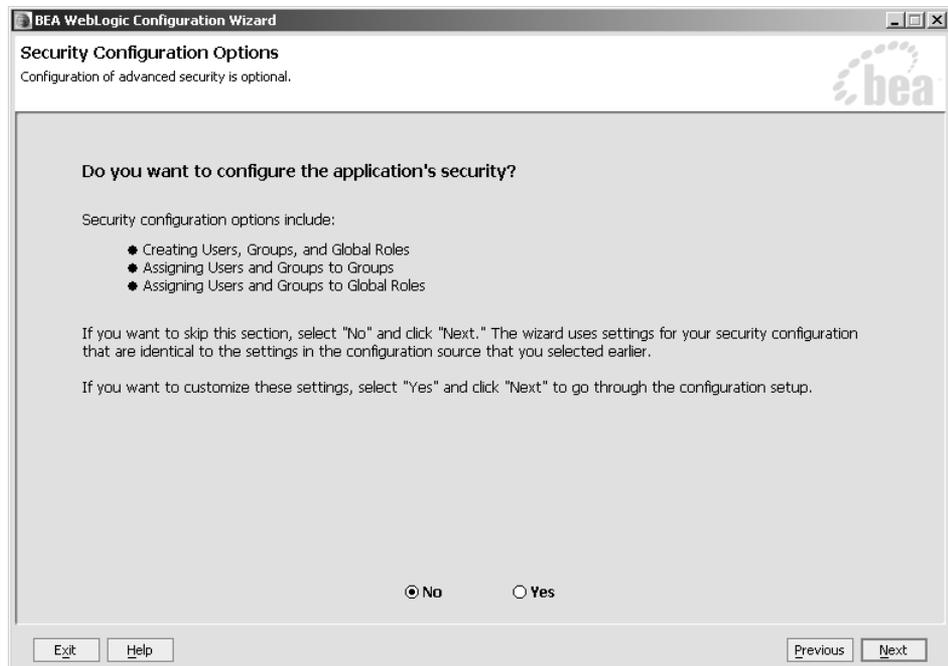
Target Services to Servers or Clusters Screen



41 Click **Select All**, then click **Next**.

The Security Configuration Options screen appears.

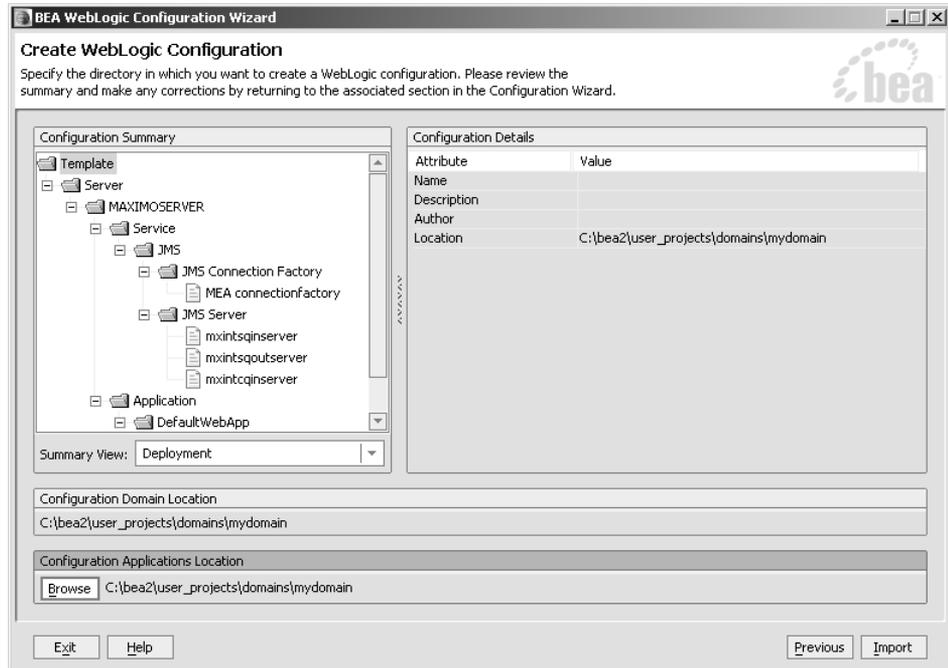
Security Configuration Options Screen



42 Select **No**, then click **Next**.

The Create WebLogic Configuration screen appears.

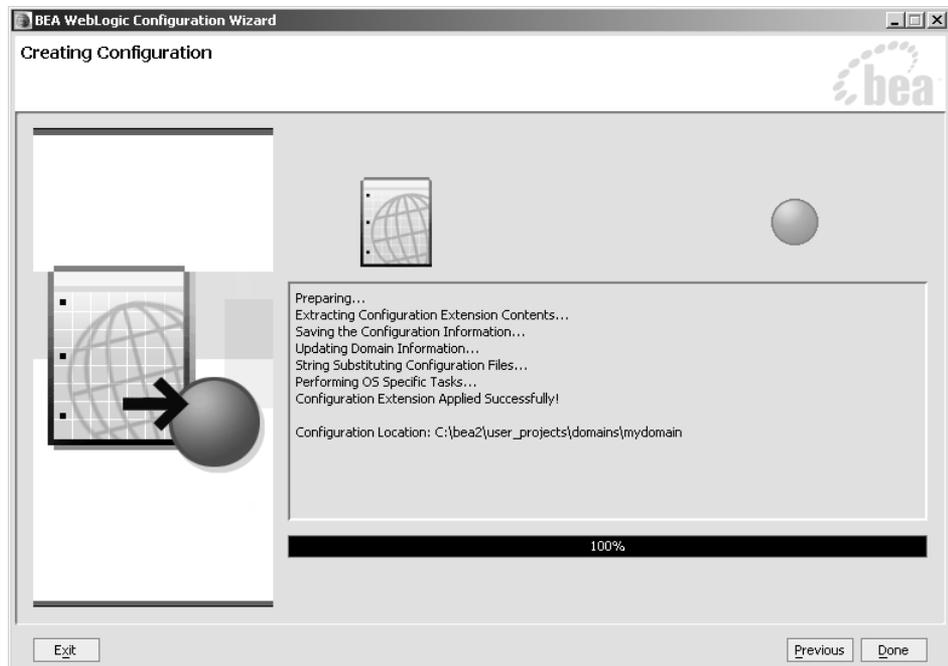
Create WebLogic Configuration Screen



43 Select the WebLogic domain (the default is mydomain), then click **Import**.

The Creating Configuration screen appears.

Creating Configuration Screen



44 When the configuration is complete, click **Done**.

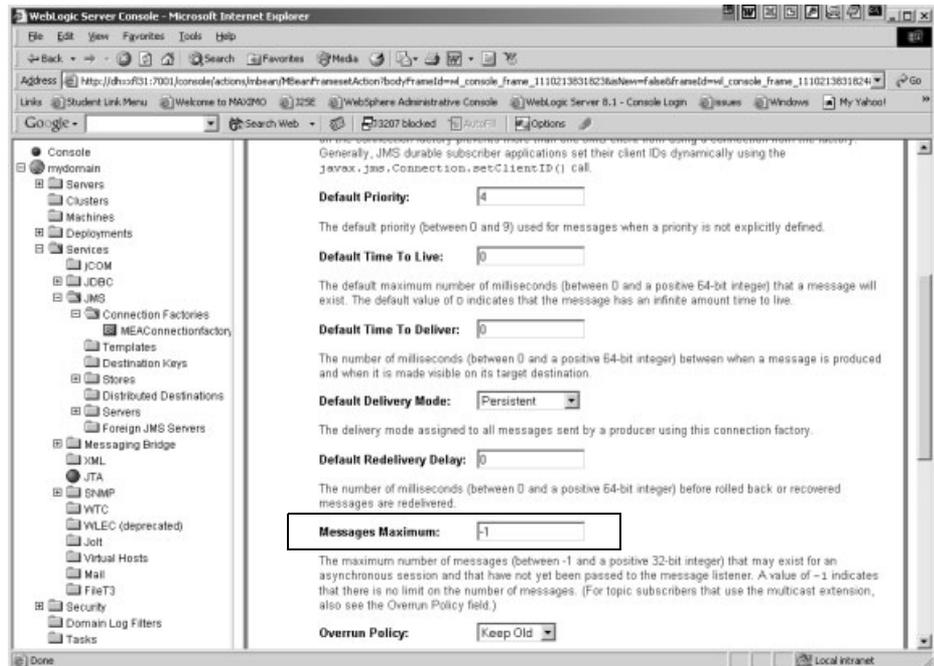
Configuring the MEA Connection Factory in WebLogic

After configuring the JMS queue, configure the messages maximum and enable the connection factory. If you do not enable the connection factory, you will receive warning messages.

To configure the connection factory, complete the following steps:

- 1 Start the WebLogic server.
- 2 Log on to the WebLogic console.
- 3 In the WebLogic server console, navigate to *<WebLogic domain>/Services/JMS/Connection Factories/MEA connectionfactory*.
- 4 Select the General subtab on the Configuration tab.
- 5 Enter **-1** in the **Messages Maximum** field.

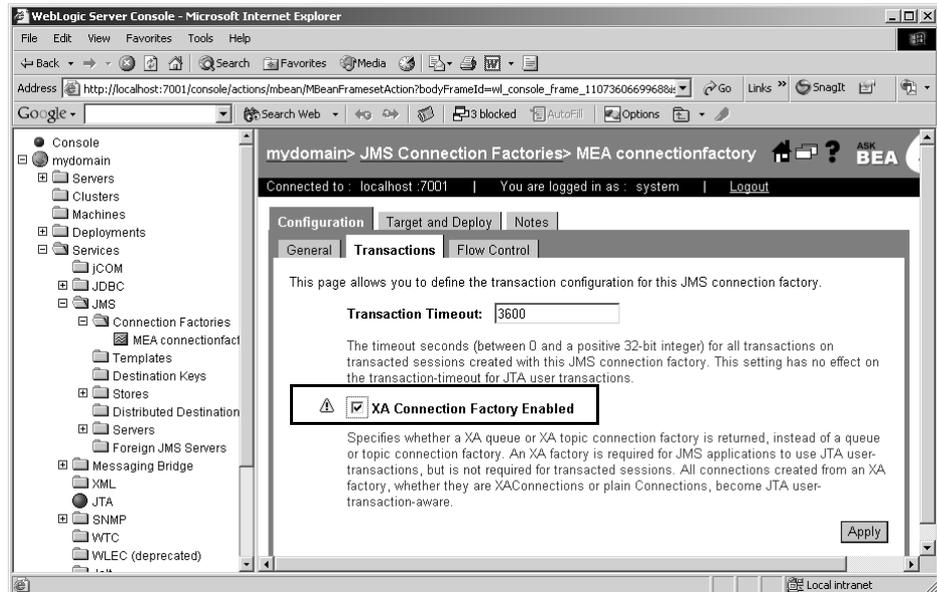
Messages Maximum Field



- 6 Select the Transactions subtab on the Configuration tab.

- 7 On the Transactions subtab of the Configuration tab, select the **XA Connection Factory Enabled** check box.

XA Connection Factory Enabled Check Box



- 8 Click **Apply**.

NOTE The preceding changes will take effect the next time you restart the WebLogic server.

Configuring the Redelivery Delay in WebLogic

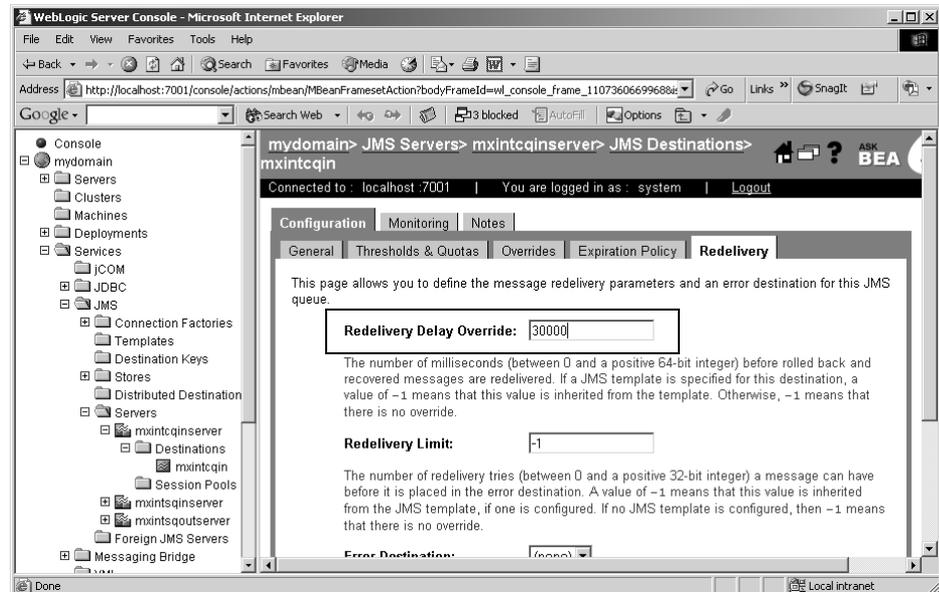
Redelivery delay is the time that elapses between a message erroring out and being reprocessed by the queue. The message is not visible in the queue for the period of time specified for redelivery delay. This delay improves performance by processing other messages instead of immediately processing the error message. The default delay is 30 seconds.

NOTE This redelivery delay applies to the continuous inbound queue only.

To override the default redelivery delay, complete the following steps:

- 1 In the WebLogic server console, navigate to *<WebLogic domain>/Services/JMS/Servers/mxintcginserver/Destination/mxintcgin*.
- 2 On the Redelivery subtab of the Configuration tab, enter the new redelivery delay value in the **Redelivery Delay Override** field.

Redelivery Delay Override Field



- 3 Click **Apply**.

Configuring Maximum JMS Queue Space in WebLogic

The Bytes Maximum value indicates the maximum space the JMS queues can occupy. If this field does not contain a value, the only limit is the available free heap size. Exceeding the limit results in Out Of Memory errors and the suspension of processing. To avoid this, set the Bytes Maximum property. The optimal setting is 42-43% of the maximum heap size for the server.

NOTE This limit is the limit for the sum of all the JMS queues in a Weblogic server. If a Weblogic server hosts all three default queues, in three JMS servers, Bytes Maximum is distributed among the three queues, based on their loads.

To set the Bytes Maximum value, complete the following steps:

- 1 In the WebLogic server console, navigate to *<WebLogic domain>/Services/JMS/Servers/mxintcinserver/Destination/mxintcqn*.
- 2 Select the Thresholds & Quotas General subtab on the Configuration tab.
- 3 Enter the maximum JMS queue space in the **Bytes Maximum** field.

Bytes Maximum Field

The screenshot shows the 'Configuration' tab with sub-tabs 'General', 'Thresholds & Quotas', 'Monitoring', and 'Notes'. The 'Thresholds & Quotas' sub-tab is active. The page content includes:

- Bytes Maximum:** 51. Description: The maximum bytes quota (between 0 and a positive 64-bit integer) that can be stored in this JMS server. The default value of -1 specifies that there is no WebLogic-imposed limit on the number of bytes that can be stored. However, excessive bytes volume can cause memory saturation, so this value should correspond to the total amount of available system memory relative to the rest of your application load.
- Bytes Threshold High:** -1. Description: The upper threshold value (between 0 and a positive 64-bit integer) that triggers events based on the number of bytes stored in this JMS server. Events include message paging, message flow control, and system log messages. A value of -1 specifies that bytes paging, flow control, and threshold log messages are disabled for this JMS server.
- Bytes Threshold Low:** -1. Description: The lower threshold value (between 0 and a positive 64-bit integer) that triggers events based on the number of bytes stored in this JMS server. Events include message paging, message flow control, and system log messages. A value of -1 specifies that bytes paging, flow control, and threshold log messages are disabled for this JMS server.
- Bytes Paging Enabled**. Description: Specifies whether bytes paging is enabled on this JMS server for temporarily swapping messages out from memory when this JMS server's load reaches a specified bytes threshold.
- Messages Maximum:** -1. Description: The maximum message quota (between 0 and a positive 64-bit integer) that can be stored in this JMS server. The default value of -1 specifies that there is no WebLogic-imposed limit on the number of messages that can be stored. However, excessive message volume can cause memory saturation, so this value should correspond to the total amount of available system memory relative to the rest of your application load.

If you enter a Bytes Maximum value, disable the Flow Control Enabled property.

To disable the Flow Control Enabled property, complete the following steps:

- 1 In the WebLogic server console, navigate to *<WebLogic domain>/Services/JMS/Connection Factories/MEA connectionfactory*.
- 2 Select the Flow Control subtab on the Configuration tab.

3 Clear the **Flow Control Enabled** check box.

Flow Control Enabled Check Box

With flow control, you can enable a JMS server or destination to slow down message producers when it determines that it is becoming overloaded. Specifically, when a JMS server/destination exceeds its specified bytes or messages thresholds, it becomes armed and instructs producers to limit their message flow (messages per second). This page allows you to define the flow control configuration for this JMS connection factory.

Flow Maximum: **messages/second**

The maximum number of messages-per-second (between 0 and a positive 32-bit integer) allowed for a producer that is experiencing a threshold condition on the JMS server or queue/topic destination. When a producer is flow controlled it will never be allowed to go faster than this number of messages per second.

Flow Minimum: **messages/second**

The minimum number of messages-per-second (between 0 and a positive 32-bit integer) allowed for a producer that is experiencing a threshold condition. That is, WebLogic JMS will not further slow down a producer whose message flow limit is at its Flow Minimum.

Flow Interval: **seconds**

The number of seconds (between 0 and a positive 32-bit integer) when a producer adjusts its flow from the Flow Maximum number of messages to the Flow Minimum amount, or vice versa.

Flow Steps:

The number of steps (between 1 and a positive 32-bit integer) used when a producer is adjusting its flow from the Flow Maximum amount of messages to the Flow Minimum amount, or vice versa.

Flow Control Enabled

Specifies whether flow control is enabled for a producer created using this JMS connection factory allows flow control.

Send Timeout: **ms**

4 Click **Apply**.

You can now continue from where you left off in Chapter 6, "Basic Configuration."

Creating the JMS Bus (Queues) in WebSphere

To configure the JMS queues, complete the following steps:

- 1 Start the WebSphere application server.
- 2 Launch Internet Explorer and open the WebSphere Administrative Console by typing the following URL:

`http://<machine_name>:<port_number>/ibm/console`

You might, for example, enter a URL similar to the following:

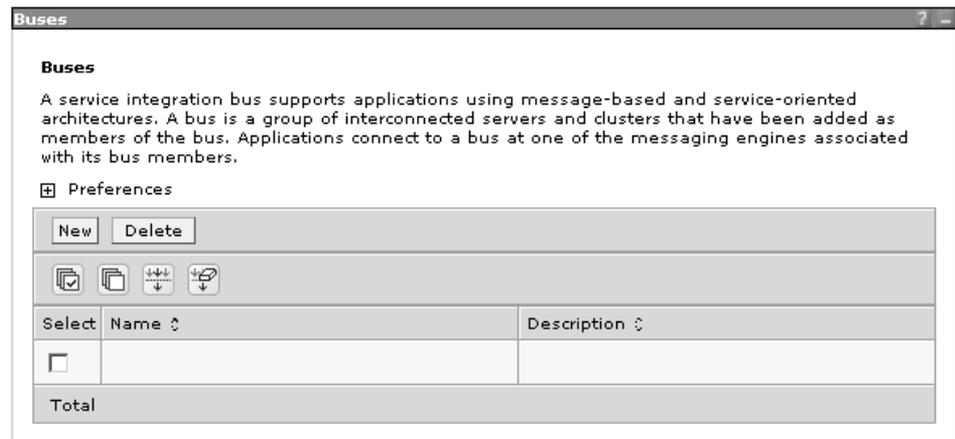
`http://localhost:9060/ibm/console`

- 3 At the “Welcome, please enter your information” login screen, enter your User ID, then click **Log in**.

This action opens the Welcome screen for the WebSphere Administrative Console.

- 4 Click **Service Integration > Buses** to open the Buses pane as shown below:

The Buses Pane



NOTE A bus is a group of interconnected servers and clusters that have been added as members of the bus.

- 5 Click **New** to open the Buses > New pane where you can add a new service integration bus.

The Buses > New Pane

- 6 To add a new service integration bus, enter the following information:
 - ▼ Text description of the new bus in the **Name** field, for example, meajmsbus.
 - ▼ Deselect the **Secure** check box. If you leave this box checked, meajmsbus inherits the Global Security setting of the cell.
 - ▼ Change the value of the **High message threshold** field to a minimum value of 500,000 messages.
 - ▼ Accept all other default settings.

If the number of messages awaiting processing exceeds the High Message Threshold you set, the application server will take action to limit the addition of new messages in the processing queues.

Depending on your message requirements, you may want to enter a higher message threshold value. You can determine an optimal message threshold setting by monitoring the messaging in/out queues and the impact of the message threshold setting on system performance. You might, for example, lower the threshold value if a higher value is degrading system performance.

NOTE If you decide to change the **High message threshold** setting after the initial configuration, you must open the Additional Properties menu in the

Administrative Console and change the threshold value for each child configuration.

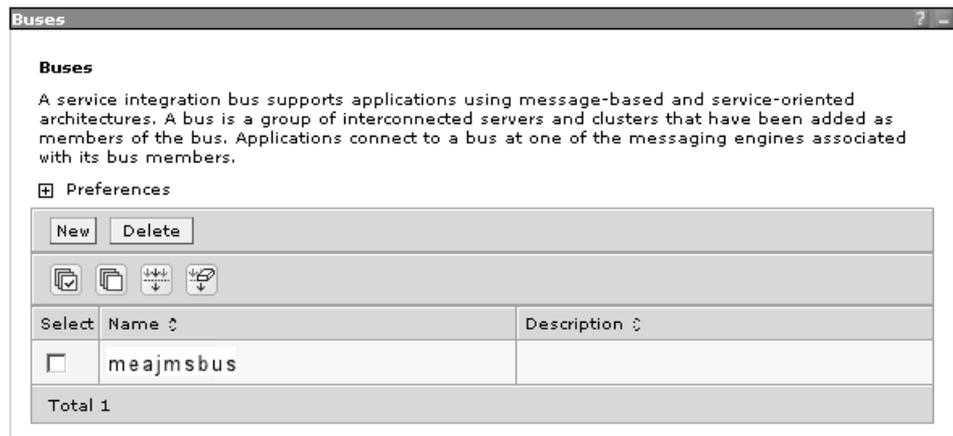
- 7 Click **Apply** to create the new service integration bus. This step propagates the JMS bus setup to the cluster configuration. Confirm that build completed screen displays the following:
 - ▼ Bus name, for example, meajmsbus.
 - ▼ Auto-generated, unique ID (UUID), for example, 4BCAC78E15820FED.
 - ▼ The Secure field is unchecked.
 - ▼ High Message Threshold field has a minimum value of 500,000.

Adding Servers to the JMS Bus

To add servers to the JMS bus, complete the following steps:

- 1 From the WebSphere Administrative Console, click **Service Integration** > **Buses** to open the Buses pane as shown below:

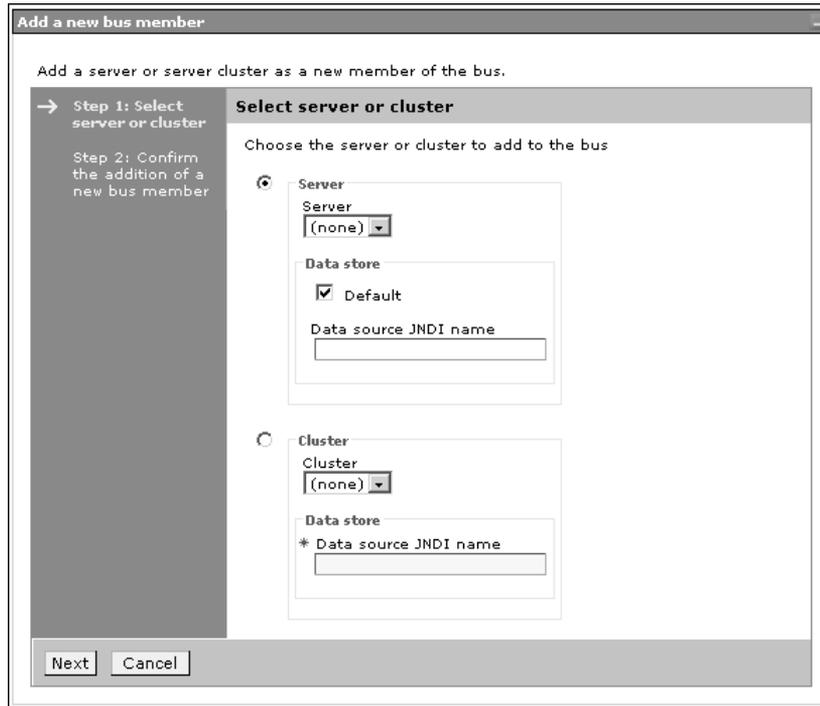
The Buses Pane - meajmsbus



- 2 Click **meajmsbus** to open the Buses > meajms pane.
- 3 Under Additional Properties, click **Bus members**.

- 4 In the Buses > meajmsbus > Bus members pane, click **Add** to open the Add a new bus member pane as shown in the following figure:

The Buses - Add a New Bus Member Pane



- 5 Click the Server drop-down arrow, and select a server name, for example "QAERP7Node01.server1" to add to the bus.
- 6 Click **Next**.
- 7 Click **Finish**.
- 8 Click **Save**.
- 9 Click the "Synchronize changes with Nodes" box.

10 Click **Save**.

The Configuration > General Properties pane for the new bus member, server QAERP7, appears similar to the following:

The Buses - General Properties for New Bus Member

General Properties	Message points
Name <input type="text" value="QAERP7Node01.server1-meajmsbus"/>	<input type="checkbox"/> Mediation points
UUID <input type="text" value="D8D72AFB6EB0CC3B"/>	<input type="checkbox"/> Queue points
Description <input type="text"/>	<input type="checkbox"/> Publication points
Initial state <input type="text" value="Started"/>	Additional Properties
High message threshold <input type="text" value="500000"/>	<input type="checkbox"/> Data store
Target groups <input type="text"/>	<input type="checkbox"/> Service integration bus link
Bus name <input type="text" value="meajmsbus"/>	<input type="checkbox"/> WebSphere MQ client links
Bus UUID <input type="text" value="4BCAC78E15820FED"/>	<input type="checkbox"/> WebSphere MQ links
	<input type="checkbox"/> Custom properties

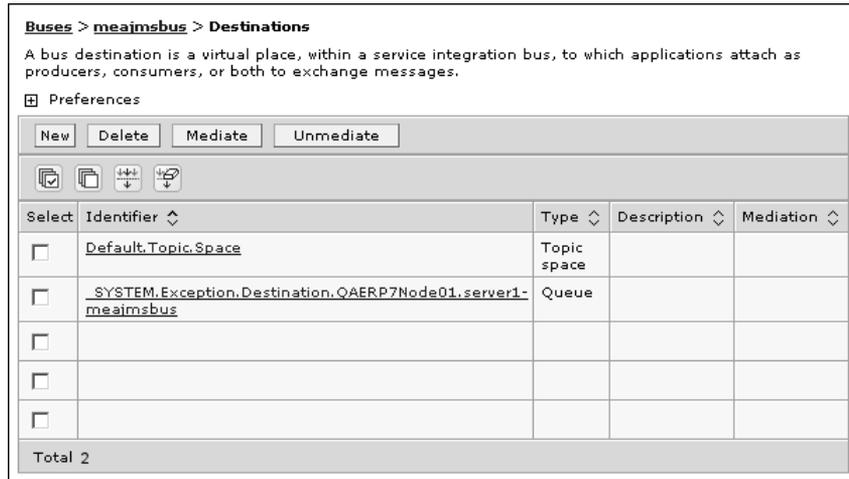
Creating the JMS Bus Destination for the Continuous Inbound (cqinbd) Queue

To add a logical address for the continuous inbound bus destination queue (cqinbd) within the JMS bus, complete the following steps:

- 1 From the WebSphere Administrative Console, click Service Integration > Buses to open the Buses pane.
- 2 Click **meajmsbus** to open the Buses > meajms pane.

- 3 Click **Destinations** under Additional Properties to open the Buses > meajmsbus > Destinations pane as shown in the following figure:

The Buses - Add a New Bus Destination



NOTE A bus destination, for example cqinbd, is a virtual place within a service integration bus where applications can attach and exchange messages.

- 4 Click **New** to open the “Create new destination” pane.

The Buses - Create Queue Destination Type



- 5 Leave Queue checked as the destination type, and click **Next** to open the “Create new queue” pane.

The Buses - Specify Queue Attributes

The screenshot shows a dialog box titled "Create new queue" with a subtitle "Create a new queue for point-to-point messaging". On the left, a sidebar lists three steps: "Step 1: Set queue attributes" (highlighted with a right-pointing arrow), "Step 2: Assign the queue to a bus member", and "Step 3: Confirm queue creation". The main area is titled "Set queue attributes" and contains the text "Configure the attributes of your new queue". Below this, there is a field for "* Identifier" and a larger text area for "Description". At the bottom of the dialog are "Next" and "Cancel" buttons.

- 6 Enter “cqinbd” in the Identifier field and “Continuous Queue Inbound” in the Description field, then click **Next** to open the “Create a new queue for point-to-point messaging” pane.

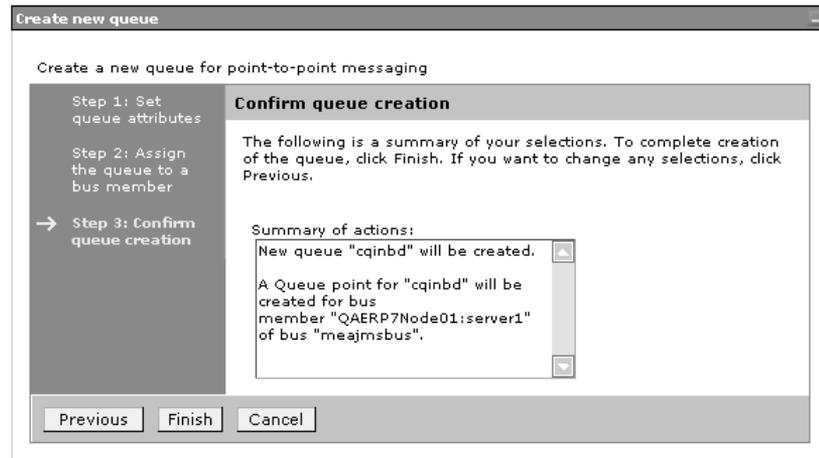
The Buses - Add the cqinbd Bus Destination Queue to a Bus Member

The screenshot shows the same "Create new queue" dialog box, now at "Step 2: Assign the queue to a bus member". The sidebar highlights "Step 2" with a right-pointing arrow. The main area is titled "Assign the queue to a bus member" and contains the text "Assign the queue to a bus member that will store and process the messages for the queue." Below this is a "Bus member" field with a pull-down menu showing "QAERP7Node01Userw...". At the bottom of the dialog are "Previous", "Next", and "Cancel" buttons.

- 7 Select the Bus Member pull-down and choose a server, such as “QAERP7...” as the bus member that will store and process messages for the cqinbd bus destination queue.

8 Click **Next** to open the “Confirm queue creation” pane.

The Buses - Confirm the Creation of the cqinbd Bus Destination Queue



9 Review your selections, then click **Finish** to complete the creation of the cqinbd bus destination queue.

10 Navigate the path Buses > meajmsbus > Destinations, then click **cqinbd** to open the configuration pane where you must make the following changes:

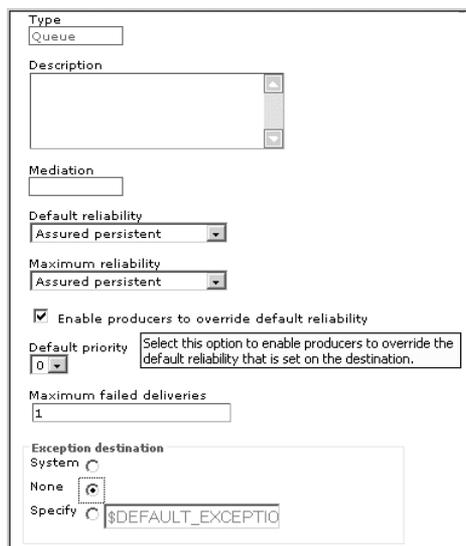
- ▼ Change the “Maximum failed deliveries” value to 1.

This is the maximum number of times you want the system to process a failed messaging attempt before forwarding the message to the exception destination.

- ▼ Click None as the “Exception destination” value.

The following figure is a partial snapshot of the cqinbd configuration pane.

The Buses - Configuration Changes to the cqinbd Bus Destination Queue



11 Click **Apply**.

12 Click **Save**.

13 Click the "Synchronize changes with Nodes" box.

14 Click **Save**.

Creating the JMS Bus Destination for the Sequential Inbound (sqinbd) Queue

To add a logical address for the sequential inbound bus destination queue (sqinbd) within the JMS bus, complete the following steps:

- 1 From the WebSphere Administrative Console, click Service Integration > Buses to open the Buses pane.
- 2 Click **meajmsbus** to open the Buses > meajms pane.
- 3 Click **Destinations** under Additional Properties to open the Buses > meajmsbus > Destinations pane.

NOTE A bus destination, for example sqinbd, is a virtual place within a service integration bus where applications can attach and exchange messages.

- 4 Click **New** to open the “Create new destination” pane.
- 5 Leave Queue checked as the destination type, and click **Next** to open the “Create new queue” pane.
- 6 Enter “sqinbd” in the Identifier field and “Sequential Queue Inbound” in the Description field, then click **Next** to open the “Create a new queue for point-to-point messaging” pane.
- 7 Select the Bus Member pull-down and choose a server, such as “QAERP7...” as the bus member that will store and process messages for the sqinbd bus destination queue.
- 8 Click **Next** to open the “Confirm queue creation” pane.
- 9 Review your selections, then click **Finish** to complete the creation of the sqinbd bus destination queue.
- 10 Navigate the path Buses > meajmsbus > Destinations, then click **sqinbd** to open the configuration pane where you must make the following changes:

- ▼ Change the “Maximum failed deliveries” value to 1.

This is the maximum number of times you want the system to process a failed messaging attempt before forwarding the message to the exception destination.

- ▼ Click None as the “Exception destination” value.

- 11 Click **Apply**.
- 12 Click **Save**.
- 13 Click the "Synchronize changes with Nodes" box.
- 14 Click **Save**.

Creating the JMS Bus Destination for the Sequential Outbound (sqoutbd) Queue

To add a logical address for the sequential outbound bus destination queue (sqoutbd) within the JMS bus, complete the following steps:

- 1 From the WebSphere Administrative Console, click Service Integration > Buses to open the Buses pane.
- 2 Click **meajmsbus** to open the Buses > meajms pane.
- 3 Click **Destinations** under Additional Properties to open the Buses > meajmsbus > Destinations pane.

NOTE A bus destination, for example sqoutbd, is a virtual place within a service integration bus where applications can attach and exchange messages.

- 4 Click **New** to open the “Create new destination” pane.
- 5 Leave Queue checked as the destination type, and click **Next** to open the “Create new queue” pane.
- 6 Enter “sqoutbd” in the Identifier field and “Sequential Queue Outbound” in the Description field, then click **Next** to open the “Create a new queue for point-to-point messaging” pane.
- 7 Select the Bus Member pull-down and choose a server, such as “QAERP7...” as the bus member that will store and process messages for the sqoutbd bus destination queue.
- 8 Click **Next** to open the “Confirm queue creation” pane.
- 9 Review your selections, then click **Finish** to complete the creation of the sqinbd queue.
- 10 Navigate the path Buses > meajmsbus > Destinations, then click **sqoutbd** to open the configuration pane where you must make the following changes:
 - ▼ Change the “Maximum failed deliveries” value to 1.

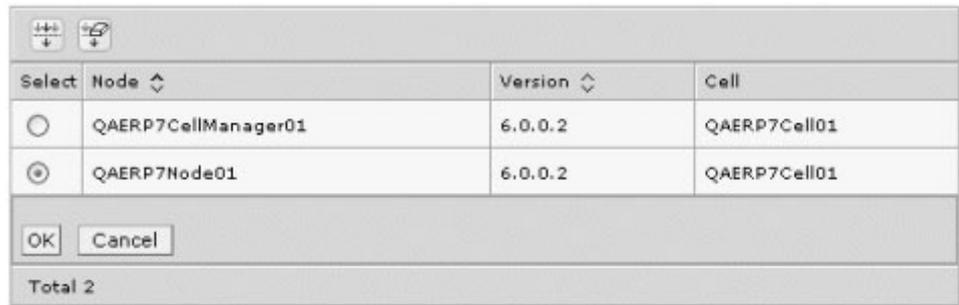
This is the maximum number of times you want the system to process a failed messaging attempt before forwarding the message to the exception destination.
 - ▼ Click None as the “Exception destination” value.
- 11 Click **Apply**.
- 12 Click **Save**.
- 13 Click the "Synchronize changes with Nodes" box.
- 14 Click **Save**.

Creating the MEA Connection Factory and Queues in WebSphere

You add a connection factory for creating connections to the associated JMS provider of point-to-point messaging queues.

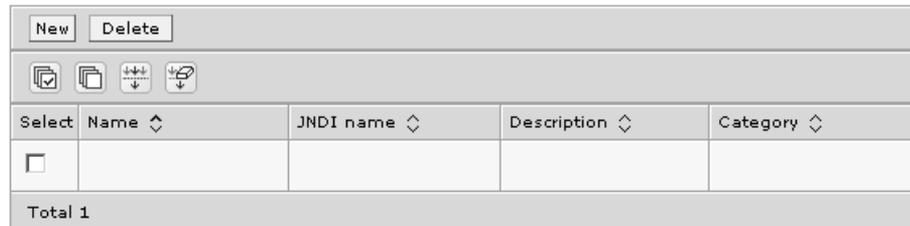
- 1 From the WebSphere Administrative Console, click Resources > JMS Providers > Default Messaging to open the “Default messaging provider” pane.
- 2 Click **Browse Nodes** to open the Select a Node Scope pane as shown in the following figure:

Default Messaging Provider - Select a Node Scope



- 3 Click the Select box for "QAERP7Node01," then click **OK**.
- 4 Under Connection Factories, click **JMS queue connection factory** to open the following figure:

JMS Providers - Add New JMS Queue Connection Factory



- 5 Click **New** to complete the General Properties section for the new connection factory. At a minimum, enter the following information.

Column	Value
Name	meaconfact
JNDI name	jms/mro/int/qcf/intqcf
Bus name	meajmsbus

JMS Providers - Add General Properties for New Connection Factory

The screenshot shows the 'General Properties' dialog box with the following fields filled:

- Administration**
 - * Scope: cells:QAERP7Node01Cell:nodes:QAERP7Node01
 - * Name: meaconfact
 - * JNDI name: jms/mro/int/qcf/intqcf
 - Description: (empty)
 - Category: (empty)
- Connection**
 - * Bus name: meajmsbus

- 6 Click **OK** to add "meaconfact" as a new JMS queue connection factory.
- 7 Click **Save**.
- 8 Click the "Synchronize changes with Nodes" box.
- 9 Click **Save**.

Creating the Continuous Inbound (cqin) JMS Queue

You must create a JMS queue (cqin) as the destination for continuous inbound point-to-point messages.

- 1 From the WebSphere Administrative Console, click Resources > JMS Providers > Default Messaging to open the “Default messaging provider” pane.
- 2 Under Destinations, click **JMS queue** to open the JMS queue pane where you can create a new queue for continuous inbound messages.
- 3 Click **New** to complete the General Properties section for the new continuous inbound messaging queue. At a minimum, enter the following information.

Column	Value
Name	cqin
JNDI name	jms/mro/int/queues/cqin
Bus name	meajmsbus
Queue name	cqinbd

JMS Providers - Add General Properties for Continuous Inbound Queue (cqin)

The screenshot shows the 'General Properties' dialog box with the following details:

- Administration**
 - * Scope: cells:QAERP7Node01Cell:nodes:QAERP7Node01
 - * Name: cqin
 - * JNDI name: jms/mro/int/queues/cqin
 - Description: (Empty text area)
- Connection**
 - Bus name: meajmsbus

- 4 Click **OK**.
- 5 Click **Save**.
- 6 Click the "Synchronize changes with Nodes" box.
- 7 Click **Save**.

Creating the Sequential Inbound (sqin) JMS Queue

You must create a JMS queue (sqin) as the destination for sequential inbound point-to-point messages.

- 1 From the WebSphere Administrative Console, click **Resources > JMS Providers > Default Messaging** to open the “Default messaging provider” pane.
- 2 Under **Destinations**, click **JMS queue** to open the JMS queue pane where you can create a new queue for sequential inbound messages.
- 3 Click **New** to complete the General Properties section for the new sequential inbound messaging queue. At a minimum, enter the following information.

Column	Value
Name	sqin
JNDI name	jms/mro/int/queues/sqin
Bus name	meajmsbus
Queue name	sqinbd

- 4 Click **OK**.
- 5 Click **Save**.
- 6 Click the "Synchronize changes with Nodes" box.
- 7 Click **Save**.

Creating the Sequential Outbound (sqout) JMS Queue

You must create a JMS queue (sqout) as the destination for sequential outbound point-to-point messages.

- 1 From the WebSphere Administrative Console, click Resources > JMS Providers > Default Messaging to open the “Default messaging provider” pane.
- 2 Under Destinations, click **JMS queue** to open the JMS queue pane where you can create a new queue for sequential outbound messages.
- 3 Click **New** to complete the General Properties section for the new sequential outbound messaging queue. At a minimum, enter the following information.

Column	Value
Name	sqout
JNDI name	jms/mro/int/queues/sqout
Bus name	meajmsbus
Queue name	sqoutbd

- 4 Click **OK**.
- 5 Click **Save**.
- 6 Click the "Synchronize changes with Nodes" box.
- 7 Click **Save**.

Creating JMS Activation for the Continuous Inbound Queue (cqin)

You must activate the continuous inbound queue (cqin) before it can receive messages. Complete the following steps to activate the cqin queue:

- 1 From the WebSphere Administrative Console, click Resources > JMS Providers > Default Messaging to open the “Default messaging provider” pane.
- 2 Under Activation Specifications, click **JMS activation specification** to open the JMS activation specification pane where you can create an activation configuration that will enable cqin to receive inbound messages.
- 3 Click **New** to complete the General Properties section for the new JMS activation specification. At a minimum, enter the following information.

Column	Value
Name	meajmsact
JNDI name	meajmsact
Destination type	Queue (default)
Destination JNDI name	jms/mro/int/queues/cqin
Bus name	meajmsbus
Maximum batch size	10
Maximum concurrent endpoints	5

The following figure shows the General Properties pane (note that you have to scroll down in the pane to view Maximum batch size and Maximum concurrent endpoints):

JMS Providers - Add General Properties for JMS Activation of the cqin Queue

- 4 Click **OK**.
- 5 Click **Save**.

- 6 Click the "Synchronize changes with Nodes" box.
- 7 Click **Save**.
- 8 Stop the application server.
- 9 Restart the Node Agent.
- 10 Start the application server.

If Maximo is already installed on your application server, you must rebuild and deploy the Maximo.ear file. Refer to the Maximo Enterprise Suite *System Administrator's Guide* for detailed instructions.

NOTE Unlike WebLogic, WebSphere JMS does not have a Bytes Maximum parameter, so you might encounter an Out of Memory error. However, WebSphere provides a Max Messages parameter to limit the number of records in a JMS queue.

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About This Guide

This section briefly summarizes this document and how it can help you as a Maximo user. It also provides information on other MRO resources available to you, such as additional documentation and support.

Why Read This Guide?

The purpose of this guide is to help an experienced user quickly learn about the new Workflow features in Release 6.0 of Maximo® Enterprise Suite (MxES).

Who Should Read This Guide?

The intended audience includes field consultants, Sales Engineers, and other proficient users. It assumes a working knowledge of Workflow in the 5.x version. It is designed to give you enough information to rapidly start putting the new features to use.

Please refer to the *Workflow User's Guide* for the most comprehensive information on using this product. In addition to the standard practical instructions on using the Designer tool to construct workflow processes, it includes implementation guidelines for analyzing and scoping your project; case studies in how to build effective workflow processes; and in-depth descriptions of the latest features.

Related Documentation

The *Workflow Feature List and Quick Start Guide* is part of the Maximo documentation set. You receive the Maximo documentation set in Adobe® Systems' Portable Document Format (PDF) on the Documentation CD. Depending on the options purchased, your documentation set can include the following documents:

- ▼ *Installation Guide* specific to your application server and operating system
- ▼ System Administrator's Guide
- ▼ Multisite Administrator's Guide
- ▼ Report Administration and Development Guide
- ▼ Workflow Designer Implementation Guide
- ▼ Finance Manager's Guide
- ▼ Project Manager User's Guide
- ▼ Reconciliation Module Implementation Guide

Depending on your database platform and the options you purchase, you also might receive third-party manuals and online documentation.

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The MRO Software Support Online Web site includes information on product releases, software patches, and documentation updates. To find the most current version of a document, refer to the Support Web site's Knowledge Base.

What's New in Workflow?

Overview

This section of the document provides a brief overview of the new elements of Workflow, followed by a more detailed description of each new element.

The Maximo Enterprise Suite (MxES) contains a new Designer in the Java framework, eliminating the last vestiges of client-server components. Its action lines are graphical objects with their own properties dialog boxes. Process activation and revisioning has been improved.

The Workflow Inbox is an integrated portlet in the Maximo Start Center. Its columns are configurable by the end user. A new non-persistent field conveys overall record information, and the transaction memo from the immediately previous routing step is displayed as well.

The assignment dialog box contains a table of all previous user-entered transaction memos, making the dialog box a message center of what people have said about their handling of the record.

Actions and roles

Actions and roles have their own setup applications. They now support escalations and communication templates as well as workflow assignments and notifications. An action can now be a sequenced group of individual actions.

Escalations

Assignment escalation is now done in the new Escalation application, a general tool for taking actions and sending email notifications when specific events occur anywhere in MxES.

Communication Templates

Workflow notifications now leverage Communication Templates, a new application for defining reusable message parameters. These include the recipient lists and allow advanced capabilities such as cc, bcc, the "from" address, and the use of persons, groups, roles and standard email addresses for the recipients.

Workflow Administration

There is a new application called Workflow Administration where all active processes can be viewed; they can be stopped or have their assignments modified.

There is a new expression builder for creating the SQL used by conditions and conditional assignments and actions.

Process export/import has been supplied as a standard integration interface.

Other new features

Functionally, there are many new features including:

- ▼ The ability to workflow any object/application. The Designer pushes the workflow actions (signature options) to the target applications automatically.
- ▼ The ability to set a process to auto-initiate on all newly entered records in the target application
- ▼ The ability to have many active processes per object
- ▼ The ability to have many active process instances per record
- ▼ An option to create process-specific toolbar buttons that initiate/route a named process for a particular application
- ▼ A new node, Wait, that pauses a process until a named event occurs. This node replaces the former waitmatl role and the related cron task that polled for it.
- ▼ A new node, Interaction, that workflows the user's navigation of the record by specifying the application action to run in the current application, or a destination application/tab to transport the user to
- ▼ Calendar-based assignment due date calculations
- ▼ The ability for tasks and manual inputs to automatically flow through if there if they only provide one choice to the user at run time
- ▼ Conditional menu building for manual inputs – workflow looks ahead to see if the logged-in user has sig rights to the destination nodes and displays/hides them conditionally in the run-time dialog box.
- ▼ The auto-accept role is complemented with an auto-reject role. They are driven by escalation, no longer by cron task.
- ▼ Substitution variables in email messages can be hyperlinks to maximo records.

Details

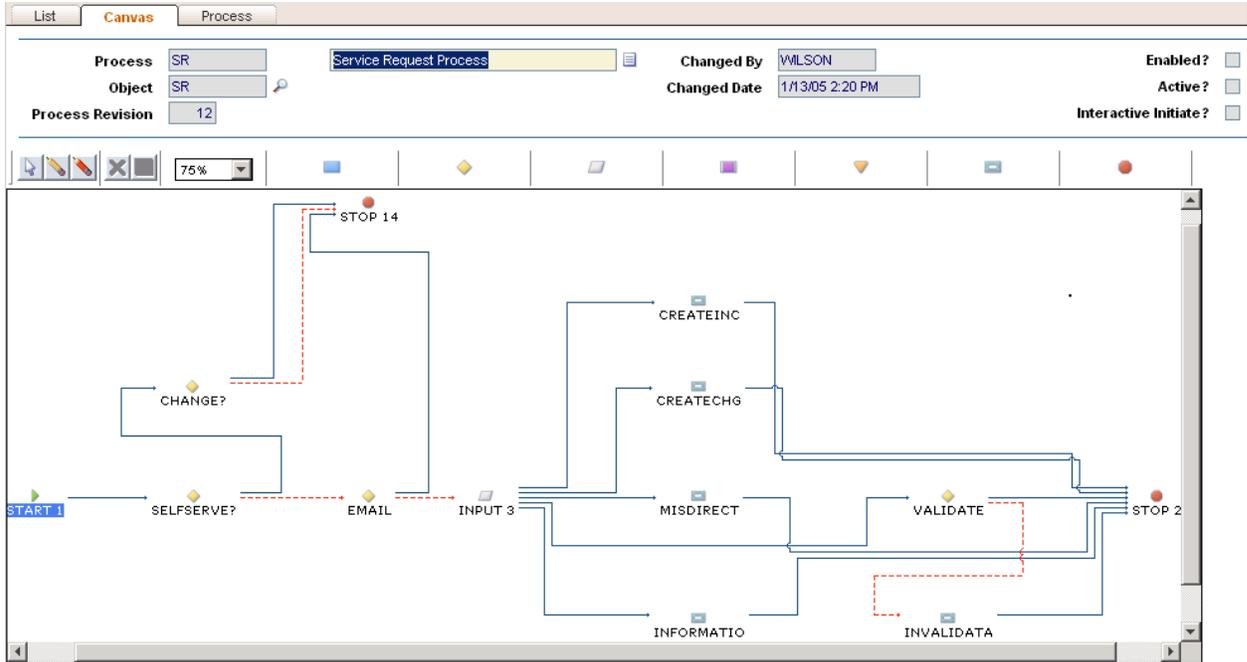
The following section provides more information on the new features.

Designer

The Workflow Designer is new and uses a Java plug-in from Sun Microsystems to draw the process canvas. This allows the Designer to be a standard MxES application available in the main menu and not requiring any client/server elements such as the INI file that previously connected it to the framework objects.

Most of the design techniques are based on previous versions and should be easy to use for a person familiar with a previous version. The following figure shows the new design canvas:

Design Canvas



The Designer now pushes the various workflow-related sig options out to the target applications when a process becomes activated. There is more on this below in the discussion of workflow-enabling any object. The Designer can now create custom 'Go' buttons on the target application to run specific workflow processes.

Inbox

The Workflow Inbox is an integrated portlet in the Start Center. The user can configure it to show the desired columns. We have included a new column – a memo field showing the last memo attached to a routing action by the immediately previous upstream user. The assignment description (in the process template) can contain substitution variables that can convey record information to the user at run time in the Inbox. It is now the leftmost column by default and is also the hyperlink to the owning application. The following figure shows a picture of the new Inbox portlet:

Inbox / Assignments Portlet

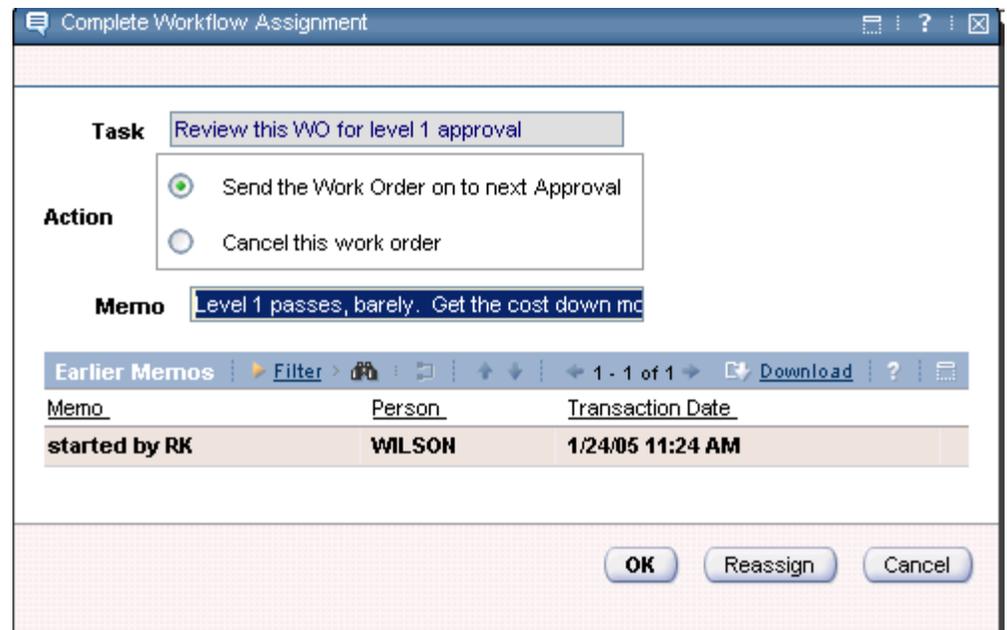
Inbox / Assignments (1)				
Next Assignment Due: 1/17/2005 6:49:29 PM				Refresh
Description	Due Date	Priority	Start Date	Route
TASK 4	1/17/05 6:49 PM		1/17/05 6:49 PM	

1 to 1 of 1

Assignment Dialog Box

The assignment dialog box has a memo table listing all transaction memos entered by upstream users in a list descending by entry date. This makes the dialog box more useful in evaluating one's assignment in light of other people's activities with the record. This is especially true in the case of a reassignment where it is common for the original assignee to add comments about the reason for the reassignment. The following figure shows the new Complete Workflow Assignment dialog box:

Complete Workflow Assignment Dialog Box



Actions

Actions are in their own separate application. There is a new action type, "Application Action" which we created for specific service desk scenarios when a particular ticket record is being created from another. They also contain actions for common workflow requirements such as:

- ▼ Initiate workflow
- ▼ Escalate workflow assignments
- ▼ Auto-accept an assignment
- ▼ Auto-reject an assignment

There is also now the concept of an action group. An action group is a header action that contains a list of sequenced actions under it. When the action is encountered in workflow, the child actions are all processed in sequence on the one action line.

One very powerful new concept is an action that can initiate workflow. One of our standard action types is now Application Action, which references a set of special application-specific actions. One is the WFINITIAE, which calls a named workflow process to start on the record(s) in question within a workflow process or from an escalation. The following figure shows the Action application's main tab with a WFINITIAE action defined:

Action Tab

The screenshot shows the 'Action' tab in a software application. The interface includes a 'List' button and an 'Action' tab. The main area contains several fields: 'Action' (1026), 'Object' (WVOACTIVITY), and 'Type' (APPACTION). A 'new one' button is visible. On the right, there are fields for 'Value' (WFINITIAE), 'Parameter/Attribute' (ACTIVITY), 'Memo', and 'Accessible From' (ESCALATION). A 'Select Members' button is located at the bottom right.

Roles

Roles are in their own separate application. There is a new role type, “Email Address” that is really meant for communications directly to email addresses that may or may not represent maximo persons. The dataset role type was enhanced to detect that the result of a relationship is a set of data (from a one-to-many relationship) and to make assignments or notifications all in the set. For example, the relationship could be from workorder to assignments, and the new role type could then broadcast to all assigned. To support such scenarios there is a Broadcast flag on the role.

Escalations

Escalations are now in their own separate application. They apply broadly to any maximo object and represent a major advance in business process automation in this version. An escalation starts with the object it applies to. A header-level SQL condition defines the population of records to be tested. A schedule field denotes how often the agent will run the test against the database. Specific point-level conditions define what actions and notifications will take place when the escalation point is true and/or the elapsed time test on one of the record's date values is true. The positive impact on workflow is that escalations can be set up to operate on the assignment object and repeatedly re-escalate assignments to different roles with different notifications.

Communication Templates

Notifications have become generalized as communication templates and are in their own separate application. They apply broadly to workflow and escalations and represent an advance in our email messaging capability. Communication templates are stored recipient lists and can include email addresses in addition to roles, people and people groups. They have a 'send from' entry and can be sent as mail, cc or bcc. They support substitution variables in the subject and message lines.

Workflow Administration

There is a new application that lets the professional workflow administrator monitor and amend active process data. The Administrator is simply a list of active instances with pushbutton links to the stop process feature and the view/modify assignments feature. The following figure shows the new Workflow Administration application:

Workflow Administration Application Page

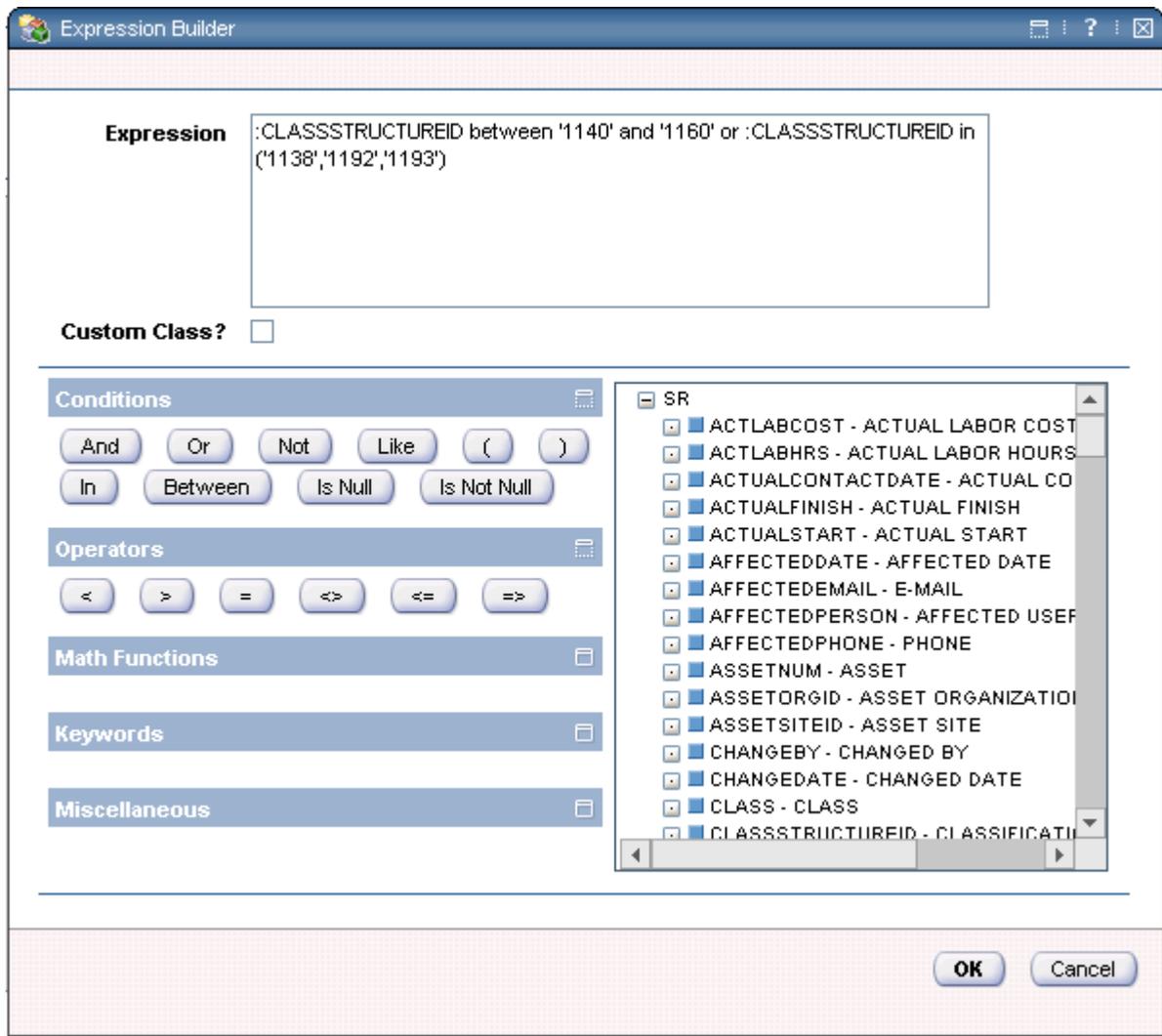
The screenshot shows the 'Workflow Administration' application interface. At the top, there is a navigation bar with 'Buletins: (2)', 'Go To', 'List Reports', 'Start Center', 'Profile', 'Sign Out', and 'Help'. Below the navigation bar is a 'Select Action' dropdown menu. The main content area displays a table of process instances under the heading 'Processes'. The table has columns for Process, Rev., Description, Owner Table, Owner Description, vWF ID, Originator, and Start Time. Each row includes a dropdown arrow on the left and two pushbutton icons (a pencil and a red circle) on the right.

Process	Rev.	Description	Owner Table	Owner Description	vWF ID	Originator	Start Time
▶ WOAPPROVE	2	Work order approval process	WORKORDER	Site BEDFORD, Work Order 2007	274	WILSON	1/24/05 11:24 AM
▶ WOAPPROVE	1	Work order approval process	WORKORDER	Site BEDFORD, Work Order 2166	234	MAXADMIN	1/21/05 4:48 PM
▶ SELFREG	1	Review and approve/reject the self registre...	MAXUSER	User KRISTIN	99	MAXREG	1/20/05 2:26 PM
▶ REQUISITN	1	Requisitions	MR	Site BEDFORD, Requisition 1006	294	WILSON	1/24/05 3:00 PM
▶ WOAPPROVE	2	Work order approval process	WORKORDER	Site BEDFORD, Work Order 7200	314	WILSON	1/24/05 4:34 PM
▶ WOAPPROVE	2	Work order approval process	WORKORDER	Site BEDFORD, Work Order 7212	315	WILSON	1/24/05 4:34 PM

Expression Builder

There is a new expression builder with more helpful SQL keywords and syntax elements. It has an integrated properties tree that drills down to the field and relationship level. Choosing a property from the tree drops it into the expression block. The following figure shows the new expression builder:

Expression Builder Dialog Box



Process Export/Import

There are several new standard integration interfaces. One group exports a process and all its supporting data (including the actions, roles and communication templates it utilizes) to XML. The other imports those records (presumably into another database instance such as when converting your test processes to production). All use a simple SQL statement to identify the process/revision and other attributes you are interesting in exporting or importing.

Workflow any Object

Certainly one of the most exciting and powerful of the new feature is the ability to workflow-enable any main object. No longer do we dictate the process types available or enforce that workflow be only for status-able applications. You choose the object to build a process for in the Designer. The lookup is to all main objects (basically, those tables that have an associated

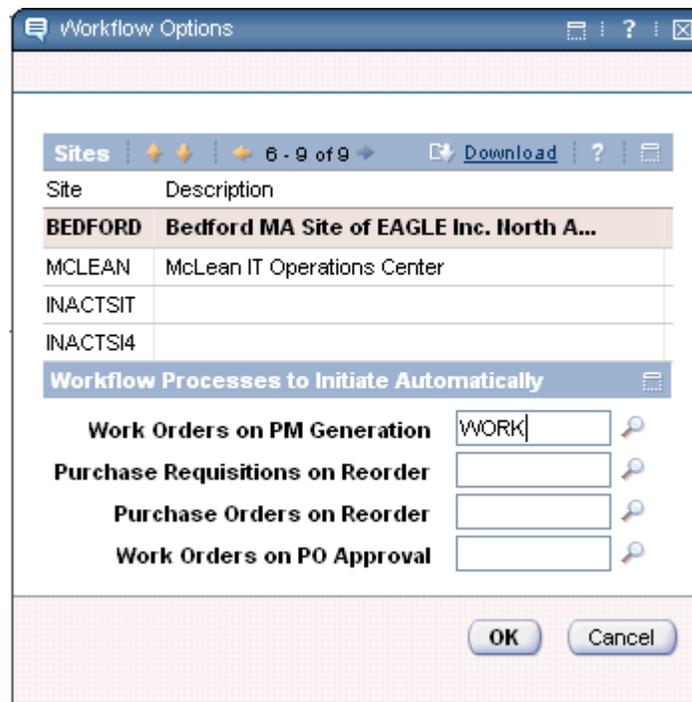
application to see and manage their data in). When you activate a process for the first time for a particular object, the Designer automatically prompts you to create the relationships and sig options for the associated applications. That supplies the workflow actions and toolbar button to the target applications. We do not ship any applications 'pre-configured' for workflow any more.

Auto-Initiate Workflow

A flag can be set on a process in the Designer to specify that the process will start automatically on any new record inserted in the target application. One active process per object can be set in this fashion. When a user in the object's application inserts a new record, then upon pressing the save button the workflow process is initiated on the newly inserted and saved record. This is purely an interactive feature – note that workflow can also be started via background automation such as escalation. The flag is set via an action in the action menu called "Set Process to Auto-Initiate."

We enhanced the site-specific settings for starting workflow on records created by four background procedures. You now select which of potentially many active workflow processes to initiate on new records created by each procedure. This is at a site level and is set via the Workflow Options action in the Organizations application. The following figure shows the Workflow Options dialog box:

Workflow Options Dialog Box



Multiple Active Workflow Processes per Object

You may now activate more than one process per object. If there is only one, pressing the start workflow button will initiate it. If there are many, pressing the start workflow button results in a prompt to select which process to start.

Multiple Active Workflow Instances per Record

You may now have more than one workflow instance in force on a record at any given time. For example, the record may be in a traditional task/assignment process that manages its approval cycle; at the same time a toolbar pushbutton might start an interactive process that, for example, guides the user through prescribed steps or provides help based on the context of the user and record at that point in time.

Process-Specific Toolbar Buttons

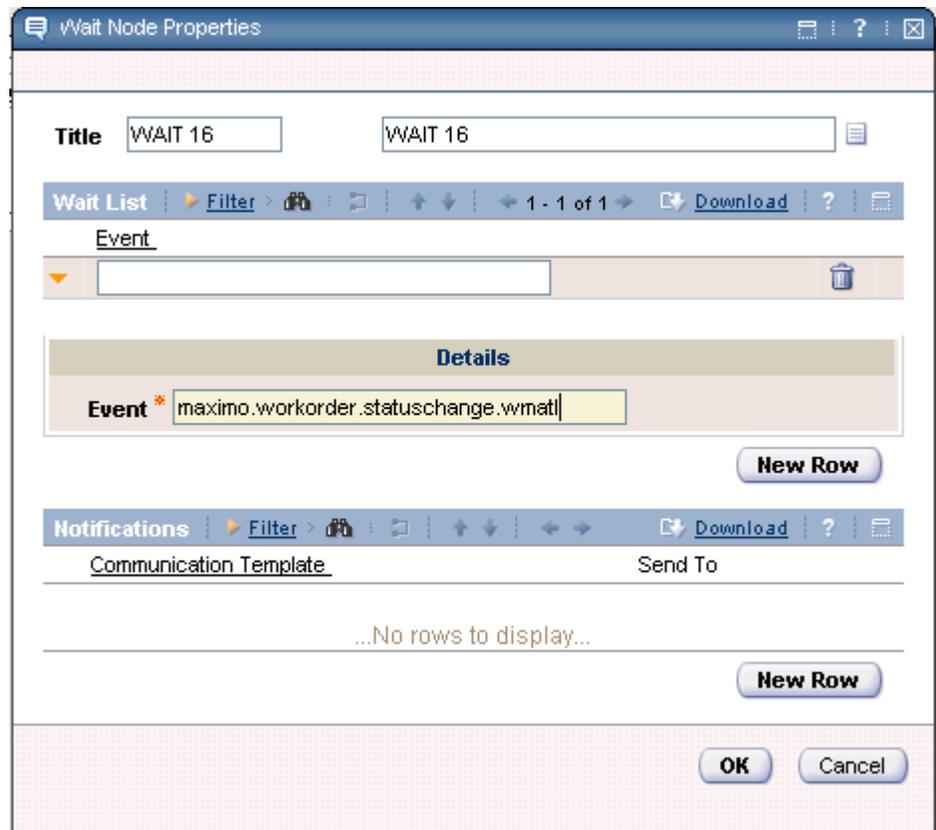
You now have the ability to create process-specific start/route toolbar buttons from within the Designer and push their sig options out to the target applications. These can be in addition to or instead of the standard start/route button we supply. Each is mapped to a specific process for the relevant object. This is a good way to simplify workflow on an application whose object may have many active processes but whose users don't want to be prompted to select the right one for their needs.

The Wait Node

The Designer has a new node: the wait node. It pauses the process and listens for a specified maximo event to occur which triggers it to route off the node.

An example of its use is waiting for a certain status change to occur before sending the workflow to one person or another. The following figure shows the new Wait Node Properties dialog box:

Wait Node Properties Dialog Box



User Interactions

The Designer has a new node, the interaction node that takes the user to a screen appropriate to the context of the user’s involvement with the record at that point in the process. It is a major new functional addition to the product with many practical applications.

Maximo workflow has traditionally been oriented towards tasks and the inbox assignments they create as records move through their multiple levels of approval. In other words, workflow mainly dealt with the document’s lifecycle as ownership was passed from person to person.

Now, we can also workflow a particular logged-in user’s experience with the record at any point in time. The interaction node can bring the user to an application action in the current application – or, to an entirely different application. In the latter case, it can also start up a named workflow process on the target application when the user is navigated to it. Special new relationships have been added to the database to take the user to a newly created record in the target application for the Service Desk scenarios, where one application often creates a record in another – an Incident from an SR, for example.

Some good examples of the interaction node are contained in the sample Service Desk processes in the maxdemo database. For example, the SR and Incident processes use conditions, manual inputs and interactions to dynamically build a set of prompts that help the ticket agent resolve the ticket as quickly and easily as possible without needing to have mastered the

action menu of the corresponding power applications. The following figure shows the new Interaction Node Properties dialog box:

Interaction Node Properties Dialog Box

The screenshot shows a dialog box titled "Interaction Node Properties". It contains the following fields and values:

- Title:** CREATEINC (with a secondary field containing "Creat Incident")
- Application:** INCIDENT
- Tab Name:** (empty)
- Action:** (empty)
- Relation:** NEWINCIDENT
- Launch Process:** (empty)
- Directions Title:** (empty)
- Directions Body:** (empty)

At the bottom right of the dialog are "OK" and "Cancel" buttons.

Some interesting things to note:

- ▼ The user is brought to the application's main tab if no tab name is specified.
- ▼ The action field is a lookup to the actions available in the power application's action menu and the user is brought there or the action taken as if the user had chosen the action in the UI. This is for helping the user run an action within the current application. You do not mix relationships (where you bring the user to a specific record in a different application) with actions in the same interaction node.
- ▼ Relationships are standard table/column relationships stored in the MAXRELATIONSHIP table. For the service desk scenarios there are 8 new standard relationships for navigating between ticket types:
 - NEWINCIDENT
 - NEWPROBLEM
 - NEWSR
 - NEWTICKET
 - NEWACTIVITY
 - NEWCHANGE
 - NEWRELEASE
 - NEWWORKORDER
- ▼ Launch Process looks up active processes for the target application and will start that process on the record that being navigated to.

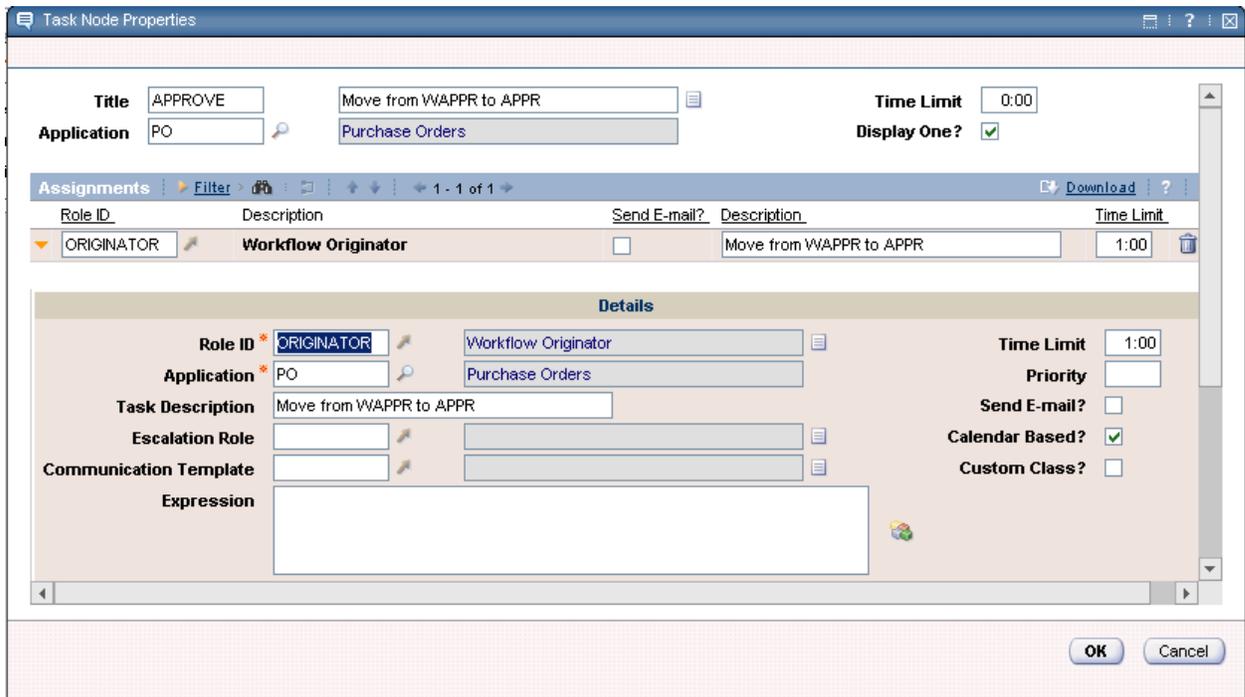
- ▼ Directions Title/Body populate a dialog box when the interaction takes place. It is presented to the user and can contain confirmations or instructions per your process design requirements. If they are empty no dialog box is produced.

One powerful use of interactions is to script the user through a sequence of steps in a wizard-like fashion. Study the SR demo process. It uses conditions to test various data properties of the ticket. It presents menus to the ticket agent for the likely next steps. Those can variously resolve the ticket or create new ticket types such as Incident and Change. It validates the record's data if the user elects to resolve the ticket. Validation checks several key fields to make sure they are filled in. If they are missing, it produces a dialog box of information to that effect. Note the action lines entering the Create Incident and Create Change nodes. On those action lines we are creating the new ticket from the source SR. It is these actions that are picked up by the interactions' relationships to navigate the user to the appropriate new record in the target application. Look at the standard application action types in the Actions application to see how to build and use actions that create a new ticket from a source ticket.

Calendar-Based Assignment Due Dates

You can now specify that an assignment's due date be calculated using the assignee's calendar. This is a more accurate way to determine when the assignment times out – it would prevent, for example, an assignment that is made late Friday from timing out and being escalated on the non-work weekend. The following figure shows the Task Node Properties dialog box with **Calendar Based** check box selected for the assignment:

Task Node Properties Dialog Box



Auto-Flow of Tasks and Manuals with a Single Exit Line

You can now specify that a task or manual input automatically flow through that node if at runtime there is a single valid exit line emanating from it. In the task picture above, note the “Display One” option. When checked (the default) it will present the single choice to the user as before. When unchecked, the node will not create the assignment. In the case of a manual input, it will not produce the menu to the user. It automatically takes the single action and logs the transaction to the user. Note that because of conditional assignments and conditional manual inputs, you do not necessarily know in advance whether one or many actions will result. The use of conditional assignments and conditional manual inputs provide a great deal of flexibility in how the workflow will present itself and route to any particular user and record at runtime.

Auto-accept, Auto-reject

In 5.2, auto-accept was a role with a configurable cron task set up in the properties file of the server. Auto-accept is still a role, but has been complemented with an auto-reject role, both of which are now driven by escalation.

To set up an auto-accept assignment on a task, you follow these general steps:

- ▼ Create a person called AUTOACCEPT and associate it with a user. The user is necessary to track the logins, processing rules and transaction details of the role.
- ▼ Create an action of type APPACTION with a value of WFACCEPT. Note that this action will accept any assignment that is escalated to it – but usually it will be used with the AUTOACCEPT role.
- ▼ On the task in the process design, specify the assignment to the AUTOACCEPT role.
- ▼ Create the escalation to poll for these assignments to be accepted:
 - Applies to=WFASSIGNMENT table
 - Schedule=your choice of interval, usually swift, such as every minute.
 - Escalation Point 1 Condition=ASSIGNCODE='AUTOACCEPT'
 - Action for above=the WFACCEPT action you created earlier.
 - Activate the escalation to instantiate its cron task.

Hyperlinks Embedded in Messages

You can now construct the message section of your communication templates to contain a hyperlink to a data record. We use substitution variables referenced in the hyperlink itself to build it. Let's say you're sending someone a message to click on a link and bring them to the current record in workflow. You put the following template link in the body of the message:

```
http://:HOSTNAME/maximo/ui/maximo.jsp?event=loadapp&value=:APP&uniqueid=:OWNER
```

The application name and record ID get substituted into at run time with the current record values, and the resulting link that is created on the email message will be a direct link to that record.