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Contents

Part 1 1

Introduction 1

Chapter 1 3

About This Manual 3
- Welcome 3
- Who should use this manual? 3
- Prerequisite skills 4
- Additional documentation and training courses 4
- How this manual is organized 5
- How to use this manual 10
- Conventions used in this manual 11
- How to get additional help 12
- Suggestions and feedback 12

Chapter 2 13

System Overview 13
- Introduction 14
  - Questions answered in this section 14
- eCyborg and The Solution Series 15
  - Platforms 15
  - Relational and indexed versions 16
  - Client interface 16
- The system components 17
  - Application components 17
  - Data components 22
- Processing modes 24
  - Online processing mode 24
  - Background processing mode 24
- Main files and their contents 25
  - Online files 25
  - Database and file structure 26

Background file 27
Programs, languages, and tools 28
Application programs 28
GUI presentation program 28
Core programs 28
Cyborg Scripting Language programs 28
Payroll process programs 29
Report generator (RG) programs 29
COBOL/Cyborg Scripting Language relationship 29
CASE tool 30
About Client/Server 31
Client/Server objectives 31
Key technical components 32
Client 33
Server 33
Communication between the client and server 34
About security 35
Security within The Solution Series 35
Interactive Workforce Security 35
eCyborg Collaborative Platform authentication 35
Security for third-party reporting 35
About customization 36
Customization options 36
About reporting 39
Online query and custom reporting 39
CSL scheduled reporting 39
Third-party reporting 40
About maintenance 41
Software updates 41
Bulletin board 43
Enhancements and bulletins 43
Temporary fixes 45
Maintenance utilities 45
Relational database considerations 45
Review of Questions answered 46

Chapter 3 47

Data Structures and Processing Modes 47
Introduction 48
Tasks 48
Questions answered in this section 48
Indexed version 49

System Control Repository....49
Employee Database....50
Working storage....53
Other files....54
Relational version....57
System Control Repository....57
Employee Database....58
CASE tool....59
The Solution Series database....62
Record display utilities....64
Processing modes....65
Root programs....65
Online processing....66
Background processing....68
Detailed Directions....71
Displaying System Control Repository records....71
Displaying Employee Database records....71
Review of Questions Answered....73

Part 2 75

Getting Started....75

Chapter 4 77

Installation Considerations....77
Introduction....78
Tasks....78
Questions answered in this section....78
Pre-installation preparation....79
Who should be present during the installation....79
Minimum hardware and software requirements....79
What has been installed....80
Payroll installation....80
Online/background system installation....81
GUI installation....81
Relational database installation....82
General installation notes....83
Delivered test data....83
Job Control Language....84
Testing the installation....85
Test data....85

Running tests 85
Following all installations 88
Post-installation issues 89
Possible environments 89
System-wide defaults 90
Configuration options 90
Security sign-ons and the Security Officer Profile 90
The importance of backing up your data 90
Recording your system changes 91
Modification of model execution scripts 91
Detailed Directions 92
Determining what synchronization errors exist 92
Estimating table space sizing 92
Correcting invalid data 93
Review of Questions answered 94

Chapter 5 97

Security Considerations 97
Introduction 98
Questions answered in this section 98
The Solution Series security features and setup 99
Areas of security 99
Security setup 100
Security Officer Profile 101
Security Officer Profile program 101
Recommendation 101
Reporting Administration Security Considerations 102
File level and operating system level security 102
Data mart security 102
Cognos Impromptu 102
Cognos PowerPlay 102
eCyborg Interactive Workforce Security Considerations 103
Review of Questions Answered 104

Part 3 105

Implementation 105

Chapter 6 107

Customization 107

Introduction 108
Implementation planning considerations 108
Tasks 109
Questions answered in this section 109
The customization process 110
Customization categories 110
Navigation customization options 111
Other user interface customization options 111
Programming customization options 112
Interface considerations 113
Existing interfaces 113
Delivered interfaces 113
Utilities for customization 116
System Control Repository utilities 116
Edit Utility 117
Employee Database utilities 120
Naming Conventions 121
Organization Control Numbers and the Company Validation Table 122
Reporting considerations 123
Delivered reports 123
Report generator reports 123
Cyborg Scripting Language reports 123
Impromptu 123
Adding user segments 124
Letter communication event considerations 125
Backup recommendations 126
PAYXTR and PAYMRG 127
Relational considerations 130
When to rebuild the database 130
Customizing delivered relational database tables 130
Addition of new relational database tables 130
CASE tool 130
FILE05 in a relational environment 133
HR Job Code table (TA-SCR) and verb processing 134
Custom programs that find salary data 135
Detailed Directions 136
Using the online DISPLY utility 137
Using the COPY utility 138
Using the List Control File Records (DSP01) utility 138
Using the System Control Repository editor (EDIT) 139
Using the record delete (PURGE) utility 140
Using the EXPORT utility 141
Updating the System Control Repository (MAINTI) 142

Creating a Difference File (MAINTO) 143
Using the List Employee Data Records (DSP02) utility 144
Getting a form for input into Form Builder (GETSAT) 144
Insert a revised SAT form into The Solution Series (PUTSAT) online 146
(Optional) Using background processing to load the revised *.SAT file 147
Using the Pay Extract (PAYXTR) utility 148
Using the Pay Merge (PAYMRG) utility 149
Adding user application tables to the System Control Repository and the relational database 152
Adding a new Organization Control Number to the Company Validation Table 155
Review of Questions Answered 161

Chapter 7 163

Data Conversion and Load 163
Introduction 164
Tasks 164
Prerequisites 164
Questions answered in this section 165
Data Conversion and Load Process - Data Conversion and Load 166
Phase 1: Data Conversion and Load Process Plan 167
Data Conversion and Load Process Checklist 167
Phase 2: Data Mapping 169
Batch Layout Report 169
Special considerations for requesting Batch Layout (BATCHL) reports 171
Additional data mapping tools 171
Phase 3: Data Extraction and Conversion 174
Manual conversion methods 174
Automated conversion methods 175
Data conversion categories 175
Conversion categories and methods 175
Phase 4: Data Load 178
Data load using BATCHL transactions 178
Data load using batch transactions 179
Synchronization of data loads 180
Parallel pay runs and testing considerations 181
Detailed Directions 182
Generating a Batch Layout Report 182
Loading static data using BATCHL transactions 184
Loading cumulative data using batch Payroll transactions 185
Verifying the employee earnings and deductions figures 186
Verifying the employee tax figures 187
Review of Questions Answered 188

Chapter 8 189

Migration to Production 189
Introduction 190
Tasks....190
Questions answered in this section 190
Preparation for migration to production 191
Work instructions 191
Size considerations for the production environment....192
Audit Trail reports 193
Production environment follow-up 194
Client Data File....194
Production Version setting 194
Security for The Solution Series system....194
Considerations for HR-only customers....195
Relational issues 196
Detailed Directions 197
Setting up the production environment....197
Moving the data files 198
Preparing for migration verification 199
Verifying the migration 200
Review of Questions Answered....201

Part 4 203

Maintaining the Production System 203

Chapter 9 205

Identifying Problems and Applying Temporary Fixes....205
Introduction 206
Questions answered in this section 206
Tasks....206
Problem identification and notification 207
Program temporary fixes 208
How temporary fixes are distributed 208
Types of temporary fixes....208
How temporary fixes are identified 208
Application of temporary fixes 209
COBOL temporary fixes for CBSVx programs 209
Cyborg Scripting Language temporary fixes....211
CYBMST program changes 214

Report Generator temporary fixes 217
Detailed Directions 220
Determining whether a temporary fix has been applied 220
Locating PTFs on CUBBS 221
Obtaining a PTF 222
Applying a temporary fix 223
Review of Questions answered 224

Chapter 10 225

Maintaining the Client Data File 225
Introduction 226
Tasks 226
Prerequisites 226
Questions answered 226
What is the Client Data File? 227
Multiple environment access 228
Changes that impact the Client Data File 229
Client Data File update (MCL) records 229
Potential delays in updating the Client Data File 229
How the Client Data File is updated 230
When to rebuild the Client Data File 231
Out-of-synchronization conditions 231
Detailed Directions 232
Updating the Client Data File 232
Rebuilding the Client Data File - Online Method 233
Rebuilding the Client Data File - Batch Method 234
Review of Questions answered 235

Chapter 11 237

Using the Backup and Restore Utilities 237
Introduction 238
Tasks 238
Questions answered in this section 239
General considerations 240
Reasons for backups 240
Backup considerations for system failures 240
Backup considerations for change control 240
Backup of the System Control Repository 241
A Backup scenario 241
Restoration of the System Control Repository 242

Backup considerations for the Employee Database 243
Commit, Rollback, and Recovery 244
Data keys for Company, Employee, Tax 246
Menu records, server checklists, and user profiles on database tables 247
Synchronization of object code 249
Detailed Directions 250
Running BACKEM 250
Running the Restore System Control Repository utility 250
Backing up the Employee Database 251
Synchronizing the executables 252
Recovering the database 253
Review of Questions answered 254

Chapter 12 255

Maintaining Cross-Reference Keys 255
Introduction 256
Tasks 256
Questions answered in this section 256
QUERY Primary Keys 257
Recommended maintenance 257
QUERY Alternate Keys 258
KEYDEL Utility Program 258
KEY-00 Utility Program 258
Recommended maintenance 259
Phonetic Keys 260
Employee ID Keys 261
DEL-PE Utility Program 261
KEY-PE Utility Program 261
Recommended maintenance 261
Rebuilding Position Administration cross-references 263
Detailed Directions 264
Maintaining QUERY Alternate Keys 264
Maintaining Phonetic and Employee ID Keys 266
Review of Questions answered 271

Chapter 13 273

Running Report Options 273
Introduction 274
Tasks 274
Questions answered in this section 274

Role of the system administrator in reporting....275
Queries - launching online and viewing....276
Batch reporting process....277
Control structures for reporting....278
Report Group Activities - RGMSTR....278
Process Monitor....279
Report Viewer....280
Report-specific parameter forms....281
Valid reports for an organization - C12RPT....281
The batch reporting programs and steps....282
1. Report Extract - REPORT....282
2. Sort....283
3. Report Print - RTPRNT....283
Online report initiation and viewing....285
Requesting Reports and Queries Online (SUBMIT)....285
Viewing Reports and Queries Online - VIEW....285
Reporting considerations....286
Maximum report lines per page....286
Consolidated and roll-up reporting....286
Changing HR reports to use Organization Units....287
Special considerations when running Position Administration reports....288
What to look for if the Position Administration Reporting Extract fails....288
Detailed Directions....290
Executing Queries online....290
Executing an enhanced query....292
Executing Queries in batch....293
Defining valid reports for an organization (optional)....294
Initiating a report run in batch....296
Setting up the job streams for SUBMIT and VIEW....298
Initiating a report run online by submitting a report online....300
Initiating a report run online by submitting a batch query....302
Launching a report from the Report Group Activities form....304
Launching a report group from the Navigator....306
Viewing a held report online....309
Review of Questions answered....310

Chapter 14 311

Managing Working Storage....311
Introduction....312
Tasks....312
Questions answered in this section....312
A recommended approach to managing working storage areas....313

When to check working storage resources....314
Working storage expansion areas....315
Working storage areas affecting both the online system and Payroll Processing....316
CBSV working storage areas....316
Payroll expansion areas affected by the online system work areas....317
"Payroll-only" expansion areas....318
Working storage delivered with the system....319
Delivered size of the REPORT ONLINE area....319
Relational database work areas....320
Error messages....320
Commit Limit....321
Expansion of the online system COBOL working storage areas....322
Expansion of Payroll Processing COBOL working storage areas....323
Extraction of the online system COBOL programs....324
Extraction of Payroll Process COBOL programs....325
Detailed Directions....326
Determining if expansion is required for employee and company areas....326
Expanding employee (Area2) and/or company (Area4) work areas....327
Expanding working storage areas for relational databases only....329
Extract and compile online COBOL programs....330
Determining if expansion is required for "Payroll-only" areas....332
Expanding "Payroll-only" areas....334
Expanding working storage for the database commit....335
Review of Questions Answered....337

Chapter 15 339

Synchronizing Relational Tables and Indexes....339
Introduction....340
Tasks....340
Questions answered in this section....340
The System Control Repository in the relational version....341
System Control Repository replication....341
Impact on processing....341
Synchronization of the System Control Repository and relational tables....342
The Employee Database in the relational version....343
Impact on processing....343
Database recovery and index rebuilds....343
Data manipulation errors....344
ZE records....344
Specific error codes....344
CSL programs with high volume I-O within a logical unit of work....346
Detailed Directions....347

Synchronizing the System Control Repository and the relational tables.....347
Synchronizing the System Control Repository (FILE01) with the database.....348
Synchronizing the Employee Database (FILE02) with the database.....348
Rebuilding all Employee Database index records.....349
Rebuilding individual Employee Database index records online.....351
Rebuilding individual Employee Database index records in batch.....351
Review of Questions answered.....353

Chapter 16 355

Performance Tuning for Relational Databases.....355
Introduction.....356
About pay extract and pay merge processing.....356
Specific relational database tuning.....356
Tasks.....356
Questions answered in this section.....356
Dynamic SQL vs. static SQL.....357
When dynamic SQL is generated.....357
Selectable table processing for Payroll.....358
Option 1: Use all table data.....358
Option 2: Extract only required table data.....359
Option 3: Extract additional specified table data.....359
Organization processing.....360
Troubleshooting.....360
Labor and History record optimization.....361
Detailed Directions.....362
Converting dynamic SQL to static SQL.....362
Using selectable Extract (EXT) records to speed up Payroll processing.....363
Optimizing for Labor and History records.....367
Review of Questions answered.....368

Part 5 369

Maintaining the Payroll System.....369

Chapter 17 371

The Payroll System.....371
Introduction.....372
Prerequisites.....372
The batch environment.....373
Batch payroll system files - An Introduction.....374

Reader File (P05RDR) 375
Valid Transactions File (P05IN) 380
Recycle File (P05OUT) 380
Transaction Files (P05T80 and P05T81) 381
Extracted Report Records File (P40IN) 381
P40OUT 382
Sequential Master File (P20IN) 382
H20IN 384
CYBMST 384
Pre-Payroll Processing 386
Establish payroll processing options 386
Pay only selected companies 387
Recalculate benefit coverage/contributions 388
Verify employee updates 388
Extracting payroll information (PAYXTR) 389
Extracting all organizations 390
Extracting selected organizations 390
Calculating pay 391
Incoming transactions edited (P2EDIT) 392
Transaction Load Report for incoming transactions 395
Update and calculate pay information (P4CALC) 396
Edit pay document numbers (P2EDIT) 398
Transaction Load Report for editing pay document numbers 401
Produce pay documents, reports, and files (P5PRNT) 402
Create Combined Register (2222) 404
Perform Maintenance Run 405
Merging payroll information (PAYMRG) 407
Post-payroll processing 409
Online payroll calculation 410
O4CALC 410
Payroll run recovery 411

Chapter 18 413

Special processing runs 413
Introduction 414
Prerequisites 414
Payment reconciliation 415
Payroll restart and recovery 417
Preliminary steps 417
Executing PAYMRG 421
Reprinting pay documents 422
What is a Maintenance Run? 424

Purging History and Labor Records 425
Use the Retain History field (option list PP26) on the Company Options form 425
Use the batch payroll process 425
Merging history files with the current Sequential Master File 428
Sequential Master File merges 429
Adding new organizations 430
Deleting organizations 431
Report generators on a separate file 432
Payroll run using an H20IN file with report generators 434
Maintaining a report generator master file 434

Chapter 19 435

Working With CYBMST 435
Introduction 436
Prerequisites 436
P9CNVT 437
Machine Parameter Record 438
Job streams for extracting 439
Files for extracting 440
Required Reader File records 441
Member selection 443
Performing extractions 444
Extracting Report Generators 444
Extracting COBOL programs 445
Expansions 446
EXPAND record format 446
Using EXPAND transactions 447
Payroll Audit Trail 449
Determining the size of area 450
Sample EXPAND records 451
P9CNVT Activity Report 453
P9CNVT Activity Report - Expand continued 455
Report loading and selecting 456
Loading report programs with the H2 transaction 456
Selecting reports with the P4 transaction 457
Selected reports and the P4CALC program 458
Producing reports 458

Part 6 459

Maintaining Reporting Administration 459

Chapter 20 461

Administering Reporting Administration.....461
Introduction 462
Tasks.....462
Prerequisites 462
Questions answered 463
Extraction/Insertion overview.....464
Stage 1: Extract.....465
Stage 2: Split 473
Stage 3: Load.....473
Extraction of system changes 474
Run RAUDIT 474
Data mart 475
Delivered Impromptu catalogs setup 477
Analytics.....478
Analytics cubes.....478
Detailed Directions 480
Extracting core system data - full extract 481
Extracting core system data - incremental extract 482
Extracting labor and history data.....483
Defining parameters for the Reporting Admin FILE08 Extract Report 484
Selecting the core system extract components 486
Configuring the labor and history extract.....488
Initiating core system data extraction from the command prompt 490
Initiating core system data extraction using a scheduler 491
Initiating core system data extraction online 492
Initiating labor and history data extraction using a scheduler 493
Initiating labor and history data extraction from the command prompt 494
Initiating labor and history data extraction online 495
Initiating core system changes data extraction from the command prompt.....496
Initiating core system data extraction using a scheduler 497
Displaying the Replication Holding File (FILE08) 498
Maintaining the Replication Holding file (MNTF08) 499
Maintaining the Replication Holding file (MNTF08) online.....501
Backing up Reporting Administration components.....503
Recovering core system extract.....504
Recovering labor and history extract.....505
Review of Questions answered.....507

Part 7 509

Appendices **509**

Appendix A 511

Basic Customizations to the Web Client 511
Introduction 512
Documenting Customizations 513
Changing graphics files 514
Cascading Style Sheets 515
Rebuilding the web help index 516

Appendix B 519

Working Storage Expansion Worksheets 519
Employee Area Expand Worksheet 520
Employee Record/Segment Growth Worksheet 523
Company Area Expand Worksheet 524
Company Record/Segment Growth Worksheet 526

Appendix C 527

Relational Tables and Views 527
Tables by Subject Area 528
1 - Human Resources Subject Area 528
2 - Benefits Subject Area 533
3 - Time & Attendance Subject Area 535
4 - Company and Payroll Subject Area 535
Systems Subject Area 537
6 - Distributed Administration Subject Area 537
Tables by Pointer and Table Reference 538

Appendix D 549

Operating System Codes 549
Operating System Codes 550
Database Operating Codes 551

Appendix E 553

Object Codes 553
System Control Repository Object Codes 554
Object Codes - Quick Solution 557

Appendix F 563

Record Key Structures 563
System Control Repository (Control File) key structure(s) 564
"A" records 564
"B" records 564
"C" records 565
"D" records 565
"ECM" records 566
"EPM" records 566
"ETL" records 566
"EXT" records 567
"F" records 567
"MCL" records 568
"MML" records 568
"MMN" records 568
"P" records 569
"PC" records 570
"PD" records 571
"PE" records 571
"PI" records 572
"PM" records 572
"PP" records 572
"PR" records 573
"Q" records 573
"R" records 574
"RFM" records 574
"RFT" records 575
"RQM", "RRM", "RSM", and "RXM" records 575
"RT" records 576
"T", "U", "W", and "X" records 576
"Y" records 576
"Z" records 577
"ZE" records 577
"ZL" records 577
Employee Database layout 578
Employee Database key structure(s) 580

Report Generator records 580
Company records....580
Company "Other" records 580
Tax records....581
Employee records....581
Employee "Other" records....581
Online Pay Calc records....582
Executable Code records....582
Session records....582
Audit records....583
Time Entry/Adjustment Transaction records 583

Appendix G 585

System Files....585
Online System Files....586

Appendix H 589

Payroll Process Files....589
Payroll Process Files....590

Appendix I 591

Naming Conventions 591
About this section 592
Field names....593
Program naming convention....594
Cyborg Scripting Language (English Language) verb names 595
Module codes....596
Table codes....597
Alternate Keys 598
Option list names....599
Employee segment codes....600
Company segment codes 601
Other records 602
Error message numbers 603
File numbers 604
Country codes....605

Appendix J 607

Report Quick Reference 607
Introduction 608
Batch Layout (BATCHL) 610
Batch Layout (BATCHL) Example 611
FILE02 Records (RECSIZ) 612
FILE02 Records (RECSIZ) Example 613
L Segment Delete Report (LD-RPT) 614
L Segment Delete Report (LD-RPT) - Example 615

Appendix K 617

Program and Utility Quick Reference 617
Introduction - Program and Utility Quick Reference 620
Apply overrides to master COBOL source (PULLUP) 621
Backup System Control Repository (BACKEM) 622
Batch Layout Facility (BATCHL) 623
Build Field Name Cross Reference (F-XREF) 624
Build Phonetic and/or Employee ID Keys (KEY-PE) 625
Build relational database structures (RDBPGM0) 626
Build the Client Data File (CSSSBLD) 627
CBSVB (CBSVB) 628
CBSVBT (CBSVBT) 629
CBSVO (CBSVO) 630
CBSVOT (CBSVOT) 631
Change Control Facility - Maintenance Input (MAINTI) 632
Change Control Facility - Maintenance Output (MAINTO) 633
Copy international option lists (ICCOPY) 634
Copy variant form table records for a country (VSCOPY) 635
Correct invalid data on a P20 file (RDBPGM4) 636
Create control records and extract payroll data for Sybase (RDBPGMX) 637
Create control records and update Sybase Employee Database (RDBPGMM) 638
Create LDEFAULTS D Records (SETUPS) 639
Create new Employee Database (FILE07) 640
Create tables, indexes, and views (RDBPGM1) 641
CYB88x (CYB88) 642
CYB89x (CYB89) 643
CYB90x (CYB90) 644
Delete Phonetic and Employee ID Alternate Keys (DEL-PE) 645
Delete selected records (PURGE) 646
Delete the AREA size record (DEL-ZX) 647
Display Employee Database records (DSP02) 648

Display Employee Database Record Keys (RECSIZ) 649
Display System Control Repository Records (DSP01) 650
Employee Migration Utility (LOADHR) 651
Execute a DOS command from a file (DOSPRE) 652
Execute control records on the System Control Repository (F04F01) 653
Expand Areas in CBSV Programs (EXPAND) 654
Export Client Data File Items (MAKECL) 655
Extract and compile payroll programs (P9CNVT) 656
Extract online COBOL programs (PULL) 657
Extract System Control Repository Records (EXPORT) 658
Get Screen Appearance Table (GETSAT) 660
Identify table synchronization problems (RDBPGM2) 661
List programs in memory (INCORE) 662
Option List Display/Report (CDLIST) 663
Process batch jobs that require security authorization (BATRUN) 664
Purge object code from the Employee Database (PRG02X) 665
Purge Organizations from the Employee Database (PRGC12) 666
Put Screen Appearance Table (PUTSAT) 667
QUERY Alternate Key Build (KEY-00) 668
QUERY Alternate Key Delete (KEYDEL) 669
Rebuild a particular index record on the Employee Database (FIXIDX) 670
Rebuild all index records on the Employee Database (INDEXS) 671
Remove ZX (executable code) records from the Employee Database (ZX-DEL) 672
Report Extract (REPORT) 673
Report on table space size (RDBPGM3) 674
Report Print (RTPRNT) 675
Sort Extract Records (SORT) 676
Restore System Control Repository (DEMO01) 677
Resynchronize the System Control Repository and relational tables (POPF01) 678
Returning Control to FILE01 (F01F04) 679
Submit batch jobs (SUBMIT) 680
Suspend record lock handling (NOLOCK) 681
Unlock a system lock record (UNLOCK) 682
Unlock Menu records (FIXMMN) 683
Update the Client Data File (UPDTCL) 684
View a Specified Type of System Control Repository Record (DISPLY) 685
View online output from Query record (VIEW) 686

Appendix L 687

Online Pay Document Printer Interface 687
About the Online Pay Document Printer Interface 688
Interface file 689

Defining FILE 31 689
Recreating FILE31 689
FILE31 record layouts 689
Using the Online Pay Document Print Facility 699

Appendix M 701

Analyzing and Editing the Difference File 701
Introduction 702
Usage 703
MAINTO file record types 704
MAINTO file record type examples 705
Notes 713

Appendix N 715

Disk Requirements Worksheets 715
Introduction 716
Table 1 717
Table 2 718
Table 3 719
Table 4 720
Table 5 725
Table 6 726

Appendix O 731

The Payroll BATCH Transaction 731
Introduction 732
Prerequisites 732
How the BATCH Transaction Works 733
BATCH transaction layout 734
BATCH transaction fields 735
BATCH (positions 1-5) 735
Organization Number (positions 6-11) 735
Batch Number (positions 12-15) 735
Validate Only (position 16) 736
Modify Controls (position 17) 736
Recycle File Input (position 18) 736
Alternate Input Files (position 19) 736
Version Number (position 21-21) 736
Recon Run (position 22) 736

space (position 23) 736
Card Count (positions 24-27) 737
Regular Hours (positions 28-34) 737
Overtime Hours (positions 35-40) 737
Hours 1 (position 41-46) 737
Hours 2 (position 47-52) 737
Hours 3 (position 53-58) 737
Hours 4 (positions 59-64) 737
Regular Rate/Amount 738
Overtime Rate/Amount 738
Optional balancing feature 739

Appendix P 741

BATCH Transaction Layouts 741
About This Section 742
Conversion and Update Transactions 742
Time Entry and Adjustment Transactions 742
Functional and Subsystem Transactions 742
Transaction codes 742
Conversion and Update Transactions 745
A8 Transaction - Earnings 745
A8 Transaction - Deductions 747
AA Transaction 748
AB Transaction 748
AC Transaction 749
AD Transaction 749
AF Transaction 750
AG Transaction 751
AH Transaction 751
AJ Transaction 752
E Transaction 753
F1 Transaction 754
F2 Transaction 755
G Transaction 756
H Transaction - Deductions 757
H Transaction - Earnings 758
Time Entry and Adjustment Transactions 759
Format 1 Time Entry Transaction 759
Format 1 time entry Transaction - (TCISCR) 761
Format 1 Time Entry Transaction 762
Format 1 Time Entry Transaction - (TC1EDT) 763
Format 1 Time Entry Transaction - (TCFEDT) 764

Format 2 Time Entry Transaction - (TC@SCR andTC2EDT) 765
KA Transaction 766
KB Transaction 767
KC Transaction 768
KD Transaction 769
KF Transaction 770
KG Transaction 771
KH Transaction 772
KL Transaction 773
AE Transaction 774
BATCH Transaction 776
ER Transaction 778
PE Transaction 778
WL Transaction 779
The X Transaction 780
Updating records using the X transaction 780
Deleting records using the X transaction 781

Appendix Q 785

Pay Document Program Setup 785
About This Section 786
Pay document formats 787
Format code chart 788
Format descriptions 789
SC/SD Side-by-side, pay document on right 789
OC/OD Pay Document over Pay Stub 789
UC/UD Pay Document under Pay Stub 790
LUC/LUD Pay Document under Pay Stub 790
XUC/XUD Expanded Pay Document under Pay Stub 790
XLUC/XLUD Expanded Pay Document under Pay Stub 791
CC/CD C-fold, Heat Seal 791
XHC/XHD Expanded Side-by-side, Heat Seal 791
MC/MD Self-mailer 792
HC/HD Side-by-side, Heat Seal 792
Pay document contents 793
Standard information 793
Optional information 793
Entering report requests 795
Extracting pay document formats 796
Extract parameter records for Format SC/SD 796
Extract parameter records for Format XSC/XSC 796
Extract Parameter Records for Format OC/OD 796

Extract Parameter Records for Format UC/UD 797
Extract Parameter Records for Format LUC/LUD 797
Extract Parameter Records for Format XUC/XUD 797
Extract Parameter Records for Format XLUC/XLUD 797
Extract Parameter Records for Format CC/CD 798
Extract Parameter Records for Format HC/HD 798
Extract Parameter Records for Format XHC/XHD 798
Extract Parameter Records for Format MC/MD 799

Appendix R 801

Laser Check Printing 801
About This Section 802
Technical considerations for printing laser checks 803
Stub-over Pay Document (UC/UD and LUC\LUD) transaction layouts 804
Record Number 01 804
Record Number 02 804
Record Number 03 804
Record Number 04 805
Record Numbers 05 through 18 805
Record Numbers 05 through 18 for LUC\LUD format 806
Record Number 19 806
Record Number 20 806
Record Number 21 806
Record Number 22 807
Record Number 23 807
Record Number 24 807
Record Number 25 807
Record Number 26 808
Record Number 27 808
Record Number 28 808
Record Number 29 for UC\UD format 808
Record Number 29 for LUC\LUD format 808
Record Numbers 30 through 32 809
Record Number 33 809
Record Number 34 809
Record Number 35 809
Record Number 36 809
Record Number 37 810
Record Numbers 38 through 42 810
Extended Stub-over Pay Document (XUC/XUD and XLUC\XLUD) Transaction Layouts 811
Record Number 01 811

Record Number 02 811
Record Number 03 811
Record Number 04 812
Record Numbers 05 through 39 for XUC\XUD format 812
Record Numbers 05 through 39 for XLUC\XLUD format 813
Record Number 40 813
Record Number 41 813
Record Number 42 813
Record Number 43 813
Record Number 44 814
Record Number 45 814
Record Number 46 814
Record Number 47 814
Record Number 48 814
Record Number 49 815
Record Number 50 815
Record Number 51 815
Record Number 52 815
Record Number 53 815
Record Numbers 54 through 56....815
Record Number 57 816
Record Number 58 816
Record Number 59 816
Record Number 60 816
Record Number 61 816
Record Numbers 62 through 66....817

Appendix S 819

Error and Warning Messages....819
Error handling....820
Error and Warning Messages for Batch Payroll System Reports 822
Introduction 822
Transaction Load Report Messages....822
Payroll Audit Trail Messages 826
Audit Trail Warnings....831
Master File Status Report Messages....835
Graphical User Interface (GUI) informational and error messages 837
Database error and informational messages....839
CAS Error Messages (Windows)....840
WSAEACCES....842
WSAEADDRINUSE....842
WSAEADDRNOTAVAIL....842

WSAEAFNOSUPPORT 842
WSAEALREADY 843
WSAECONNABORTED 843
WSAECONNREFUSED 843
WSAECONNRESET 843
WSAEDESTADDRREQ 843
WSAEFAULT 844
WSAEHOSTDOWN 844
WSAEHOSTUNREACH 844
WSAEINPROGRESS 844
WSAEINTR 844
WSAEINVAL 844
WSAEISCONN 845
WSAEMFILE 845
WSAEMSGSIZE 845
WSAENETDOWN 845
WSAENETRESET 845
WSAENETUNREACH 845
WSAENOBUFS 846
WSAENOPROTOOPT 846
WSAENOTCONN 846
WSAENOTSOCK 846
WSAEOPNOTSUPP 846
WSAEPFNOSUPPORT 846
WSAEPROCLIM 847
WSAEPROTONOSUPPORT 847
WSAEPROTOTYPE 847
WSAESHUTDOWN 847
WSAESOCKTNOSUPPORT 847
WSAETIMEDOUT 848
WSATYPE_NOT_FOUND 848
WSAEWOULDBLOCK 848
WSAHOST_NOT_FOUND 848
WSA_INVALID_HANDLE 848
WSA_INVALID_PARAMETER 848
WSAINVALIDPROCTABLE 849
WSAINVALIDPROVIDER 849
WSA_IO_INCOMPLETE 849
WSA_IO_PENDING 849
WSA_NOT_ENOUGH_MEMORY 849
WSANOTINITIALISED 849
WSANO_DATA 850
WSANO_RECOVERY 850

WSAPROVIDERFAILEDINIT 850
WSASYSCALLFAILURE 850
WSASYSNOTREADY 851
WSATRY_AGAIN 851
WSAVERNOTSUPPORTED 851
WSAEDISCON 851
WSA_OPERATION_ABORTED 851
Troubleshooting the CAS daemon (UNIX) 852
CAS installation error messages 852
Client installation error messages 853
CAS Manager messages 854
Synchronization error messages 856
Import Wizard error and warning messages 858
Import Wizard error messages 858
Import Wizard Import Log error messages 859
Import Wizard warning messages 860
Import Wizard informational messages 860
Distributed Administration error messages 862
Selected FILE08 Display (DS8SEL) 862
Distributed Location NODE Control Table (DSNODE) 862
Distributed Access Log Table (DSRULE) 862
Distribution Rules Table (DSRF02) 863
Packetizer (DSPACK) 863
Replication Application (DSAPLY) 864
Replication Distribution (DSTRIB) 865
Replication Management (DSCL08) 867
Replication Reception (DSRECV) 868

Appendix T 871

Machine Parameters 871
Machine parameters 872
IBM MAINFRAME -- OS 872
MICRO-FOCUS COMPILER Net Express 872
Optional Parameters 873

Appendix U 875

Practice and Review Answers 875
About this section 876
System Overview 877
Review of Questions Answered 877

Data Structures and Processing Modes....880
Apply the concepts....880
Review of Questions Answered....881
Setting Up Environments....884
Review of Questions Answered....884
Security Considerations....886
Review of Questions Answered....886
Customization....887
Review of Questions Answered....887
Data Conversion and Load....890
Apply the concepts....890
Review of Questions Answered....890
Migration to Production....893
Review of Questions Answered....893
Identifying Problems and Applying Temporary Fixes....895
Review of Questions Answered....895
Maintaining the Client Data File....896
Review of Questions Answered....896
Using the Backup and Restore Utilities....898
Review of Questions Answered....898
Maintaining Cross-Reference Keys....900
Review of Questions Answered....900
Running Report Options....902
Review of Questions Answered....902
Managing Working Storage....903
Review of Questions Answered....903
Synchronizing Relational Tables and Indexes....906
Review of Questions Answered....906
Performance Tuning for Relational Databases....907
Review of Questions Answered....907
Administering Reporting Administration....909
Apply the Concepts....909
Review of Questions Answered....909

Appendix V 911

Running UK Online Administration Scripts....911
Introduction to UK online scripts....912
Deleting and recreating Alternate keys - online JBLDAKY....913
Launching the Relational Message Report - online JDSPERR (RDB) (+parms)914
Exporting FILE01 items - online JEXPORT (+params)....915
Loading in FILE01 records - online JMAINTI....916
Comparing FILE01 to delivered DEMO0105 - online JMAINTO....917

Running MAINTI, including automatic RELOAD step - online JMNTREL....918
Running a QUERY against a single Org/C12 - online JQUERY (+params).....919
Launching the FILE02 Record Sizing Report - online JRECSIZ.....920
Reloading FILE01 components - online JRELOAD 921
Extracting report generators - online JRGEXT 922
Updating report generator code in the RG file - online JRGUPD 923
Performing a full Reporting Administration extract - online JRSXRPT 924
Performing an incremental Reporting Administration extract - online JRSXRPTI925
Processing a FILE04 parameter file - online JRUN (+params) 926
Running the Standard Test - online JSTDTST 927
Extracting the Standard Test data - online JSTEXT.....928

Appendix W 929

Report Generators 929
5.2 Report Generators.....930
Glossary of Terms 937
Index.....975

PART 1

Introduction

In This Section

About This Manual 3
System Overview 13
Data Structures and Processing Modes 47

CHAPTER 1

About This Manual

Welcome

Installation, implementation, and administration. These are the three major phases of the system life cycle. As a System Administrator of eCyborg or The Solution Series, you will play an important role in each of these phases.

This manual guides you through the tasks required to support The Solution Series from the moment installation is completed, through implementation, and through ongoing production administration. Together with your installer, your Account Manager, and phone support, it is an important part of the Total Support Solution. Designed to guide you through the use of eCyborg to perform your business tasks, this manual is a reference document. It is also used in classroom training.

☞ *Refer to the* **System Overview** *(on page 13) for a discussion of the differences between eCyborg and The Solution Series.*

Who should use this manual?

This manual is intended both for new and experienced users of eCyborg or The Solution Series, and it may be used by a number of different users. The following users will find it most useful:

- System Administrators
  We have chosen the term "system administration" to mean the technical tasks required to support the ongoing usage of the system. These tasks include setting up test and production environments and applying code changes. Anyone responsible for these types of tasks at a site, regardless of title, should use this manual.

- Database Administrators
  The Solution Series relational and non-relational versions appear the same to end-users, and the majority of system administration tasks are the same for relational and non-relational versions. However, there are additional considerations and tasks when using the relational version.

Database administrators, working with The Solution Series system administrators, will also find this manual useful.

- Implementation Project Leaders
  Implementation project leaders will find it helpful to read the sections on "***System Overview*** (on page 13)" and "***Data Structures and Processing Modes*** (on page 47)". In addition, they will profit from reading the table of contents to learn of the tasks performed by system and database administrators in supporting the system.

Prerequisite skills

Users of this manual should possess a variety of technical skills, depending on the roles they will play. At a minimum, all users should have:

- Thorough understanding of the control language for their environment
- Understanding of system backups and recovery
- Ability to create environments (for testing, acceptance, production, and so forth)
- Authority to compile and link production programs

Additional documentation and training courses

The following documentation and training courses are available to help you understand and administer The Solution Series.

Documentation

Document	Description
The Solution Series Data Model	Contains the title and description of every relational table used in The Solution Series, along with an entity relationship diagram. For every table, each column is described.

If you do not have a copies of this document, you can obtain one from the Customer Center on our Web site www.hewitt.com/ecyborg.

Training Courses

Related Course	Description
Technical Administration	Delivered on-site or at the Hewitt Associates' Learning Center, this three-day course covers everything you need to know to successfully administer eCyborg or The Solution Series on a day-to-day basis. Both indexed and relational considerations are covered during the course.

Related Course	Description
Payroll Processing Technical	This one-day course covers the batch payroll programs, processing features, and the maintenance of the files involved in the payroll process. Topics covered in this course include: ■ U.S. payroll processing checklist ■ Canadian payroll processing checklist ■ Payroll processing programs ■ Files and file structure ■ Pay runs and maintenance runs ■ Organization validation - RPT20 ■ Working with CYBMST ■ Special processing functions and flow

If you wish to attend any of these courses, contact Customer Support or visit our Web site, www.hewitt.com/ecyborg, for details of course dates and availability.

How this manual is organized

This manual has been organized to make it as easy to use as possible.

The manual's organization follows the life cycle of product usage—installation, implementation, and ongoing administration and maintenance. The chapters are divided into the following major parts:

Part	Chapters	Description
1. Introduction	1–3	Provides an overview of the manual and of eCyborg.
2. Getting Started	4–5	Provides both concepts and detailed instructions for setting up your environments and considerations for securing those environments.
3. Implementation	6–8	Provides guidelines and detailed instructions for supporting the implementation of eCyborg or The Solution Series at your site.
4. Maintaining the Production Systems	9–16	Provides concepts and detailed instructions for supporting the ongoing, day-to-day usage of eCyborg or The Solution Series.
5. Maintaining the Payroll System	17-19	Provides concepts and detailed instructions for supporting the ongoing, day-to-day usage of the payroll system.
6. Maintaining Reporting Administration	20	Provides concepts and detailed instructions for supporting the ongoing, day-to-day usage of Reporting Administration.
7. Appendices	A–W	Provides detailed reference information.

Following are descriptions of the chapters within the parts:

Part 1: Introducing eCyborg

The chapters in Part 1 describe this manual and provide an overview of of the system and are essential for your successful understanding and usage of the system. You should read these chapters before you read any of the other chapters.

Read this chapter		To learn about
1	About This Manual	How this manual is organized and how to make the most of using the manual.
2	System Overview	A high-level overview of eCyborg and The Solution Series processing environments, including the files, databases, programs, interfaces, and data flows.
3	Data Structures and Processing Modes	The physical and logical data structures used and the processing modes used.

Part 2: Getting Started

The chapters in Part 2 explains what to do to get started using the system and to prepare you for planning the implementation after installation is complete.

Read this chapter		To learn about
4	Installation Considerations	Defining your environments. Modifying login scripts. Modifying maintenance scripts. Backup up the installation source code. Setting up your client and server.
5	Security Considerations	The security features provided. Considerations for securing the relational tables for use in third-party reporting.

Part 3: Implementation

The chapters in Part 3 walk you through the tasks required to support the implementation of eCyborg or The Solution Series.

Read this chapter		To learn about
6	Customization	Customization options. Delivered interfaces. Utilities for customization. Reporting considerations. Relational considerations. Backup considerations.

Read this chapter		To learn about
7	Data Conversion and Load	Data conversion and load process. Data mapping. Data extraction and conversion methods. Considerations for parallel runs and testing. Relational considerations.
8	Migration to Production	Moving code to production. Audit trail reports. Production environment follow-up.

Part 4: Maintaining the Production System

The chapters in Part 4 describe the routine maintenance and administrative tasks required to support The Solution Series in a production environment.

Read this chapter		To learn about
9	Identifying Problems and Applying Temporary Fixes	Type of temporary fixes (PTFs) Acquiring PTFs from the bulletin board. Identifying changes that have been applied. Backing up the System Control Repository. Implementing PTFs.
10	Maintaining the Client Data File	Purpose and contents of the Client Data File. What impacts the Client Data File. Methods for updating the Client Data File.
11	Using the Backup and Restore Utilities	Utilities provided for backup. Recommendations for system backups and restores.
12	Maintaining Cross-Reference Keys	Purpose of phonetic keys. Maintaining phonetic keys. Purpose of alternate keys. Maintaining alternate keys.
13	Running Report Options	Query reporting (online and batch). Scheduling reports. Initiating a report run in batch. Initiating a report run online.
14	Managing Working Storage	Size of delivered working storage areas. Methods for expanding or contracting working storage areas. Methods for expanding working storage areas for relational databases.

Read this chapter		To learn about
15	Synchronizing Relational Tables and Indexes	Utilities provided for synchronization of relational environments.
16	Performance Tuning for Relational Databases	Impact of using dynamic versus static SQL. Converting dynamic SQL to static SQL using the Case tool. Methods for improving pay extract and pay merge run times.

Part 5: Maintaining the Payroll System

The chapters in Part 5 describe the routine maintenance and administrative tasks required to support the payroll system in a production environment.

Read this chapter		To learn about
17	Overview of the Batch Payroll System	Technical considerations of the batch payroll system. The main programs, the major files, and the flow of data through the job streams.
18	Special Processing Runs	Procedures and maintenance tasks that can be accomplished with special processing runs.
19	Working with CYBMST	The components of CYBMST and how to manipulate CYBMST.

Part 6: Maintaining Reporting Administration

The chapter in Part 6 describes routine maintenance and administrative tasks required to support Reporting Administration in a production environment.

Read this chapter		To learn about
20	Maintaining Reporting Administration	Backing up Reporting Administration components. Selecting the extract components. Extracting core system data. Extracting Labor and History data. Recovering Labor and History extract.

Part 7: Appendices

The appendices in Part 7 contain quick reference information and practice and review answers:

Use this appendix		To learn about
A	Basic Customizations to the Web Client	Changes you can make to the Web Client to tailor it to your company's needs.
B	Working Storage Expansion Worksheets	Blank worksheets you can use to help determine your working storage needs.
C	Relational Tables and Views	Quick reference of the content and structure of the delivered relational views.
D	Operating System Codes	Quick reference of unique codes that distinguish your environment.
E	Object codes	Quick reference of unique codes that identify records in the System Control Repository to be processed.
F	Record Key Structures	Quick reference providing detailed format and usage information for each record type in the System Control Repository and Employee Database.
G	System Files	Quick reference providing detailed format and purpose information for general Solution Series system files.
H	Payroll Process Files	Quick reference providing detailed format and purpose information for files used in the batch payroll process.
I	Naming Conventions	Detailed program naming standards to help you identify programs, as well as name any customizations.
J	Report Quick Reference	Quick reference information about reports covered in this manual.

Use this appendix		To learn about
K	Program and Utility Quick Reference	Quick reference information about utilities and programs covered in this manual.
L	Online Pay Document Printer Interface	Information on printing a pay document by using the online pay document print facility.
M	Analyzing and Editing the Difference File	Guidance on what to do with the content of the Change Control Facility (MAINTO) output.
N	Disk Requirements Worksheets	Worksheets for calculating the amount of disk space required for relational databases.
O	The Payroll BATCH Transaction	Introduction to the BATCH transaction which is used during the payroll run process to identify the organization to which subsequent transactions are to be applied.
P	BATCH Transaction Layout	Layouts for company and employee batch transactions.
Q	Pay Document Program Setup	Information describing the available pay document formats used to issue pay stubs and checks or deposit advices to employees.
R	Laser Check Printing	Information about printing paychecks to a laser printer.
S	Error and Warning Messages	Listing of frequently encountered error and warning messages.
T	Machine Parameters	Listing of computer specific parameters that must be included in Payroll-related jobs.
U	Practice and Review Answers	Answers to the Apply the Concepts and Questions Answered questions.
V	Running UK Online Administration Scripts	The Process Confirmation - Adhoc Jobs (ADHOC) form, which allows you to launch a predefined subset of processes from The Solution Series.
W	Report Generators	Report generators (RGs) delivered when the system is installed

How to use this manual

This manual has been designed for reference as well as for use in training. It has been written to facilitate self-study before and after classroom training.

Table of contents

This manual has been carefully designed for ease of use. All our manuals are written to be task oriented to help you complete your business tasks.

The table of contents lists all the tasks and their respective chapters.

Glossary of terms

A Glossary of Terms section is provided to explain terms used in the documentation.

Index

An index is provided to help you locate specific information.

Introductory chapters

It is important that you read the introductory chapters first. Chapter 1 will help you get the most out of the information we have provided. Chapter 2 provides a high-level overview. Read it to get the big picture before reading the detailed instructional chapters.

Instructional chapters

All chapters, other than the introductory chapters, are instructional chapters. They contain detailed instructions on how to complete the business tasks. Each instructional chapter has the following distinct sections:

Key concepts

Always read the conceptual information first. This will help you understand why you have to perform certain tasks. It will also help you make decisions about your options and help you understand the importance of performing certain tasks. Exercises to help you apply the concept to a business task are included at the end of most concepts.

Apply the Concept

To be certain that you have understood the key concepts in a chapter, complete the Apply the Concept exercises provided. The answers to these exercises can be found in the appendices.

Detailed Directions

Detailed Directions provide the specific steps to complete a task. The Detailed Directions contain navigation for both North American and UK users.

Review of Questions Answered

To be certain that you have understood all of the information in a chapter, complete the Review of Questions Answered at the end of a chapter. The answers to these questions can be found in the appendices.

Conventions used in this manual

The underlying page layout and design of this manual are meant to be as intuitive as possible for you. Our intent is to make it easy for you to navigate through the manual and concentrate on learning and doing.

Cross-references

Wherever appropriate, we provide cross-references to help you find additional information or further discussion of a specific topic.

☞ *Refer to a cross-reference to find more detail or more discussion on a given topic.*

Notes

Whenever there is important information you should be aware of, we provide a note.

Note: You will find tips or quick techniques covered in notes.

How to get additional help

If you cannot find the answers to your questions in this manual, contact Customer Support, who will be able to answer specific questions and give you general advice on training.

Please visit our Web site at www.hewitt.com/ecyborg for the latest schedule of available courses and course descriptions.

Suggestions and feedback

We value your feedback on our performance support materials. Please forward any comments on this manual to Customer Support.

CHAPTER 2

System Overview

In This Chapter

Introduction 14
eCyborg and The Solution Series 15
The system components....17
Processing modes 24
Main files and their contents....25
Programs, languages, and tools....28
About Client/Server 31
About security....35
About customization....36
About reporting....39
About maintenance 41
Review of Questions answered....46

Introduction

This section provides an overview of eCyborg (of which The Solution Series is the core component). It is about "what", not "how". It provides you with the background required to plan and administer the system.

The topics introduced in this section are explained in more depth in later sections. Because it introduces many important concepts, you should read this section before proceeding to the procedural sections.

Questions answered in this section

This section answers the following questions:

1. What are eCyborg and The Solution Series?
2. What are the components of each?
3. How is the system organized?
4. What programs, languages, and tools does the system use?
5. What security options are available?
6. What customization options are available?
7. What reporting options are available?
8. How is the system maintained and upgraded?

eCyborg and The Solution Series

eCyborg is our web-enabled "best-in-class" human resource management system (HRMS). At the core of eCyborg is The Solution Series, which offers the following:

- comprehensive human resource management
- benefits administration
- payroll processing
- time and attendance functionality
- distributed administration (separate licensing required)
- reporting administration (separate licensing required)

The eCyborg layer that can be added to The Solution Series consists of:

- web enablement through the web client and the web collaborative platform
- Interactive Workforce (Employee Self-Service with Interactive Manager) - (separate licensing required)
- Analytics (Cognos' PowerPlay on the web) - (Reporting Administration and separate licensing required)

The Solution Series is designed to grow and to change with you and your organization. You can choose from a variety of configurations and be assured that the core system functionality will remain the same. Later, if you change configurations, you will not have to retrain your staff—the system will function and appear the same.

Platforms

eCyborg and The Solution Series are supported on four computer platforms:

- Windows
- UNIX
- z/OS

☞ *Refer to your platform's specific installation guide for more information regarding specific hardware and software requirements.*

Relational and indexed versions

You have a choice of using a relational or an indexed version of The Solution Series.

Relational version

The Solution Series relational version contains the same functionality as the indexed version, plus the capability of reporting on application data using SQL-based third-party software. The differences between the relational and the indexed versions of the system are transparent to the end user. The following RDBMS packages are currently supported:

- Microsoft's SQL Server
- Oracle
- DB2

All SQL Data Definition Language (DDL) and Data Manipulation Language (DML) statements are generated for you. Because of the intelligent messaging process used, the SQL dialect of your RDBMS's operating system is used.

Indexed version

If you do not want to use a relational database, you can choose the indexed version of The Solution Series. The indexed version is functionally identical to the relational version of the system. The indexed version uses indexed sequential files to store the business rules, application programs, and the company and employee data.

Client interface

By separating the application code from the business rules and providing an "auto-synchronization" mechanism, The Solution Series ensures that all client machines are processing at the same level and applying the same business rules.

The system components

The Solution Series provides an integrated solution to your organization's human resource processing needs. You can think of these components as being divided into two categories—application and data.

Application components

The Solution Series offers the following application components:

- Human Resources Administration
- Payroll Administration
- Time and Attendance Administration
- Position Administration
- Requisition Administration
- Distributed Administration
- Reporting Administration

The Human Resources Administration

Human Resources Administration provides organizations with a comprehensive, strategic solution to their human resource management requirements in these mission-critical areas:

- Human resource record keeping
- Benefits administration
- Salary administration/budgeting
- Workforce planning
- Training administration
- Succession planning
- Applicant tracking
- Position Administration
- Employee/labor relations
- Employee Health & Safety
- EEO/Affirmative Action
- Attendance tracking/absence management
- Reporting and online Query

Payroll Administration

Payroll Administration provides the capability to internally manage the entire payroll and taxation process. The regulatory compliance, integration of payroll data with other applications, and control provide a solution for business operations of any size. Payroll Administration provides a variety of features, including the following:

- Virtually unlimited earnings and deductions
- Comprehensive tax processing and reporting
- In-depth labor distribution
- Bank services
- Complete online payment history tracking
- Online pay calculation
- Online retroactive pay calculation
- General ledger interface

Time and Attendance Administration

The optional Time and Attendance Administration provides a table-driven data structure that gives users the flexibility to quickly and easily define, maintain, and change policy and scheduling rules. Its open design allows a wide choice of the following:

- Time entry methods
- Computing platforms
- Payroll interfaces

The system calculates all categories of hours for input to the payroll process, based on company-defined pay policies. Time entries for special hours may be created online.

Because Time and Attendance Administration is an integrated component of the system, it shares a common database. It has access to human resource information, including employee status, emergency contact data, work restrictions, injury and other medical information, education and training, skills and abilities, and detailed termination data.

Position Administration

Position Administration provides a flexible and easy way to manage the Positions in your organization. Related items such as Jobs and Position incumbencies are also recorded and tracked. You can also record and track the attributes of all levels (different departments, divisions, and so forth) in your organization.

Position Administration provides you with a highly flexible system that can manage the most complex or the most straightforward organization structure. It allows the detailed definition of Organization Units, Jobs, Positions, and single or multiple Incumbencies.

Requisition Administration

Requisition Administration makes it easy to track new hires and transfers that may take place to fill vacancies in your organization. This component is a standard addition to The Solution Series.

Requisition Administration allows your organization to fill vacancies with candidates who are existing employees, applicants, or walk-ins. If you wish to record only the applicant's

name and position applied for, you can do so in Requisition Administration without having to use Applicant Tracking screens.

The system keeps a record of Requisitions (formal requests to fill vacancies). It then tracks the progress of Requisitions, alerting you when a request has been fulfilled and preventing further candidates from being hired or transferred.

Distributed Administration

Managing employee-related information and complying with more complex and demanding governmental personnel and payroll regulations have become great challenges for organizations. Controlling information and minimizing exposure to regulatory compliance issues require that an expansive volume of employee data be accurately collected, maintained, analyzed, audited, reported, and made available for use in a timely, cost-effective manner.

Distributed Administration provides a means of capturing data created and revised at remote locations and sharing those changes dynamically with other sites. This allows multiple sites to simultaneously run The Solution Series while dynamically updating remote data and receiving updates to their local data.

Unlike other distribution processes, Distributed Administration does not require master/slave relationships. This process supports peer-to-peer, hierarchical, and specialized server topologies, where bi-directional replication is based on user-defined data sharing decisions.

Distributed Administration employs a "store and forward" data sharing technique, in which The Solution Series human resources and payroll changes are collected real-time and placed in a holding file. Data can be filtered from the holding file and distributed on a daily or more frequent basis. Additionally, the holding file acts as a recovery facility, permitting re-extraction of previously transmitted data and resubmission to a requesting site.

Reporting Administration

Reporting Administration provides everything you need to perform easy and meaningful reporting on your organization's data. It integrates all the pieces necessary to deliver a full-featured turnkey reporting solution. It is easy to use and incredibly powerful.

The Cognos Impromptu reporting tool is an integrated part of the Reporting Administration. It makes on-request reporting for data extracted from The Solution Series easy.

The Solution Series provides the value-added capability to easily extract data and load it into a data mart. You can set up an extract schedule based on regular monthly or weekly data requirements or request an immediate data extraction.

The data mart created during the extraction process seamlessly integrates with the Solution Series catalog used by the Impromptu reporting tool. You can run existing reports against the data displayed in the catalog, or you can create new reports containing your data selections from the database in the catalog.

Web Client

The Web Client provides browser-based access to the HR and Payroll functionality of The Solution Series. This means that no Client Data File is required on a machine to access

eCyborg. Because only a browser is required on the machine accessing the system, you may hear this referred to as a "zero footprint client".

Browser-based access does not mean that any employees who learn the URL for eCyborg can access the system—the same security required to access the system from the Administrative Client is required to access the system from the Web Client.

Functionality not available on the Web Client

Because the audience for the Web Client differs from that of the Administrative Client, there are differences in the functionality available in the Web Client. The following activities are not available on the Web Client:

- Online pay processing
- Online reporting
- Checklist creation
- Option list editing
- Menu Editor
- Event management
- Import

Functionality that is limited on the Web Client

Checklists

Only universal checklists (because they are stored on the server) are available for use by the Web client.

Toolsets

Only the User Tools are available with the Web Client. Only those tasks displayed under User Tools are available for use by the Web Client. User Tools tasks such as "Create/Modify a Checklist" or "Refresh Client Data" are not displayed and are not available to a Web Client user. Access is not provided for the following:

- Administrator tools
- Security tools
- Development tools

Additional functionality in the Web Client

Access

Any machine with a Web browser installed can be used to access the Web Client. No Client Data File is required on the computer. Users must possess a valid login to The Solution Series.

User options

User options that can be configured through the Web Client, such as Bookmarks, are stored on the server instead of the client machine. As a result, the user options are available anywhere, regardless of the workstation being used to access the Web Client.

Multiple sessions

Should you need to view two forms at once, you can run multiple sessions of eCyborg and toggle between the sessions or size the windows to allow you to view both active sessions.

The Collaborative Platform

The Collaborative Platform enables the eCyborg product line, not just the eCyborg product, to interface with other Web-based products, such as recruitment boards. Here are some examples of Web collaboration:

- Embedded links to other applications, such as benefits providers
- Sending job postings to job boards
- Obtaining applicant data from job boards
- Tax processing and filing services

Interactive Workforce

eCyborg Interactive Workforce is a member of our family of Web-based applications for HR management. It has been developed to integrate seamlessly with The Solution Series.

eCyborg Interactive Workforce is a Web-based employee self-service application that gives your employees real-time access to view, add, and update their personal information held within The Solution Series via a user-friendly, Web-based interface. Additionally, managers can view time-away requests and balances, as well as personal and work information for their staff members (direct reports).

eCyborg Interactive Workforce does not display the forms used in The Solution Series; rather, eCyborg Interactive Workforce presents Web pages on which users enter or update information.

☞ *Please refer to the eCyborg Interactive Workforce: Technical Implementation, Technical Overview, for additional information on the software and hardware components.*

eCyborg Interactive Workforce functionality

The eCyborg Interactive Workforce functionality is delivered in modules, allowing a flexible implementation. Currently there are three modules:

- eCyborg Interactive Employee
- eCyborg Interactive Benefits
- eCyborg Interactive Manager

Each module contains both user functions and the administrative functions needed to implement the business rules specific to your organization.

You can implement eCyborg Interactive Employee independently of eCyborg Interactive Benefits. However, if you want to use eCyborg Interactive Benefits, you must also implement eCyborg Interactive Employee.

☞ *Refer to eCyborg Interactive Workforce documentation for more detailed information on the configuration and use of eCyborg Interactive Workforce.*

Analytics

The current version of Cognos PowerPlay Web allows your delivered or created PowerPlay models to be published over the Web.

Data components

The Solution Series contains the following data components:

- Database
- Data dictionary
- Application Programming Interfaces (APIs)

Database

The Solution Series integrated database is shared by all of the system components. The indexed database consists of the following main files:

File	Description
System Control Repository	Contains the business rules for processing data, the data dictionary, and program code.
Employee Database	Contains the company and employee data, time entries, tax information, and audit trails. It also contains executable versions of the program code from the System Control Repository.

In the relational version of the system, the data dictionary on the System Control Repository is replicated in relational tables. In previous versions of The Solution Series, the Employee Database contained any permanent company, employee or tax information, but all information is now resident in relational database tables.

File	Description
System Control Repository	Contains the business rules for processing data, the data dictionary, and program code.
Employee Database	Contains the audit trails and executable versions of the program code from the System Control Repository.
Database	Contains employee and company records, time entries, and tax information.

Data dictionary

The System Control Repository contains an active data dictionary that includes the Field Name Table and Field Table Menu records. It defines each data entity and its attributes.

Additional utilities are provided that show every form, report, query, data extract, or background transaction where a data element is referenced.

In the relational version of The Solution Series, the CASE tool (RDBPGM0) uses the Field Name Table to automatically generate the appropriate SQL data definition language (DDL) to generate the database and the relational tables. In addition, it generates the data manipulation language (DML) to process the data within these tables.

Application interfacing options

The Solution Series provides a variety of standard application interfaces for regulatory reporting. In addition, you can create custom application interfaces.

☞ *Refer to* **Customization** *(on page 107) for a discussion of interfaces.*

Processing modes

The Solution Series runs in both online and background processing modes.

Online processing mode

Online processing is the procedure of entering, viewing, or manipulating data through an interactive Solution Series session.

When entering data online, data is updated in the database instantly. All verification is also performed instantly. If an error occurs, a corresponding message will be displayed with additional information.

Background processing mode

You can think of The Solution Series as having two types of background processing—Solution Series background processing and payroll background processing.

- Background processing is the procedure of grouping a number of tasks to be accomplished in a background mode. Processes are executed to read from or write to the online files—System Control Repository, Employee Database, and Client Data File.
- Payroll background processing calculates the payroll. In this mode, processing is run against a sequential Employee Database to reduce processing times.

☞ *Refer to* **Data Structures and Processing Modes** *(on page 47) for a more detailed discussion of processing modes.*

Main files and their contents

Online files

The online files contain the data you want to view or update. There are several main online files:

- System Control Repository (FILE01)
- Employee Database (FILE02)
- Client Data File (FILECL32)
- Help files

The System Control Repository and the Employee Database are stored on the central processor (server) and accessed via the network. The same System Control Repository and Employee Database are used by all of The Solution Series applications.

The Client Data File is stored on each user's workstation. Help files are stored on each user's client workstation.

System Control Repository

The System Control Repository (Control File; FILE01) is composed of 80-character records that contain programs and information for validating data that you enter online.

Some of the elements on the System Control Repository are as follows:

- Data dictionary
- Menus
- Forms
- Programs
- Option lists (formerly codesets)
- Tables
- Alternate keys
- "Other" records
- Universal checklists

Employee Database (FILE02) - Indexed version

The Employee Database (Master File; FILE02) contains several types of information, including the following:

- Company information
- Employee information
- Statutory rates and limits
- Executable versions of System Control Repository programs
- "Other" records

There is a variable length record for each organization and each employee within that organization.

Employee records are ordered by organization and Employee Number.

Each organization is referred to as a Control 1-2 (Organization Control Number).

Client Data File

Information in the Client Data File is replicated from the System Control Repository. The Client Data File is updated only with data that is needed by the user. If a user logs into the system for the first time, and no Client Data File exists, the system will give the user the option to automatically build one or log off and contact the System Administrator. The Initial Client Data File will be built containing the following:

- Security Records
- Events Details
- Field names (only if the user is a developer)
- The first line (000000) of the program for every CSL program/form

As the user enters a form for the first time, there may be a slight pause as the Client Data File is updated with the following details:

- Option lists specific to that form
- Field names specific to that form (if the user is not a developer)
- The SAT details for that form

The first time the user calls a Position Administration form, Position Administration data will be downloaded.

The first time the internal report scheduler is called, all report parameter details and the header line of each report program is downloaded.

☞ *See* **Maintaining the Client Data File** *(on page 225) for more information on keeping the System Control Repository and the Client Data File synchronized.*

Help files

The help files contain field level and form level help for each form, as well as conceptual and task-based information. You access this help by using the Help button or by pressing the F1 key.

Database and file structure

To support access to the data by third-party reporting tools, application data is stored in standard, relational tables. These tables are initially created during the installation of The Solution Series. The following table contrasts the location of the data in the relational and indexed versions of The Solution Series.

Data	Relational version	Indexed version
Application tables	System Control Repository and relational tables	System Control Repository
Option lists	System Control Repository and relational tables	System Control Repository
Organization data	Relational tables	Employee Database
Tax data	Relational tables	Employee Database
Employee data	Relational tables	Employee Database
"Other" records	Relational tables	Employee Database

Naming conventions

Relational tables are named using up to 18-character names. For example, the EMERGENCY_CONTACT table contains the name and contact information for the person the employee designated as the one who should be contacted in an emergency.

Refer to **Data Structures and Processing Modes** *(on page 47) for more detailed information on each of these files.*

Refer to **Relational Tables and Views** *(on page 527) for a complete list and description of the relational tables.*

Refer to The Solution Series Data Model for detailed descriptions of the tables and their columns.

Background file

Batch Master File (P20)

The Batch Master File is the background equivalent of the online Employee Database. During payroll processing, data is transferred between the online Employee Database and the sequential batch master file (P20).

This file also contains the Report Generators used in the payroll cycle to determine the output from the payroll process, either files or reports. This file can be updated by a Payroll Process run.

Programs, languages, and tools

Application programs

Online application programs (Human Resource, Payroll, Time and Attendance, and utilities) are coded in the Cyborg Scripting Language (CSL), our proprietary scripting language.

GUI presentation program

The GUI presentation program delivered is CSSS32.EXE.

Core programs

Following are the operating system-specific, core programs delivered with the system. They are coded in COBOL.

CBSVO

This online program allows real-time, interactive reading and updating of the two main Solution Series files—the System Control Repository and the Employee Database.

CBSVOT

This is the trace version of the CBSVO online program. The program provides information for debugging purposes.

CBSVB

This is the background processing program used to produce reports and to access or maintain The Solution Series files offline.

CBSVBT

This is the trace version of the CBSVB background processing program. The program provides information for debugging purposes.

CBSVRFT

This is the subroutine used in non-relational installations to determine segment and segment key lengths.

☞ *See the discussion of the* **CASE tool** *(on page 130) in Customization for a description of RDBPGMH, which performs this function in a relational installation.*

CYBIO

For The Solution Series, this program processes input/output requests for the System Control Repository.

Cyborg Scripting Language programs

Cyborg Scripting Language (CSL) programs are used to display, report, and manipulate the data and components of The Solution Series including online forms, packaged reports, and utilities. It is generic to the operating system environment. You can use CSL to enhance or to modify the system.

(CSL was formerly known as English Language or EL.)

Payroll process programs

The following COBOL programs are used only in the payroll process. If you are not a payroll user, you will not use them:

- P2EDIT
- P4CALC
- P5PRNT
- P9CNVT
- O4CALC

☞ *See* **The Payroll System** *(on page 371) for more information on these programs.*

Report generator (RG) programs

Report generators are used only in the background payroll process and online pay calculation. You can customize them to enhance the system.

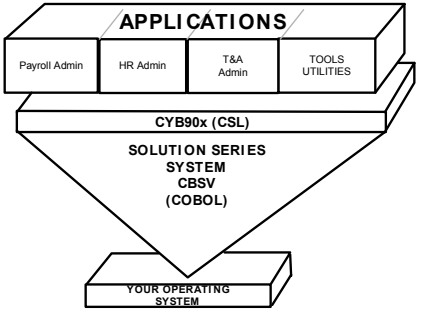
☞ *Refer to the Using Report Generators documentation for detailed information about report generators.*

COBOL/Cyborg Scripting Language relationship

The Solution Series COBOL (CBSV) programs execute Cyborg Scripting Language code and perform the requested functions. To explain the relationship between The Solution Series CBSV programs and Cyborg Scripting Language, consider the following analogy:

- The Solution Series CBSV programs act as a virtual computer, performing the functions requested by the Cyborg Scripting Language object code.

- The Cyborg Scripting Language program CYB90x acts as the operating system for The Solution Series. CYB90x reads the command (or control record) and turns control over to the requested CSL application or utility program. When the CSL program is finished, control is passed back to the CYB90x program.



CASE tool

If you are using the relational version of The Solution Series, you will make use of the CASE tool, RDBPGM0. This COBOL program generates the data definition language (DDL) to define the relational database and tables (with associated indexes and views) from The Solution Series Field Name Table.

In addition, it generates the data manipulation language (DML) to process the data within these tables. All generated DDL and DML use embedded, static SQL. After the installation, you will use the CASE tool after you perform the following:

- Complete modifications to existing data definitions in the System Control Repository
- Alter a delivered table in the System Control Repository
- Convert generated dynamic SQL to static SQL

☞ *Refer to Customization for detailed information on the* **CASE tool** *(on page 130).*

About Client/Server

The strongest benefits of client/server computing are, perhaps, data accessibility from anywhere in the organization and increases in end user productivity.

The client/server implementation decisions you make must make sure that these benefits are realized. Your decisions must also be flexible enough to withstand the growth or restructuring of your organization and the ever changing improvements made in computer hardware and software.

Client/Server objectives

Objectives for client/server implementations vary by audience. Successful client/server objectives meet both the business and technical objectives of an organization.

Business objectives

Client/server implementations typically provide the following business objectives:

- Solutions to business requirements
- User control of processing
- Flexible processing options
- Accessibility to data for reports and queries
- A graphical user interface
- Integration with desktop tools

Technical objectives

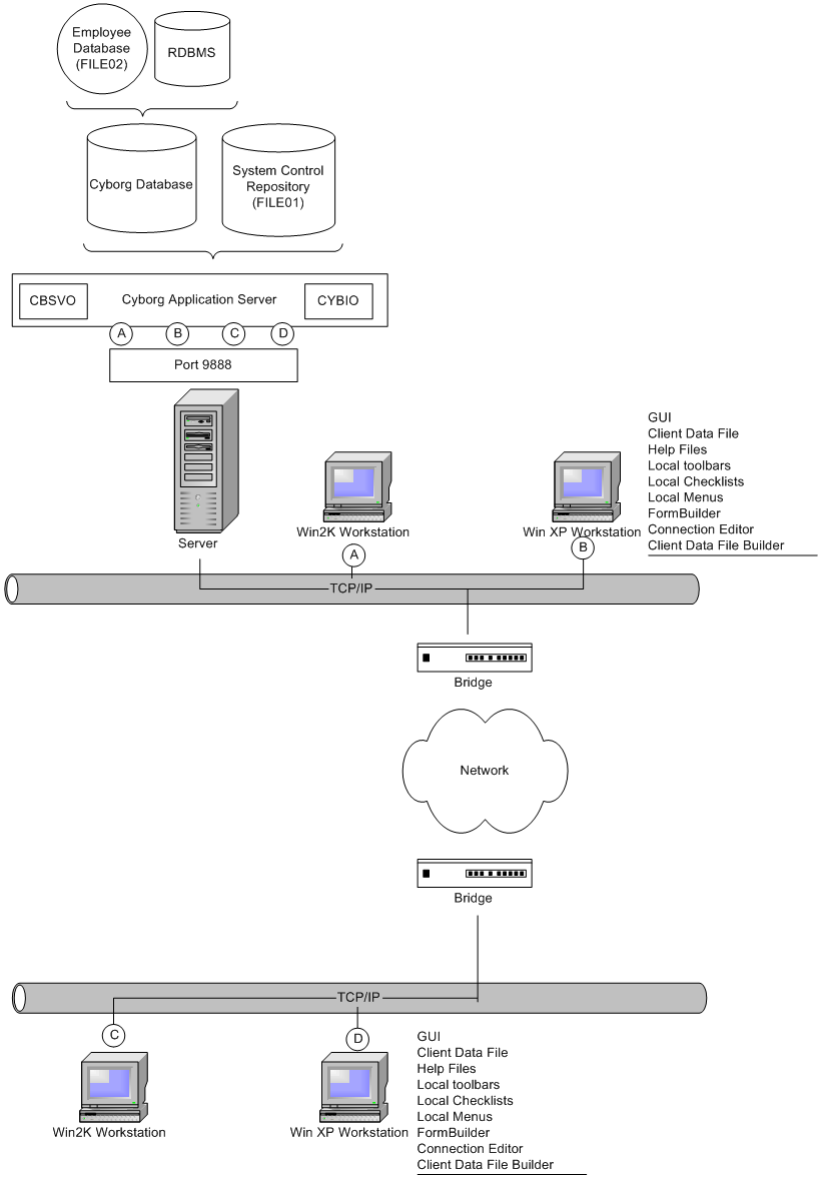
As a technician, you also need to make sure the client/server implementation solves the business needs. However, you also have another set of objectives. For you, the client/server implementation should be open and scalable, and provide the following:

- Use a second generation client/server architecture
- Be effective and efficient
- Minimize risk
- Capitalize on existing infrastructure and skills
- Protect the hardware and software investment

This section will demonstrate how The Solution Series meets these objectives by discussing the key technical components of a successful client/server implementation, and by answering frequently-asked questions about client/server computing.

Key technical components

As we discuss the key technical components, we will highlight different sections of the figure below. The following figure shows various components that may be included in a Windows relational configuration:



Client

The client is the end user's world. It contains the presentation layer of the application. By definition, a client is a system or program that requests activity of one or more other systems or programs (servers) to accomplish specific tasks. In addition, the client shares processing with the server.

Client files

The Solution Series on the client includes the following files:

- Graphical User Interface executable (Csss32.Exe) launches an online session of The Solution Series.
- FormBuilder executable (FormBuilder.EXE) launches the application used to create and modify Solution Series form appearance table (SAT) files.
- Client Data File (Filecl32) contains some duplicate information from the System Control Repository needed for editing and validation of field data.
- Workstation Environment File (Cyb.Cfg) contains the workstation environment detail. It is updated by the Connection Editor tool (Cybcfg.Exe), also located at the client.
- Client Data File Builder executable (BuildFilecl32.Exe) takes the output file from the batch Export Client Data File utility (MAKECL) and creates a new Client Data File.
- Menu File (Menus.Dat) contains menu records and bitmaps.
- Checklist (*.LCL) files represent user checklists created for ease of use or workflow efficiency.
- Toolbar File (*.TB) contains toolbar records for custom toolbars added to the configuration.
- Help files (*.HLP) and their accompanying support system files (*.CNT, *.DLL, and so forth) contain just in time information you can access context-sensitively (get help for the form you are on or the field on which your pointer rests by just clicking once). These files are also accessed when you look for more information on a task or concept from the Support System.
- HTML compiled help file (emaillet.chm) contains information on completing an email or letter communication event and is displayed as part of the Modify Communication Event dialog.

Minimum client system requirements

Refer to the installation guide to learn how to identify the prerequisites for your Solution Series version.

Server

The server contains the application logic and the data for the applications. You can have application servers (application layer) and, optionally, database server (data access layer).

Application servers

The database files, the System Control Repository and the Employee Database will reside on the server. When requests for data are made, data will be transferred to the client.

Database servers

If you use the relational version of the system, your implementation will include a database server. In The Solution Series, the data dictionary (F and RFM records) from the System

Control Repository is replicated in relational tables. The actual company and employee data are stored in relational tables.

Relational database management systems offer accessibility to data by end users using third-party reporting tools.

The following RDBMS packages are currently supported:

- Microsoft's SQL Server
- Oracle
- DB2

Communication between the client and server

The crux of a client/server implementation is communication—communication between the client and the server. The Solution Series makes use of industry standard inter-process communications between the presentation, application, and data access layers.

Intelligent messaging

The Solution Series is a thin client application. A thin client only transfers the data required to complete the task requested by the user.

The Solution Series issues native calls on the server that are invoked as a result of an inter-process message being passed from the application on the client to the application on the server. This technique provides for more efficient processing, the ability to take advantage of unique features of each database management system, and the elimination of gateways and middleware required to do translations in order to access the target database. The Solution Series speaks directly to the target relational database in the SQL dialect of the relational database management system.

Cyborg Application Server (CAS)/Cyborg Application Broker (CAB)

The Cyborg Application Server (CAS) is a server that provides network transparency of clients for server applications. It allows an existing application, such as CBSV, to become the server in a client/server architecture without any modification to that application.

The client connects to CAS across the network via TCP/IP. The client is fully aware of CAS and sends requests and receives responses via messages. Among other things, these messages ask CAS to start the server application, send input to the server application, and receive responses from the server.

CAS supports multiple server applications on a single system. Many clients can be connected to a Solution Series environment via CAS at the same time. Furthermore, CAS supports multiple environments on a single server. Each client can run any number of server applications available to it.

In a z/OS environment, CAS is known as the Cyborg Application Broker (CAB) and performs the same functions.

About security

This section presents a brief overview of the security options available with The Solution Series.

Security within The Solution Series

Security can be granted or denied, with view and update restrictions, by the following areas:

- application area
- specific parts of the company
- specific forms
- specific data elements
- specific values within a data element

Security Officer

At each installation, a Security Officer must be appointed. This individual has full responsibility for establishing, controlling, and monitoring all levels of security and access. The Security Officer is given a system-delivered password and operator ID.

Security reports

Any attempted breach of security is immediately logged in the Security Violation Log available only to the Security Officer.

Interactive Workforce Security

When Interactive Workforce is first installed, a Login ID named API1 is created. This is the Login ID used by Interactive Workforce to access The Solution Series .

☞ *Refer to the eCyborg Interactive Workforce Technical Implementation documentation for further information on Interactive Workforce security considerations.*

eCyborg Collaborative Platform authentication

Using Solution Series security, you authenticate client applications in the eCyborg system by assigning them a user code and password. Because the data transferred between eCyborg and client applications outside the firewall is not encrypted, you should use Secure Socket Layer (SSL) technology.

Security for third-party reporting

Accessing the relational tables using a third-party reporting package requires additional security considerations. The Security Officer, together with the database administrator, must implement a plan to secure the relational tables from unauthorized access.

☞ *Refer to* **Security Considerations** *(on page 97) for more information.*

About customization

The Solution Series provides a variety of customization options. The complexity of the changes you want to make and your level of technical expertise determine which methods you will use for customizing the system.

Customization options

The following customization options are available:

- User interface utilities
- Option lists
- Application tables
- Tools—Solution View and FormBuilder
- Cyborg Scripting Language (CSL)

User interface utilities

You can quickly and easily make changes to the user interface using the following customization options:

- Launch bar
- Menus
- Checklists
- User options
- Security profiles

Option lists

Option lists are tables of valid field entries (codes) and associated descriptions. When application users choose a description entry for a field, the associated code is stored in the employee's record.

You can add or delete option list entries, or modify their descriptions to suit your needs. Several standard option lists are delivered with the system. For example, the Hire Source option list (HR21) contains the following values:

Code	Description
01	Employment Agency
10	Adv. Natl. Bus. Wkly.
20	Walk In
30	Employee Referral
31	Employee
40	Recruit College
50	Internet Posting

Application tables

Most application tables contain standard information about your organization. A few application tables, such as the Company Cross-Reference Table-HR Control Numbers, are used strictly for internal processing.

Using application tables greatly reduces the amount of information to be keyed in for an employee; instead, key data entered is cross-referenced to the tables. For example, the Job Code Table contains all possible jobs for an organization and some generic job-related information associated with those jobs. After validation, the information from the tables is referenced by the employee record. There is an application form associated with each table, allowing you to view or modify information. You can also run batch reports showing the values for each table.

Solution View: creating forms and fields

Solution View's form design and creation facilities can be used to create new company or employee-level forms and data fields incorporating your organization's requirements. A new form can incorporate any data from the Employee Database and/or user-defined fields. A new field is defined by specifying the following:

- Name
- Length
- Type (alphanumeric, numeric, date, timespan)
- Key indicator
- Option list (optional)

Field definitions, new records, and scripting language code are generated from the information entered online. The generated code is automatically compiled—no manual intervention is required. The new form or field is immediately ready for use.

FormBuilder: customizing forms

FormBuilder allows you to customize the appearance of existing forms or new forms (created with Solution View) in a drag-and-drop environment.

Because the definition for each form's appearance is stored in The Solution Series Form Appearance Table (SAT), no scripting is required to customize the appearance of a form, and no changes are made to the underlying system programs or to the Employee Database. For example, you can do the following:

- Add fields to forms
- Eliminate unused fields from forms
- Rearrange fields on a form to match data entry patterns
- Modify labels to incorporate your organization's terms

Standard Windows features such as push buttons, radio buttons, and check boxes can be defined by simply responding to prompts in a dialog box.

Typically, FormBuilder is used to design forms. Once the form design is approved, the form is implemented using utilities and Cyborg Scripting Language.

☞ *Refer to the FormBuilder (previously ScreenMaker) documentation in the Cyborg Scripting Language programming documentation for more information.*

Scripting language

As an alternative to using Solution View, you can directly modify The Solution Series objects or create new objects using the Cyborg Scripting Language (CSL). Many technical users use CSL (formerly English Language) to create forms and reports.

CSL is a fourth-generation, procedural language. It uses "English-like" verbs, such as READ and MOVE.

A full-form editor, EDIT, is provided for modifying and creating CSL programs. EDIT provides standard commands and utilities for modifying programs, such as A(dd), C(hange), and D(elete). You access EDIT from within The Solution Series. After a program is modified or created, you compile it using the RELOAD utility.

☞ *Refer to the Cyborg Scripting Language documentation for more information.*

About reporting

The Solution Series offers the following reporting options:

- Online query and custom reporting
- CSL reporting
- Third-party reporting

Online query and custom reporting

Using Solution View, you can easily create online queries, reports, and extract files in an online, interactive "question and answer" session. Solution View is a standard component of The Solution Series, and provides instant access to data across all system components. Of course, the system's comprehensive security will restrict the data on which you can query and report.

With Solution View, you have the ability to specify data fields to be displayed and a comprehensive range of mathematical operations to be utilized. Selection criteria includes point-in-time reporting and literal comparisons.

If you prefer, you can run queries in batch mode to receive a printout of the query response.

Extracting data

Just as easily as defining a query or report, you can use Solution View to produce an extract file of data to use as input to another application.

CSL scheduled reporting

The Solution Series is delivered with a variety of standard and regulatory CSL reports along with utilities to automate the reporting process. Any reports created with Solution View can also be scheduled.

Standard Reports

Each application comes with a variety of standard reports. These reports are coded using the Cyborg Scripting Language and can be modified.

Report Groups

Using report groups, you can set up a schedule identifying:

- What report(s) should be run.
- Run-time selection parameters.
- What organizational structures' data should be included on a report.
- Which employees should be included in a report. Employee selection includes "as of" dates and date ranges.

Viewing held reports

The View Held Report program allows you to view, print, and/or delete the batch reports and queries routed for online viewing. For each report, you will see the number of pages, the date the report was created, and the time the report was created. This allows you to preview reports prior to printing them.

Payroll reports

You can generate payroll reports in maintenance runs or in standard pay runs. There is a separate report group for payroll reports.

☞ *Refer to* **Running Report Options** *(on page 273) for more information.*

Third-party reporting

If you are using the relational version of The Solution Series, you have the option of using SQL-based, third-party software to interrogate the relational tables.

Reporting Administration

Reporting Administration offers a third party reporting tool used by customers using the relational version of The Solution Series.

Built upon the powerful business intelligence capability of Cognos' Impromptu, Reporting Administration creates a data mart from data extracted from The Solution Series. The data mart tags all data with effective start dates and end dates and stores data in a format ready for reporting, providing powerful point-in-time reporting capabilities.

☞ *Refer to* **Administering Reporting Administration** *(on page 461), in this guide for more information on Reporting Administration.*

Using reporting packages

You can use any SQL-based tool to report on The Solution Series relational tables. This allows you to interactively work with data to access any of the RDBMS supported.

End users may create reports by simply pointing and clicking on icons or menus. Technical users may write reports by using SQL directly.

About maintenance

Keeping your software current

Due to the frequently changing regulatory reporting and tax calculation requirements, it is important that you maintain the most recent software release. In addition, by keeping your software current, you can take advantage of new features and enhancements.

The support policy states that changes, enhancements, and fixes are made to the current, supported software releases. Program temporary fixes, known as PTFs, and corrections made to problems you submit, known as Problem Notifications (PNs), are developed and tested only on the supported releases.

If you experience a problem operating the system, and you are not using a supported release or updated bulletin, you must update your software and retest it to determine whether or not the problem still exists.

To keep your software current, you must routinely perform the following maintenance:

- back up your Employee Database files
- apply software updates

Software updates

Install software updates as soon as possible after you receive them. Documentation generally accompanies the updates. Follow all instructions included with the documentation—avoid taking shortcuts. Software updates are distributed in one of three ways:

- scheduled updates
- unscheduled updates
- optional update method

Scheduled updates

Software updates issued to you are called update bulletins and are released on a regularly scheduled basis.

It is your responsibility to upgrade your files to the latest software release. If you are unable to upgrade to the latest release level, you should contact Customer Support for assistance.

Each update bulletin lists an Expiration of Support Date. This is the date by which you must install the latest release version. If you do not meet this deadline and require software support, you will be referred to the Customer Support.

Applying scheduled update bulletins

To ensure the accuracy and effectiveness of an update, extensive quality testing procedures are performed. To guarantee that your installed update maintains the same level of quality, you must perform the following:

- read the bulletin thoroughly
- follow the installation instructions carefully and exactly as documented
- run your current production software parallel to software with the update applied for at least two complete payroll cycles

Shortcuts or omissions of any of the steps contained within the update bulletin should not be considered.

Unscheduled updates

Two types of updates are sent out on an unscheduled, as needed, basis:

- Product alerts
- Program temporary fixes (PTFs)

Product Alerts

If, after an update bulletin has been released, a problem is discovered in the software that may seriously affect payroll processing, a correction (in the form of a Program Temporary Fix) is written for the affected software and is immediately sent to all customers. Product Alerts are always available on CUBBS.

Program Temporary Fix (PTF)

Software changes, often resulting from Problem Notifications (PNs) that are submitted by customers, are made available on CUBBS after corrections are made. Occasionally, enhancements are sent in the form of PTFs as well.

The PTF and its accompanying documentation are placed on CUBBS. If you are experiencing the symptoms described in the documentation, or if you want the enhancement, apply the PTF.

Applying Unscheduled Updates

Documentation for unscheduled updates accompanies the update. Installation instructions are included and must be followed exactly.

You must immediately install all Product Alerts and any PTFs that describe symptoms you are experiencing.

Bulletin board

CUBBS, an electronic bulletin board system, is used for distributing current software updates, bulletins, releases, and for communicating with customers. The following information is available on CUBBS:

- Update bulletins
- Product Alerts not yet issued as part of an update bulletin
- PTFs not yet issued as part of an update bulletin
- The most recent Tax Authority File

You should periodically review the information on this board to determine what solutions apply to your site.

☞ *Refer to Accessing CUBBS in the knowledgebase or Technical Administration guide for detailed instructions for logging onto CUBBS.*

Enhancements and bulletins

Between releases of The Solution Series, enhancements and some bulletins are released to meet customer needs. Depending upon the size of the bulletin, other distribution media may be used. Enhancements and bulletins obtained from the bulletin board generally contain the following files:

- Code file containing the actual code changes
- Solution Series Form Appearance Table (SAT) changes
- Documentation file containing an explanation of the code changes

Regulatory bulletins

Regulatory Bulletins (RBs) are available only on CUBBS. There are several kinds of regulatory bulletins:

- Tax regulatory bulletins
- Payroll regulatory bulletins
- HR regulatory bulletins

☞ *Refer to Accessing CUBBS in the knowledgebase or Technical Administration guide for detailed instructions for logging onto CUBBS.*

Tax regulatory bulletins

Tax RBs are issued when changes are made to federal, state, or local tax specification records. A tax RB includes documentation that relates essential information about the tax changes and what you need to do to implement them successfully.

The Tax Authority File (TAF, or TAXFILE) is included with the RB. The Tax Authority File contains current specifications for all taxes maintained, including the ones updated for the tax RB.

Never attempt to change a Tax Authority File supplied. It is always complete as supplied to your organization.

☞ *See the Maintaining Payroll Tax Codes guide for more information on Tax regulatory bulletins.*

Payroll regulatory bulletins

Payroll RBs are issued when changes to the batch payroll processing programs are required or when significant enhancements have been completed.

- Unemployment insurance related RBs are issued quarterly when changes are made to unemployment insurance reporting.
- Garnishments related RBs are issued as and when garnishment laws change.

The number of files included in an RB varies depending on the type of programming change required. There may be COBOL program changes and/or Cyborg Scripting Language (CSL) program changes.

These updates affect programs P2EDIT, O4CALC, P4CALC, P5PRNT, P5W2PR, P9CNVT, and the batch payroll report generators.

HR regulatory bulletins

HR RBs are issued when changes to The Solution Series software are required, perhaps as a result of legislation or when significant enhancements have been completed. These updates affect COBOL programs CBSVB, CBSVBT, CBSVO, and CBSVOT and usually some Cyborg Scripting Language reports, forms, utilities, and processing programs.

The RB generally contains the System Control Repository (FILE01) changes. A major update, however, may contain a replacement System Control Repository. The source code for COBOL programs CBSVB, CBSVBT, CBSVO, and CBSVOT for your specific machine type may also be included with major update bulletins.

Documentation for Regulatory Bulletins

The documentation for each RB contains the following:

- summary of the new features included in the update
- presentation of the activities involved with implementing the update
- description of the steps required by technical personnel to resolve any customization issues
- installation instructions

Temporary fixes

Program temporary fixes, or PTFs, are resolutions to Problem Notifications (PNs). Software changes, often resulting from Problem Notifications (PNs) that are submitted by customers, are made available on CUBBS after corrections are made.

Occasionally, enhancements are sent in the form of PTFs as well. The PTF and its accompanying documentation are on CUBBS. If you are experiencing the symptoms described in the documentation, or if you desire the enhancement, apply the PTF.

Refer to **Identifying Problems and Applying Temporary Fixes** *(on page 205) for more information.*

Maintenance utilities

The Solution Series provides utilities for applying periodic updates, temporary fixes, and new releases. There are also utilities available for general maintenance, including backup utilities.

Refer to **Program and Utility Quick Reference** *(on page 617) for more information on utilities.*

Relational database considerations

It is essential that the referential integrity of the database tables and the System Control Repository and the Employee Database be maintained.

- In the relational version of the system, option lists and certain application tables are stored both on the System Control Repository and as relational tables. To synchronize the System Control Repository and the relational tables, you use the Build/Rebuild Control File Relational Tables (POPF01) utility.
- You should back up the System Control Repository, the Employee Database, and the database tables simultaneously.

Refer to **Synchronizing Relational Tables and Indexes** *(on page 339) for more information on keeping the system files and tables synchronized.*

Review of Questions answered

1. What is eCyborg?

2. What are the components of The Solution Series?

3. How is the system organized?

4. What programs, languages, and tools does the system use?

5. What security options are available?

6. What customization options are available?

7. What reporting options are available?

8. How is the system maintained and upgraded?

CHAPTER 3

Data Structures and Processing Modes

In This Chapter

Introduction 48
Indexed version....49
Relational version 57
Record display utilities 64
Processing modes 65
Detailed Directions....71
Review of Questions Answered....73

Introduction

This section explains the physical and logical structures of The Solution Series files for both the indexed and relational versions.

Tasks

This section provides detailed directions for the following tasks:

- Displaying System Control Repository records
- Displaying Employee Database records

Questions answered in this section

This section answers the following questions:

1. What are the major files used in the indexed version?
2. What are the physical structures of those files?
3. What is the purpose of those files?
4. What record types do those files contain?
5. How do I display the contents of the System Control Repository?
6. How do I display the contents of the Employee Database?
7. How is the relational version organized?
8. What processing modes are used with the system?
9. What required and optional files are used in online mode?
10. What required and optional files are used in background mode?

Indexed version

This section explains the physical and logical structures used in the indexed version of The Solution Series.

The Solution Series Database consists of two files: the System Control Repository and the Employee Database. Most processing involves the use of these files.

System Control Repository

The System Control Repository serves as the Control File for The Solution Series. In execution scripts, it is named FILE01. It specifies how to process human resource and payroll data.

Contents

The System Control Repository (Control File; FILE01) contains the following data:

- All application programs (source and object code)
- Field Name Table and Field Table Menu records (data dictionary)
- Programmer annotations
- Options lists
- Application tables
- Other system information

Organization

The System Control Repository uses an indexed sequential organization. Records are set at a fixed length of 80 bytes.

The physical record key is 24 bytes. It consists of a 1–3 position record type code and 21–23 additional characters of key information.

☞ *Refer to* **Record Key Structures** *(on page 563) for a complete list of the System Control Repository (Control File; FILE01) key record structures.*

Object Codes

The System Control Repository contains several record types. Some records have subsidiary record types. Each record type can be identified by a unique Object Code. For example, some of the Object Codes for the "C" records are as follows:

Object Code(s)	
Object	Object description
C	Option lists
C/D	Option list description
C/V	Option list values

They are required for several of The Solution Series programs to select specific System Control Repository records for processing. Programs that require an Object Code are DISPLY, COPY, EDIT, PURGE, and EXPORT.

☞ *Refer to* **Object Codes** *(on page 553) for a complete list of the System Control Repository Object Codes.*

System Control Repository utilities

The Solution Series provides a variety of utilities for displaying and maintaining System Control Repository records.

☞ *Refer to* **Customization** *(on page 107) for information on the System Control Repository utilities.*

Employee Database

The Employee Database serves as the Master File for The Solution Series. In execution scripts, it is named FILE02.

Contents

The Employee Database (Master File; FILE02) contains the following data:

- Report generators
- Company data
- Tax data
- Employee data
- Copies of object code from the System Control Repository
- Audit records
- "Other" records (Pointer 39)

Some object code is copied from the System Control Repository to improve program response time.

Organization

The Employee Database uses an indexed sequential organization. Records are variable length, with a maximum length of 3060 bytes. The record key is 32 bytes, which follows a 3-byte record length.

Record types

The Employee Database contains several record types. Some records have subsidiary record types.

☞ *Refer to* **Record Key Structures** *(on page 563) for a complete list of the Employee Database key record structures.*

Record segments

Company (record type D), employee (record type M), and tax (record type H) records are divided into logical subdivisions called segments. Each segment contains a particular type of information. They are sequentially ordered within a master record.

Types of segments

There are two types of segments:

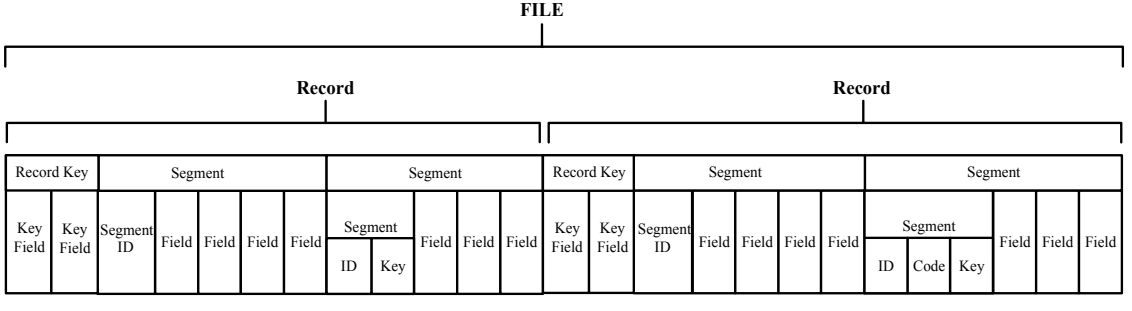
- Single-occurrence—only one occurrence of the data exists for a particular master record. For example, company name and address will occur only once.
- Multiple-occurrence (stacked)—multiple occurrences of the segment type can exist for a particular master record. For example, there can be multiple occurrences for employee earnings and deductions segments.

How segments are identified

Each segment is identified by a unique one-character code called a Segment ID. For example, the Segment ID F identifies an employee's name and address segment.

Some multiple-occurrence segments (C, E, and L) are further divided by Segment Codes. For example, Segment Code EEA represents history hours, rate, and so forth, from the last payment.

A Segment Key is further information that identifies a particular segment occurrence. The Segment ID (and possibly Segment Code) is always part of the segment key.

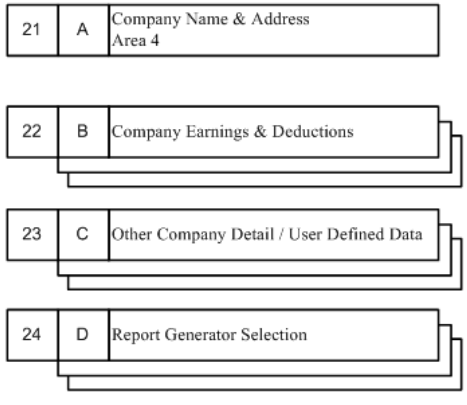


How segments are located by programs

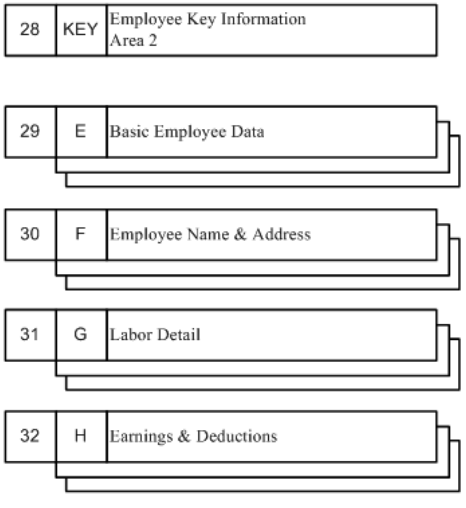
Segments are located by a pointer. The Employee Name and Address Segment (Segment F) is located by addressing Pointer 30.

☞ *Refer to the section* **Working Storage** *(on page 53) for more information on addressing data.*

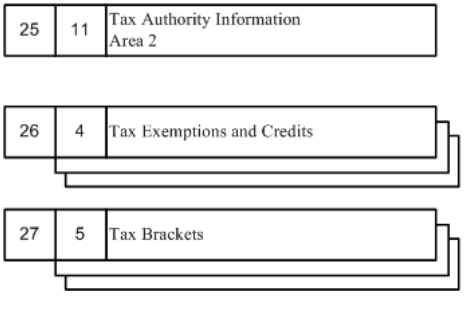
Company Record Segment / Pointer Relationship
Record Type: D

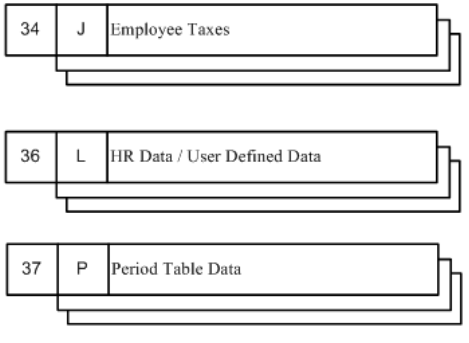


Employee Record Segment / Pointer Relationship
Record Type: M



Tax Record Segment / Pointer Relationship
Record Type: H





☞ *Refer to* **Record Key Structures** *(on page 563) for a complete list of the Employee Database key record structures.*

Working storage

Working storage resides in the CBSV COBOL programs. There are four main areas of working storage, as shown in the following figure—AREA1, AREA2, AREA3, and AREA4 are accessible to English Language (Cyborg Scripting Language) programs:

AREA1 Pointer Table Time Entries Screen (data to terminal/monitor) I/O buffer "Other" records	AREA2 Work (data from terminal/monitor) Tax Master Record Employee Master Record
AREA3 Cyborg Scripting Language Object Code Report Extract	AREA4 Company Master Record

Each of the four main areas is subdivided into a number of work spaces. These work spaces are called "pointer spaces" or simply "pointers".

Data addresses

Pointers are a way to address data. The system uses pointers as an indexing technique to address every data element in working storage.

Each subdivision of working storage (each pointer space) can be viewed as a two-dimensional table. Each entry, or "occurrence", in a table has a length defined by the Pointer Table that contains the address of each pointer.

To determine the location of a field in working storage, the system manipulates the Pointer Table by adding together the field's displacement, as specified in the data dictionary, and the value of the pointer's address. The system uses the result as a displacement within the specific area in which the field resides.

When writing Cyborg Scripting Language programs, the address of the pointer must be manipulated to point to the proper occurrence of the data.

Segment/Pointer relationship

Employee Database records (company, tax, and employee) can contain many different types of data, divided into several segments. For example, the table below displays the different kind of data in a master record for an employee.

Each segment has one pointer used to address the location of the data within working storage:

Record	Pointer	Segment	Description
EMPLOYEE	28	Key	Employee Key information
	29	E	Basic employee data
	30	F	Employee name and address
	31	G	Labor detail
	32	H	Earnings and Deductions (HEDs)
	34	J	Employee taxes
	36	L	Human Resources data/user-defined data
	37	P	Period Table data

Other files

This section introduces and explains other files used by The Solution Series utilities and processing programs:

File	Purpose
FILE03: Audit/Report/ Message Print File	Contains any error messages, audit trails, and/or reports for the process. FILE03s online equivalent is the CRT monitor that displays the results of processing a form.
FILE04: Control Record File	Used during a background processing run to tell the system which program(s) to execute. The format of the control record resembles the Command Line of an online form. FILE04s online equivalent is the keyboard, which allows you to enter data into the Command dialog box.
FILE05: Data Input File	A general purpose sequential input file. Commonly used to import data. For example, it is used with the Maintenance In (MAINTI) utility.
FILE06: Installation Control File	Used to build the System Control Repository.
FILE07: Installation Master File	Used to build the Employee Database.

File	Purpose
FILE08: Replication Holding File	Used by Distributed Administration to maintain a record of any changes made at a local distributed location (DL). Content may be used as source for updating another DL node with those changes made at the local DL node.
FILE09: Installation Replication Holding File	Used to build the Replication Holding File (FILE08) at installation.
FILE10: Output File	A general purpose sequential output file.
FILE11 to FILE13	The Payroll Process's batch master file, referred to as the P20 file. These files are used by the Pay Extract (PAYXTR) process to prepare the random Employee Database data for the Payroll Process, by the Pay Merge (PAYMRG) process to update the Employee Database after the Payroll Process, and by some reports.
FILE14: Input File	Contains sorted extract data. It is used as input to the Print Phase of a report process.
FILE15: Output File	Contains extracted data. It is used in the Report Extract Phase to provide selected information for printing.
FILE17, FILE18, and FILE19: Alternate Print Files	Used during Report Processing as alternate output. These files must be customized.
FILE20/21: Replication Packet File	Used by Distributed Administration as an update repository. Content will be used to update the distributed location (DL) node.
FILE23 to FILE29: User-defined Files	Supplemental files provided for your use in either online or background processing. To make use of these files, you will need to change their lengths in CBSV programs.
FILE30 Output File	Savings Bond File.
FILE31 Output File	Check print file from Pay Print (PAYPRT).
FILE32 Output File	COBRA.
FILE36 Output File	Data mart Extract File.
FILE38 Output File	Savings Bond Diskette File.
FILE42 Output File	VETS 100.
FILE51 Output File	Server Events.

Note: FILE30 (Savings Bonds) and FILE32 (COBRA) are optional files, available only in the US.

Refer to **System Files** *(on page 585) for more detailed information about these files.*

Apply the Concepts

1. What are the logical subdivisions of records called?

2. Give an example of a stacked segment.

3. What are the components of a segment key?

4. What are pointers and what purpose do they serve?

Relational version

This section explains physical and logical structures of the relational version of The Solution Series. It also explains the relationship between the indexed and relational versions. The relational and indexed versions of The Solution Series look identical to the end user.

System Control Repository

System Control Repository replication

All option lists and application tables stored in the System Control Repository are replicated in relational tables. The data is then available for reporting by third-party tools. For example, you can include both an option list code and its value on a report.

Build process

During the installation of the system, the CASE tool, RDBPGM0, generates program RDBPGM1 and RDBPGMA through RDBPGMH.

RDBPGM1 creates the relational tables to store the option lists and application tables from the System Control Repository.

Population process

During the installation of the system, the Build/Rebuild Control File Relational Tables utility, POPF01, will initialize the relational tables by copying the data from the System Control Repository into the associated relational tables.

Impact on processing

The Solution Series core programs (for example, CBSV) use the indexed version of the System Control Repository as input.

Synchronization of the System Control Repository and relational tables

Synchronization of the System Control Repository and its associated relational tables is handled automatically. However, should a synchronization problem occur, you use the Build/Rebuild Control File Relational Tables (POPF01) program to resynchronize the System Control Repository and its associated relational tables.

☞ *Refer to* **Synchronizing Relational Tables and Indexes** *(on page 339) for more details on this program.*

Employee Database

In the relational version of The Solution Series, company, tax, and employee data are stored in relational database tables.

Each company and employee segment equates to a relational table. Stacked segments become multiple rows in a table.

The following table describes where the data from the Employee Database is physically located:

This component	Is stored
Organization Control Number and Employee Number	In the relational version of the system, the data dictionary on the System Control Repository is replicated in relational tables. In previous versions of The Solution Series, the Employee Database contained any permanent company, employee or tax information, but all information is now resident in relational database tables.
Index (secondary key)	In a relational database table. Provides cross-reference tables where the actual data resides.
Employee and company data	In relational database tables.

☞ *Refer to* **Record Key Structures** *(on page 563) for information on the keys to the different record types.*

Impact on processing

The Solution Series core programs (for example, CBSV) use the Data Manipulation Language (DML) SQL statements embedded in COBOL programs generated by the CASE tool (RDBPGM0) to read from and write to the relational tables.

Database recovery and index rebuilds

There is no substitute for a system backup of all The Solution Series. However, there are utilities and methods available for commit, rollback, and recovery.

☞ *Refer to* **Commit, Rollback, and Recovery** *(on page 244) for details.*

In general, indexes are fixed automatically. However, should you need to rebuild the database indexes for the Employee Database, programs are provided to do so.

☞ *Refer to* **Synchronizing Relational Tables and Indexes** *(on page 339) for more details on these programs.*

CASE tool

The CASE tool, RDBPGM0, is a delivered COBOL program that generates the data definition language (DDL) to define the relational database and tables (with associated indexes and views) from The Solution Series data dictionary. In addition, it generates the data manipulation language (DML) to process the data within these tables. All generated DDL and DML use embedded, static SQL.

When to use the CASE tool

After the installation, you will use the CASE tool after you:

- Complete modifications to existing data definitions
- Alter a delivered table, create a new table, or drop a table
- Convert generated dynamic SQL to static SQL

Because the precompiling and compiling of the DDL and DML are done on the database server, all SQL is *native* to your particular RDBMS.

☞ *Refer to* **Customization** *(on page 107) for details on using the CASE tool.*

Data dictionary and DDL/DML

The Solution Series data dictionary, the Field Name Table (F records) and Field Table Menu (RFM records), serves as the basis for the generation of all DDL and DML The data dictionary contains information about each field used in the system. All option lists and certain application tables from the System Control Repository are replicated into relational tables. All Employee Database record segments are stored in relational tables.

DML subroutines and CBSV

Once the relational tables have been built using the generated DDL statements, the generated DML statements are used in application processing.

Note: *The Solution Series CBSV programs execute I/O requests on behalf of the Cyborg Scripting Language application programs. When an application makes a request for data, CBSV makes a call to the appropriate DML subroutines.*

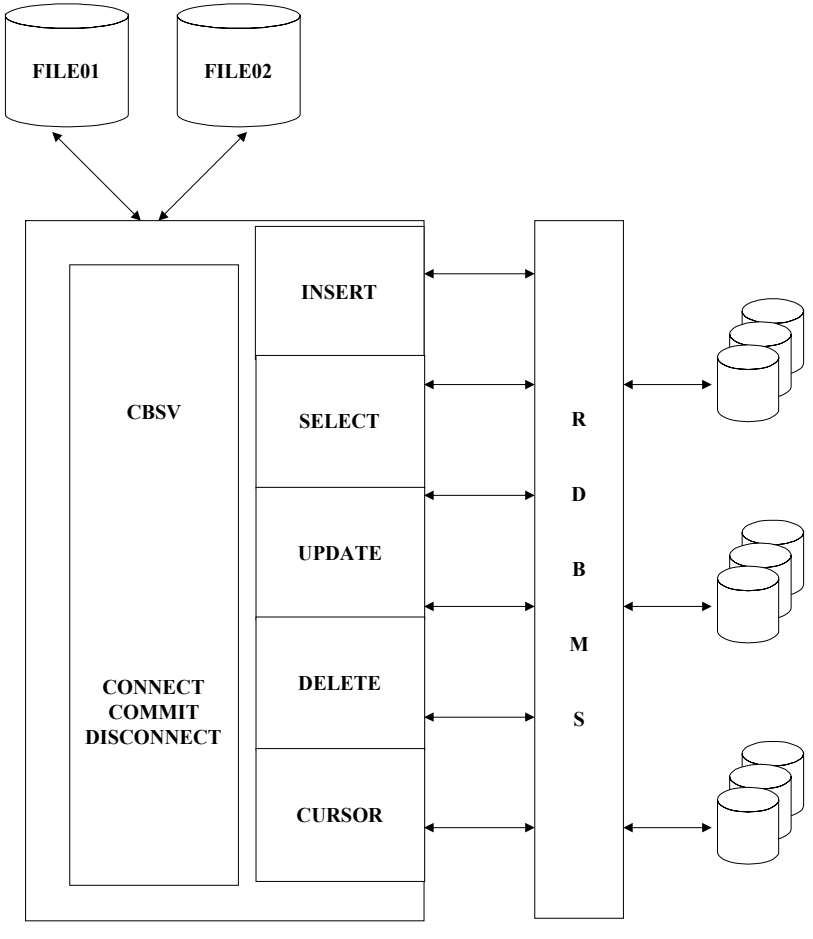
The following scenario illustrates the connection between the DML subroutines and CBSV:

1. The application makes a request to CBSV.
2. CBSV calls the applicable DML subroutine.
3. The DML subroutine makes a request to the RDBMS to execute the SQL to satisfy the request.
4. The RDBMS passes the return code and data (if applicable) back to the DML subroutine.
5. The DML subroutine passes the return code and data (if applicable) to CBSV.
6. CBSV passes the return code and data (if applicable) back to the application.

Other CBSV tasks

In addition to handling the DML calls, CBSV also handles the following tasks, as required by the RDBMS:

- CONNECT
- COMMIT
- DISCONNECT



The Solution Series database

The physical database will be created during the installation of the system by the CASE tool, RDBPGM0.

Database tables

The CASE tool (RDBPGM0) reads the data dictionary (F and RFM) records created during the EXPORT from the System Control Repository to create relational tables.

☞ *Refer to* **Relational Tables and Views** *(on page 527) for a complete list of the delivered relational tables.*

☞ *Refer to the Data Model documentation for detailed information on the layout and content of each of the delivered relational tables.*

Database indexes

RDBPGM1 automatically creates a primary index for each table that it generates to guarantee referential integrity through a unique primary index.

The generated index consists of the fully concatenated key of each row. For example, the index for the EMPLOYMT_ACTIVITY table consists of the Organization Control Number, Employee Number, Activity Date, and Activity Code.

Database views

RDBPGM1 automatically creates a view of each table that it generates. The generated views contain every column on the table. These delivered views are used internally by the CBSV programs. The delivered views are named as follows:

record/data type + segment type + segment code + _VIEW

For example, the view name for table Company Pay Frequencies is DCAJ_VIEW. You can create additional views using SQL.

☞ *Refer to* **Relational Tables and Views** *(on page 527) for a complete list of the view names.*

Naming conventions

Any table names or fields you add to the database are limited to 18 characters.

☞ *Refer to* **Naming Conventions** *(on page 591) for more information.*

Apply the Concepts

5. Define DDL and DML.

6. What is "referential integrity" in relation to indexes?

7. What is a database "view"?

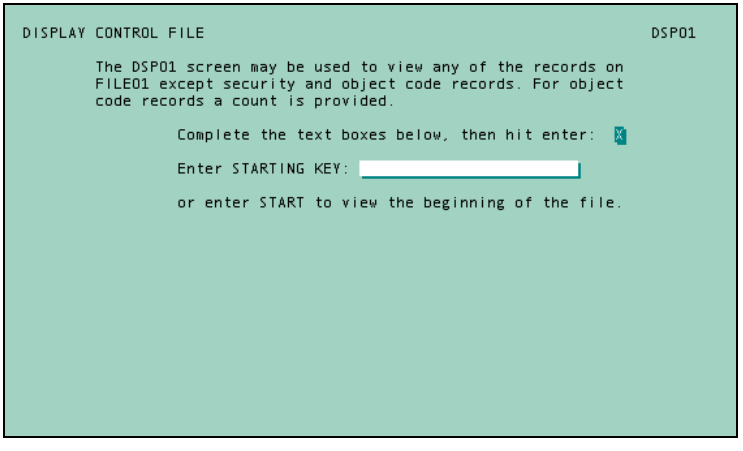
8. Why should you use the naming convention when you modify or create tables, fields, and/or programs?

Record display utilities

There are two online utilities that you can use to display the first 75 positions of the records within The Solution Series:

- Display Control File form (DSP01)—displays System Control Repository records
- Display Application File form (DSP02)—displays Employee Database records

These two utilities work the same. Below is the Display Control File form:



With either utility, you can enter "START" in the Enter Starting Key text box to display all records or you can enter a starting key value to begin the display at specific record.

Processing modes

The Solution Series operates in two processing modes—online and background. This section discusses the processing programs used for these modes, along with the required files used during processing.

Root programs

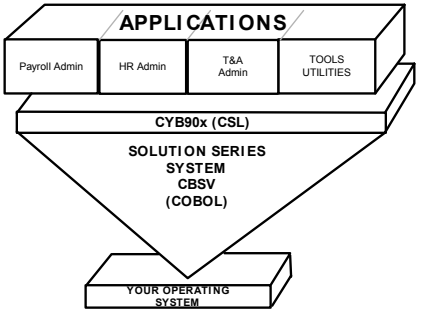
The Solution Series contains three "root" programs—programs that set, start, and support the system. These programs are not directly executable; instead, they execute automatically as the system requires.

- CYB90x
- CYB88x
- CYB89x

CYB90x

The Cyborg Scripting Language program CYB90x acts as the operating system for The Solution Series.

CYB90x reads the command (or control record) and turns control over to the requested CSL application or utility program. When the CSL program is finished, control is passed back to the CYB90x program.



CYB88x

CYB88x is a Cyborg Scripting Language program that performs the following tasks:

- Manages session number information.
- Restores portions of working storage.
- Assigns the default Organization Control Number (Control 1-2) displayed when the user signs on to the system.
- Sets the maximum number of lines on a report page.
- Sets the Production Version switch to "on" or "off".

CYB89x

CYB89x is a Cyborg Scripting Language program that loads pointer definitions into working storage. When you sign on to the system, CYB89x attempts to locate the pointer table on the Employee Database.

If the pointer table is not found, CYB89x copies it from the System Control Repository into a single table on the Employee Database. Subsequent processing is then more efficient because less input/output processing is required to read one table.

Online processing

Online processing is the procedure of entering, viewing, or manipulating data through an interactive session of The Solution Series.

In an online session, verification is performed immediately. Error messages are displayed to indicate what corrective action should be taken.

If verification is successful or errors have been corrected, data is updated to the System Control Repository or Employee Database immediately.

Online programs

To run The Solution Series online, execute one of the following programs:

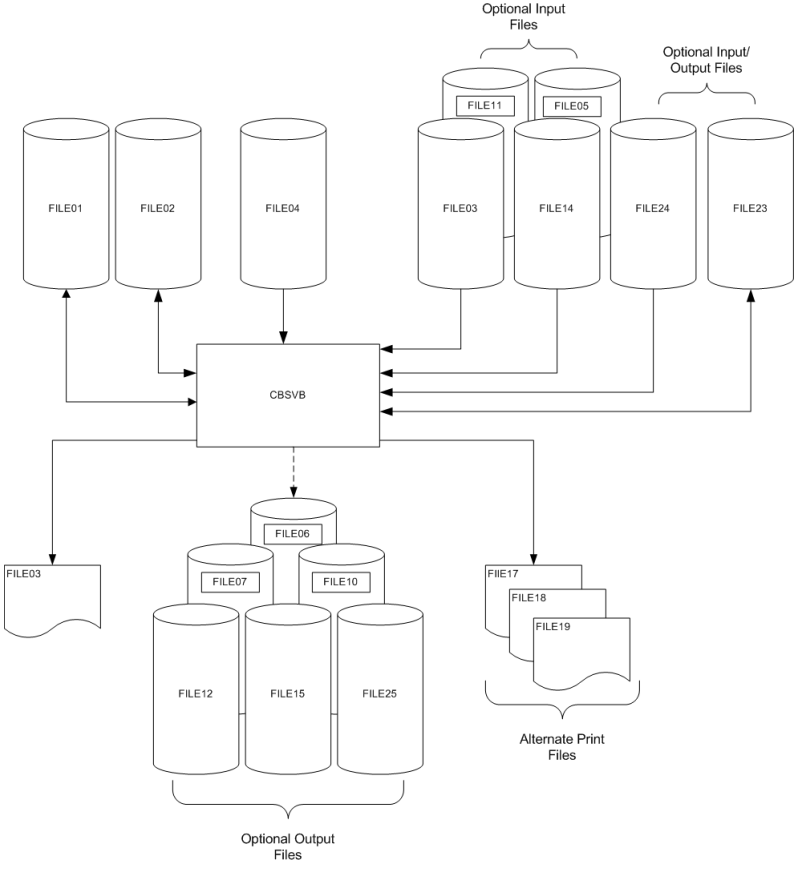
Program	Description
CBSVO	Online program
CBSVOT	Online trace program

File requirements

The following table and figure show the required and optional files used during an online session, and how they are used:

File	Required/Optional
System Control Repository (Control File; FILE01)	Required
Employee Database (Master File; FILE02)	Required
Audit/Report/Message Print File (FILE03)	Optional for trace program (not used otherwise)
Replication Holding File (FILE08)	Optional
Replication Packet File FILE20/21	Optional

File	Required/Optional
User-defined Files (FILE23, FILE24, FILE25)	Optional
Savings Bond File (FILE30)	Optional
Check Print (FILE31)	Optional
COBRA (FILE32)	Optional
Savings Bond Diskette File (FILE38)	Optional
Backend Event (FILE51)	Optional



Background processing

Background processing is the procedure of grouping a number or series of tasks to be accomplished in a background mode.

Background programs

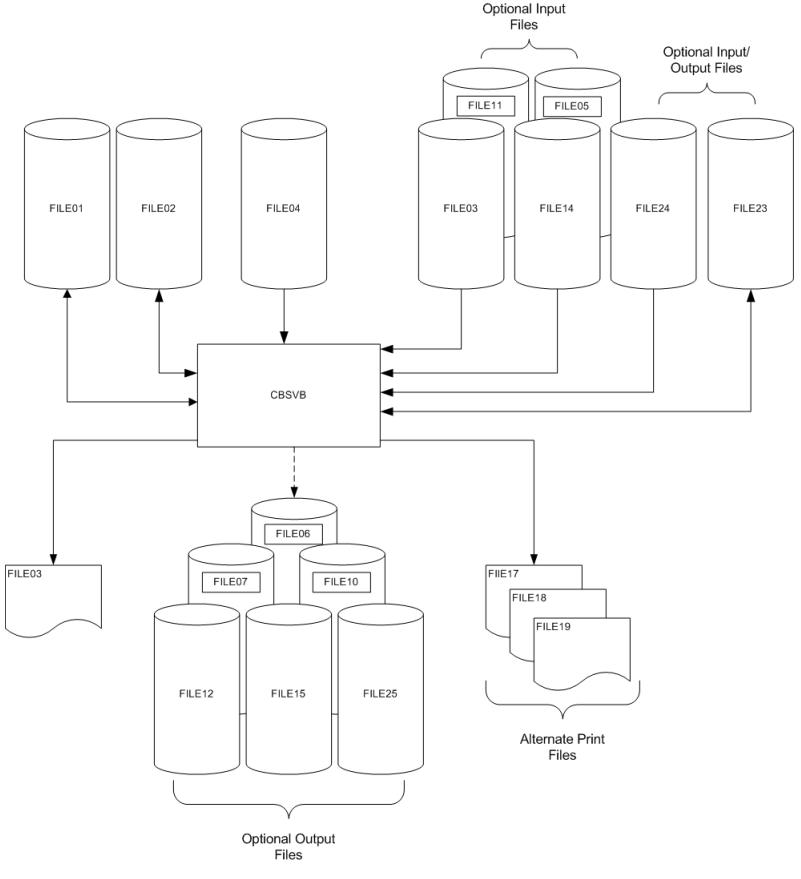
To run The Solution Series in batch, you execute one of the following programs:

Program	Description
CBSVB	Batch program
CBSVBT	Batch trace program

File requirements

The following table and figure show the required and optional files used during a background run and how they are used:

File	Required/Optional
System Control Repository (Control File; FILE01)	Required
Employee Database (Master File; FILE02)	Required
Audit/Report/Message Print File (FILE03)	Required
Run Parameters (FILE04)	Required
Input Files (FILE05, FILE11, FILE13, FILE14, FILE24)	Optional
Replication Holding File (FILE08)	Optional
Input/Output File (FILE23)	Optional
Output Files (FILE06, FILE07, FILE10, FILE12, FILE15, FILE25)	Optional
Alternate Print Files (FILE17, FILE18, FILE19)	Optional
Check Print File (FILE31)	Optional
Savings Bond and COBRA (FILE30, FILE32)	Optional (US only)
Data mart Extract File (FILE36)	Optional
Savings Bond Diskette File (FILE38)	Optional
VETS 100 (FILE42)	Optional
Server Events (FILE51)	Optional



Run parameters

You enter parameters for a background process as a control record on the Control Record File (FILE04). The control record directs the processing of CBSV. Multiple control records can be entered on the Control Record File (FILE04). Each record is executed sequentially based on its contents. The format of the control record is as follows:

Position	Description
1–15	Comment area
16	Action field (blank, A(dd), or C(hange))
17–22	Organization (Control) 1-2
23–28	Program or Form field
29–30	Code field, Code-1 and Code-2
31–40	Key field

Position	Description
41–55	Additional key field
75	Continuation character

For example, the following control records would be used to request a Batch Layout Report (BATCHL) for two forms:

```
          1         2         3         4         5         6
123456789012345678901234567890123456789012345678901234567890123456789
P BATCHLJ00100  999999BATCHL  HH-SCR
P BATCHLJ00100  999999BATCHL  GG-SCR
```

Additional controls

To set additional controls, use the following characters:

Use	Enter	In position(s)
To continue a record to another line	*	75
To allow multiple screens of information to be written to FILE03	W	16

Detailed Directions

This section provides detailed directions on completing a business task.

Tasks

Displaying System Control Repository records....71
Displaying Employee Database records....71

Displaying System Control Repository records

To display records in the System Control Repository, follow these steps:

1. Access the DISPLAY CONTROL FILE (DSP01) form

Access this form by selecting:

Component: Development Tools
Process: System Control Repository Utilities
Task: List System Control Repository

2. Enter a key value

To begin the display at a specific record, type a key or partial key in the Enter STARTING KEY text box.

To view all records (except security and object code records), type "START" in the Enter STARTING KEY text box.

3. Save the form

The requested records are displayed.

Press Enter to see subsequent records.

Displaying Employee Database records

To display records in the Employee Database records, follow these steps:

1. Access the DISPLAY APPLICATION FILE (DSP02) form

Access this form by selecting:

Component: Development Tools
Process: Employee Database Utilities
Task: List Employee Database Records

2. Enter a key value

Enter the beginning key of the record you wish to access.

For example, to access the first LMODEL for organization 999999, enter the first six positions of the organization identifier (in this case 999999), in the seventh position use

"M" (record type for employee records), and in the last two positions enter "LM" (starting characters for LMODEL).

To view all records (except security and object code records), type "START" in the Enter STARTING KEY text box.

3. Save the form

The first 76 positions of the requested records are displayed.

Press Enter to see subsequent records.

Review of Questions Answered

1. What are the major files used in the indexed version?

2. What are the physical structures of those files?

3. What is the purpose of those files?

4. What record types do those files contain?

5. How do I display the contents of the System Control Repository?

6. How do I display the contents of the Employee Database?

7. How is the relational version organized?

8. What processing modes are used with the system?

9. What required and optional files are used in online mode?

10. What required and optional files are used in background mode?

PART 2

Getting Started

In This Section

Installation Considerations 77
Security Considerations 97

CHAPTER 4

Installation Considerations

In This Chapter

Introduction 78
Pre-installation preparation....79
What has been installed 80
Testing the installation....85
Following all installations....88
Post-installation issues....89
Detailed Directions 92
Review of Questions answered....94

Introduction

This section addresses important topics related to preparing and setting up your environments for any application within The Solution Series. There are a several reasons why you should understand the installation process. They include:

- Understanding what you have been left with when the installer leaves your site
- Using the installation test data for internal training and as a general demonstration environment for staff who need to practice new skills at training sessions
- Being able to repeat parts of the installation process when installing application updates

In this section, you will learn about pre- and post-installation issues, tasks, decisions, and how you should deal with them. Some of these topics are addressed in more detail in subsequent sections with related tasks for you to complete.

Tasks

You may be required to complete the following tasks to prepare for and set up your environments:

- Determine what synchronization errors exist
- Estimate table space sizing
- Correct invalid data

Questions answered in this section

This section answers the following questions:

1. What preparation is involved for this installation?
2. What are the installation hardware and software requirements?
3. Who does the installation?
4. What is installed?
5. How many environments need to be set up?
6. What are the configuration options?
7. How are error messages to be handled?
8. Are there any modifications that should be made immediately following the installation?
9. What are the post-installation security issues?

Pre-installation preparation

At your request, an installer will install the software for your new eCyborg or Solution Series application(s).

As the system administrator, you, and possibly other members of the information processing team, must prepare for this installation.

It is crucial that before the installation, you set up an account on your system for the installer to use.

Who should be present during the installation

You and any other information processing personnel who will be handling the eCyborg or Solution Series software should be present for the entire installation.

Minimum hardware and software requirements

Refer to the Customer Center (www.hewitt.com/ecyborg) or your Account Manager/Project Manager for specific software and system requirements.

What has been installed

When the installation is complete, the following types of files and data will be installed on your system:

- Payroll files
- Online/Background files
- GUI files
- Test data
- Job Control Language
- Relational database tables for System Control Repository and Employee Database (only installed if you have a relational database environment)
- The Solution Series Support System

The same files are used for all installations. The installation procedures change only if you are using a relational database.

☞ *Refer to* **System Files** *(on page 585) for a complete list of all The Solution Series files with attributes and uses.*

Payroll installation

To perform the system install for the payroll system, the installer brings along the following:

File/Program	Description
CYBMST	The Library file that contains the main background payroll software. This file consists of COBOL programs, report generators, and system tables.
P9CNVT	The program used to extract information from the CYBMST file.
TAXFILE	The tax master file.

Once the background payroll installation is complete, the following will be present on your system:

- COBOL programs
  - P9CNVT
  - P2EDIT
  - P4CALC
  - P5PRNT
  - O4CALC
  - CBSVRFT
  - P7COMP (Windows & UNIX only)
- Payroll source file (CYBMST; for payroll users only)
- Batch Master File (P20)

Online/background system installation

To perform the online system installation, the installer uses the following files/programs:

File/Program	Description
FILE05 (DEMO0105)	The sequential version of the online System Control Repository. It contains the data dictionary, Cyborg Scripting Language programs, menus, forms, and option lists.
CBSVB	A background-processing program used for creating the System Control Repository from FILE05 (DEMO0105), and for maintaining the System Control Repository and the Employee Database.
CBSV	Library for CBSVx background and online source code.

Once the online installation is complete, the following will be present on your system:

- System Control Repository
- Employee Database
- CBSVO/T
- CBSVB/T

The System Control Repository contains option lists, a data dictionary, the Cyborg Scripting Language source, and table records. The Employee Database contains all of the data that relates to your company and employee records, plus statutory rates and limits. A standard set of test data is loaded at installation time that you can modify. For relational database management systems, the Employee Database contains information concerning the primary keys of the rows in the various relational tables.

GUI installation

To perform the GUI installation, the installer brings along the client installation CD-ROM for The Solution Series. Once the GUI installation is complete, the following will be present on your system:

- Client Data File
- GUI executable
- FormBuilder executable
- Help files
- Adobe Acrobat online documentation files
- Configuration file

Following the installation, the installer sets up one or two of the PC workstations. It is your responsibility to set up the remaining workstations. Typically, your network manager decides where the Hypertext files should reside, depending upon network traffic and client workstation file space.

Relational database installation

To perform the relational database install, the installer brings all of the files/programs required for the non-relational version of the system, and the following:

Program	Description
RDBPGM	Library for the RDBPGM0, RDBPGM2, RDBPGM3, and RDBPGM4 CASE tool programs. Use the delivered job JPUL_RDB if you need to extract these programs.
RDBPGM0	CASE Tool program that generates the RDBPGM1 and RDBPGMA through RDBPGMH programs. It uses the F and RFM records on the System Control Repository to generate the data definition language (DDL) to define the delivered relational database tables and the data manipulation language (DML) to process data within these tables, using static SQL.
RDBPGM2	Determines what synchronization problems exist between the database tables and the Employee Database.
RDBPGM3	Reports the number of entries per segment/table for a profile.
RDBPGM4	Corrects invalid data (date and decimal) on a P20 file.

Version 5.1 changes to the installation process

The installation of the relational version of The Solution Series 5.1 (and above) changed from previous versions. The very first execution of CBSVB, normally the DEMO process, begins with a relational version of CBSVB. This requires the database to have already been built. The CASETOOL, program RDBPGM0, is delivered for this use. These programs--together with an EXPORT.10 of delivered fields and RFM records--are delivered with the installation media.

Important! In the 5.1.x (and above) relational implementation, it is critical that you never use a non-relational CBSV program. Using a non-relational version of the CBSV program could damage your system and would require recovery.

Since you will only be using a relational version of CBSVB, it is critical that when applying data dictionary changes to FILE01, you must not reload the CSL that uses the changed or new field information until the following are true:

The database has been altered or rebuilt.

The RDB subroutines have been updated to reflect the changes.

The RDB subroutines and O4CALC have been recompiled and relinked with the relational CBSV programs.

General installation notes

In general, all installations will create software that falls into one of the following categories:

- Program Source Code
- Program Object Code
- Job Control
- Data Files

During the installation, a series of libraries or directories are created to reflect these categories using the naming standards for the following:

- fields
- programs
- option lists
- Cyborg Scripting Language verb names
- module codes
- table codes
- alternate keys
- employee segment codes
- company segment codes
- error message numbers
- file numbers
- miscellaneous other records

These global naming standards apply to all current and future releases.

☞ *Refer to* **Naming Conventions - Customizations** *(see "Naming Conventions" on page 121) for more information on global naming standards.*

Delivered test data

To perform tests on the installation, the installer brings along special test data. There are several test companies delivered with the installation. As an example, the following table lists the test companies delivered in the US and Canada and their potential uses:

Organization Control Number	Organization Name	Type of Organization	Comments
999999	ABC Solutions, Inc.	General	A US test company populated with employees and used by the installer to test the system
996666	ABC Hospitals	Hospital Position Administration	Sample Position Administration data
995555	Midwest Manufacturing	Retiree	Sample retiree data

Organization Control Number	Organization Name	Type of Organization	Comments
993333	Midwest Manufacturing	Applicant	Sample applicant tracking data

The organization below is delivered and maintained. Customers use it exclusively for their considered hours and earnings.

Organization Control Number	Organization Name	Type of Organization	Comments
991111	ABC Solutions, Inc.	Considered Hours/ Earnings	Considered hours/earnings data.

Job Control Language

Platform specific job control language is also delivered with The Solution Series.

File/Program	Description
Job Control	The installation notes and execution scripts, such as Job Control Language (JCL). These are execution scripts, command procedures, and command language programs used to install and maintain the background and online systems.

Testing the installation

Once the installation of the online, background, and the GUI is complete, you and the installer will run standard processes to test the installation.

Testing the installation is very important for two reasons—it assures you that the installation was successful, and it creates data in the online and background files for the test companies' Organization Control Numbers (Control 1-2s).

Test data

The test files contain data for the delivered organizations. The test data is held in the System Control Repository and is accessed using CBSVB.

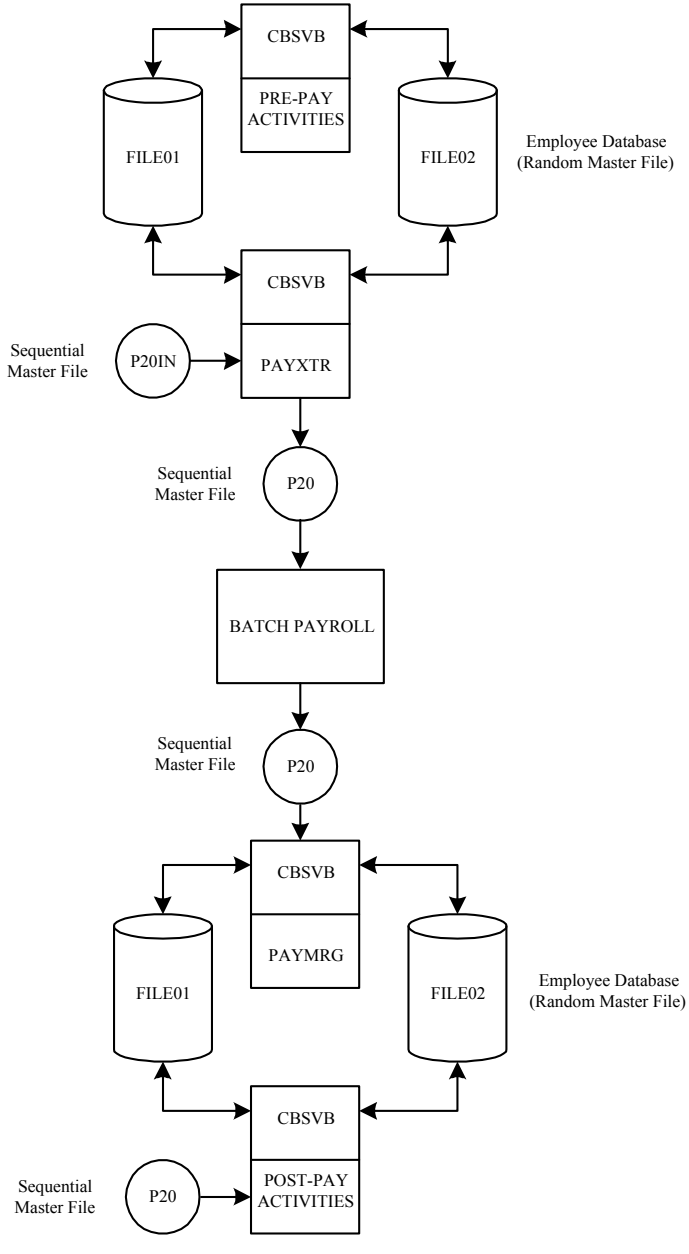
Running tests

The test data is extracted from the Employee Database or the database. If you are a payroll user, a complete payrun is processed. A standard set of reports is also produced.

Payroll cycle

An integral part of the testing process is the payroll cycle. The payroll cycle is the process of producing pay using CBSV programs together with the payroll process COBOL and report generator programs. The payroll cycle includes the following stages:

- Stage 1—Preparing for the payroll process
- Stage 2—Extracting payroll data for the payroll process
- Stage 3—Producing the audit trail reports
- Stage 4—Executing the payroll process and performing a maintenance run
- Stage 5—Merging the payroll process calculations into the online system



The programs used in the payroll cycle are as follows:

Program	Description
Pay Extract (PAYXTR)	A program run with CBSVB that extracts a copy of the online application data from the Employee Database. This extract creates a new copy of the sequential master file, P20.
P2EDIT	The transaction editor program. This is the first program executed as part of the background payroll process. This program performs edits on the input transactions.
P4CALC	The calculation program. This program performs the payroll calculations and updates to the sequential master file (P20) during a payroll run. It also extracts report information for P5PRNT.
P5PRNT	The report print program. This program formats and creates all output, including payments, reports, tapes, and records that must be recycled to future payroll runs.
Pay Merge (PAYMRG)	A program run with CBSVB that recreates the Employee Database using a P20 as input.

To execute these programs, the installer will run the following jobs:

- JPAYXTR
- JPAYRUN
- JMNTRUN
- JPAYMRG

☞ *Refer to the Implementation Essentials documentation and the Using Payroll Administration documentation for more information about the payroll cycle.*

Following all installations

The installer will give you some general instructions, such as:

- a description of the installation process so that subsequent installations can be performed
- job control and execution scripts that have been set up on your computer to run eCyborg or The Solution Series

Post-installation issues

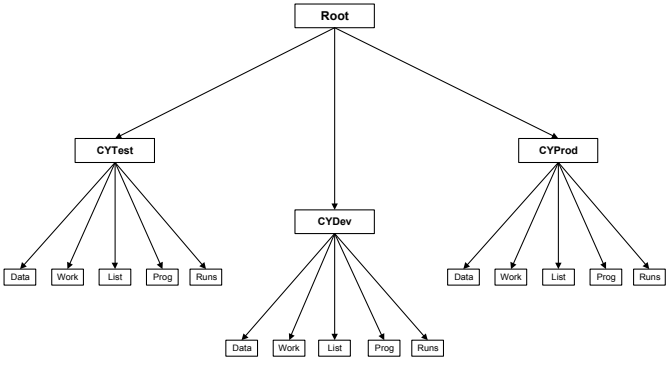
You will need to address the following issues soon after the installation is completed:

- Possible environments
- System-wide defaults
- Configuration options
- Security sign-ons and the Security Officer Profile
- Backups
- Change control procedures
- Modification of execution scripts

Possible environments

Set the following environments:

- Development
- Test
- Production



If you have an indexed sequential production system, you may only require two environments.

If you operate The Solution Series on a relational database environment, we encourage you to set up an RDB test environment, in addition to the indexed sequential test environment. This is because, once installation has been completed, RDB users must perform additional steps to create their database and populate tables.

We encourage you to set up additional environments if needed (for instance, set up a migration environment on which to perform your customization upgrades, in addition to the test system).

The Solution Series software components take advantage of a wide variety of host platforms, workstations, and communications protocols. The access configuration of each workstation on a network accessing a host system can be customized based on the

environment's particular needs. Within these environments, you can set up a variety of ways to access the environment.

System-wide defaults

As you prepare to set up your environment(s), you should consider the system-wide default options that you may need to establish.

The System Options (SCOPTS) form is used to help you establish system-wide default options, such as user code valid timespan, production version setting, an alternate language (German or Spanish), and so forth.

Access to the System Options form is limited to your Security Officer.

☞ *Refer to* **Security Considerations** *(on page 97) for more information about the System Options form and setting up these options.*

Configuration options

For The Solution Series application(s) to operate, the programs need to know the location(s) of these installed files:

- System Control Repository
- Employee Database

Security sign-ons and the Security Officer Profile

Special attention should be given to the creation of the security records. It is very important that you establish your security as soon as possible after the installation has been completed.

Security violations are logged on the system and should be viewed regularly by your Security Officer.

You need to set up the security sign-ons and change the default Security Officer's profile for your environments. You need to consider who will need access to The Solution Series, what information they will require access to, and at what organizational level.

☞ *Refer to* **Security Considerations** *(on page 97) for additional security information.*

The importance of backing up your data

Immediately following the installation of The Solution Series, you should backup all installed files, saving the original environment. You must retain this backup for future reference, along with the media that the installer brought for the installation.

You can use the Backup utility (BACKEM) and then run a Pay Extract (PAYXTR) to produce a P20 file.

☞ *Refer to* **Using the Backup and Restore Utilities** *(on page 237) for information on backing up the system.*

Recording your system changes

Recordkeeping or logging all the changes, fixes, and enhancements to your original source code on a regular basis is very important. This recordkeeping can be done in the change files (called override files) or in a logbook. Either way, by keeping these records using a consistent method, you create an audit trail that can then be reconstructed and applied during catastrophic recovery, or when you receive fixes or upgrades to the software.

☞ *Refer to* **Identifying Problems and Applying Temporary Fixes** *(on page 205) for information on override files and applying supplied temporary fixes.*

Modification of model execution scripts

When your Solution Series was installed, the installer used execution scripts to guide the installation for your environments. These execution scripts are delivered with your system and are available to you at all times. These are model execution scripts and must be modified to run at your site.

Most importantly, you will need these execution scripts to further modify the files for re-installation or for maintenance of the software. You will also need these execution scripts to execute special utilities and programs for your system.

Detailed Directions

This section provides detailed directions on completing a business task.

Tasks

Determining what synchronization errors exist..... 92
Estimating table space sizing 92
Correcting invalid data..... 93

Determining what synchronization errors exist

The program RDBPGM2 compares the Employee Database (Master File; FILE02) and the indexed tables to the relational data tables to identify any synchronization problems.

Execute the following:

INPUT	FILE01 FILE02	System Control Repository (Control File) Employee Database (Master File)
OUTPUT	FILE03	Audit/Message File
EXECUTE	RDBPGM2	

Note: When compiling RDBPGM2, you must link to the subroutines RDBPGMG, RDBPGMH, and RDBPGMB.

Estimating table space sizing

The program RDBPGM3 gathers information to be used in sizing a relational database.

Execute the following:

INPUT	FILEIN1	current P20 file
OUTPUT	FILEOT1	80 character output file
EXECUTE	RDBPGM3	

Note: When compiling RDBPGM3, you must link to the subroutine RDBPGMH.

Correcting invalid data

The program RDBPGM4 verifies data types of the P20IN file to be loaded into the relational database.

Execute the following:

INPUT	FILEIN1	current P20 file
OUTPUT	FILEOT1	new P20 file
EXECUTE	RDBPGM4	

Note: When compiling RDBPGM4, you must link to the subroutine RDBPGMH.

Review of Questions answered

1. What preparation is involved for this installation?

2. What are the installation hardware and software requirements?

3. Who does the installation?

4. What is installed?

5. How many environments need to be set up?

6. What are the configuration options?

7. How are error messages to be handled?

8. Are there any modifications that should be made immediately following the installation?

9. What are the post-installation security issues?

CHAPTER 5

Security Considerations

In This Chapter

Introduction 98
The Solution Series security features and setup 99
Security Officer Profile 101
Reporting Administration Security Considerations 102
eCyborg Interactive Workforce Security Considerations 103
Review of Questions Answered 104

Introduction

This section addresses important topics related to security considerations for eCyborg or The Solution Series applications in your environments.

Security is a high priority and important part of system management. The Solution Series security features provide capabilities to control your company's system security at multiple levels, ensuring only authorized access to sensitive information online or in batch processed jobs.

The Solution Series security features are based on the premise that an individual employee, the Security Officer, has full responsibility for establishing, controlling, and monitoring all levels of security and access. Any attempted breach of security is immediately logged in the Security Violation Log that is available only to the Security Officer.

A security hierarchy must be defined by the Security Officer. This consists of determining which forms and data will be accessible to whom and which employees will be given update versus inquiry-only access or privileges to the system. These concepts are addressed in the information that follows.

Questions answered in this section

This section answers the following questions:

1. How can security be applied to special areas in The Solution Series system?
2. How many levels of security should be set up?
3. What are the responsibilities of the Security Officer?

The Solution Series security features and setup

The security features discussed in the information that follows focuses on areas and types of The Solution Series system security.

Areas of security

The Solution Series provides you with capabilities for applying security to data in these areas:

- **System entry**—An assigned, valid password and user code are required for entry.
- **Access mode**—You can assign a password that has update and inquiry-only capabilities or restrict it to inquiry-only.
- **Control 1-2**—You can allow users access to all, one, or selected organizations (Control 1-2s) on your Employee Database.
- **Tax Records**—Only authorized users can access records used for tax calculation in Payroll Administration.
- **Employee Records**—You can allow or limit access to all or specific groups of employee records.
- **Forms and programs**—You can allow or limit access to all or specific groups of forms and programs.
- **Fields**—You can restrict users from updating and/or viewing specified fields on the Field Name Table. Doing so also restricts them from RELOADing a form containing a restricted field.
- **Alternate Keys**—You can allow or limit access to all or specific Alternate Keys when processing a QUERY.
- **Delete This Entry**—You can prohibit the use of Delete This Entry—a function used for deleting a segment occurrence.
- **Objects and utilities**—You can restrict access to selected objects used with the COPY, DISPLY, EDIT, EXPORT, and PURGE utilities.

☞ *Refer to the Setting Up and Maintaining Security guide for additional information about establishing user-defined security.*

eCyborg security

Browser-based access does not mean that any employees who learn the URL for eCyborg can access the system—the same security required to access the system from the Administrative Client is required to access the system from the Web Client.

Third party reporting security considerations

Currently, third-party reporting tools offer their own layers of security, which must be configured in addition to the security features offered by The Solution Series.

☞ *Refer to Setting Up and Maintaining Security documentation for additional information on third party reporting security considerations.*

Security setup

There are three levels of security access:

- complete
- inquiry only
- none

These levels apply to the company and employee information. The Security Officer can control access to forms and programs in a very similar way. Access to forms and programs can be set for inquiry-only or no access at all.

To fine-tune this security, the Security Officer can control access to the actual fields that appear on the forms. This access can be set to full access for all the fields, no access to any field, or inquiry-only access to specified fields. Form, program, and field access relate to each other.

For example, if the Security Officer gives a user inquiry-only access to a form, the user can see the fields but cannot change them. If the user is given full access to a form, the user can see the fields and change them.

The Solution Series system has over 5,000 fields. If you think you want to fine-tune the security on a form by form basis, you should consider the on-going maintenance involved for the Security Officer with the security hierarchy.

Security Officer Profile

Security is established and maintained by an appointed employee, referred to as the Security Officer, in your company. The Security Officer is the person responsible for maintaining the security hierarchy.

The Security Officer's special operator ID permits unlimited access to the system, including all security features. A Security Officer Password, User Code, and Operator ID are delivered under separate cover.

Note: The Security Officer's user code never expires.

The Security Officer's password and user code can be changed, but the original operator ID must be kept on the Security File. If it is not, access to the Security File will be denied and replacement of records or establishment of new records will not be possible.

Security Officer Profile program

The Security Officer Profile program provides an inquiry-only display of all operator IDs, passwords, and security authorization values. Only the Security Officer can view all the records or request the display of a selected security authorization code or an operator ID.

Recommendation

Be sure and appoint a backup Security Officer who will work along with the appointed Security Officer, in the event of the primary Security Officer's absence. You should contact your account manager for details about registering your appointed Security Officer and backup, however this may be done when your contract is established.

As soon as you have designated your Security Officer and backup person, you should give that information to us. You should encourage your Security Officer and backup person to communicate often, so there is no gap in the security responsibility with your system. If they need assistance, phone support will be given as long as you have supplied proper identification for their Security Officer and backup position. There is very limited online Help for Security tasks.

Reporting Administration Security Considerations

While The Solution Series provides multilevel security, your Security Officer should be aware of some additional security issues raised because of Reporting Administration.

File level and operating system level security

Additionally, you need to use your standard operating system security to make sure only those authorized to do so can move or copy the files resulting from the extract process.

For example, you may decide that for your implementation, you only want an assigned database administrator to have edit authority over the Data Mart Extract File (FILE36) and only a system administrator to have the authority to move or copy files from the server.

Data mart security

The security facilities provided by Impromptu do not protect the database. If a user can access the database through Impromptu, that user can also send straight commands to the database. You should therefore consider setting up database security on your information, as well as through Impromptu user classes.

You may wish to ensure the security of the data-mart resulting from the extract process. These tables are located on the server after the extract/import operation is complete. Once created, you can move these tables anywhere. If they remain in the server at the location they were extracted to, they will be overwritten each time an extract is performed, which means these files (if not moved) always contain the most current extract data.

Note: *Discuss the implications of moving the data-mart from the default location on the server with your database administrator.*

Note: *If you move the data mart from the default location on the server, be sure the catalog on the client computer accesses the database in its new location.*

Cognos Impromptu

Cognos Impromptu provides a security scheme that allows the Security Officer to assign different information access privileges to different user classes. Security within Impromptu is handled by Impromptu.

Cognos PowerPlay

The power cube can be compiled in such a way as to allow different user classes to view different levels of information.

eCyborg Interactive Workforce Security Considerations

Because the eCyborg Interactive Workforce provides another means of accessing employee and company data within The Solution Series, it is necessary to secure this access in addition to regular Solution Series security.

To protect confidential information, Interactive Workforce has been installed with Secure Socket Layers (SSL).

Since SSL was implemented at installation, there is nothing more you need to do as an Administrator.

☞ *Refer to the Setting Up and Maintaining Security documentation for detailed information about eCyborg Interactive Workforce security.*

Review of Questions Answered

1. How can security be applied to special areas in The Solution Series system?

2. How many levels of security should be set up?

3. What are the responsibilities of the Security Officer?

PART 3

Implementation

In This Section

Customization....107
Data Conversion and Load....163
Migration to Production....189

CHAPTER 6

Customization

In This Chapter

Introduction 108
The customization process 110
Interface considerations 113
Utilities for customization 116
Naming Conventions 121
Organization Control Numbers and the Company Validation Table 122
Reporting considerations 123
Adding user segments 124
Letter communication event considerations 125
Backup recommendations 126
PAYXTR and PAYMRG 127
Relational considerations 130
HR Job Code table (TA-SCR) and verb processing 134
Custom programs that find salary data 135
Detailed Directions 136
Review of Questions Answered 161

Introduction

This section addresses important topics related to customizing The Solution Series.

Customization of The Solution Series is the first phase of the implementation process, followed by data conversion and load, and migration to production. As the system administrator, you play a key role in the customization of your Solution Series system.

Implementation planning considerations

Your Installation and Implementation Project Plan will help you manage the installation and implementation of The Solution Series. This plan outlines the steps you need to consider and need to perform to install the system and bring it to production. It also gives the approximate times for completing the tasks.

All components in The Solution Series use a common architecture, allowing the Payroll, Human Resource Administration, and Time and Attendance applications to interact in a number of ways. You should discuss with your account manager the components you intend to implement and when, so these interactions can be taken into account at the beginning of the project.

There are several topics that you should be aware of to perform a successful implementation of The Solution Series. These topics include:

- What you must do to prepare for the system installation
- The minimum hardware and software required
- Concepts and terms with which you should become familiar
- Preliminary activities you will have to complete in preparation for implementation

Preparation for The Solution Series system installation and minimum hardware and software requirements are discussed in detail in the ***System Overview*** (on page 13) and ***Setting Up Environments*** (see "Installation Considerations" on page 77) sections.

Tasks

The tasks you will complete to customize The Solution Series system will vary by site. This section will help you identify which tools and utilities you need to accomplish a task. This section provides detailed directions for the following tasks:

- Use the online DISPLY utility
- Use the COPY utility
- Use the List Control File Records (DSP01) utility
- Use the System Control Repository editor (EDIT)
- Use the record delete (PURGE) utility
- Use the EXPORT utility
- Update the System Control Repository (MAINTI)
- Creating a Difference File (MAINTO)
- Use the List Employee Data Records (DSP02) utility
- Get a form for input into Form Builder (GETSAT)
- Insert a revised SAT form into The Solution Series (PUTSAT) online
- Use background processing to load the revised *.SAT file
- Use the Pay Extract (PAYXTR) utility
- Use the Pay Merge (PAYMRG) utility
- Add user application tables to the System Control Repository and the relational database
- Add a new Organization Control Number to the Company Validation Table

Questions answered in this section

This section answers the following questions:

1. What customization options are allowed by The Solution Series system?
2. What utilities are provided to assist with the customization?
3. What standard naming conventions need to be applied in customizations?
4. What is the importance of adding an Organization Control Number to the Company Validation Table?
5. What reporting considerations should be addressed?
6. When should the system be backed up if customizations are made?
7. What additional customization considerations exist for relational customers?

The customization process

During the customization process, the implementation team will assess what has been delivered with The Solution Series and what needs to be done to tailor the system to meet specific needs.

As a system administrator, you will be called on to implement some of these customizations. This section provides you an overview of what can be customized and how to implement customizations.

Customization categories

Customizations can be put into the following categories:

- Navigation customization options
- Other user interface customization options
- Programming customization options (forms, reports, and so forth)

Personalizing the work area

The Solution Series provides you with the ability to personalize the system to match the way you work. There are several ways you can personalize the work area:

- Layout of the work area—what is displayed in the work area and on the status bar
- Display—how messages, menus, and icons are presented
- Forms—how forms look and work
- Updating—when local tables, if used, are updated
- Letters—when and how communication event letters are printed

☞ *Refer to Using the Solution Series: Administrative Solutions for details on personalizing your work area.*

Navigation customization options

Much of the system navigation can be customized to suit the preference of users. For example, users can customize:

- Checklists
- Bookmarks (and Favorites)
- Toolbars

☞ *Refer to the Using The Solution Series: Administrative Solutions document to familiarize yourself with these concepts.*

- Menus
- Option lists

Other user interface customization options

More complex changes can be made using the following tools:

- Form Builder
- Virtual (variant) Forms Facility

FormBuilder

Form Builder is a form-painting and design tool for customizing form displays and functions. Some of the options available to you in Form Builder are the ability to perform the following:

- Modify the form display to remove a text box
- Highlight areas of the form by making backgrounds different colors
- Replace form prompts with an alternative language, such as Spanish
- Move grouped items to another form location using the Lasso feature

☞ *Refer to the Online Cyborg Scripting Language/English Language Programming guide for detailed information about FormBuilder.*

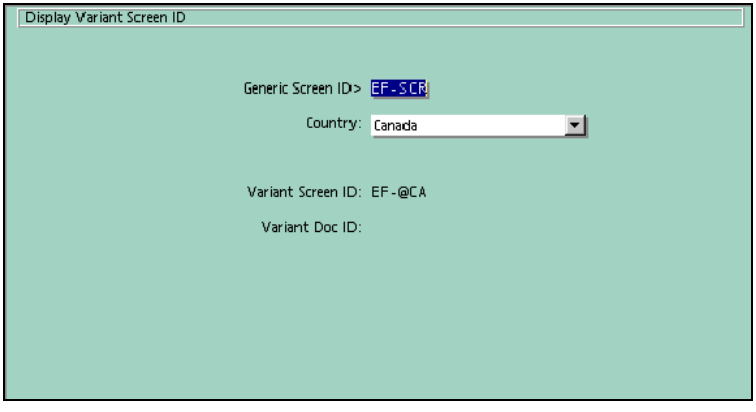
Virtual (Variant) Forms Facility

Virtual (variant) forms are used to permit multiple versions of the same form to be stored on a single System Control Repository, based on the country code of the organization. It allows country differences to be held as a variant ID record.

For example, if the delivered generic form does not meet the needs of a particular country in which your organization operates, The Solution Series system holds the country variation of that form as well as the generic version. You can add, change, or delete variants for a country. You can view the variant form ID established for a specific country by accessing the Display Variant Form ID form (VSXSCR).

To view all variant IDs by country for a selected delivered form, access the View Variant Forms by Country form. Variant ID records can also be changed and deleted.

The following View Variant Forms by Country form shows an example of the variant forms for the Employee Information form:



Programming customization options

Programming customization options are those that require Cyborg Scripting Language programming to achieve. Most clients make the following types of programming customizations:

- Modification of reports
- Addition of reports
- Modification of online queries
- Addition of online queries
- Modification of delivered forms
- Creation of new forms

Interface considerations

There are input and output interfaces that need to be considered during the customization process. Interfaces handle data coming into and going out of The Solution Series system, therefore it is necessary that the interfaces work well with your system. The types of interfaces to consider are the following:

- Existing
- Delivered

Existing interfaces

You should identify the interfaces and the responsibilities of each existing interface. For Human Resources, consider the front-end maintenance. For Time and Attendance Administration, consider how time entries are made.

Delivered interfaces

Delivered interfaces fall into two categories—general ledger interface and third-party interfaces.

General ledger interface

Payroll Administration can provide a journal entry file that may be modified to meet the specific needs of your general ledger system. This file is normally created following a pay run. It contains monetary amounts summarized by general ledger account number. In addition, you may create a debit and credit summary report.

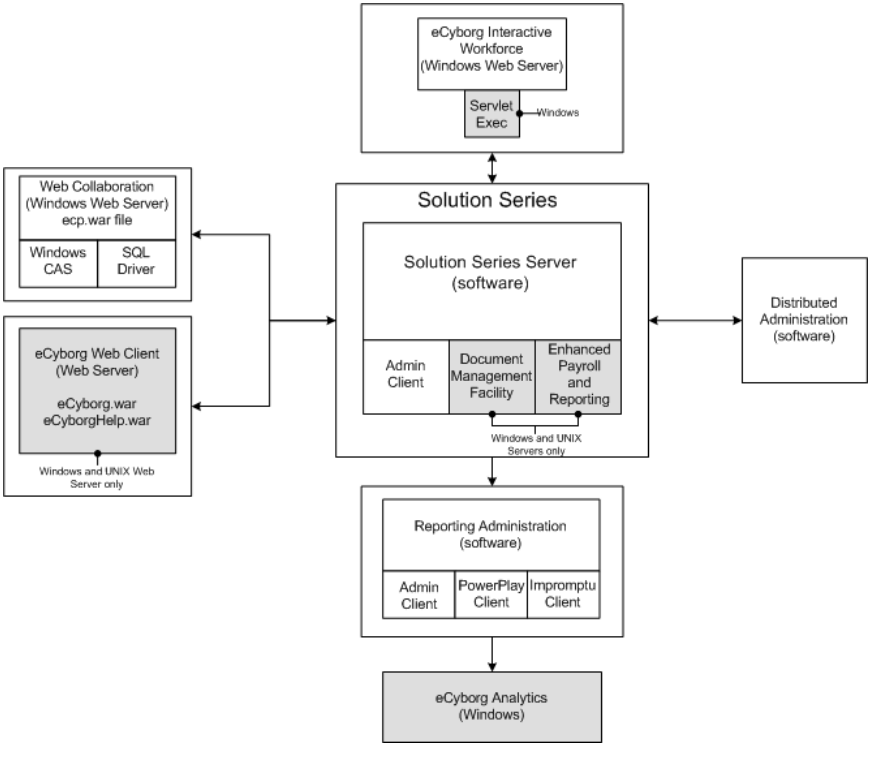
Third-party interfaces

Identify if you are using general ledger interfaces, other than the delivered interface. The third-party interfaces offered will, understandably, vary by country.

eCyborg Collaborative Platform

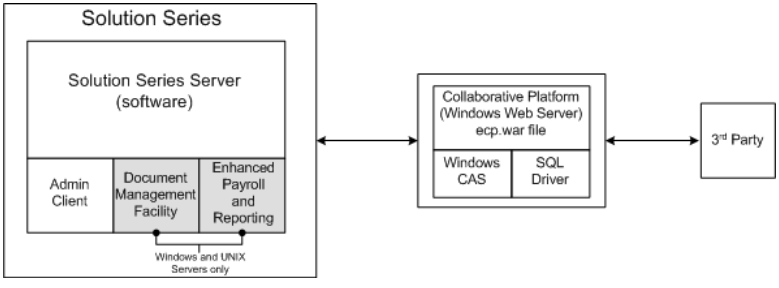
The eCyborg Collaborative Platform is a web application. It provides standards-based access to Solution Series data through a Simple Object Access Protocol (SOAP) interface using XML data schemas. It is a central component of the eCyborg application and is one of the most important interfaces to access employee data.

The following diagram presents the conceptual relationship of eCyborg products and the role that the Collaborative Platform plays in the relationship:



Although eCyborg offers extensive functionality for employees and Human Resources departments, the Collaborative Platform provides a standard access mechanism for outside applications needing employee data.

The Collaborative Platform allows other (3rd party) applications to interface real-time with eCyborg.



Utilities for customization

Many utilities help you customize your Solution Series applications. Each of these utilities is introduced in relation to an appropriate task. The following table describes the utilities.

☞ *Refer to* **Program and Utility Quick Reference** *(on page 617) for a list of utilities and where to get detailed information.*

System Control Repository utilities

Utility	Description
COPY	COPY is used to duplicate a specified System Control Repository record type to a new name. You must use the COPY prompt form to make your entries.
DISPLY	DISPLY is used to view a specified type of System Control Repository record online or in a printed report.
DSP01	DSP01 lets you view all record types in the System Control Repository except security and object code records (object P/X). DSP01 also provides a count of the total number of object code records for each module in the System Control Repository.
EDIT	The EDIT program is used to create and maintain the System Control Repository records.
EXPORT	EXPORT extracts all or selected records of a specified object (record) type from the System Control Repository. It writes these records to FILE10 that can be printed. EXPORT is a batch program that produces an output file of the selected records.
GETSAT	GETSAT copies the internal Screen Appearance Table for a specific form to a SAT file that can be edited using Form Builder.
Maintenance In (MAINTI)	The Maintenance Input (MAINTI) utility is used to apply maintenance to the System Control Repository during installations, updates, and moving data from test environments to production. To execute MAINTI, you must provide a control record as FILE04 and the maintenance changes in FILE05.
Maintenance Out (MAINTO)	The Maintenance Out (MAINTO) utility is used to produce a file list that identifies changes made to your production System Control Repository by comparing it to a previous version of FILE01. It writes modified records to FILE10 for re-applying to the System Control Repository using MAINTI. The MAINTO process is also used to gather and re-apply user modifications when a new version or update of the system is released. To execute MAINTO, you must provide a control record as FILE04.

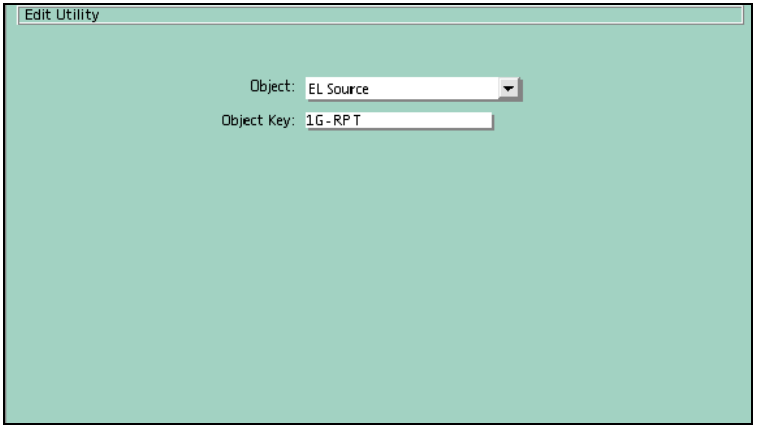
Utility	Description
PURGE	The Purge Utility (PURGE) allows you to delete selected records, of a specified object type, from the System Control Repository.
PUTSAT	The PUTSAT program updates the Solution Series Form Appearance Table file, runs the GENER8 program to create the form appearance logic, and runs the RELOAD program to compile the form code.

Edit Utility

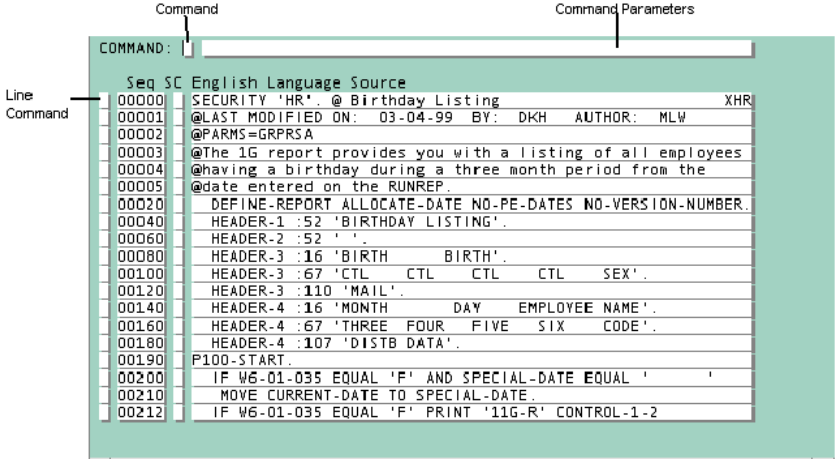
The Edit Utility (EDIT) is a full-form editor that is used to create and maintain System Control Repository records. To edit records, you must select an object and enter an object key:

- Object—Each System Control Repository (FILE01) record type is assigned a one- to three-character Object.
- Object Key—The Object Key value is the name of the System Control Repository (FILE01) record you want to edit.

The following example shows the Birthday Listing (1G-RPT) being edited.



The resulting form appears with the selected System Control Repository record's object ready for editing. The layout of the form and the data depend on the object you selected.



There are two types of commands that you can use while editing records. Where you enter the command depends on the type of command. To add, change, or delete a single line, type an "A", "C", or "D" in the appropriate Line Command text box. Change or add the record directly in the text boxes on the same line as the Line Command text box.

All other commands are entered in the Command text box at the top of the form. Command parameters are entered in the text box that follows the Command text box. The following table lists the available commands:

Command	Parameter(s)	Description
A		Auto Add Mode
B		Backup 19 lines
C	/STRING1//STRING2/ /STRING1//STRING2/1	Change all STRING1 to STRING2 Change 1 STRING1 to STRING2
D	/00220,00240,00530 00220/00350	Delete specific lines Delete range of lines
E		End Auto Add Mode
F	/STRING/ /STRING/1	Find all lines with STRING Find one line with STRING Wildcard character "=" can be used in all but first position
G	nnnnn	Go to sequence number nnnnn
H	00220/00350	Hold range for inserting (I) or transferring (T)

Command	Parameter(s)	Description
I	00205 00205/005	Insert held range, increments of 10 Insert held range, increments of 5
K	MYFILE	Key change, from file you are editing to the specified file
L		Turn logging on/off
M	n	Mini display to n number of lines Mini display off (no parameter)
N		Next form.
O	XXXMYFILE	Object change to object XXX and file MYFILE
P	nnn	Paragraph locate label Pnnn
Q		Quit The Solution Series (3.0/4.0 only)
R		Reload or compile source code
S		Resequence lines in increments of 100
T	nnnnn nnnnn/050	Transfer Held range to line nnnnn Transfer Held range to line nnnnn, incrementing by 50
U	ALL	Undo last add, change, or delete Undo all edited lines and turn off logging
X	program code	Execute program

Note: If you are customizing using the CSL (Cyborg Scripting Language) and have logic errors, you may want to use the TRACE utility either online or in background mode to help resolve them.

Employee Database utilities

Utility	Description
Displaying Master File Records (DSP02)	DSP02 lets you view the first 76 positions of each record in the Employee Database.
Pay Extract (PAYXTR)	Creates a sequential Batch Master File and extracts time entries and adjustments from the Employee Database. All or selected organizations may be included.
Pay Merge (PAYMRG)	Uses a sequential Batch Master File to update or rebuild the online Employee Database.
CASE Tool (RDBPGM0)	The CASE (Computer Aided Software Engineering) tool rebuilds the relational database and creates DML and DDL.

Naming Conventions

Before you begin customization of your Solution Series system, you need to be aware of established standards for naming the following types of records:

- Field names
- Program names
- Cyborg Scripting Language verb names
- Module codes
- Table codes
- Alternate keys
- Option list (codeset) names
- Employee segment codes
- Company segment codes
- "Other" records
- Error message numbers
- File numbers

The naming standards have been categorized into four groups—general, product release, consulting, and customer. These standards apply to all current and future releases. All employees and customers should follow these standards; doing so will ensure a seamless implementation.

A Naming Administrator keeps a current list of new programs, option lists, employee segments, company segments, and files requested for all offices, subsidiaries, and agents. All user-defined names for fields, programs, Cyborg Scripting Language verbs, and tables must begin with the letter "X".

☞ *Refer to* **Naming Conventions** *(on page 591) for additional information about naming conventions.*

Organization Control Numbers and the Company Validation Table

Typically, application end users add organizations (Organization Control Numbers/Control 1-2s) online.

After these companies have been added online to the Employee Database, their Organization Control Number values must be added to the Company Validation Table (RPT20; system generator R.RPT20). This enables the P2EDIT program and the Calculate Pay (PAY-CP) form to recognize a company added online.

Organization Control Numbers are added to the Company Validation Table using an override transaction.

☞ *Refer to the Implementation Essentials documentation for information on updating the Company Validation Table.*

Reporting considerations

This section covers considerations for reporting.

Delivered reports

There are two types of delivered reports: report generator (RG) and Cyborg Scripting Language (CSL).

Report generator reports

Report Generator (RG) reports are only applicable to the Payroll application. Most of the standard reports produced from the batch payroll process are batch RG reports. These can be modified using the report generator language or by contracting with consultants.

Cyborg Scripting Language reports

A number of CSL reports are delivered as part of the base system. You can modify any of these CSL reports, provided you have the proper security profile. In addition to modifying existing reports, you can also add new CSL reports designed to your specification.

It is recommended that any program that needs modification be copied and renamed. This ensures that delivered changes can be applied with a minimum of difficulty. The new name should begin with an "X"; for example, the 1A-RPT should be renamed to X1ARPT before customizing it. There are two methods of adding or modifying a CSL report:

- Use the CSL programming facilities. This method requires CSL programming knowledge.
- Use the Solution View WRITER facility. This method requires no programming knowledge. The Solution View WRITER facility can only be used to modify reports that were originally written using this facility. This does not include the CSL reports delivered as part of the install.

Impromptu

The Impromptu tool is an integrated part of Reporting Administration. It simplifies on-request reporting for extracted data extracted.

Impromptu uses catalogs, LAN-based repositories of business knowledge and data-access rules, to allow you to capture and report on information without having to know SQL syntax or understand cryptic field names. The data in the catalog is organized for business use, as well as for system efficiency.

Adding user segments

The New Fields Definition program, NEWSCR (in Solution View), should be used to create user segments. This permits CBSV to dynamically build the relational structures needed to contain the user segment information in the relational database.

In a relational environment, NEWSCR not only builds new forms, but calls a Cyborg Scripting Language program, NEWTAB, that generates dynamic SQL to create the new table for storing the new segment's data.

When adding user-defined segments to the system, users must complete the following tasks to ensure the data dictionary has the information required by the CASE tool to generate the necessary DDL and DML statements:

Type of data being added/modified to user-defined data	**Tasks**
Employee Database organization or employee	Add new segments using NEWSCR or Code form-access statements in Cyborg Scripting Language.

New segments defined through NEWSCR produce F, RFM, and RFT records that are used to create dynamic SQL for the creation of the new table and subsequent data manipulation. The online application uses dynamic SQL to access data.

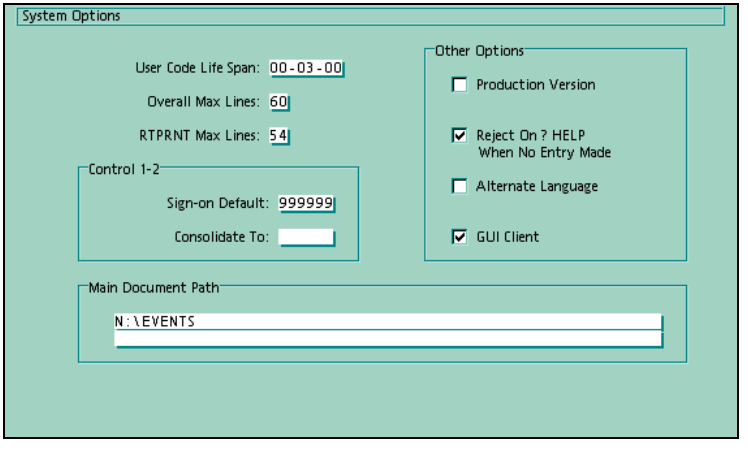
☞ *Refer to* **Performance Tuning for Relational Databases** *(on page 355) for information on converting dynamic SQL to static SQL.*

Letter communication event considerations

Document templates are created when a letter or email communication event is set up. These templates contain the body of the letter or email, which can include text and Solution Series merge-data information:

- lettereventname.doc
- lettereventname.dat
- emaileventname.txt

Where the templates are stored is important. The default location is specified by the "Main Document Path" text box on the System Options (SCOPTS) form. The following example shows the default location for letters on the N drive in the Events directory:



Communication events that will be used by multiple users should be stored on a network drive. This allows any user who might trigger the event, either manually or automatically through an action or condition, access to the templates.

Note: *The user can override the default location for only the letter templates using the Options dialog. After the letter communication event is set up, the template files (lettereventname.doc and lettereventname.dat) would have to be copied from the network drive to the user's PC to the override location specified on the Options dialog.*

☞ *For more information on the user Options dialog, refer to the Using The Solution Series: Administrative Solutions guide.*

☞ *For more information on setting up communication events, refer to the Optimizing System Features guide.*

Backup recommendations

Back up your system prior to and following any customization. We can help you recover your data if you follow the recommendations for backing up your data.

☞ *Refer to* **Setting Up Environments** *(see "Installation Considerations" on page 77) and* **Using the Backup and Restore Utilities** *(on page 237) for more specific information about backing up your system.*

PAYXTR and PAYMRG

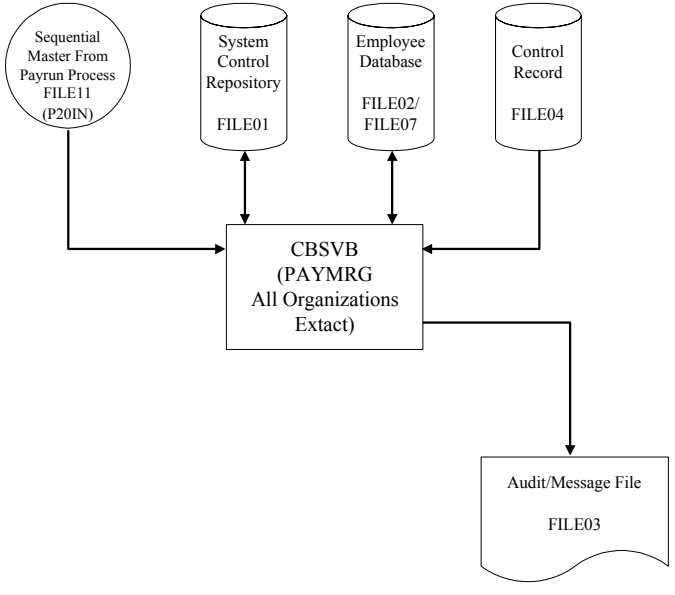
Two programs, PAYXTR and PAYMRG, are used to create a sequential master from your online Employee Database. You can then create a new online Employee Database from the sequential master. You will use these programs in the following situations:

- As part of the normal payroll cycle
- When Report Generators are being added, changed, or deleted
- To clean up and reorganize your Employee Database if you do not use Payroll Administration
- To recreate the relational database anytime you add a new table or modify an existing table
- To reset session numbers (1–9949 for Solution Series sessions and 9950–9999 for Interactive Workforce session pooling)

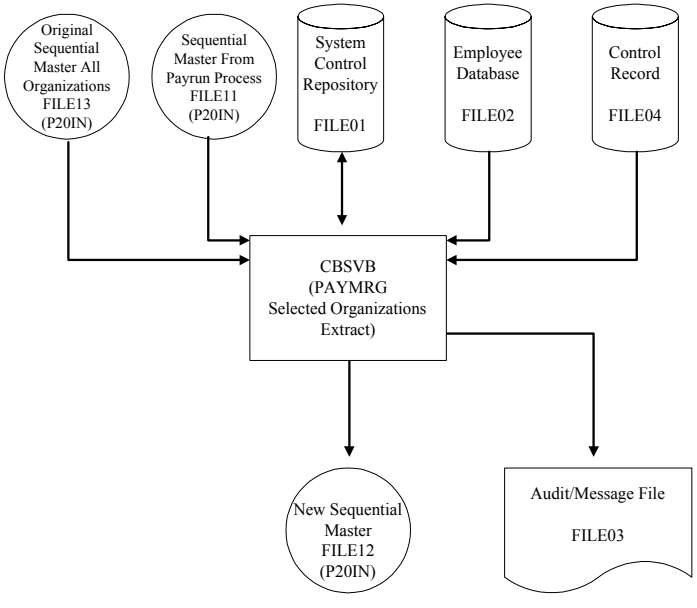
Note: *If you are using The Solution Series Payroll checklist, do not run PAYXTR and PAYMRG separately.*

If you are using the Payroll checklist, you can only pay ALL the companies. If a Selective payrun needs to be done, run a batch job using jobstreams and do not use the Payroll checklist.

The following figure shows the flow of Pay Merge when used for all organizations:



The following figure shows the flow of Pay Merge when used for selected organizations:



Relational considerations

Users of the relational version of The Solution Series should consider the following:

- When to rebuild the database
- Customization of delivered relational database tables
- Addition of new relational database tables
- The CASE tool
- FILE05 in a relational environment

When to rebuild the database

The database must be rebuilt under the following conditions:

- A new company or employee data segment is added outside of the NEWSCR process
- An existing company or employee data segment is modified by adding new fields to the segment or changing the name or definition of an existing field
- A new user application table is added to the System Control Repository
- An existing application table on the System Control Repository is modified by adding a new field or redefining an existing field

Customizing delivered relational database tables

The Solution Series is delivered with numerous relational tables. If you need to store additional information, add a new segment (table), rather than modifying the delivered relational tables. If you do modify one of these tables, you must make your modifications first to the System Control Repository. The changes must then be exported as input to The Solution Series CASE tool (RDBPGM0).

☞ *Refer to* **Relational Tables and Views** *(on page 527) for a complete list of the tables and views delivered with the system.*

Addition of new relational database tables

You should use the New Fields Definition (NEWSCR) program to add user segments. This permits CBSV to dynamically build the relational structures needed to contain the user segment information in the relational database.

If you are using SQL Server, the method described above will not build all the menu and view records for the table for you. You must establish menu records and view names, and then recreate the database.

CASE tool

The CASE tool, RDBPGM0, is a delivered COBOL program that generates the data definition language (DDL) to define the relational database and tables (with associated indexes and views) from The Solution Series data dictionary.

In addition, it generates the data manipulation language (DML) to process the data within these tables. All generated DDL and DML use embedded, static SQL.

When to use the CASE tool

After the installation, you will use the CASE tool after you perform the following:

- Complete modifications to existing data definitions
- Alter a delivered table, create a new table, or drop a table
- Convert generated dynamic SQL to static SQL

Because the precompiling and compiling of the DDL and DML are done on the database server, all SQL is *native* to your particular RDBMS.

RDBPGM

RDBPGM is a repository for programs RDBPGM0, RDBPGM2, RDBPGM3, and RDBPGM4. Use the delivered job JPUL_RDB if you need to extract these programs.

Program/subroutine descriptions

The following table lists and describes each program and subroutine generated by the CASE tool:

Program	Description
RDBPGM1	The program (UNIX) or script (Windows and z/OS) generated by RDBPGM0 that contains the data definition language (DDL) statements to create tables, indexes, and views.
RDBPGMA	The subroutine that handles inserting a new row in a table.
RDBPGMB	The subroutine that handles selecting data from a row in a table, and passing it to CBSV.
RDBPGMC	The subroutine that handles updating values in an existing row.
RDBPGMD	The subroutine that handles deleting an existing row from a table.
RDBPGME	The subroutine called when a PAYMRG 171 process is run for all organizations. It removes all rows from all tables in preparation for reinsertion of data from the P20 file. It also disables then re-enables all indexes (where applicable).
RDBPGMF	The subroutine called when a PAYMRG 222 process is run for selected organizations. It deletes all rows from the appropriate tables that belong to the organization(s) being paid.
RDBPGMG	The subroutine that cursors through the database and rebuilds the IDX records on the database.
RDBPGMH	The subroutine that provides segment and segment key length for each segment and location of dates and date type within each segment.

Files

The following files are used by the CASE tool:

File	Description
RDBPGMX	A file created from the data dictionary. The contents are used to generate the CREATE TABLE statements in RDBPGM1.
RDBPGMY	A file created from the data dictionary. The contents are used to generate the CREATE VIEW statements in RDBPGM1 and all of the DML statements in RDBPGMA through RDBPGMG. This file is also used to create the COBOL subroutine RDBPGMH.
RDBPGMZ	The file containing only CREATE TABLE statements that support the data model.

Additional programs

The following table lists and describes additional programs used in the relational version:

Program	Description
RDBPGM2	Determines what synchronization problems exist between the database tables and the Employee Database.
RDBPGM3	Reports the number of entries per segment/table for a P20 file.
RDBPGM4	Corrects invalid data (date and decimal) on a P20 file.

Data dictionary and DDL/DML

The Solution Series data dictionary, the Field Name Table (F records) and Field Table Menu (RFM records), serves as the basis for the generation of all DDL and DML The data dictionary contains information about each field used in the system. All option lists and certain application tables from the System Control Repository are replicated into relational tables. All Employee Database record segments are stored in relational tables.

DML subroutines and CBSV

Once the relational tables have been built using the generated DDL statements, the generated DML statements are used in application processing.

Note: The Solution Series CBSV programs execute I/O requests on behalf of the Cyborg Scripting Language application programs. When an application makes a request for data, CBSV makes a call to the appropriate DML subroutines.

The following scenario illustrates the connection between the DML subroutines and CBSV:

1. The application makes a request to CBSV.
2. CBSV calls the applicable DML subroutine.
3. The DML subroutine makes a request to the RDBMS to execute the SQL to satisfy the request.
4. The RDBMS passes the return code and data (if applicable) back to the DML subroutine.
5. The DML subroutine passes the return code and data (if applicable) to CBSV.
6. CBSV passes the return code and data (if applicable) back to the application.

FILE05 in a relational environment

When running a PAYMRG in a relational environment, you must have a FILE05 defined in the scripts to remove any unwanted records from the database. For example, as individual employees are deleted from the system, you may have left over 'L' segments and History/Labor records. Or, if an entire company is deleted, its records may remain on the database. With a FILE05 defined, CBSVB takes over to do any clean up required. The following sample identifies the appropriate FILE05 entry in the JPAYRUN.BAT and JPAYMRG.BAT:

JPAYRUN.BAT
<Under the first run of P4CALC>
<under P40OUT1..>
SET P05T80=..\work\paymrg.05

JPAYMRG.BAT
<Under SET FILE04=..>
SET FILE05=..\work\paymrg.05
<Under SET FILE11=..>
SET FILE13=..\data\p20in.mrg (this is for the selective merge)

Note: The FILE05 can even be blank, but one must be defined in the scripts.

HR Job Code table (TA-SCR) and verb processing

When using Position Administration, the READ-TA-TABLE verb has been changed to build a temporary virtual TA record in Pointer 40 of working storage. The TA record will contain data from the HR Job Code table (TA-SCR) and the appropriate Job and Position level forms, including the Position Miscellaneous form (M2MSCR). This data allows the Human Resources Administration, Benefits Administration, and Salary Administration components of The Solution Series to function using Job level information entered through Position Administration.

When the READ-TA-TABLE verb is processed for a Job Code table effective date prior to the implementation of Position Administration, the Job Code table records are read in the usual way. If the Job Code table effective date is after the implementation of Position Administration, a temporary virtual TA record will be built in Pointer 40 of working storage.

All programs you have written and customized which read the Job Code table records without using the READ-TA-TABLE verb must be modified to access the Job and Position forms by using the new version of the READ-TA-TABLE verb.

Custom programs that find salary data

All references in your custom Cyborg Scripting Language (CSL) code that find salary data (LZF segment) starting with a date should be modified because of the addition of the Incumbency Number as the primary key of this segment. The old and new code are as follows:

```
Old:    FIND ANNUAL-SALARY STARTING WITH WORK-DATE.
        IF FOUND...
New:    MOVE WORK-DATE TO SALARY-AS-OF-DATE.
        FIND-SALARY-AS-OF.
        IF FOUND....
```


Detailed Directions

This section provides detailed directions on completing a business task.

Tasks

Using the online DISPLY utility 137
Using the COPY utility 138
Using the List Control File Records (DSP01) utility 138
Using the System Control Repository editor (EDIT) 139
Using the record delete (PURGE) utility 140
Using the EXPORT utility 141
Updating the System Control Repository (MAINTI) 142
Creating a Difference File (MAINTO) 143
Using the List Employee Data Records (DSP02) utility 144
Getting a form for input into Form Builder (GETSAT) 144
Insert a revised SAT form into The Solution Series (PUTSAT) online 146
(Optional) Using background processing to load the revised *.SAT file 147
Using the Pay Extract (PAYXTR) utility 148
Using the Pay Merge (PAYMRG) utility 149
Adding user application tables to the System Control Repository and the relational database 152
Adding a new Organization Control Number to the Company Validation Table 155

Using the online DISPLY utility

To display a System Control Repository object, follow these steps:

1. Access the Display Utility (DISPLY) form

Access this form by selecting:

Component: Development Tools
Process: System Control Repository Utilities
Task: List Control Repository Object

2. Select the Object

Select the type of System Control Repository record that you want to display.

3. Type the Object Key

Type the name of the record (program, Option list, field, and so forth), that you want to display in the Object Key text box. A wildcard, "=", may be used for any characters in the Object Key.

4. Select 1st Line Only (optional)

If you want to display only the first line of the record, select this checkbox.

5. Save the form

The System Control Repository record is displayed.

Using the COPY utility

To copy a System Control Repository object, follow these steps:

1. Access the Copy Utility (COPY) form

Access this form by selecting:

Component: Development Tools
Process: System Control Repository Utilities
Task: Copy

2. Select the Object

Select the type of System Control Repository record that you want to copy.

3. Type the Object Key

Type the name of the record (program, Option list, field, and so forth), that you want to copy from in the Object Key text box.

4. Type the Object New Key

Type the new name of the record (program, Option list, field, and so forth) in the Object New Key text box.

5. Save the form

The existing records are copied to the new record name. The following message is displayed:

---Complete---

Using the List Control File Records (DSP01) utility

To list any of the records on FILE01 except security and object code records, follow these steps:

1. Access the Display Control File form

Access this form by selecting:

Component: Development Tools
Process: System Control Repository Utilities
Task: List System Control Repository

2. Enter a key value

Enter "START" to view the file from the beginning or a more specific key, for example, "C AT01" to move directly to a specific record.

3. Press ENTER

Press ENTER to view the record on FILE01.

Using the System Control Repository editor (EDIT)

To edit a System Control Repository object, follow these steps:

1. Access the Edit Utility (EDIT) form

Access this form by selecting:

Component: Development Tools
Process: System Control Repository Utilities
Task: Edit Control Repository Object

2. Select the Object

Select the type of System Control Repository record that you want to edit.

3. Type the Object Key

Type the name of the record (program, Option list, field, and so forth), that you want to edit in the Object Key text box.

4. Save the form

The form appears with the requested object or an error message if the object is not found.

The System Control Repository Editor Form's entry fields are tailored to each record type; therefore, the appearance of the Edit Form depends on the object you selected.

5. Edit the data

Type an "A" (Add), "C" (Change), or "D" (Delete) line command in the first (unlabeled) text box of the Edit form. Type the appropriate data in the remaining field(s). If deleting, no additional data is required.

Optionally, you can enter a command in the Command text box to maintain System Control Repository records. Commands include finding a string, changing a string globally, and going to a specific sequence number. For a list of commands, type "?" in the Command text box. Many of these commands only apply to Cyborg Scripting Language source records.

6. Save the form

The system accepts the data and places your Operator ID in the right margin of all CSL source lines you changed or added. If deleting, the specified line(s) is deleted.

Using the record delete (PURGE) utility

To purge a System Control Repository object, follow these steps:

1. Access the Purge Utility (PURGE) form

Access this form by selecting:

Component: Development Tools
Process: System Control Repository Utilities

Task: Purge

2. Select the Object

Select the type of System Control Repository record that you want to purge.

3. Type the Object Key

Type the name of the record (program, Option list, field, and so forth), that you want to purge in the Object Key text box.

4. Save the form

A confirmation form is displayed.

5. Select Perform Purge

Select the Perform Purge checkbox to confirm purging the object.

6. Save the form

The existing record is purged. The following message is displayed:

---Complete---

Using the EXPORT utility

To extract System Control Repository records, you use the EXPORT utility. You run this utility via background processing as follows:

INPUT	FILE01 FILE02 FILE04	System Control Repository Employee Database Control Record File
OUTPUT	FILE03 FILE10	Audit/Message File Extracted Records File
EXECUTE	CBSVB	

The control record on FILE04 has the following syntax:

In these positions	Enter	Description
23–28	EXPORT	Program name
31–33	Object code	The object code of the data to be extracted
34-40	Object-key of the specific record(s) to be extracted	The first seven positions of the key. To specify more than one record, use an equal sign (=) as a wild card for any character.
41-53	Object-key of the specific records(s) to be extracted	The additional key. Positions 8-20. For example, C/V os the object code for codeset (option list) values.
54	Y	(Optional). Use this if you wish to extract only the first line for each record.

To extract all human resource module option list values, the control record would look like this:

```
         1         2         3         4         5
12345678901234567890123456789012345678901234567890123456789
                     EXPORT  C/VHR===
```

To extract option list values for option list HR32, the control record would look like this:

```
         1         2         3         4         5
12345678901234567890123456789012345678901234567890123456789
                     EXPORT  C/VHR32
```


EXPORT may also be run online.

See also:

- Exporting FILE01 items - online JEXPORT (+params) ***(on page 915)***

To learn how to export FILE01 items using a UK administration script.

Updating the System Control Repository (MAINTI)

To update the System Control Repository, use the Maintenance In (MAINTI) utility.

Execute this utility in the background as follows:

INPUT	FILE01 FILE02 FILE04 FILE05	System Control Repository Employee Database Control Record File System Control Repository Updates
OUTPUT	FILE03 FILE10	Audit/Message File Compile Control Records
EXECUTE	CBSVB	

The control record on FILE04 has the following syntax:

In these positions	Enter	Description
23–28	MAINTI	program name
31	PUB	Ensures a complete input

The System Control Repository Updates on FILE05 have the following syntax:

In these positions	Enter	Description
80	"A", "C", "D", or Blank	The function to be performed: Add, change, or delete. Blank defaults to Add.

See also:

- Loading in FILE01 records - online JMAINTI ***(on page 916)***

To learn how to apply maintenance transactions using a UK administration script

- Running MAINTI, including automatic RELOAD step - online JMNTREL ***(on page 918)***

To learn how to apply maintenance transactions using a UK administration script

Sequential Output FILE10

Compile transactions are output to FILE10 for each program that is updated by the MAINTI updates. These may include RELOAD, RETYPE, RECALC, or REEDIT control records depending on the type of source code maintained.

These transactions can then be used to compile the programs to have the changes take effect.

Creating a Difference File (MAINTO)

To create a Difference File, use the Maintenance Out (MAINTO) utility.

Execute this utility in batch as follows:

INPUT	FILE01 FILE02 FILE04 FILE05	System Control Repository Employee Database Control Record File Sequential backup of original System Control Repository
OUTPUT	FILE03 FILE10	Audit/Message File Difference File
EXECUTE	CBSVB	

The control record on FILE04 has the following syntax:

In these positions	Enter	Description
23–28	MAINTO	program name

See also:

- Comparing FILE01 to delivered DEMO0105 - online JMAINTO ***(on page 917)***

To learn how to use a UK administration script to compare a Sequential Input File (FILE05) to the random System Control Repository (FILE01) to produce a list of records that have been added, changed, or deleted

Using the List Employee Data Records (DSP02) utility

To view the first 76 positions of records on FILE02, use the Display Application File form.

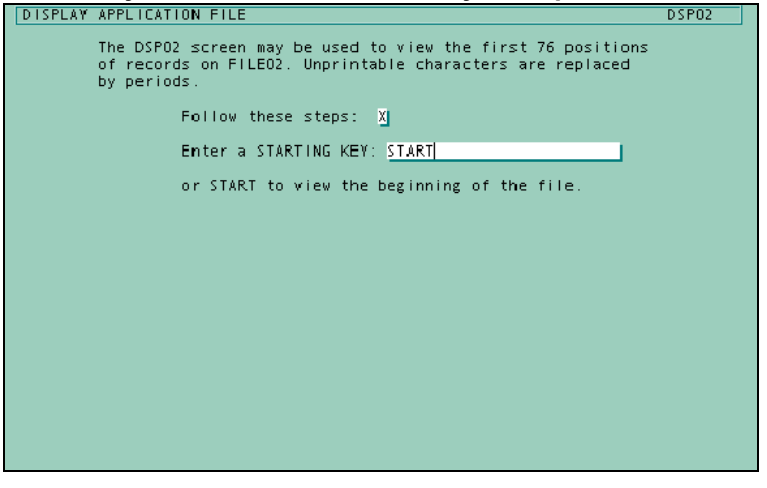
1. Execute the List Employee Database Records utility

You execute this utility by selecting:

Component: Development Tools
Process: Employee Database Utilities
Task: List Employee Database Records

The Display Application File form is displayed.

2. Enter a key value of START or the key of a specific record



3. Press Enter

Getting a form for input into Form Builder (GETSAT)

To get a SAT file that can be customized using Form Builder, use GETSAT.

Note: GETSAT cannot be run from the Web Client.

1. Access the Tools menu

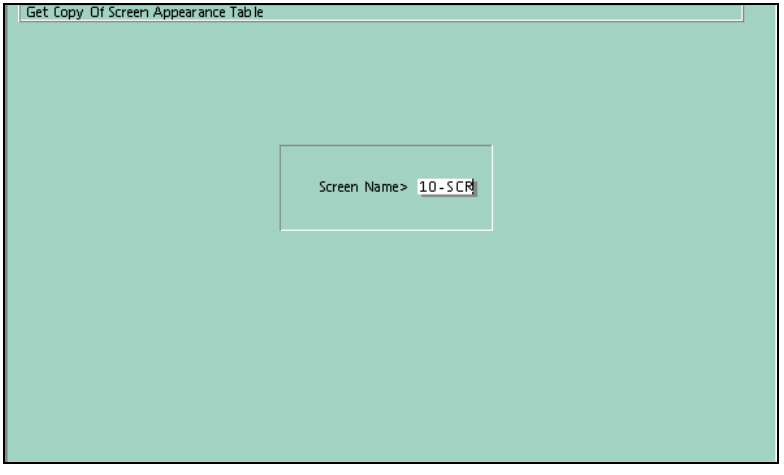
Component: Development Tools
Process: Programming Utilities
Task: Extract Form Appearance Table

2. Enter the form designation

Type the six position ID of the form you want to modify.

In this example, we have entered "10-SCR".

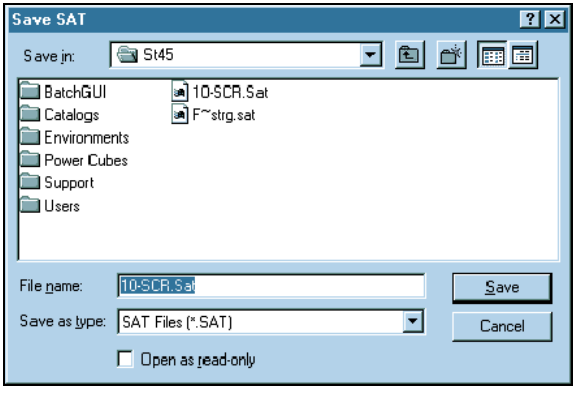
Remember to use uppercase letters.



3. Press Enter

4. Review the Save SAT or SAVE As dialog

The Save SAT dialog box is displayed after you press Enter.



5. Complete the Save SAT or SAVE As dialog

Enter the File **N**ame that the SAT file should be saved as, the Dri**v**e, and the **F**older in which to save the SAT file.

6. Click Save or OK

Click Save.

A "Complete" message appears indicating that the SAT file has been created.

Insert a revised SAT form into The Solution Series (PUTSAT) online

When you have finished using Form Builder/ScreenMaker to revise your form, you will need to insert it into The Solution Series in order to compile it and use it.

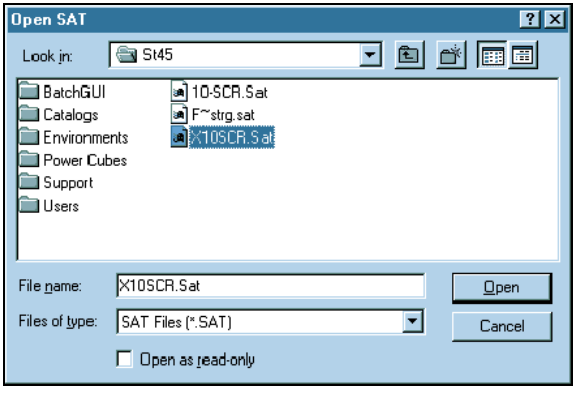
Note: PUTSAT cannot be run from the Web Client.

1. Use the Tools menu to update the SAT file

Component: Development Tools
Process: Programming Utilities
Task: Update Form Appearance Table

2. Open the SAT file

Select the directory where the revised SAT file is located and enter the File **n**ame.



3. Click on OK or press Enter

The Screen Appearance Table (SAT) file is imported into The Solution Series, the form appearance logic is generated by the GENER8 program, and the form program is compiled.

When the compilation is complete, a "Reload Is OK" message displays.

Note: If a "Reload Is Bad" message displays, correct the problem and then perform Step 1 again.

4. Check your design

Execute the form in The Solution Series to verify that the form is working as you expected.

(Optional) Using background processing to load the revised *.SAT file

1. Run PUTSAT in batch

The PUTSAT program updates the Screen Appearance Table (SAT) file, runs the GENER8 program to create the form appearance logic, and runs the RELOAD program to compile the form code.

Execute this utility in batch as follows:

INPUT	FILE04 FILE05	Control Record File Screen Appearance Table (*.SAT)
OUTPUT	FILE03	Audit/Message File
EXECUTE	CBSVB	

The control record on FILE04 has the following syntax:

In these positions	Enter	Description
23-28	PUTSAT	Program name

Control record example:

```
         1         2         3         4         5
1...5....0....5....0....5....0....5....0....5....0....5
                      PUTSAT
```

2. Check your design

Execute the form in The Solution Series to verify that the form is working as you expected.

Using the Pay Extract (PAYXTR) utility

To create a sequential batch Master File (P20) and extract time entries and adjustments from the Employee Database, use the Pay Extract (PAYXTR) utility.

Pay Extract can be run for all or selected organizations. Execute this utility as a background process as follows:

INPUT	FILE01	System Control Repository
	FILE02	Employee Database
	FILE04	Control Record File
	FILE11	Previous Batch Master File
OUTPUT	FILE03	Audit/Message File
	FILE10	Time entries and adjustments
	FILE12	Extract batch master file (P20)
EXECUTE	CBSVB	

The Pay Extract control record on FILE04 for all organizations has the following syntax:

In these positions	Enter	Description
23–28	PAYXTR	program name
31–40	ALL	

The Pay Extract control record on FILE04 for selected organizations has the following syntax:

In these positions	Enter	Description
23–28	PAYXTR	program name
31–36	PAYxxx	The name of the organization selection list (PAYC12).

The Pay Extract control record on FILE04 has the following **optional** syntax:

In these positions	Enter	Description
39	T	To have security downgrade to inquiry only on extracted organizations. If you select this option, you must also place a "T" in the PAYMRG to reactivate security.
40	F	Indicates a rerun of the same pay extract.

In these positions	Enter	Description
41-45	NORPT	No report generators will be copied from the previous Batch Master to the new Batch Master.

Using the Pay Merge (PAYMRG) utility

To update the Employee Database (Master File; FILE02), you use the Pay Merge (PAYMRG) utility.

You can run the Pay Merge (PAYMRG) utility for all or selected organizations. Which you will run depends on the type of Pay Extract (PAYXTR) that was run.

With a Pay Merge of all organizations, you execute CBSVB as follows:

INPUT	FILE01 FILE04 FILE11	System Control Repository Control Record File Batch Master File from Pay Extract or Maintenance Run
OUTPUT	FILE02/ FILE07 FILE03	Employee Database (written to as FILE07 on some platforms) Audit/Message File
EXECUTE	CBSVB	

The control record on FILE04 with a Pay Merge of all organizations has the following syntax:

In these positions	Enter	Description
23–28	PAYMRG	program name
41	1	FILE11 is the only input
43	7	create a new FILE02
45	1	constant for complete rebuild

With a Pay Extract of selected organizations, you execute CBSVB as follows:

INPUT	FILE01 FILE02 FILE04 FILE11 FILE13	System Control Repository Employee Database Control Record File Batch Master File from Step 3 original Batch Master File of all organizations
OUTPUT	FILE03 FILE12	Audit/Message File updated Batch Master File of all organizations
EXECUTE	CBSVB	

The control record on FILE04 with a Pay Merge of selected organizations has the following syntax:

In these positions	Enter	Description
23–28	PAYMRG	Program name
41	2	FILE11 and FILE13 are inputs
43	2	Update the existing FILE02
45	1	Copy Report Generators from FILE11 to FILE12
	2	Copy Report Generators from FILE13 to FILE12

The following control record entries are optional for both types of Pay Merge (all organizations or selected organizations).

In these positions	Enter	Description
31	blank	All History records written to FILE02 regardless of period end date.
	H	No History records written with a period end date before the FILE04 date. If there is no date in positions 33-38, no History records are written.
32	blank	All Labor records written to FILE02 regardless of period end date.
	L	No Labor records are written with a period end date before the FILE04 date. If there is no date in positions 33-38, no Labor records are written.

In these positions	Enter	Description
33–38	blank Date (YYMMDD)	If Col 31 is "H", no History records are written. If Col 32 is "L", no Labor records are written. If Col 31 is "H", no History records with a period end date before this date are written. If Col 31 is "L", no Labor records with a period end date before this date are written.
39	T	If you entered a "T" in position 39 on the PAYXTR Control Record, you must also specify it here.
40	A	RDBMS only—to insert or replace only new/changed history and labor into relational tables
47	X	To have object code from FILE01 written to new FILE02 on all organizations PAYMRG

Warning! If security was downgraded to inquiry only (position 39 of PAYXTR) and a "T" was not specified in position 39 of PAYMRG, the extracted organization will remain in Inquiry Mode after the PAYMRG.

Resetting the Inquiry Indicator

If after a PAYMRG your companies are in Inquiry Mode, use the Reset Security Records program (CYBRST) to automatically reset the Pay Counter field. The Reset Security Records program also resets the Inquiry Indicator with the Inquiry Reset Indicator value for all companies, or those specified in the Selected Company Payroll Run Schedule name in the KEY field.

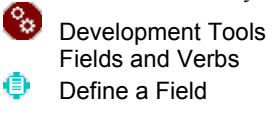
Adding user application tables to the System Control Repository and the relational database

To add user tables to the System Control Repository and the relational database, complete these steps.

1. Define user application table fields using the Field Maintenance And Edit (FNAME) form

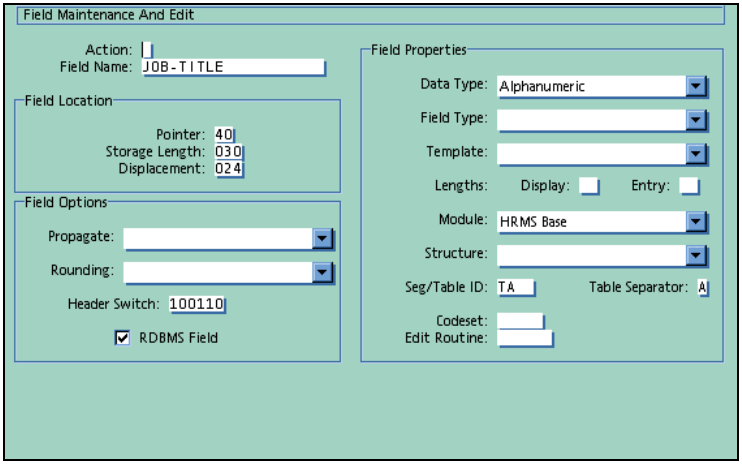
The user table field definitions you set up on this form will be used by the Relational Table Name Elements (VIEWNM) form to further identify the user table to the relational database.

1. Access the Field Maintenance and Edit form by selecting:



2. Define your new field, with the following considerations:

   - Type "40" in the Pointer field. Pointer 40 is where all application tables reside on the System Control Repository.
   - Click on the RDBMS Field to indicate that this table field will physically reside on the user table. If you do not select this option, the CASE tool will not recognize the field when it is run to create the database.
   - Select the module from the Module drop-down list field that defines the application area applicable to your user table.
   - Enter your table identifier in the Seg/Table ID field. Most user tables require only a 2-position identifier. The 3rd and 4th positions are used only when one table identifier has multiple variations (for example, Salary Grade tables TBS, TBB, and TBC or Control Number tables TZAX, TZAY, and TZAZ).
   - Type "X" in the Table Separator field if your logical user table spans more than one physical 80-byte record (for example, the Job Code (TA) table has an additional A and B record to define each job code).



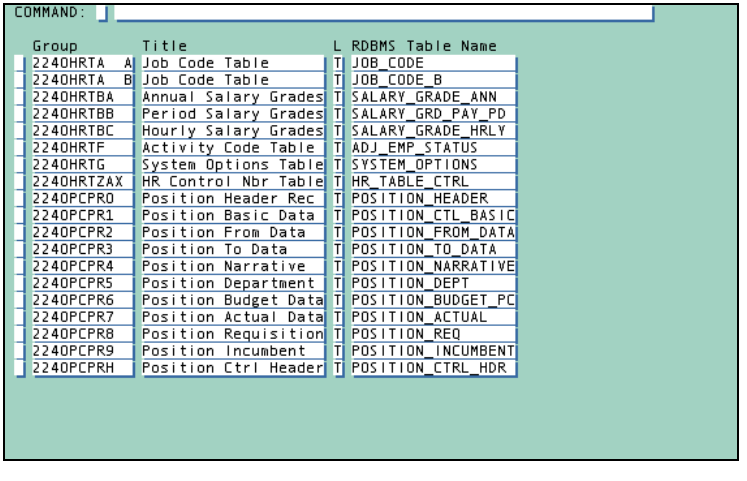
2. Establish the Field Name Table Menu (FTM) records using EDIT

Perform this operation to indicate that the user table is to be defined on the relational database and to provide the relational table name to be given to the CASE tool.

1. Access the EDIT form for the Field Name Tbl Menu object by selecting:

Component: Development Tools
Process: Programming Utilities
Task: Edit Control Repository Objects

2. Select "Field Name Tbl Menu" as the object to be edited.
3. Press Enter. The Field Name Table Menu records display on the EDIT form.



4. Type "A" in the first field to indicate you are adding an FTM record.
5. Enter the Group name. Type "22" and the Pointer, Module, Seg/Table ID, and Table Separator for each table record you defined using the Field Maintenance And Edit form in Step 1.
6. Enter the name of the user table in the Title field.
7. Type "T" in the L field to indicate that you want the user table to reside on the relational table, as well as the System Control Repository. If you want the user table to reside only on FILE01, leave this field blank.
8. Enter the name (using all uppercase and underscores) of the relational database table in the RDBMS Table Name field.
9. Save the form.
   The Field Name Table Menu (FTM) record is established.

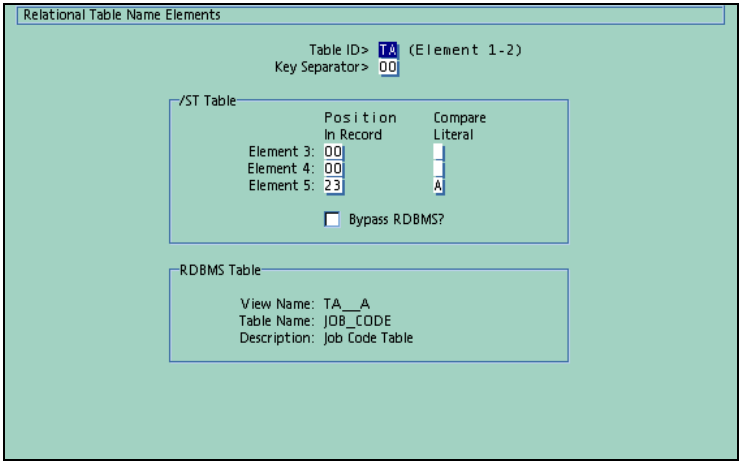
3. Establish the relational database view names (ETL records) using the Relational Table Name Elements

Perform this operation for every Field Name Table Menu (FTM) record established in Step 2. For most user tables, only one RDBMS View Name (ETL) record is required.

1. Access the Relational Table Name Elements (VIEWNM) form by selecting:

   Component: Development Tools
   Process: System Control Repository Utilities
   Task: Relational Table Name Elements

2. Enter the first 2 positions of the Seg/Table ID in the Table ID field.
3. Type "00" in the Key Separator field if only one FTM record was entered into the system. If multiple FTM records were entered, the first FTM record will be "00", the second will be "01" and so forth.
4. Enter the position in the user table where the 3rd position of the Seg/Table ID is located (if a 3rd position of the ID was entered). Then enter the literal contained in that position. If the 3rd position is not used, type "00" in this field.
5. Enter the position in the user table where the 4th position of the Seg/Table ID is located (if a 4th position of the ID was entered). Then enter the literal contained in that position. If the 4th position is not used, type "00" in this field.
6. Enter the Table Separator from the user table field's F-Name entry, if used. Enter the position in the FILE01 record where it can be found and the literal entry there. If the Table Separator was not used, type "00" in this field.
7. If the FTM record's L segment has been left blank, type "X" in the ByPass RDBMS field. If the user table is to reside on both the FILE01 and the relational database (entry in L segment is "T"), leave this field blank.
8. Save the form.



See also:

- Relational Considerations ***(on page 130)***

To learn the implications of customizing delivered tables with new fields and adding new tables.

Adding a new Organization Control Number to the Company Validation Table

To add a new organization, you supply an override to update the Company Validation Table.

1. Extract the report generator source

To extract the report generator sort and format source from CYBMST, you run the P9CNVT program, using an override file as input.

System generators (0A–29) must be extracted and updated separately from application Report Generators. The sort member always precedes the format member.

You can extract multiple Report Generators in a single execution of P9CNVT, provided you extract them in the same order in which they reside in CYBMST.

The output file, FILE1, contains the Report Generator code in decompressed format for use in the next pay or maintenance run.

Execute P9CNVT as follows:

INPUT	CYBMST P05RDR	Master Library Reader File
OUTPUT	PRINT1 FILE1	Activity Report Report Generator source
EXECUTE	P9CNVT	

The Machine Parameter Record on P05RDR has the following syntax:

In these positions	Enter	Description
1–12		Comments
13–25	machine parameters	Codes identifying the computer, operating system, and compiler
34–80	source computer	Name of the source computer

The member selection record on P05RDR has the following syntax:

In these positions	Enter	Description
1–3	spaces	
4–5	**	
6	space	
7	R	Report Generator
8	.	Period (full stop)
9–13	SRTxx RPTxx	sort portion format portion
14–80	spaces	

Following each member selection record, you must include a delineator or trailer record. It has the following syntax:

In these positions	Enter
1–3	spaces
4–9	999999
10–80	spaces

The override parameter on P05RDR has the following syntax:

In these positions	Enter	Description
1–3	blanks	
4–7	R720	constant
8–10	sequence number	Add Organization Control Numbers in the proper collating sequence for your machine
11–15	LIT09	constant
16	U	constant
17	blank	

In these positions	Enter	Description
18	Country code	blank = US 1 = Canada 2 = UK
19-24	Organization	Enter the actual Organization Control Number
25-80	spaces	

Following is an override example, adding MYCOMP as a valid organization:

```
         1         2         3         4         5         6         7
12345678901234567890123456789012345678901234567890123456789012345678901234567890
TEST        mach parm            source computer
   ** T.ZZBATCH
   999999
   ** R.SRT01
   999999
   ** R.RPT20
   R720200LIT09U  MYCOMP
   999999
```

2. Run a Pay Extract (PAYXTR)

To create a sequential batch master file for input to a pay or maintenance run, run PAYXTR. To run this program, you execute CBSVB as follows:

INPUT	FILE01 FILE02 FILE04 FILE11	System Control Repository Employee Database Control Record File Batch Master File
OUTPUT	FILE03 FILE10 FILE12	Audit/Message File Time entries and adjustments Extract batch master file (P20)
EXECUTE	CBSVB	

The control record on FILE04 has the following syntax:

In these positions	Enter	Description
23–28	PAYXTR	program name
31–33	ALL or schedule name for selected extract	

The following PAYXTR control record entries are optional:

In these positions	Enter	Description
39	T	to a have security downgraded to inquiry only

In these positions	Enter	Description
40	F	to re-extract companies already set to inquiry (re-runs)
41–45	NORPT	to prevent RGs from being moved to FILE12 from FILE11

3. Update the P20 Batch Master File

The next pay or maintenance run will use the output from Step 1, FILE1, to update the P20 Batch Master File with the modified system generator.

4. Update the Employee Database (PAYMRG)

To update the Employee Database (Master File; FILE02), you run a PAYMRG.

With a Pay Extract of all organizations, you execute CBSVB as follows:

INPUT	FILE01 FILE04 FILE11	System Control Repository Control Record File Batch Master File from Step 3.
OUTPUT	FILE02/ FILE07 FILE03	Employee Database (written to as FILE07 on some platforms) Audit/Message File
EXECUTE	CBSVB	

The control record on FILE04 with a Pay Merge of all organizations has the following syntax:

In these positions	Enter	Description
23–28	PAYMRG	program name
41	1	FILE11 is the only input
43	7	create a new FILE02
45	1	constant for complete rebuild

With a Pay Extract of selected organizations, you execute CBSVB as follows:

INPUT	FILE01 FILE02 FILE04 FILE11 FILE13	System Control Repository Employee Database Control Record File Batch Master File from Step 3 original Batch Master File of all organizations
OUTPUT	FILE03 FILE12	Audit/Message File updated Batch Master File of all organizations
EXECUTE	CBSVB	

The control record on FILE04 with a Pay Merge of selected organizations has the following syntax:

In these positions	Enter	Description
23–28	PAYMRG	program name
41	2	FILE11 and FILE13 are inputs
43	2	Update the existing FILE02
45	1 2	Copy Report Generators from FILE11 to FILE12. Copy Report Generators from FILE13 to FILE12. This will result in the loss of any report generator updates during this run.

The following PAYMRG control record entries are optional:

In these positions	Enter	Description
31	blank H	all History records written to FILE02 regardless of creation date No History records written to FILE02.
32	blank L	all Labor records written to FILE02 regardless of creation date No Labor records written to FILE02.
33–38	YYMMDD	History and or Labor records created since this date will be written to FILE02 unless an H or L is entered in position 31 or 32.
39	T	to have security inquiry-only switches removed
40	A	RDBMS only—to insert only new/changed history and labor into relational tables
47	X	to have object code from FILE01 written to new FILE02

See also:

- Organization Control Numbers and the Company Validation Table ***(on page 122)***

To learn why you must add Organization (Control 1-2) values to the Company Validation Table.

Review of Questions Answered

1. What customization options are allowed by The Solution Series system?

2. What utilities are provided to assist with the customization?

3. What standard naming conventions need to be applied in customizations?

4. What is the importance of adding an Organization Control Number to the Company Validation Table?

5. What reporting considerations should be addressed?

6. When should the system be backed up if customizations are made?

7. What additional customization considerations exist for relational customers?

CHAPTER 7

Data Conversion and Load

In This Chapter

Introduction 164
Data Conversion and Load Process - Data Conversion and Load 166
Phase 1: Data Conversion and Load Process Plan 167
Phase 2: Data Mapping 169
Phase 3: Data Extraction and Conversion 174
Phase 4: Data Load 178
Synchronization of data loads 180
Parallel pay runs and testing considerations 181
Detailed Directions 182
Review of Questions Answered 188

Introduction

This section addresses important topics related to the data conversion and load processes for your version of The Solution Series system.

You have manually set up your organization's structure and data, including your organization's details, on The Solution Series at the Organization Control Number level.

The next stage in the implementation process is to extract your employee and organization data from your existing system and load that information into The Solution Series system. Included in this process is the actual conversion of data from system to system.

There are several options available for data conversion. It is very important that you assess all the possible data conversion options and decide which one(s) are best for your organization.

The data conversion phase is one that is often underestimated in terms of complexity and duration. You should carefully consider all the implications for your organization and projects, and then put together an organized plan or checklist for the actual data load process.

An integral part of the data load process is the Payroll Cycle. The Payroll Cycle is the process of producing pay using the CBSV programs together with the Payroll Process COBOL and Report Generator programs.

The Report Generator is a proprietary language used only by the Payroll Process as its application language.

These generators are capable of producing reports, pay documents, transactions, and interface files and tapes. They are delivered, generic to the operating system environment, but can be customized by you, the customer.

☞ *Refer to* **Report Generators** *(see "5.2 Report Generators" on page 930) a complete listing of the delivered report generators.*

Tasks

You complete the following tasks to perform the data load process:

- Generate a Batch Layout (BATCHL) report
- Load static data using BATCHL transactions
- Load cumulative data using batch Payroll transactions
- Verify employee earnings and deductions figures
- Verify employee tax figures

Prerequisites

Before you can begin loading data, the following tasks must have been completed:

Environment setup

Before you can load data, the appropriate environments (test, development, etc.) should be set up for The Solution Series.

☞ *Refer to* **Setting Up Environments** *(see "Installation Considerations" on page 77) for more information on this prerequisite.*

Customization

Before you can load data, the organizational structures (Control 1-2s) and site-specific defaults should be set up for The Solution Series.

☞ *Refer to* **Customization** *(on page 107) for more information on this prerequisite.*

Payroll setup

Before you can load data using batch transactions and P2EDIT, the appropriate payroll setup (loading report generators, and so forth) should be set up for The Solution Series.

☞ *Refer to the Implementation Essentials documentation and Using Payroll Administration documentation for more information on this prerequisite.*

Questions answered in this section

This section answers the following questions:

1. What kind of a data load process checklist is needed?
2. Are there data mapping tools available and what are they?
3. What data conversion method(s) should I use and why?
4. How do data types relate to data load methods?

Data Conversion and Load Process - Data Conversion and Load

The data conversion and load process consists of four phases:

Phase 1: Data Conversion and Load Process Plan (on page 167)

Phase 2: Data Mapping (on page 169)

Phase 3: Data Extraction and Conversion (on page 174)

Phase 4: Data Load (on page 178)

Each of these phases requires consideration of issues involved and tasks to be undertaken. Consider the data load process as a group or team effort. You should request the assistance of your Information Systems, Payroll personnel, and data processing team.

If The Solution Series system is new to your organization, you may need assistance from several areas outside your immediate data processing department. You may also need the assistance of consultants. Plan carefully for this process and allow time to make it a successful event.

Phase 1: Data Conversion and Load Process Plan

To prepare for the data load stage, the following issues are ones you should consider and make appropriate plans to address:

- Data to be extracted and converted
- History to be loaded, such as salary history
- Methods of extraction and conversion
- The data load method to use
- Quality and accuracy of data in the source system(s)
- Data ownership and responsibility for any pre-conversion clean-up
- Data duplication in two or more interfaced systems and which takes precedence if there are differences
- Comparison of duplicated data from two or more systems before and/or during the conversion process
- Minimum configuration conversion requirements
- Movement of data between hardware platforms during the conversion process
- Conversion of encoded data items to match The Solution Series requirements
- Application of cross-field validation rules during the data extraction process and reporting of errors
- Two part conversion for static data and cumulative data
- Program specification as a joint user/IT/Solution Series system task

Data Conversion and Load Process Checklist

This sample checklist is one that can be used across most platforms for the data load process of The Solution Series system. Use this checklist as a template for creating one specific to your environment(s) and system(s).

	Data Load Process Sample Checklist
1	Identify and review what has been installed (including form processing modes and formats to identify where your converted data will reside).
2	Identify and review what has been customized after the installation process.
3	Identify and review your Organization Control Numbers and other control levels.
4	Identify and review your organization's details at the Organization Control Number level (Org and OL2) including company tables, company data, table option lists, LMODEL, and chains.
5	Identify data to be extracted from your current system and where it will be loaded in the new system.
6	Identify history to be loaded into the new system.
7	Identify data extraction method(s).
8	Identify data load method(s).
9	Identify interfaces to be used.
10	Identify utilities to be used.

	Data Load Process Sample Checklist
11	Define and develop test procedures to verify the data load.
12	Write a conversion program.
13	If you are using a batch layout conversion, format it to create records for each form in The Solution Series' batch layout format.
14	Create a standard system backup copy of your database and Employee Database.
15	Convert the Employee Information Form.
16	Convert other employee forms.
17	If using the Batch Layout conversion method, run a small test conversion, using 20–50 employees.
18	Review all converted forms from the test conversion.
19	Review and verify the edit patterns of dates and amounts, and the placement of data on the forms to be used in the conversion.
20	Verify the data in FILE03 after each run of CBSVB.
21	Correct and reprocess any errors you find.
22	Group employee transactions by company.
23	If using the Batch Transaction conversion method, the file containing the properly formatted transactions should be used as one of the optional input files (P05T80 or P05T81) to an additional or bonus (off cycle) payroll run of the system. Complete a Payroll Run Process Control form with the necessary field values.
24	Check the Transaction Load report (from separate executions of P2EDIT) for data that was not accepted.
25	Make corrections and rerun P2EDIT until all data is accepted.
26	Check the Payroll Audit Trail report for errors, after each additional/bonus (off cycle) payroll run.
27	Merge the updated Employee Database with the database to update the database, using PAYMRG. (This should be done only if Item 23 is used.)
28	Correct and resubmit any erroneous transactions you find.
29	Validate employee wage and to-date figures using the HEDs To-Date Inquiry and Taxes To-Date Inquiry forms.

Phase 2: Data Mapping

Once you have determined what information you need to extract and convert from your existing system(s), you are ready to begin the data mapping phase of the data load process.

Data mapping is comparing the data to be extracted from your existing system(s) to The Solution Series system and identifying matching fields and field descriptions where the data will reside.

This is a critical part of the data load process and must be completed before the initial data load is attempted.

Batch Layout Report

When matching fields and field descriptions, you must be careful to verify that the field lengths and field types also are a match. You can check the field sizes and positions by using the Batch Layout (BATCHL) facility. You should also check option lists to ensure that The Solution Series will accept your data.

The Batch Layout facility produces the Batch Layout Report that lists the entry fields found on each form in the system. The Batch Layout Report provides form-image records, field lengths, and any comments associated with each entry field for each selected form. You can request reports for one or several forms. Following is the information from the Batch Layout Report for the Pending Plan Enrollment/De-Enrollment (90-SCR) form.

Notice that this report shows the actual names of the fields, not the labels on the form:

From	To	Field Name	Length	Comments	Format/Edit
1	8	Program Literal	008	P CONTROL	Constant
9	14	Task Number	006	T00010	Constant
15	15	Filler	001	Space	Constant
16	16	Comm-Cancel	001	Space	Constant
17	22	Company Number	006	999999	Alphanumeric
23	28	Program Field	006	90-SCR	Constant
29	29	Code-1	001	Space	Constant
30	30	Code-2	001	Space	Constant
31	40	Key Field	010		Alphanumeric
41	55	Additional Key	015		Alphanumeric
56	58	PLAN-ID-RA	003		Alphanumeric
59	68	SUSPENSE-DATE	010		MM-DD-CCYY
69	69	SCREEN-CODE2-OPTS	001		PP66
70	74	CALC-ACTION-DATE	005	Pos. 001-005	MM-DD-CCYY
75	75	Continuation-Ind	001	*	Constant
1	8	Program Literal	008	P CONTROL	Constant
9	14	Task Number	006	T00020	Constant
15	15	Filler	001	Space	Constant
16	20	CALC-ACTION-DATE	005	Pos. 006-010	MM-DD-CCYY
21	21	CALC-ACTION-CODE	001		BA44
22	31	SPECIAL-DATE	008		MM-DD-CCYY
32	32	SCREEN-OPTION-1	001		Alphanumeric
33	33	SCREEN-OPTION-2	001		Alphanumeric
34	34	End of Record	001	*	

☞ *Refer to* **Report Quick Reference** *(on page 607) for more information on this report.*

Special considerations for requesting Batch Layout (BATCHL) reports

- The Employee Information (EF-SCR) form is required to add an employee to the system. Its BATCHL content differs slightly from other transactions. The Key field (positions 31–40) contains the employee template, LMODEL xx, where xx is your template number (there is a space between LMODEL and xx). The Additional Key field (positions 41–55) contains a unique employee number.

  After the Employee Information form has been populated with your conversion data, the employee number is placed in the Key field for all other employee forms.

- For certain forms, such as the Deduction Information from Benefit Plans (54-SCR), the Employee Earnings and Deductions (HH-SCR), and the WL Record Maintenance (WL-SCR) forms, you will want to request sections for the report.

  You request a section by entering its number in positions 43–49 of the control record.

- If you are unable to map all the data from your existing system(s) to The Solution Series, you must decide whether or not to load that data or if you need to create a new field in The Solution Series system.

Additional data mapping tools

A number of tools (utilities) and reports assist you with data mapping.

Some of these are:

Data Mapping Tools (Utilities and Reports)	Description
Field Table List (FTLIST)	A utility that lets you view the field definitions online or produce a printout in batch mode. The online display is in a scrolling format. A batch run produces a printout with headings and page numbers.
Field Table Menu (F-MENU)	A utility that lets you view the attributes of the data fields on file in the Field Name Table in a user-friendly, menu-driven format.
Label to Field Cross Reference (FLABEL)	A form that provides a cross-reference between the field labels used on a form and their data dictionary field names.
Segment Layout Report (SRTFLD/F-SEGM)	A report that displays each segment's layout.
Cross Reference Report (CROSSX/CROSSP)	A report that cross-references all the fields and Cyborg Scripting Language verbs.

Segment Layout Report

POSITIONS		FIELD NAME	LENGTH	PIC	COMMENTS
1	1	SEGMENT-TYPE	001	X(001)	B
1	1	B-SEGMENT-TYPE	001	X(001)	
2	4	COMPANY-HED-NUMBER	003	9(003)	K
2	4	HED-NUM	003	9(003)	K
2	4	HED-NUMBER-1	003	9(003)	K
5	6	CATEGORY-CODE	002	9(002)	
5	6	DEDUCT-CATEGORY-CODE	002	9(002)	PP02
5	6	EARNING-CATEGORY-CD	002	9(002)	PP01
5	6	DEDUCTION-CATEGORY	002	X(015)	D PP02
5	6	EARNING-CATEGORY	002	X(015)	D PP01
7	21	HED-NAME	015	x(015)	
22	22	VACATION-FLAG-CODE	001	9(001)	PP13
22	22	VACATION-FLAG	001	9(015)	D PP13
23	25	PERMANENT-ORDER	003	9(003)	
26	28	TEMPORARY-ORDER	003	9(003)	
29	29	TC-2-HOURS	001	9(001)	PP14
29	29	TC-2-HOURS-EDIT	001	9(015)	D PP14
30	30	TC-2-AMOUNT	001	9(001)	PP15
30	30	TC-2-AMOUNT-EDIT	001	9(015)	D PP15
31	31	EARNINGS-RATE-FLSA	001	9(001)	PP04
31	31	OVERTIME-FACTOR-CD	001	9(001)	PP03
31	31	OVERTIME-TYPE	001	9(001)	
31	31	EARNINGS-FLSA-RATE	001	9(015)	D PP04
31	31	OVERTIME-FACTOR	001	X(015)	D PP03
32	32	ARREARS-OVERTIME-CD	001	X(001)	PP06
32	32	FREQUENCY-FOR-TAX-CD	001	X(001)	PP05
32	32	TAX-FREQUENCY-CODE	001	X(001)	
32	32	ARREARS-OVERRIDE	001	X(015)	D PP06
32	32	FREQUENCY-FOR-TAX	001	X(015)	D PP05
33	34	DEDUCTION-FREQ-CODE	002	9(002)	PP08
33	34	DEFAULT-FREQUENCY	002	9(002)	
33	34	EARNING-FREQUENCY-CD	002	9(002)	PP07
33	34	DEDUCTION-FREQUENCY	002	9(015)	D PP08
33	34	EARNING-FREQUENCY	002	9(015)	D PP07
35	36	DEDUCTION-ARREARS-CD	002	9(002)	PP10
35	36	DEFAULT-TYPE	002	9(002)	
35	36	EARNING-TYPE-CODE	002	9(002)	PP09
35	36	DEDUCTION-ARREARS	002	9(015)	D PP10
35	36	EARNING-TYPE	002	9(015)	D PP09
37	38	DEDUCTION-METHOD-CD	002	X(002)	PP12
37	38	DEFAULT-METHOD	002	X(002)	
37	38	EARNING-METHOD-CODE	002	X(002)	PP11
37	38	DEDUCTION-METHOD	002	X(015)	D PP12
37	38	EARNING-METHOD	002	X(015)	D PP11
39	47	BA-AMT/PCT	009	9(009)	
39	45	DEDUCTION-AMOUNT/PCT	007	9(007)	
39	45	DEFAULT-AMOUNT/PCT	007	9(007)	
39	45	EARNING-AMOUNT/PCT	007	9(007)	
46	46	AUTOMATIC-SETUP-CODE	001	X(001)	PP16
46	46	AUTOMATIC-SET-UP	001	X(015)	D PP16
47	47	PERIOD-TABLE-CODE	001	9(001)	PP17
47	47	PERIOD-END-TABLE	001	X(015)	D PP17
48	48	ADD-TOTAL-HOURS-CODE	001	9(001)	PP18
48	48	ADD-TOTAL-HOURS	001	X(015)	D PP18
49	49	HED-REGISTER	001	X(001)	PP00

The Segment Layout Report above is the product of the SRTFLD, Sort, and F-SEGM processes.

Notice that several fields can occupy the same displacement of a Pointer. This allows the field to be redefined by various field names.

Cross-Reference Report

```
                        FIELD/PROGRAM CROSS REFERENCE LIST              PAGE   1
ANNUAL-AMOUNT-CHANGE    40-SCR 00340  40-SCR 00800  40-SCR 01560  40-SCR 02200
                        40-SCR 02420  40-SCR 02740  40-SCR 02760  40-SCR 02980
                        40-SCR 03320  40-SCR 03620  40-SCR 08000  40-SCR 03960
                        40-SCR 04980  40-SCR 05100  40-SCR 05180  40-SCR 06080
ANNUAL-SALARY           40-SCR 00340  40-SCR 00620  40-SCR 00640  40-SCR 00760
                        40-SCR 01140  40-SCR 01540  40-SCR 01940  40-SCR 01947
                        40-SCR 01952  40-SCR 02040  40-SCR 02180  40-SCR 02360
                        40-SCR 02380  40-SCR 02800  40-SCR 03000  40-SCR 03300
                        40-SCR 03600  40-SCR 03780  40-SCR 03940  40-SCR 04760
                        40-SCR 04783  40-SCR 04785  40-SCR 04940  40-SCR 04946
                        40-SCR 04952  40-SCR 05000  40-SCR 05080  40-SCR 05340
                        40-SCR 05940  40-SCR 05960
ANNUALIZATION-FACTOR    40-SCR 01822  40-SCR 01824  40-SCR 01840  40-SCR 01920
                        40-SCR 01943  40-SCR 01948  40-SCR 04750  40-SCR 04755
                        40-SCR 04760  40-SCR 04782  40-SCR 04784  40-SCR 04900
                        40-SCR 04902  40-SCR 04920  40-SCR 04942  40-SCR 04948
AUTO-KEY-SWITCH         EF-SCR 02290
BIRTH-DATE              EF-SCR 00840  EF-SCR 00960  EF-SCR 01680  EF-SCR 01720
                        EF-SCR 01760
COMMISSION-FLAG         EF-SCR 01320
COMPANY-ADDRESS         AA-SCR 00120
COMPANY-ADDRESS-2       AA-SCR 00120
COMPANY-CITY/PROV       AA-SCR 00280
COMPANY-CITY/STATE      AA-SCR 00200
COMPANY-NAME            AA-SCR 00080
COMPANY-NAME-2          AA-SCR 00080
COMPANY-POSTAL-CODE     AA-SCR 00280
COMPANY-ZIP-CODE        AA-SCR 00200
CONTROL-1-NAME          AA-SCR 00360
CONTROL-2-NAME          AA-SCR 00360
CONTROL-3-NAME          AA-SCR 00360
CONTROL-4-NAME          AA-SCR 00380
CONTROL-5-NAME          AA-SCR 00380
CONTROL-6-NAME          AA-SCR 00380
CONTROL-COUNTRY         AA-SCR 00160  EF-SCR 00520  EF-SCR 00760  EF-SCR 01000
                        EF-SCR 01902  EF-SCR 02540
COUNTER01               40-SCR 06560  40-SCR 06720  40-SCR 06720  40-SCR 06740
```

The Cross-Reference Report above is the product of the CROSSX, Sort, and CROSSP processes.

Notice that several programs use the same field.

Note: *See the Introduction to Cyborg Scripting Language manual for more information on the Data Mapping Tools (Utilities and Reports).*

Phase 3: Data Extraction and Conversion

There are many approaches to data conversion. The methods presented in this section are recommended because they are the safest, most accurate, and produce the best results.

Before running your conversion program and applying data from your conversion file, it is very important that you create a standard system backup copy of your database.

While there are numerous approaches to converting data to the system, the most commonly used is to build the company first, then make changes online as needed.

Employee data conversions are usually done multiple times, as conversion programs are modified. The most common approach is to delete all employee data then perform the conversion again.

Another option is to have a backup copy of the system with just company data and restore the backup.

Manual conversion methods

A manual conversion is practical if you have an aggressive production schedule (four months or less), 500 or fewer employees, or an adequate data entry staff available to enter the data.

The amount of time it takes to enter data manually by a dedicated staff is dependent on the total number of employees, the amount of information to be added, and the number of staff devoted to the task.

Manual data input via online forms

This method is generally used when manual records are the only source of data or when the accuracy of data in your existing system is questionable. It is not unusual for some data to be entered manually even when electronic data conversion is used.

Although this method is generally considered straightforward, it can be the least accurate. To avoid problems associated with inaccuracies of source data and input inaccuracies, verification checks must be included at several stages in the process.

You may want to print out the data you have on file for each employee and ask the employee to confirm that the data is correct. Manual cross-checking of the information can become extremely time consuming.

Automated conversion methods

Automated conversion requires that you decide whether your data processing personnel or consulting personnel will be responsible for writing the conversion program and applying the converted data to The Solution Series.

The Solution Series can accept input data in the form of pre-formatted input records. Two different types of formats are allowed:

- Input to the batch system using P2EDIT to add records to the batch master file (P20) during a maintenance or pay run. This option is available only for payroll segments.
- Input to the online data file using the Batch Layout Facility. This option is available for all data, and it is the recommended method.

The formats are quite different as the mechanisms used are also quite different.

Data conversion categories

In The Solution Series system, data that can be converted is divided into two distinct categories—static data and cumulative, or "To date", data. Static data includes company and employee information, such as name, address, pay rate, and salary. Cumulative data includes payroll earnings, deductions, and tax to-date accumulation data.

Conversion categories and methods

Each data type must be converted using a specific conversion method.

These methods are:

For this data type	Use this method
Static data	BATCHL transactions
Cumulative ("To date") data	Batch transactions

Batch Layout for static data

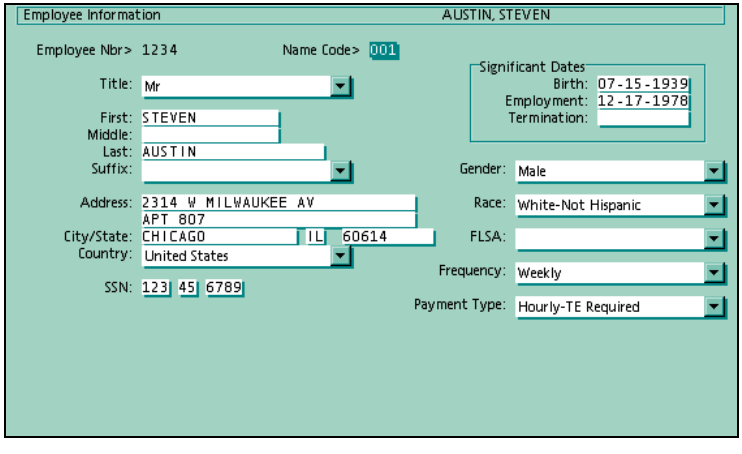
Convert static data using the Batch Layout method. You can convert both payroll and basic human resource data. This method involves a batch process that applies the static information directly to your database, using transaction formats derived from layouts provided for all application forms.

The following example shows what your records would look like for the Employee Information (EF-SCR) form when adding a new employee:

```
         1         2         3         4         5         6         7         8
1...5....0....5....0....5....0....5....0....5....0....5....0....5....0....5....0
P CONTRLJ00010  999999EF-SCR  LMODEL 00               1234      00100307-*
P CONTRLJ00020 15-193912-17-1978STEVEN                                 AU*
P CONTRLJ00030 STIN                 M2314 W MILWAUKEE AV           01APT 8*
P CONTRLJ00040 07                        CHICAGO          IL60614      0112*
P CONTRLJ00050 34567891
```

Note: *The layout of the last line (5) is dependent on whether Position Administration and Requisition Administration are in use.*

The Employee Information form would then look similar to this:



Batch transactions for to-date accumulation data

For converting payroll earnings, deductions, and tax to-date accumulation data, we recommend this method. It is more efficient for converting these types of information.

To use this method, all existing data that you want to apply to Payroll Administration must be converted to transactions.

When you convert your existing data to transactions, group employee transactions by company. Each company must be separated by a BATCH transaction before it is entered into the sequential batch master file, P20IN.

To-date accumulations include payroll earning, deduction, net pay, taxable wage, and tax to-date figures for employees. While this method may be used to convert static data as well, convert static data using the batch layout method because that method validates the field content against the table option lists, if applicable. Other information, such as format, may also be validated.

A minimum of three transactions per employee are required to convert payroll hour (unit) and amount to-date figures. These transactions are:

1. KA transactions for federal, state, and local taxable wages and taxes withheld only
2. KB transactions for all to-date HED amounts
3. KC transactions for net pay

If your present system does not provide this information, you must calculate and enter all figures from field to field to ensure that accurate amounts are converted.

When applying values to the to-date fields, the values you enter must specify which to-date figures are to be updated by each adjustment.

The valid to-date values are:

1. month-to-date only
2. quarter-to-date and year-to-date
3. month-to-date, quarter-to-date, and year-to-date
4. quarter-to-date only
5. year-to-date only

Phase 4: Data Load

You perform the data load to move data from your existing system(s) to The Solution Series system. Several tools are provided to assist with this task, however you may have tools specific to your environment(s) that you want to use.

Loading the data into The Solution Series system may not be completely successful on the first attempt. You may need to perform the data load more than once, particularly if you have large volumes of data to be loaded.

Data load using BATCHL transactions

The conversion data, in the form of transactions, is input as FILE04 and processed by an execution of The Solution Series background processing program, CBSVB.

The batch layout conversion method validates data in the same manner as if you were entering data directly using The Solution Series forms. It checks for errors, including verifying the field content against the table option lists.

Before you begin applying converted data, you should run a small conversion test using 20–50 employees. This will establish the integrity of the program and the data being converted. Make sure that the employee sample is large enough to test all aspects of the conversion.

Review all converted forms for several employees to be sure that the data was correctly applied.

Finally, review and verify the edit patterns of the dates and amounts, and the placement of data on the forms to be used in the conversion.

After each run of CBSVB, check FILE03 for any records that are in error. Correct and reprocess any errors that you find.

Accepting warning messages

When you enter data into The Solution Series, the system validates the data. If there is a problem with the data, the system will issue a warning or reject message and reject the record.

A warning message informs you that there may be missing data or an inconsistency with the data that has been entered, which may or may not be correct for your organization.

If you know that the data in your batch record is correct and will cause a warning message to be issued, you can accept the warning message by placing an "A" in position 16 of the batch record. This accepts the warning message and allows the record to be loaded.

Reject messages can not be accepted.

☞ *Refer to the Using Benefits Administration for specific information on loading Benefits data.*

Data load using batch transactions

The batch transaction method involves a batch process that applies information to the batch master file (P20IN) using batch transactions.

Transactions are placed in a batch input file, which is processed as P05T80 or P05T81 to an additional or bonus (off cycle) payroll run to update the batch master file (P20IN). The P2EDIT program edits the input transactions to ensure their validity.

If you perform separate executions of P2EDIT, check the Transaction Load report for data that was not accepted. Make corrections and rerun P2EDIT as many times as required until all the data is accepted.

After each additional or bonus (off cycle) payroll run, check the Payroll Audit Trail report for errors. Correct and resubmit any erroneous transaction you find.

After all transactions have been edited correctly, you need to execute the P4CALC and P5PRNT programs. The P4CALC program applies maintenance, calculates pay, and extracts reports. The P5PRNT program writes all output, including payroll checks, reports, and files of transactions to be recycled.

Note: *An off cycle (for example, additional/bonus) payroll run may be used instead of a maintenance run so that pay reports can be generated for to-date payment verification.*

To validate employee wage and to-date figures, use the HEDs To-Date Inquiry (HT-SCR) and Taxes To-Date Inquiry (JT-SCR) forms.

The HEDs To-Date Inquiry (HT-SCR) form displays the current, month, quarter, and year-to-date amounts and hours for all earnings and deductions, including net pay.

The Taxes To-Date Inquiry (JT-SCR) form displays the current, month-to-date, quarter-to-date, and year-to-date figures for all employee tax records.

The resulting file from the additional or bonus (off cycle) payroll run is then merged with your database by executing PAYMRG, the payroll merge process.

☞ *Refer to* **The Payroll System** *(on page 371) for additional information about PAYMRG.*

Synchronization of data loads

Both loading static data using BATCHL transactions and loading cumulative data using batch transactions (with the subsequent pay merge) produce an updated random Employee Database. Therefore, you must ensure that the data you load using BATCHL transactions is not lost when the pay merge process creates a new random Employee Database.

To synchronize the loading of different types of data, you can do the following:

1. Load the static data using BATCHL transactions.
2. Run a pay extract (PAYXTR) to prepare for loading batch transactions.
3. Load the cumulative data using batch transactions.
4. Run a pay merge (PAYMRG) to create a new, random Employee Database with both the static and the cumulative data.

Parallel pay runs and testing considerations

To test your data conversion and load, perform a parallel pay run and compare the results.

Run your systems in parallel until you are sure that the data was loaded correctly, through random sampling.

You need to ensure that your new Payroll Process is identical to the original Payroll Process. A payroll run is the best indication that the data load worked and your Payroll Process is identical to the original Payroll Process.

Some preparation and testing issues to consider prior to running parallel are:

- Establish the parallel running time frame.
- Decide when and how to perform the system parallels.
- Identify the reports to be generated.
- Decide on the time entries to be used.
- Identify the verification procedures to be used.
- Decide when and how to analyze the pay and maintenance run results.

Apply the Concepts
Outline a process for verifying data loaded through the use of BATCHL and batch transactions.

Detailed Directions

This section provides detailed directions on completing a business task.

Tasks

Generating a Batch Layout Report 182
Loading static data using BATCHL transactions 184
Loading cumulative data using batch Payroll transactions 185
Verifying the employee earnings and deductions figures 186
Verifying the employee tax figures 187

Generating a Batch Layout Report

A Batch Layout (BATCHL) Report is used for the data mapping of static data. To generate a Batch Layout Report, you must provide a control record as FILE04. You should have already identified the forms and form sections you will be using in your conversion.

If you are performing a new system implementation, you will most likely be performing an add (A) activity, but you may also use this utility to perform a global change (C) activity (such as changing a corporate division name or telephone area code). The following are the input files, output files, and the program you need to generate a Batch Layout Report:

INPUT	FILE01 FILE02 FILE04	System Control Repository Employee Database Control record
OUTPUT	FILE03	Audit/Message File
EXECUTE	CBSVB	

The control record on FILE04 has the following syntax:

In These Positions	Enter	Description
23–28	BATCHL	Batch Layout Facility
31–36	form name	You can request only one form per control record
41	activity/mode option	A = Add C = Change (default)
42	display option	R = Regular number of display lines for the transaction (default) S = Special number of display lines

In These Positions	Enter	Description
43–49	section number	1 through 7. Enter the section number(s) of the form to appear on the report. The section numbers need not be entered in any specific position. Do not embed blanks between section numbers.
50	language	P = Primary (default) A = Alternate
75	C	This forces a page break between layouts.

Following is an example of a control record requesting the layout of the Company Name and Address (AA-SCR) form:

```
         1         2         3         4         5         6
123456789012345678901234567890123456789012345678901234567890123456789
P BATCHLJ00100  999999BATCHL  AA-SCR
```

Following is an example of a control record requesting the layout of section 1 (earnings only) of the Employee Earnings and Deductions (HH-SCR) form:

```
         1         2         3         4         5         6
123456789012345678901234567890123456789012345678901234567890123456789
P BATCHLJ00100  999999BATCHL  HH-SCR      1
```

Following is an example of a control record requesting the layout of sections 1, 3, and 4 of the Deduction Information from Benefit Plans (54-SCR) form:

```
         1         2         3         4         5         6
123456789012345678901234567890123456789012345678901234567890123456789
P BATCHLJ00100  999999BATCHL  54-SCR      134
```

Following is an example of a control record requesting the alternate language code layout of the Employee Information (EF-SCR) form:

```
         1         2         3         4         5         6
123456789012345678901234567890123456789012345678901234567890123456789
P BATCHLJ00100  999999BATCHL  EF-SCR             A
```

See also:

- Batch Layout Report **(on page** *169***)**

To learn how you can use this report during the data mapping phase of your conversion.

Loading static data using BATCHL transactions

Using this method, the Employee Database is directly updated.

You should backup the system and load the data form by form, not employee by employee.

Do this first in your test environment and verify that it has worked before attempting it in your production environment.

Using this method, you would:

1. Load all Employee Information (EF-SCR) form data.
2. Backup the system.
3. Load all Employee Name and Address (FF-SCR) form data.
4. Backup the system.

By following this approach, you are ensuring minimal recovery time, if any.

To load static data using this method, follow these steps:

1. Load the BATCHL transactions into FILE04

The output from your conversion program should be transactions in BATCHL format.

Load these into FILE04, as input to CBSVB. These transactions will directly update the random Employee Database.

2. Run the data load program

Execute CBSVB to load the data. You execute CBSVB as follows:

INPUT	FILE01 FILE02 FILE04	System Control Repository Employee Database BATCHL transactions
OUTPUT	FILE03	Audit/Message File
EXECUTE	CBSVB	

3. Verify the results of the data load

Check FILE03 for errors.

Note: To override warning messages that may occur during the batch transaction load, place an "A" in position 16 of the batch record.

See also:

- Data load using BATCHL transactions ***(on page 178)***

To learn how you can use this report during the data load phase of your conversion.

Loading cumulative data using batch Payroll transactions

Using this method, the batch master file (P20IN) is updated through a pay run. After the pay run, the loaded data is merged into the random Employee Database through a pay merge.

To load cumulative data using this method, follow these steps:

1. Extract the newly-loaded static data

To avoid overwriting the newly-loaded static data in the random Employee Database, extract it by running a pay extract (PAYXTR).

2. Load the batch transactions into P05T80 or P05T81

The output from your conversion program should be transactions in batch format. Load these into P05T80 or P05T81 as alternative input to P2EDIT.

You must use KA, KB, and KC transactions for each employee.

Keep the following in mind as you load the transactions:

- Group employee transactions by company
- Separate each company with a BATCH transaction

3. Run the data load program

To load the data to update the batch master file (P20IN), you run the payroll process for an off-cycle (bonus) payrun.

4. Verify the results of the data load

Check the following generator reports to verify the accuracy of the data load:

- Master File Print (0202)
- Master File Status (9E9E)
- Combined Register (2222)
- Tax Register Report (2T2T)

5. Merge the loaded data into the random Employee Database

To merge the loaded data into the random Employee Database file (FILE02), you run a pay merge (PAYMRG).

See also:

■ Data load using batch transactions ***(on page 179)***
To learn how to use this method for your conversion.

Verifying the employee earnings and deductions figures

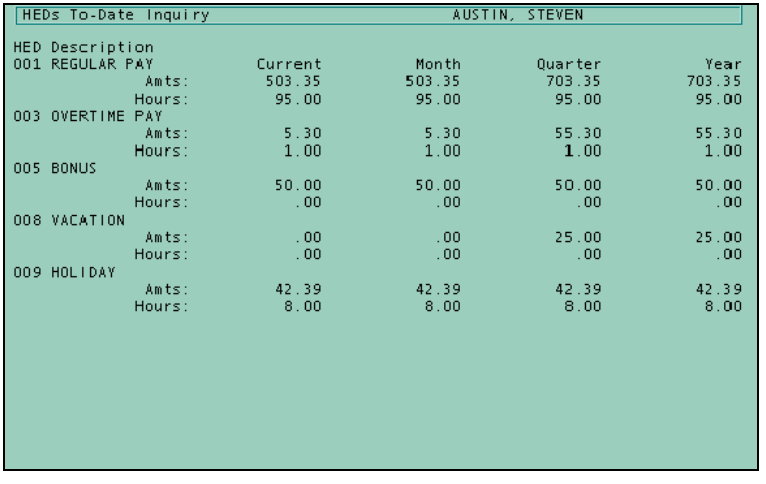
To verify the employee earnings and deductions figures, you use the HEDs To-Date Inquiry form.

1. Access the HEDs To-Date Inquiry (HT-SCR) form

Access this form by selecting:

Component: Employee Payroll
Process: Wages and Tax Adjustments
Task: View HED To-Date Information

The HEDs To-Date Inquiry form is displayed:



HEDs To-Date Inquiry — AUSTIN, STEVEN

HED Description		Current	Month	Quarter	Year
001 REGULAR PAY	Amts:	503.35	503.35	703.35	703.35
	Hours:	95.00	95.00	95.00	95.00
003 OVERTIME PAY	Amts:	5.30	5.30	55.30	55.30
	Hours:	1.00	1.00	1.00	1.00
005 BONUS	Amts:	50.00	50.00	50.00	50.00
	Hours:	.00	.00	.00	.00
008 VACATION	Amts:	.00	.00	25.00	25.00
	Hours:	.00	.00	.00	.00
009 HOLIDAY	Amts:	42.39	42.39	42.39	42.39
	Hours:	8.00	8.00	8.00	8.00

2. Verify the figures

This form displays the current, month-, quarter- and year-to-date amounts and hours for all earnings and deductions, including net pay.

See also:

- Parallel pay runs and testing considerations ***(on page 181)***

To learn what kind of preparation and testing issues to consider.

Verifying the employee tax figures

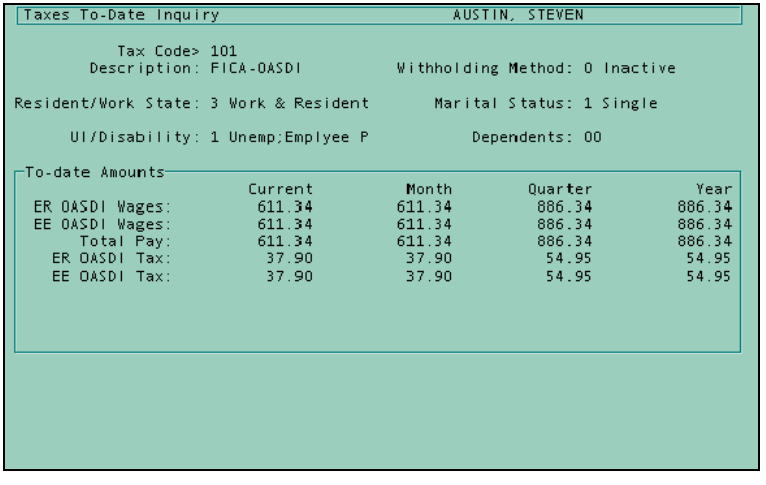
To verify the employee tax figures, use the Taxes To-Date Inquiry (JT-SCR) form.

1. Access the Taxes To-Date Inquiry form (JT-SCR)

Access this form by selecting:

Component: Employee Payroll
Process: Wages and Tax Adjustments
Task: View Tax To-Date Information

The Taxes To-Date Inquiry form is displayed:



2. Verify the figures

This form displays the current, month-to-date, quarter-to-date, and year-to-date figures for all employee tax records.

See also:

- Parallel pay runs and testing considerations ***(on page 181)***

To learn what kind of preparation and testing issues to consider.

Review of Questions Answered

1. What kind of a data load process checklist is needed?

2. What are the data mapping tools available?

3. What data conversion method(s) should I use and why?

4. How do data types relate to data load methods?

CHAPTER 8

Migration to Production

In This Chapter

Introduction 190
Preparation for migration to production....191
Size considerations for the production environment....192
Audit Trail reports 193
Production environment follow-up 194
Considerations for HR-only customers....195
Relational issues 196
Detailed Directions....197
Review of Questions Answered....201

Introduction

This section addresses important topics related to migrating your Solution Series test environment data to production.

The migration of data and/or code from a test environment to a production environment falls into two common scenarios:

1. A complete move of tested files and all associated data.
2. A partial move of tested data and/or code.

This section deals only with the first scenario. The second scenario is covered in Identifying Problems and Applying Temporary Fixes.

Migrating your original production data from The Solution Series test environment to The Solution Series production environment involves careful planning and preparation.

Complete all the testing of your data while it is still in the test environment. It is important that you keep very detailed records of what you are doing and how you are doing it. The impact or results of your activities should also be recorded.

The information in this section assumes that you have already loaded your original production data into The Solution Series test environment.

☞ *Refer to* **Data Conversion and Load** *(on page 163) for detailed information about the data load process.*

Tasks

You must complete the following tasks to perform the migration to production process:

- Set up the production environment
- Move the data files
- Prepare for migration verification
- Verify the migration

Questions answered in this section

This section answers the following questions:

1. What does the preparation for migration to production consist of?
2. What data needs to be moved to the new production environment?
3. What utilities and reports are available to assist you in the migration?
4. What are the post-migration follow-up issues and tasks?
5. What are the relational database issues to be addressed?
6. What issues need to be addressed by HR-only customers?

Preparation for migration to production

Prior to moving your original production data from The Solution Series test environment to The Solution Series production environment, you should prepare a migration project task list, including work instructions for the migration.

Work instructions

One of the most important tasks you need to do is to verify that you have all the proper data in The Solution Series test environment. Once in the test environment, you also need to verify that all necessary tests have been performed on the data. Work instructions should include information like the following:

- A list of what needs to be added to the test environment prior to moving it to production
- A list of tests that need to be run
- A backup schedule for the test environment
- A list of what needs to be set up for the production environment
- A list of the test data that needs to be moved into the production environment
- Verification that the production hardware can handle the capacity of the test environment data
- A schedule for running both environments (test and production) parallel until the production environment is validated
- A list of follow-up tasks that need to be addressed in the production environment
- A list of security concerns for the Security Officer

The work instructions will be valuable to you and your Solution Series support team during the migration process, providing guidelines and troubleshooting information for a successful migration.

Size considerations for the production environment

When you are ready to migrate your test data to a production environment, you need to consider the size of your files in both environments. This directly affects the capacity of your system hardware:

- Will your current hardware be able to handle all the test environment data?
- Will your hardware be able to run both environments parallel for a specified amount of time?

If your production database is large, you may want to select just a portion of this database to off-load for running parallel. When you are ready to go live, you must factor in that your parallel run was done with only a portion of your actual data. Always maintain an adequate test environment on your system, even after you migrate to production.

Audit Trail reports

You should run the Audit Trail Control 1-2/Employee Order (ISWAS) report before the pay extract and verify any changes made to the online system. This report displays, in organization and employee order, the current field value (IS) and the previous field value (WAS). ISWASX extracts the audit records into a file (FILE15) that is sorted and used as input to the IS/WAS Audit Trail Report (ISWASP) utility program. ISWASP reads the sorted audit records (FILE14) and prints a current and prior field value listing for each session.

Changes made by the eCyborg Interactive Workforce to information in The Solution Series appear on the IS/WAS audit report generated from The Solution Series. On this audit report the user making the changes is always the eCyborg Interactive Workforce and not the employee who made the change.

The eCyborg Interactive Workforce IS/WAS (ISWASE) audit report was designed to provide an audit trail for the eCyborg Interactive Workforce. This report shows the change made in the system and prints the name of the employee who made the change. Your organization can use this report in a number of ways.

- If you are doing rollout/acceptance testing, check the audit report to see that changes made using the eCyborg Interactive Workforce are reflected in the Interactive Workforce database of The Solution Series data.
- If your organization is using eCyborg Interactive Benefits and an employee changes his or her address to another state or has a change in family status that allows him or her to update their benefit plan selections, your benefits administrator may need this information to change the employee's benefit plan.
- If an employee incorrectly entered his or her account number for the direct deposit of payroll checks, when the employee does not get their payment, your payroll department may want to check the audit report and show the employee the account number entered.

☞ *Refer to Payroll Run Changes in the eCyborg Interactive Workforce: Technical Implementation manual for more information on the ISWASE report.*

☞ *Refer to the eCyborg Interactive Workforce: Technical Administration for more information on the audit records for eCyborg Interactive Workforce.*

Production environment follow-up

When you have your production environment up and running, follow your work instructions to complete the migration process. Additional follow-up information and suggestions are discussed in this section.

Client Data File

After a large number of online transactions, such as option list (codeset) changes have been applied to the System Control Repository and the Client Data File has been updated accordingly, the Client Data File should be rebuilt.

Rebuilding the Client Data File reorganizes its index file to improve the application's performance. It should also be rebuilt to correct any out-of-synchronization conditions that may have occurred.

☞ *Refer to* **Maintaining the Client Data File** *(on page 225) for detailed information about rebuilding this file.*

Production Version setting

The Solution Series is delivered with the Production Version setting switch turned OFF. Once you have migrated to production, you may want to set this switch to ON. There are additional auditing capabilities available once this switch is set to ON. Setting the production version switch to ON or OFF requires a judgment call. If you set the switch to OFF, audit reports will not be produced for changes to the System Control Repository. If you set the switch to ON, audit reports will be produced for changes to the System Control Repository.

There is an additional impact on Maintenance In (MAINTI) processing. The first error encountered during the MAINTI process will stop the process. You can then set the production version switch to OFF, restart the MAINTI process, and then reset the switch to ON. If you need on-site assistance, contact your account manager.

☞ *Refer to* **Setting Up Environments** *(see "Installation Considerations" on page 77) for additional information on the production version setting switch.*

Security for The Solution Series system

Your Security Officer should test all levels of eCyborg and Solution Series system security for proper functionality.

☞ *Refer to* **Security Considerations** *(on page 97) and the Security documentation for additional information about system security.*

Considerations for HR-only customers

Customers using both the Payroll Administration and the Human Resources Administration components will need to run a complete pay run in the production environment to ensure that the migration was successful.

HR-only customers need only set up a production environment and then move the System Control Repository and Employee Database into that environment.

Relational issues

Customers using the relational version of the system should also maintain a test environment, just as customers using the non-relational version should. This means having a separate instance of the database.

Detailed Directions

This section provides detailed directions on completing a business task.

Tasks

Setting up the production environment....197
Moving the data files....198
Preparing for migration verification....199
Verifying the migration....200

Setting up the production environment

Before you can move the files and data from the test environment, you must set up the production environment. To set up the production environment, follow these steps:

1. **Determine and allocate disk space requirements**
   Determine how much additional disk space is required to maintain both the test and production environments.

   Once this determination is made, the necessary space should be allocated for the production environment.

2. **Create a "directory" system (if applicable)**
   In this step, you create a "directory" system to store the production files.

3. **Allocate files (if applicable)**
   If required by your operating environment, allocate the files to store the production data.

4. **Migrate the programs from test to production**
   Use your standard system utilities to perform this step.

5. **Copy the job streams to the production area (as required)**
   All of the job streams required to run the system in production should be copied to the production area, or be made accessible.

6. **Modify the job streams**
   Modify the job streams to reflect the production area directory system set up in Step 2.

See also:

- Size considerations for the production environment ***(on page 192)***
  For some suggestions on how to address your test environment size requirements.

Moving the data files

After setting up the production environment, you can move the data files.

Note: The exact instructions for moving these files will vary by platform.

1. Copy FILE01 and its index (if applicable)

Copy the System Control Repository from the test to the production area.

Note: Relational database customers must also run Build/Rebuild Control File Relational Tables (POPF01).

2. Copy FILE02

Copy the Employee Database from the test to the production area.

3. Copy P20IN

Run the PAYXTR ALL job in the test environment, then copy the P20IN (FILE12) to the production environment.

4. Run PAYMRG 171

Run the PAYMRG 171 job in the production environment.

5. Copy the Client Data File

Copy the Client Data File (versions 4.5 and 4.0 FILECL32, version 3 FILECL) from the test to the production area for all workstations.

Note: This can be accomplished by changing the configuration to point to the directory containing the Client Data File.

See also:

- Preparation for migration to production ***(on page 191)***

To assist you in preparing to move the data files.

Preparing for migration verification

To prepare for verifying the migration, follow these steps:

1. Set the Production Version switch (optional)

If applicable, set the Production Version switch to ON. You do this on the System Options form.

☞ *Refer to* **Security Considerations** *(on page 97) for more information on the production version switch.*

2. Set the companies for an off-cycle pay run

An off-cycle pay run will produce all payroll reports, just as in a standard pay run, but will not pay employees as long as time entry documents have not been previously entered.

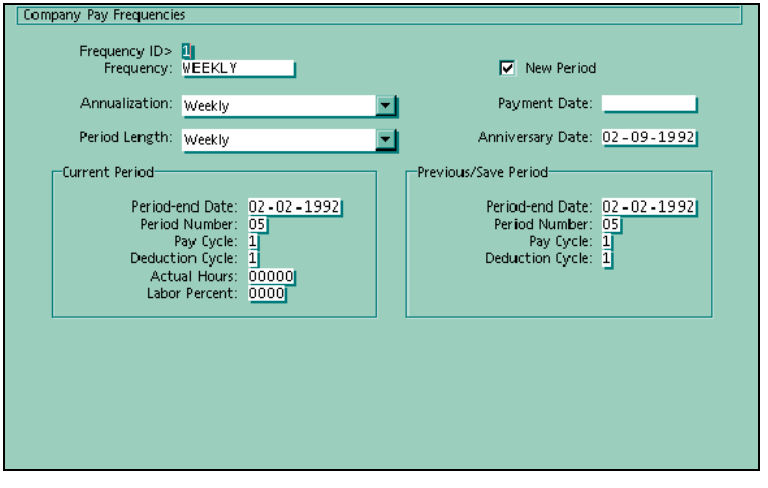
3. Check pay period dates

To check the pay period dates, you use the Company Pay Frequencies (AJ-SCR) form.

Access this form by selecting:

Component:: Payroll Setup Processing
Process: Organization Setup
Task: Pay Frequencies

The Company Pay Frequencies form is displayed:



See also:

- Production environment follow-up ***(on page 194)***

To learn why you need to update the Client Data File and why you might want to change the setting of the Production Version switch.

Verifying the migration

Once you have moved the files and programs to a production environment, verify the migration by completing these steps:

☞ *For details on executing these steps, refer to the Payroll Reports and Balancing manual.*

1. Run the ISWAS Audit Trail report

Verify any changes to the online system.

2. Run a pay extract (PAYXTR)

3. Execute an off-cycle pay run

This must include a maintenance run.

4. Run a pay merge (PAYMRG)

5. Verify report balances

Compare the balances on the generated reports to those from the last parallel pay run performed in test.

See also:

- Audit Trail reports ***(on page 193)***

To learn what to verify in the online system.

Review of Questions Answered

1. What does the preparation for migration to production consist of?

2. What data needs to be moved to the new production environment?

3. What utilities and reports are available to assist you in the migration?

4. What are the post-migration follow-up issues and tasks?

5. What are the relational database issues to be addressed?

6. What issues need to be addressed by HR-only customers?

PART 4

Maintaining the Production System

In This Section

Identifying Problems and Applying Temporary Fixes.....205
Maintaining the Client Data File.....225
Using the Backup and Restore Utilities.....237
Maintaining Cross-Reference Keys.....255
Running Report Options.....273
Managing Working Storage.....311
Synchronizing Relational Tables and Indexes.....339
Performance Tuning for Relational Databases.....355

CHAPTER 9

Identifying Problems and Applying Temporary Fixes

In This Chapter

Introduction 206
Problem identification and notification....207
Program temporary fixes 208
Application of temporary fixes 209
Detailed Directions 220
Review of Questions answered....224

Introduction

This section addresses important topics for maintaining The Solution Series.

Questions answered in this section

This section answers the following questions:

1. What procedures are used to identify problems and notify Customer Support?
2. What types of temporary fixes are distributed?
3. How are temporary fixes distributed?
4. What are override files?

Tasks

You must complete the following tasks to maintain The Solution Series:

- Determine whether a PTF has been applied
- Locate PTFs on CUBBS
- Obtain a PTF
- Apply a temporary fix

Problem identification and notification

When you identify a situation in which the system does not work as documented, you should communicate this by completing a Problem Notification (PN) form (these forms are supplied to customers by account managers and installation specialists), and submitting it to Customer Support.

Before submitting a Problem Notification form, you may want to look at existing PTFs to see if a program fix is available for the problem.

Customer Support reviews the problem, then submits the PN to the Problem Notification Coordinator. For tracking purposes, each PN is assigned a unique number. A technician will work with you on resolving the problem. If it is determined that a coding change is required and must be applied immediately, a program temporary fix (PTF) will be developed and distributed.

Note: Temporary fixes have only been unit tested. They have not been system tested.

Program temporary fixes

Program temporary fixes (PTFs) are resolutions to PNs that are made available for immediate application to your system. They are fixes applied temporarily until made part of the system by being included in an update bulletin, service pack, or upgrade.

Note: Temporary fixes have only been unit tested. They have not been system tested.

How temporary fixes are distributed

Temporary fixes are distributed on the bulletin board. You should have received instructions for using the bulletin board as part of the implementation process.

Note: If you do not have these instructions, please contact us.

Types of temporary fixes

Temporary fixes fall into the following categories:

- Cyborg Scripting Language (CSL)
- Interactive Workforce
- CYBMST (RGs and COBOL)
- Administrative Client
- Web Client
- Reporting Administration

How temporary fixes are identified

Each temporary fix is assigned a unique 7-position identifier. The identifier can be interpreted as follows:

Position(s)	Identifies	Notes
1–2	Area to which the fix applies: e = Solution Series/eCyborg 5.x PB = Payroll ST = Solution Series 3.2.x or 4.5.x PA = Position Administration (previously PM)	PB fixes can be COBOL or Report Generator. Solution Series fixes can be COBOL or Cyborg Scripting Language. PA changes can be COBOL or Cyborg Scripting Language
3–4	Release level	30 = 3.2.1 and PUB 38 45 = 4.5.3 and PUB 38 50 = Solution Series 5.0 (PUB 38) and 5.1 (PUB 39)
5–7	Sequential number	

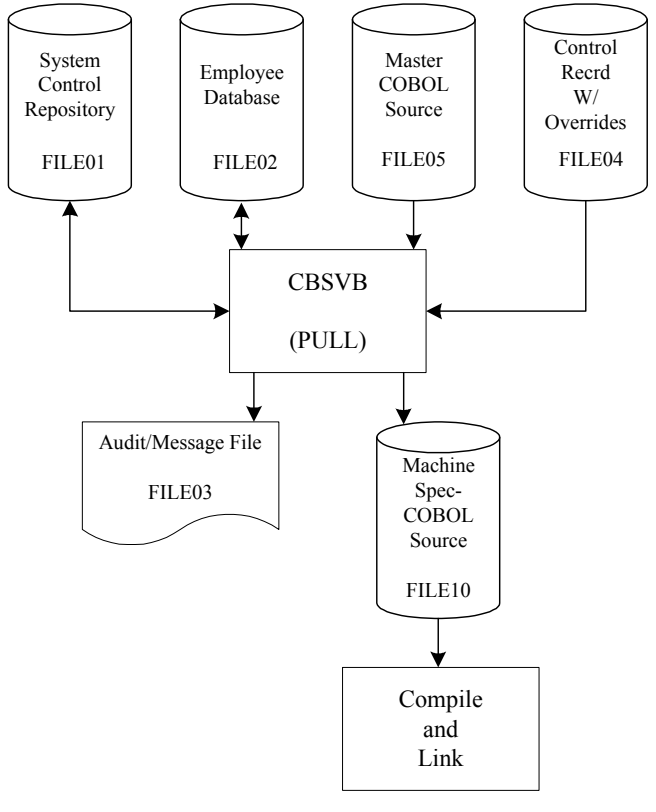
For example, the temporary fix ST45003 represents a temporary fix to The Solution Series programs for release 4.5. It is the third fix for the 4.5 release.

Application of temporary fixes

The type of temporary fix determines how it will be applied to the system. The following discussion provides the background information you will need to apply temporary fixes.

COBOL temporary fixes for CBSVx programs

Master source for the CBSVx programs is stored on the CBSV installation file. Extracted CBSVx programs are maintained by applying COBOL temporary fixes. These temporary fixes must first be copied to an override file. The overrides are then used as input to the PULL (extraction) process. Overrides do not affect the master source; they are only reflected in the extracted source. The following figure shows the flow of the extraction process and the application of the COBOL overrides:



Override file - CBSVx

You should create an override file to contain fixes to be applied to the CBSVx programs. You should have only one override for the CBSVx programs, not one for each version (CBSVB, CBSVO, and so forth). Following are the requirements for records in a COBOL override file:

- Records must be kept in COBOL sequence number order.
- Column 1 must contain one of the following action codes:
  B—Insert (add) the record to the extracted source
  C—Change (replace) the record in the extracted source
  D—Do not extract the record from the master source
- The COBOL sequence number must start in column 2

Following is an example of a COBOL PTF and the override file for the CBSVO program. Due to space constraints, only part of the actual data portion of the override file is shown:

```
KEYWORDS: IDMS
CORR: ST30003   DATE: 01 AUG 96   PN: 54558,54560,  VERS: 3.0
                                       54562, 54565
PLATFORM(S): IBM                 CODED BY: Bill G
        PROGRAM MODULE/NAME: CBSV
BBS DESCRIPTION: IDMS required corrections.
SYMPTOM DESCRIPTION: CBSVO compile errors, CBSVB PAYMRG fails.
TECHNICAL DESCRIPTION: CBSVO: IDMS controls missing, files 30 and 31
not defineD, COMM-U not defined, EXEC invalid.
CBSVB: PAYMRG 171 failed with SC07O95R FILE07 open error.  Actual cause
was files 24 and 25 at 512 bytes instead of 3060.
RESOLUTION DESCRIPTION: All code changes were resolved during the install.
CBSVO compile failed because new files that were added to the system were
not being bypassed for IDMS online.
PAYMRG failed because the default record size for files 24 and 25 were
changed.  The IDMS paymrg process requires these to be the full 3060 bytes.
ROOT CAUSE: Non available test site.
TEST DESCRIPTION:  Tested at client site.
CONFIRMATION: Resolved at install.
FURTHER ACTION REQUIRED: These will be included in the next release.
STATUS: PN response, PTF, Bulletin Board.
SUPERSEDES:  None.
ACTION: Apply change file ST30003.
FILES TO EXPECT FROM DOWNLOAD:  ST30003.DOC, ST30003.DAT
         1         2         3         4         5         6         7         8
12345678901234567890123456789012345678901234567890123456789012345678901234567890
                                    .
                                    .
                                    .
B042750/B/ 01  FILE24-RECORD.                                          5003
B042760/B/  05  FILLER                 PIC X(512).                     5003
B042770/B/+N   05  FILLER                 PIC X(2548).                5003
B042771/B/+I   05  FILLER                 PIC X(2548).                5003
C043000/C/ 01  FILE25-RECORD.                                          5003
B043010/C/  05  FILLER                 PIC X(512).                     5003
B043020/C/+N   05  FILLER                 PIC X(2548).                5003
B043021/C/+I   05  FILLER                 PIC X(2548).                5003
B050951+N   05  COMM-U                   PIC X     VALUE '_'.         5003
                                    .
                                    .
C699100-C   EXEC CICS SYNCPOINT END-EXEC.                              5003
```


Below is the override file:

```
P PULL T00100   999999PULL  5MCBSVO. VAX        4
                                    .
                                    .
                                    .
B042750/B/ 01  FILE24-RECORD.                                          5003
B042760/B/  05  FILLER                 PIC X(512).                     5003
B042770/B/+N   05  FILLER                 PIC X(2548).                 5003
B042771/B/+I   05  FILLER                 PIC X(2548).                 5003
C043000/C/ 01  FILE25-RECORD.                                          5003
B043010/C/  05  FILLER                 PIC X(512).                     5003
B043020/C/+N   05  FILLER                 PIC X(2548).                 5003
B043021/C/+I   05  FILLER                 PIC X(2548).                 5003
B050951+N   05  COMM-U                   PIC X     VALUE '_'.          5003
                                    .
                                    .
                                    .
C699100-C   EXEC CICS SYNCPOINT END-EXEC.                              5003
```

Cyborg Scripting Language temporary fixes

Cyborg Scripting Language programs are maintained by applying CSL temporary fixes. Once obtained from the bulletin board, the temporary changes file (FILE05) will be used as input to the Maintenance In (MAINTI) utility to update the CSL source contained in the System Control Repository.

Temporary fix file

You should create a temporary fix file to contain any CSL source code changes obtained from the bulletin board. Following are the requirements for records in the temporary fix file:

- Each record must be in control record format, with the correct key structure for each entry.
- Position 80 must contain one of the following action codes:
  Blank—Insert (add) the record
  A—Insert (add) the record
  C—Change (replace) the record
  D—Delete the record

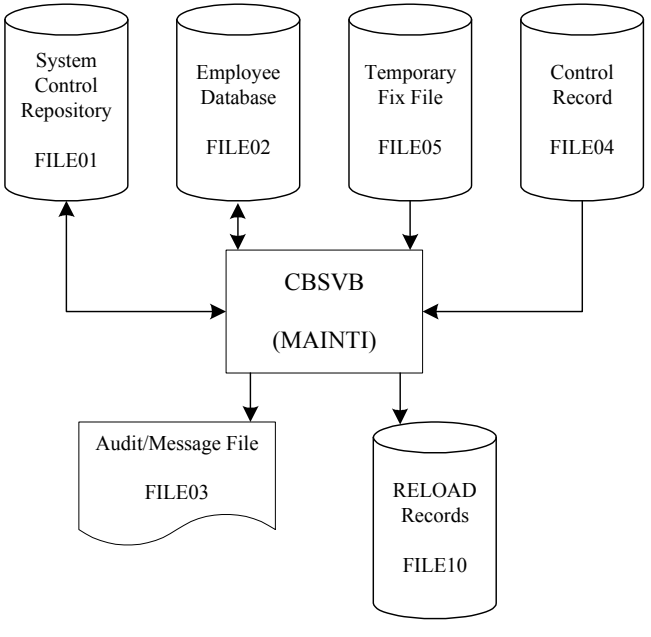
Following is an example of a the documentation file and temporary fix file for a Cyborg Scripting Language program.

```
KEYWORDS: OE-SCR, SS1SCR, 93MSCR, ENTRY, INQUIRY, QA259

CORR: e500001      DATE: 06 SEP 02    PN: QA259       VERS: eCyborg 5.0

PLATFORM(S): ALL                          Coded by: KimK

PROGRAM MODULE/NAME: HR, 93MSCR
                     HS, OE-SCR
                     BA, SS1SCR

BBS DESCRIPTION: Unable to update EE data after running OE-SCR, 93MSCR,
or SS1SCR.

SYMPTOM DESCRIPTION: After executing the OE-SCR, 93MSCR, or SS1SCR and
then going to an employee form, any changes to an existing segment
are ignored.  Treats form as if the user is in 'inquiry' mode.

TECHNICAL DESCRIPTION: Logic within the OE-SCR, 93MSCR, and SS1SCR
was overlaying the field LOW-VALUES causing the application to think the
user was an 'inquiry' user for employee level data.

RESOLUTION DESCRIPTION: Modified the P800- paragraph logic to move the
table key to W7-20-014 instead of W7-22-014.

TEST DESCRIPTION:
1.  Executed the OE-SCR form, entered and/or modified data on it.
2.  Executed the 05CSCR and attempted to change information on an existing
    entry.  After pressing ENTER, the fields were reset to the previous value.
3.  Repeated the same sequence of events for the 93MSCR and SS1SCR and
    received the same results.
4.  Applied the fix file.
5.  Repeated steps 1 and 2 for each form and was able to update employee
    information on the 05CSCR after each one.

CONFIRMATION: Confirmed by internal testing.

SUPERSEDES: None.

ACTION: Run JMAINTI using e500001.04 as FILE04 and e500001.05 as FILE05.


FILES TO EXPECT FROM DOWNLOAD: e500001.TXT (This File)
                               e500001.04 (Mainti parameters)
                               e500001.05 (Program Changes)
```


Below is the Cyborg Scripting Language temporary fix file:

```
P OE-SCR 00001 @LAST MODIFIED ON:  09-06-02  BY:  KIMK  AUTHOR:  LMD       0001C
P OE-SCR 23400   MOVE OSHA-EST TO W7-20-014.                               0001C
P OE-SCRH00010 PTF e500001 -- 06 SEPT 02 -- QA259                          0001A
P SS1SCR 00001 @LAST MODIFIED ON:  09-06-02  BY:  KIMK  AUTHOR:  JDH       0001C
P SS1SCR 18600   MOVE SPACES TO W7-20-014.                                 0001C
P SS1SCRH00010 PTF e500001 -- 06 SEPT 02 -- QA259                          0001A
P 93MSCR 00001 @LAST MODIFIED ON:  09-06-02  BY:  KIMK  AUTHOR:  JDH       0001C
P 93MSCR 21500   MOVE INBOX-ID-M TO W7-20-014.                             0001C
P 93MSCRH00010 PTF e500001 -- 06 SEPT 02 -- QA259                          0001A
```

The following figure shows the flow of the maintenance process and the application of the CSL temporary fixes.



FormBuilder programs are maintained by updating The Solution Series Form Appearance Tables (SAT files).

Once obtained from the bulletin board, the temporary fixes CSL changes file must be copied to a temporary changes file. This temporary changes file (FILE05) will be used as input to the Maintenance In (MAINTI) utility to update the Cyborg Scripting Language source contained in the System Control Repository.

The PUTSAT program updates the The Solution Series Form Appearance Table file, runs the GENER8 program to create the form appearance logic, and runs the RELOAD program to compile the form code. The SAT changes file is used as FILE05 input to the PUTSAT process.

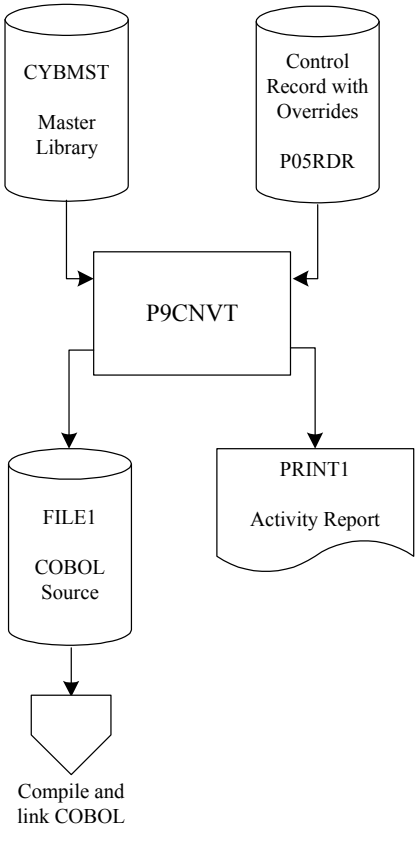
CYBMST program changes

The master source for the COBOL payroll programs is stored in the following members of CYBMST:

This member	Contains the source for
C.P0PRGM	P2EDIT P4CALC O4CALC P7COMP (Windows and UNIX only)
C.P5PRNT	P5PRNT
C.P5W2PR	P5W2PR
C.P9CNVT	P9CNVT

In addition, there are also subroutines stored as various members. The extracted COBOL source used as input to the compile is stored in FILE1. The extract source programs are maintained by applying COBOL temporary fixes. The temporary fixes must first be copied to an override file. The overrides are then used as input to the P9CNVT extraction program. Overrides do not affect the master source on CYBMST; they are only reflected in the extracted source (FILE1).

The following figure shows the flow of the extraction process and the application of the COBOL overrides:



Override file - COBOL

You should create an override file (P05RDR file) to contain fixes to be applied to the payroll COBOL programs (for example, P4CALC). The P05RDR file is referred to as the Reader File. You may have only one override file for the payroll COBOL programs. Overrides to P2EDIT, P4CALC, O4CALC, and so forth must be combined.

Following is an example of a COBOL PTF and override file for the P2EDIT payroll program. Notice that the override lines of COBOL code follow the control records.

```
KEYWORDS: O4CALC, P4CALC, PAY-CP, 5G9Y
CORR: PB37065    DATE: 06 MAR 97   PN: 61393     PUB: 37.00
PLATFORM(S): ALL                CODED BY: Rob S
PROGRAM MODULE/NAME: O4CALC, P4CALC
BBS DESCRIPTION: Auto setup of HED at employee level does not work properly.
SYMPTOM DESCRIPTION:
Method Code 9Y does not calculate if HED does not exist at the employee level.
Once setup at the employee level it works fine.
TECHNICAL DESCRIPTION:
When a new HED is being set up automatically through O4/P4Calc and the Auto
Setup is set to default to the company (X), the defaults from the company are
not being copied to the employee HED.
O4/P4Calc was setting the employee level 131-HED-Frequency to '17' to identify
using Company Defaults as the HED was being set up, but checking for a '21'
(time card method code at the Company level), thereby bypassing moving in the
default values.
RESOLUTION DESCRIPTION:
Modified the IF statement to check for a frequency of '17' as well as '21'.
ROOT CAUSE: Insufficient Unit Testing.
TEST DESCRIPTION:
Customer ran without the fix and 9Y did not calculate properly.  Recompiled
with the overrides, reran and confirmed the calculations were correct.
CONFIRMATION:
Confirmed via customer testing.
FURTHER ACTION REQUIRED: None.
STATUS: PN response, PTF, Bulletin Board.
FILES TO EXPECT FROM DOWNLOAD: PB37065.DOC, PB37065.DAT.
ACTION: Add to overrides for C.P0PRGM,  and re-extract and compile P4CALC and
O4CALC.
         1         2         3         4         5         6         7         8
12345678901234567890123456789012345678901234567890123456789012345678901234567890
@ PTF PB37065
4P 585320     IF 131-HED-FREQUENCY OF HOLD1 NOT = '21'                       6065
4P 585321       IF 131-HED-FREQUENCY OF HOLD1 NOT = '17'                     6065
4P 585322         OR (060-DEFAULT-FREQ OF HOLD1 NOT = '21')                  6065
4P 585323          GO TO 2504-HOURS.                                         6065
@ END OF PTF PB37065
```

```
         1         2         3         4         5         6         7         8
12345678901234567890123456789012345678901234567890123456789012345678901234567890
O4CALC      OP           24C     IBM-370.
   ** C.P0PRGM
4P 585320     IF 131-HED-FREQUENCY OF HOLD1 NOT = '21'                       6065
4P 585321       IF 131-HED-FREQUENCY OF HOLD1 NOT = '17'                     6065
4P 585322         OR (060-DEFAULT-FREQ OF HOLD1 NOT = '21')                  6065
4P 585323          GO TO 2504-HOURS.                                         6065
   999999
```

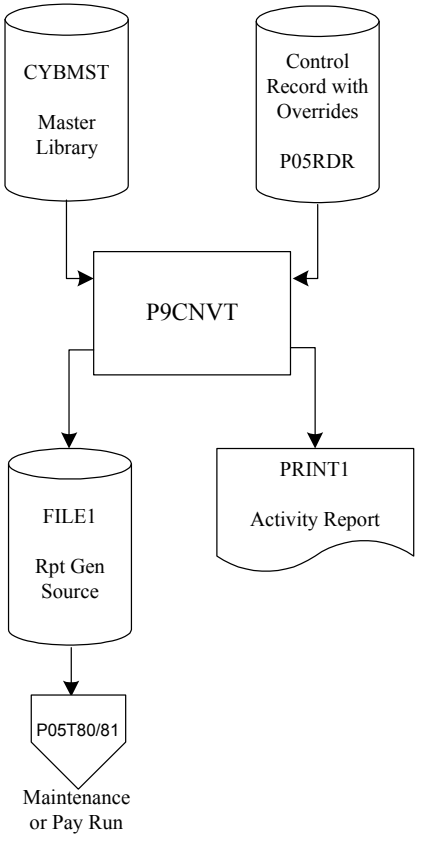
Report Generator temporary fixes

The master source for the Report Generator programs is stored as members on CYBMST. Each generator is composed of two members, a sort and a format. Extracted source used as input to the payroll process is stored first in FILE1. After being input to a maintenance or pay run, the executable code is stored only on the P20 Batch Master file.

The extracted source programs are maintained by applying overrides using the P9CNVT extraction program. Overrides do not affect the CYBMST Report Generator source members; they are only reflected in the extracted source.

☞ *Refer to* **Working with CYBMST** *(on page 435) for more information on CYBMST, including system and report generators.*

The following figure shows the flow of the extraction process and the application of the Report Generator overrides:



Override file - Generators

You should create a Report Generator override file to contain changes to generator programs—system generator and report generator. You should have only one override file that will be input as P05RDR file. Following are the requirements for records in the Report Generator override file:

- Records must be in order by report generator name, as stored in CYBMST.
- Records for each report generator must be kept in sequence number order.

Following is an example of a Report Generator override file. Notice that the override lines of Report Generator code follow the control records.

```
KEYWORDS: RG 0101
CORR: PB37020  DATE: 15 AUG 96   PN: 55254    VERS: 37.00
PLATFORM(S): ALL                  CODED BY: Bill G
PROGRAM MODULE/NAME: RG 0101
BBS DESCRIPTION: Common tax company, employer FICA or default tax errors.
SYMPTOM DESCRIPTION:
 When a common tax company is used, employer FICA may be in error or
 the default taxation rate may be in error.
TECHNICAL DESCRIPTION:
 In PUB37, a change was made to allow the entry of the default taxation
 rate in a WLFDTX transaction.  This capability matched the documentation
 of the WLFDTX transaction.  However, the usage of the WLFDTX transaction
 had changed to allow additional positions of the tax identification
 number in the area formerly reserved for the default tax rate.  This
 can cause the last two digits of the employer identification number
 to be applied as the default taxation rate or the employer FICA rate.
RESOLUTION DESCRIPTION:
 The ability to override a default taxation rate in the WLFDTX transaction
 has been removed.
ROOT CAUSE:  Incomplete research and design.
TEST DESCRIPTION:
 Extracted report generator 0101, loaded and tested.  Field 242 was not
 updated from the WLFDTX transaction.
CONFIRMATION: Internal testing.
FURTHER ACTION REQUIRED:  None.
STATUS: PN Response, PTF, Bulletin Board.
SUPERSEDES:  N/A
FILES TO EXPECT FROM DOWNLOAD: PB37020.DOC, PB37020.DAT.
ACTION:
 Use the following overrides to extract report generator 0101 and reload
 it on a maintenance run.
@ PTF PB37020
        1         2         3         4         5         6         7         8
12345678901234567890123456789012345678901234567890123456789012345678901234567890
   ** T.ZZBATCH
   999999
   ** R.SRT01
   999999
   ** R.RPT01
   R701930FLD243R;LIT01G;FLD347;MTO
    DELETE 000935-000940
   999999
@ END OF PTF PB37020
        1         2         3         4         5         6         7         8
```



```
12345678901234567890123456789012345678901234567890123456789012345678901234567890
RPT GEN PTF mach parm            source computer
   ** T.ZZBATCH
   999999
   ** R.SRT01
   999999
   ** R.RPT01
   R701930FLD243R;LIT01G;FLD347;MTO
    DELETE 000935-000940
   999999
```


Detailed Directions

This section provides detailed directions on completing a business task.

Tasks

Determining whether a temporary fix has been applied 220
Locating PTFs on CUBBS 221
Obtaining a PTF 222
Applying a temporary fix 223

Determining whether a temporary fix has been applied

You can view temporary fixes that have been applied to a form by using the Display utility (DISPLY) and selecting an object of "PTF History". Complete the following steps to view applied temporary fixes on your system:

1. Access the Display Utility form (DISPLY)

Access this form by making the following selections from the Navigator:

Component:	Development Tools
Process:	System Control Repository Utilities
Task:	List Control Repository Object

2. Select an Object

Select "PTF History".

3. Click Save or press Enter

The Display Utility form (DISPLY) displays one line for each applied Program Temporary Fix (PTF).

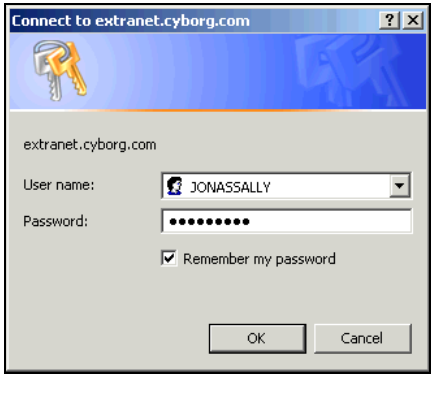
The resulting form should look similar to the example that follows:


```
P       H00710  PTF FX20071 -- 20-APR-95                                0071
P 001SCRH31310 PTF STG3131 -- 08 JAN 98 -- PN69988                      3131
P 01-SCRH31390 PTF STG3139 -- 08 JAN 98 -- PN82739                      3139
P 01-SCRH31810 PTF STG3181 - 12 FEB 98   - PN88850                      3181
P 0103PTH30430  PTF STG3043 -- 09 OCT 97 --   PN78869                   3043
P 04-SCRH31020  PTF STG3102 -- 04 DEC 97 --  PN70898                    3102
P 08-SCRH32070 PTF STG3207 - 12 MAR 98   - PN90356                      3207
P 08-SCRH32360 PTF STG3236 - 09 APR 1998 - PN91554                      3236
P 11-RPTH31800 PTF STG3180 - 12 FEB 98   - PN88755                      3180
P 16RSCRH30860 PTF STG3086 -- 20 NOV 97 -- PN80470                      3086
P 16RSCRH32270 PTF STG3227 -- 26 MAR 98 -- PN64216                      3227
P 20RRG2H31720 PTF STG3172 -- 05 FEB 98 -- PN80470                      3172
P 20RRPTH30030 PTF STG3003 -- 28 AUG 97 -- QA3025
P 20RSCRH31720 PTF STG3172 -- 05 FEB 98 -- PN80470                      3172
P 21RRPTH30030 PTF STG3003 -- 28 AUG 97 -- QA3025
P 22RRPTH30030 PTF STG3003 -- 28 AUG 97 -- QA3025
P 23RRPTH30030 PTF STG3003 -- 28 AUG 97 -- QA3025                       3003
P 23RSCRH32420 PTF STG3242 -- 16 APR 98 -- PN92997                      3242
P 24RRPTH30030 PTF STG3003 -- 28 AUG 97 -- QA3025                       3003
P 25RRPTH30030 PTF STG3003 -- 28 AUG 97 -- QA3025                       3003
                                    Exit
```

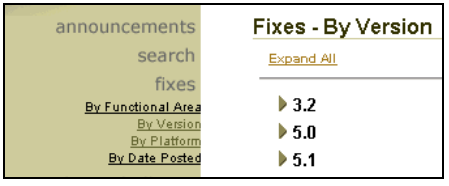
Locating PTFs on CUBBS

Note: *We periodically refresh the look of its web site, so the instructions that follow may vary slightly from those that may be needed to access CUBBS via the web site in the future. Please contact Customer Support at 312.279.6600 if you need help navigating the site.*

1. **Using a web browser, go to www.hewitt.com/ecyborg**
2. **Click the Services link on the left navigation panel**
4. **Click the CUBBS link under "Support Services" on the right navigation panel**
5. **Click "LOG-IN"**
6. **Enter User Name and Password**



7. Select type of listing you want to view under the Fixes link on the left navigation panel



Obtaining a PTF

After locating a needed PTF, you must download it to your computer.

1. Click the PTF name

Click on the name of the PTF you need in the file list.

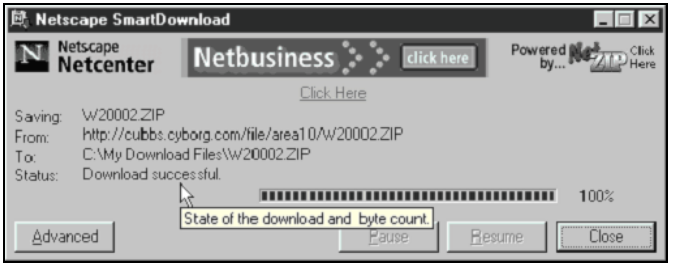
2. Enter User Name and Password (for some PTFs)

The download process will begin after the User Name and Password are authenticated.

The passwords necessary for some PTFs are obtained from Customer Services.

3. Verify that the download was successful

Depending upon the browser you use, you may see a message *similar* to the following when the download has successfully completed.



4. Log off your browser

5. Unzip the PTF

Using Explorer, locate the PTF zipped file in your download directory (C:\My Download Files in the above example) and double click on it.

6. Extract the files

Place the files in the file of your choosing.

7. Read the text file

Read the .txt or .doc file paying particular attention to the "Actions" section that outlines the steps necessary to apply the PTF.

Also refer to the instructions in the PTF as well as the information in Identifying Problems and Applying Temporary Fixes for instructions for applying the PTF to your system.

Applying a temporary fix

To apply a COBOL temporary fix to the CBSVx programs, review the documentation for the PTF. If specific installation steps are not provided, follow the steps outlined in PTF file named "PTF Installation Instructions", in CUBBS (click Search on the left navigation panel and search for "PTF Installation Instructions" in the Search for your own keyword(s) box).

Review of Questions answered

1. What procedures are used to identify problems and notify us?

2. What types of temporary fixes are distributed?

3. How are temporary fixes distributed?

4. What are override files?

CHAPTER 10

Maintaining the Client Data File

In This Chapter

Introduction 226
What is the Client Data File? 227
Multiple environment access 228
Changes that impact the Client Data File 229
How the Client Data File is updated 230
When to rebuild the Client Data File 231
Detailed Directions 232
Review of Questions answered 235

Introduction

Customers using graphical user interfaces (GUI) for The Solution Series will make use of a Client Data File.

This file, FILECL32, contains duplicate information from the System Control Repository needed for editing and validating field data.

Any changes made to the System Control Repository must be reflected in the Client Data File. This section explains how to keep the System Control Repository and the Client Data File synchronized.

☞ *Refer to* **Setting Up Environments** *(see "Installation Considerations" on page 77) for information on the detailed contents of the Client Data File and how to set up this file.*

Tasks

You complete the following tasks to maintain the Client Data File:

- Update the Client Data File
- Rebuild the Client Data File - online method
- Rebuild the Client Data File - batch method

Prerequisites

Before you can begin maintaining the Client Data File, the following tasks must have been completed.

System setup and installation

You must have decided what the most effective setup is for locating the Client Data File.

You should also have the Client Data Files installed.

☞ *Refer to* **Setting Up Environments** *(see "Installation Considerations" on page 77) for more information.*

Questions answered

The following questions are answered in this section:

1. What is the Client Data File?
2. What impacts the Client Data File?
3. How do you update the Client Data File?
4. When and how do you rebuild the Client Data File?

What is the Client Data File?

The Client Data File contains information replicated from the System Control Repository. Having this information replicated improves response time as editing is performed locally. The Client Data File is stored locally on the client workstation. The initial Client Data File is built with the following:

- Security Records
- Events Details
- Field names (only if a developer)
- The first line (000000) of the program for every CSL program/form

As the user enters a form for the first time, there may be a slight pause as the Client Data File is updated with the following details:

- Option lists specific to that form
- Field names specific to that form (if the user is not a developer)
- The SAT details for the form

The first time the user accesses a Position Administration form, the Position Administration data will be downloaded to the Client Data File. The first time the internal report scheduler is called, all report parameter details and the header line of each report program is downloaded.

Multiple environment access

Customers often have multiple Solution Series environments, for example, development, test, and production. Certain users will need access to those multiple environments from their workstations. Each environment requires its own Client Data File.

Accessing multiple Solution Series environments from a single workstation requires the correct connection configuration. This ensures access of the correct Client Data File and, consequently, to the correct System Control Repository.

Changes that impact the Client Data File

Maintenance of the System Control Repository requires maintenance of the Client Data File. Much of the updating of the Client Data File will be handled automatically. Under certain circumstances, you will be required to manually maintain this file.

All option list changes that are made using the Option List Editor (Codeset Edit Utility in version 3) immediately update the System Control Repository as well as the Client Data File being accessed by the user making the change.

Other users will have access to any changes made to the System Control Repository, but they will not see the equivalent changes made to their Client Data Files until they either sign off and back on or run the Update Client File (UPDTCL) program. Users of version 4.5 and above may change the frequency of updates in the Change Options dialog.

Client Data File update (MCL) records

Client Data File update (MCL) records are automatically created on the System Control Repository whenever maintenance is done to an object that also needs to be updated on the Client Data File. These records are used as input by the Update Client Data File program. Client Data File update records are date and time stamped. They are removed from the System Control Repository in two ways:

- After an Export Client File (MAKECL) job is run
- After 30 days

Consequently, if there are users who have not logged on for over 30 days, they may not have the latest changes. In this case, their Client Data File will have to be rebuilt or copied from another user.

Potential delays in updating the Client Data File

User access to the Client Data File will be less efficient when this file becomes disorganized due to a large number of online changes to the data it contains. Whenever a user signs on to The Solution Series, there may be a delay while the system matches its contents with the current contents of the active System Control Repository. The delay should only be noticeable when someone else, using a different Client Data File, has made significant changes to options lists, event menus, or data dictionary entries. Users should be advised that such delays may occur.

How the Client Data File is updated

The Update Client Data File utility (UPDTCL) uses the Client Data File update records on the System Control Repository to update the Client Data File. You can execute the Update Client Data File utility in either of the following ways:

- Sign off and back on
- Run the Update Client Data File utility while online

Every time you sign on to The Solution Series, the Update Client Data File utility automatically updates the currently active Client Data File with any changes posted to the System Control Repository since the most recent sign-on involving this specific Client Data File. The Update Client Data File program compares the date and time stamps on these two files and automatically synchronizes them.

When to rebuild the Client Data File

You should rebuild the Client Data File when the following conditions occur:

- When an "out-of-sync" message is encountered. After an "out-of-sync" message appears, you must rebuild the Client Data File.
- After a large number of online transactions have been applied to the System Control Repository and the Client Data File has been updated.

Rebuilding the Client Data File will reorganize its index file. By doing so, you will improve the application's performance.

Out-of-synchronization conditions

If any out-of synchronization condition occurs, it will be when The Solution Series is attempting concurrent updates to the System Control Repository and the Client Data File for the same activity. Should the system detect that it can perform this operation for only one of the files, it will issue this error message:

FILE01 out-of-sync with Local file

When this occurs, the only way to recover from the situation is to rebuild the active Client Data File and distribute it.

Detailed Directions

This section provides detailed directions on completing a business task.

Tasks

Updating the Client Data File 232
Rebuilding the Client Data File - Online Method 233
Rebuilding the Client Data File - Batch Method..... 234

Updating the Client Data File

Use either of the following methods to update the Client Data File with changes made to the System Control Repository:

1. **Sign off of The Solution Series**

2. **Sign on to The Solution Series**
   The Update Client Data File (UPDTCL) program will be executed automatically.

   or

   Run the Update Client File utility
   Run this utility by selecting:

   Component: Development Tools
   Process: System Operations
   Task: Update Client File

See also:

- Changes that impact the Client Data File ***(on page 229)***
  To learn what changes requires you to update the Client Data File.

Rebuilding the Client Data File - Online Method

After a large number of online transactions have been applied to the System Control Repository and the Client Data File has been updated, you should rebuild the Client Data File to have its index file reorganized. By doing so, you will improve the application's performance. There are two procedures you can use to rebuild the Client Data File.

To rebuild the Client Data File with the minimum amount of data, use the steps below. Data required for a form will be added as each different form is accessed. To rebuild a complete Client Data File, use the procedure that uses the Export Client File utility (MAKECL) which follows the steps below.

1. Sign off of The Solution Series

If you are signed on to The Solution Series, sign off.

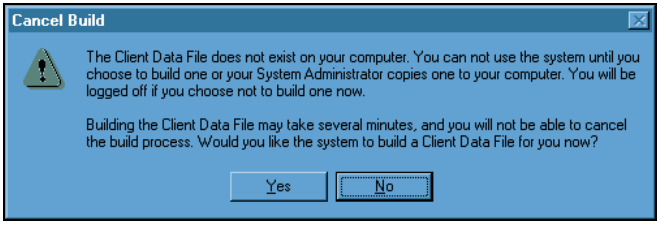
2. Delete the Client Data File (FILECL32)

Delete the Client Data File, FILECL32, using an operating system file utility tool.

3. Sign on to The Solution Series

Sign back on to The Solution Series.

After entering your User ID and Password, the following dialog is displayed.



4. Click Yes

Click **Y**es to rebuild the Client Data File.

A dialog will display indicating the progress as the file is rebuilt.

Rebuilding the Client Data File - Batch Method

After a large number of online transactions have been applied to the System Control Repository and the Client Data File has been updated, you should rebuild the Client Data File to have its index file reorganized. By doing so, you will improve the application's performance.

1. To run the Export Client File utility in batch:

INPUT	FILE01 FILE02 FILE04	System Control Repository Employee Database Control Record File
OUTPUT	FILE03 FILE10	Audit/Message File Extract Control Records File
EXECUTE	CBSVB	

Control record example:

```
         1    1    2    2    3    3    4    4    5    5    6    6    7    7    8
1...5....0....5....0....5....0....5....0....5....0....5....0....5....0....5....0
                       MAKECL
```

2. Run the Build Client Data File utility

Use the output file (FILE10) from Step 1 as input.

Note: If running MAKECL on a mainframe, you must first download the file to the PC.

INPUT	FILE10	from Step 1
OUTPUT	FILECL32	a Client Data File that contains duplicate information from the System Control Repository
EXECUTE	BuildFileCL32	

3. Copy the rebuilt Client Data File (if applicable)

Copy the rebuilt Client Data File into each user's working directory for The Solution Series.

See also:

- When to rebuild the Client Data File ***(on page 231)***

To learn when it becomes necessary to rebuild a Client Data File.

Review of Questions answered

1. What is the Client Data File?

2. What impacts the Client Data File?

3. How do you update the Client Data File?

4. When and how do you rebuild the Client Data File?

CHAPTER 11

Using the Backup and Restore Utilities

In This Chapter

Introduction 238
General considerations....240
Backup considerations for the Employee Database 243
Commit, Rollback, and Recovery....244
Data keys for Company, Employee, Tax 246
Menu records, server checklists, and user profiles on database tables....247
Synchronization of object code....249
Detailed Directions....250
Review of Questions answered....254

Introduction

Developing a thorough plan for the backup and recovery of The Solution Series is an important component of system administration. Database (data) backups are an important part of a comprehensive database protection strategy and are the responsibility of the customer.

At many sites, backing up the system is handled by the system operations, and no special tasks are required of system administrators for The Solution Series. However, it is imperative that you be involved in the formulation of the backup and recovery plan.

There is no substitute for a system backup of all of The Solution Series files. However, there are utilities available to assist in "housekeeping" of the System Control Repository and the Employee Database.

The System Control Repository (FILE01) is the primary repository of FILE01application data in the indexed version of The Solution Series. The Employee Database (FILE02) is the primary repository of person data in the indexed version of The Solution Series.

Note: *For Solution Series releases prior to 5.1, FILE02 (Employee Database) contains keys for accessing data in the RDBMS tables. Customer must make sure that FILE01, FILE02, and the database are backed up together.*

The Relational Database Management System (RDBMS) is the primary repository of FILE01 and FILE02 application data in the relational version of The Solution Series.

There is no substitute for a system backup of all of The Solution Series files. However, there are utilities available to assist in "housekeeping" of the System Control Repository and the Employee Database.

Tasks

You must complete the following tasks to backup and restore the System Control Repository and the Employee Database:

- Backup the System Control Repository using the Backup (BACKEM) utility.
- Restore the System Control Repository using the Restore (DEMO01) utility.
- Backup and restore the Employee Database using the Pay Extract (PAYXTR) and Pay Merge (PAYMRG) programs.
- Synchronize the executables
- Recover the database

Questions answered in this section

This section answers the following questions:

1. What should be considered in the backup and recovery plan?
2. Why is it important to have a sequential backup of the System Control Repository?
3. What facility is provided for creating a sequential backup of the System Control Repository?
4. What facility is provided for restoring from a sequential backup of the System Control Repository?
5. What programs are used for backing up and restoring the Employee Database?
6. What implications are there for users of the relational version of the system?
7. What synchronization issue exists between the System Control Repository and the Employee Database?

General considerations

When developing a backup and recovery plan, customers on all platforms should keep the following in mind:

- A clean copy of the installed files, saving the original source code, should be maintained.
- No logging facilities are provided.
- No automatic backup and recovery facilities are provided.

☞ *Refer to* **Setting Up Environments** *(see "Installation Considerations" on page 77) for a more detailed discussion of backup recommendations following system installation.*

Reasons for backups

There are a variety of reasons for backing up the system files, including the following:

- System failures
- Change control

Backup considerations for system failures

Your backup and recovery plan should account for the potential of a failure. Take a daily backup of the online files.

At most sites, a Client Data File is maintained on each workstation. In the event of a hardware failure, a user can simply copy a current Client Data File from another user, if necessary.

☞ *Refer to* **Maintaining the Client Data File** *(on page 225) for more information on the Export Client File and Build Client File programs.*

Backup considerations for change control

After installing The Solution Series, most clients make custom code changes. And, periodically, we distribute update bulletins.

To be able to identify the custom code changes made at your site, you will need to have a backup of the original System Control Repository to compare to the current System Control Repository.

This comparison is done using the Change Control Facility Maintenance Output (MAINTO) utility.

The utilities for creating a backup of the System Control Repository are described below.

☞ *Refer to* **Customization** *(on page 107) and* **Analyzing and Editing the Difference File** *(on page 701) for more information on the Change Control Facility Maintenance Output (MAINTO) utility.*

Backup of the System Control Repository

A utility is provided for backing up the System Control Repository, BACKEM. Either utility creates a sequential backup file (FILE10) containing all records found in the System Control Repository.

Notes: *The backup of the System Control Repository is written in record sequential format (fixed length records).*

UNIX customers must execute CBSVBT with the Backup (BACKEM) utility.

A Backup scenario

The importance of using the Backup utility, is when it is used—the date on the output file—and how it is used.

Consider the following scenario of a customer moving from a prior version to a new version of the system:

May 1

1. The customer loads the new version of the system into a test environment.
2. The customer runs the Change Control Facility Maintenance Output (MAINTO) utility on the prior version, using the saved DEMO0105 file from the prior installation. This identifies all changes made since the installation.
3. The customer runs the Change Control Facility Maintenance Input (MAINTI) utility against the new version of the system in the test environment. This applies all of the changes made since the installation.
4. The customer also runs the backup utility against the prior version of the system, to produce a sequential backup (DEMO0105/FILE10) as of May 1.

May 2 to July 31

1. The customer makes changes to the prior version of the system—the production system.
2. The customer tests the new version of the system—the test system.

August 1

1. The customer runs the Change Control Facility Maintenance Output (MAINTO) utility against the prior version—the production system—using the DEMO0105/FILE10 created on May 1. This identifies only those changes made since May 1.
2. The customer moves the new version of the system from test to production.
3. The customer runs the Change Control Facility Maintenance Input (MAINTI) utility against the new production system, using only those changes made since May 1.

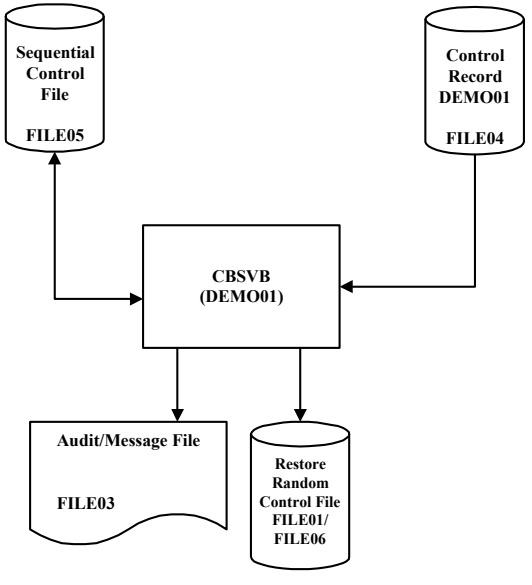
Restoration of the System Control Repository

After creating a sequential backup of the System Control Repository using the Backup utility, you can use that sequential file in the restore process. The restore process creates a new random System Control Repository.

To restore the System Control Repository from a sequential backup, you use the Restore System Control Repository (DEMO01) utility.

This utility is run with an execution of CBSVB or CBSVBT.

The following figure shows the flow of this utility:



Note: UNIX customers must execute CBSVBT with the Restore System Control Repository (DEMO01) utility.

Backup considerations for the Employee Database

You can create a backup of the Employee Database using either your system utilities or the Pay Extract (PAYXTR) program.

The Pay Extract (PAYXTR) program creates a batch master file, P20.

After running this program, you should reset security using the Reset Security Records (CYBRST) program.

Note: Time entries and adjustments will be written to FILE10.

Commit, Rollback, and Recovery

Our commit/rollback methodology enforces a logical unit of work through out CBSVO/B for update, add and/or delete for both on-line and background transactions on the System Control Repository (FILE01) and the database. This includes program O4CALC, a member of CYBMST.

The Relational Database Management System (RDBMS) is the primary repository of FILE01 and FILE02 application data. Database backups are an important part of a comprehensive database protection strategy and are the responsibility of the customer.

For the System Control Repository (FILE01), we maintain a copy on the database in TABLE01. The exception to this is "ZL" (lock) records. For FILE02, the company, employee, tax and various Z records are located in two tables on the database. Table ZZ2IND contains the Company/Organization, Employee and Tax keys. The various Z (other) records are stored on the database in the Z_TABLE. The exceptions to this are ZX records, which are refreshed from FILE01 if not found on FILE02, and "ZQ" records, which are used to pass data back and forth with O4CALC during PAY-CP and are considered scratch-pad in their nature.

Records	Definition
ZE	New Application Error record.
ZH	Records that are created to track where a user is in a process being exited prematurely. Created by Training Administration, Position Management, and WRITER.
ZI	IS/WAS Audit record used in the IS/WAS Audit Report.
ZN	Scratch area record created by the CSL verb SCRATCH and deleted by the GOODBY program.
ZQ	Online Pay Calc records that are history/labor informational records created by O4CALC when PAY-CP is executed.
ZR	Report Viewing records created when the VIEW feature is used.
ZU	Batch Balancing records created as a result of batch balancing time entries.
ZV	Batch time entry records.
ZX	Executable Code records.
ZY	Session records.
ZZ	Audit records.
ZZA	Time Entry records.

RDBMS vendors ensure that if any errors occur during a transaction, the database uses the information in the rollback log file to roll back the transaction. In our rollback strategy, we include the database changes made but not committed and the corresponding System Control Repository (FILE01) updates. We store System Control Repository (FILE01) keys that have been involved in adds, changes, and deletions in a working storage array, TABLE01-TABLE, prior to the logical unit of work (LUW) being committed.

For background (batch) transactions and high volume I-O to the System Control Repository (FILE01), we employ a system configurable commit limit within CBSV. SQLLIM, configurable via the Expand Areas in CBSV (EXPAND) form, is the minimum # of SQL transactions before COMMIT is performed. Generally, the SQLLIM is set high to improve performance. SQLLIM is initialized to 1000 in CBSVO/CBSVB, however during batch DEMO and PAYMRG 171 processing, the limit is automatically reset to 5000. The value of SQLLIM is dependent on the amount and size of the rollback logs available for use. If the limit is reached prior to the completion of background (batch) process, we will force a commit to maintain the integrity of the rollback files.

The Relational Database Management System (RDBMS) is the primary repository of FILE01 and FILE02 application data. Should data corruption occur, first, the database must be recovered to the point prior to the corruption using your RDBMS tools. Then FILE01 will need to be restored from database table, TABLE01. TABLE01 is used by The Solution Series to maintain a mirrored copy of FILE01. A standalone COBOL program, F1RSTR, will restore FILE01 from the TABLE01 database table (using an OS-specific script, jf1rstr).

For FILE02, we deliver the F2RSTR COBOL program, which provides a separate recovery process where the Batch Payroll Master (Report Generators) are restored on the FILE02 without affecting the Company, Employee, and Tax data on file in the database. Company, employee, and tax keys are stored on the database in table ZZ2IND.

Data keys for Company, Employee, Tax

In past versions of the system, the company, employee, and tax keys were resident on the Employee Database (FILE02). Starting with the Solution Series 5.1 release, all Company, employee, tax and various Z record data exist on the database where data synchronization is now taken care of by the RDBMS vendor. FILE02 now contains the Batch Payroll Master (Report Generators), CSL executable programs, temporary Z records, SUBMIT/VIEW report output, and error log records. Once you recover your system, you can recreate FILE02 by running the F2RSTR program.

Menu records, server checklists, and user profiles on database tables

To ensure consistency and limit the RDBMS licenses to 1 per on-line session, starting with the 5.1 release of The Solution Series, the write of menu records, server checklists, and user profiles are performed in program(s) CBSVO/CBSVOT.

SQL Server

TABLE01 is a full backup of FILE01. It has the following columns:

Field	Key	Data Type	Precision
FKEY	PK	BINARY	24
FDATA		BINARY	56

Z_TABLE holds the data for FILE02 "Z" records, except for ZQ and ZX. It has the following columns:

Field	Key	Data Type	Precision
FLENGTH		SMALLINT	
FKEYZ	PK	BINARY	32
FDATAZ		VARBINARY	3025

ZZ2IND holds the data for FILE02 keys. It has the following columns:

Field	Key	Data Type	Precision
ZZ2INDEX	PK	BINARY	32

Oracle

TABLE01 is a full backup of FILE01. It has the following columns:

Field	Key	Data Type	Precision
FKEY	PK	CHAR	24
FDATA		CHAR	56

Z_TABLE holds the data for FILE02 "Z" records, except for ZQ and ZX. It has the following columns:

Field	Key	Data Type	Precision
FLENGTH		SMALLINT	
FKEYZ	PK	CHAR	32
FDATAZ		VARCHAR	3025

ZZ2IND holds the data for FILE02 keys. It has the following columns:

Field	Key	Data Type	Precision
ZZ2INDEX	PK	CHAR	32

DB2 (z/OS)

TABLE01 is a full backup of FILE01. It has the following columns:

Field	Key	Data Type	Precision
FKEY	PK	CHAR	24
FDATA		CHAR	56

Z_TABLE holds the data for FILE02 "Z" records, except for ZQ and ZX. It has the following columns:

Field	Key	Data Type	Precision
FLENGTH		SMALLINT	
FKEYZ	PK	CHAR	32
FDATAZ		VARCHAR	3025

ZZ2IND holds the data for FILE02 keys. It has the following columns:

Field	Key	Data Type	Precision
ZZ2INDEX	PK	CHAR	32

Synchronization of object code

Object code for The Solution Series is stored on the System Control Repository as P/X records.

To improve response time, a copy of the object code for these programs is copied to the Employee Database as ZX records.

This occurs when a program is executed and the object code is not found on the Employee Database. Consequently, it is important that these two files have the same versions of the object code.

When The Solution Series is running, it is the code on the Employee Database that is executed, not the code on the System Control Repository.

If the results of processing are not as expected, determine if the code on the Employee Database is the most current.

To ensure that the object code you are running is from the System Control Repository, you can run the Remove ZX (executable code) records from the Employee Database (ZX-DEL) utility. This utility deletes all executable code (ZX) records from the Employee Database.

To synchronize the executables, of a single program, you use the Purge Object Code from FILE02 (PRG02X) utility. You can run this utility online or in batch.

Note: If a PAYMRG 171 is done, all ZX records are dropped from the Employee Database.

Detailed Directions

This section provides detailed directions on completing a business task.

Tasks

Running BACKEM 250
Running the Restore System Control Repository utility 250
Backing up the Employee Database 251
Synchronizing the executables 252
Recovering the database 253

Running BACKEM

You use BACKEM to make a sequential copy of the System Control Repository.

To run BACKEM, execute CBSVB or CBSVBT as follows:

INPUT	FILE01 FILE02 FILE04	System Control Repository Employee Database Control Record File
OUTPUT	FILE03 FILE10	Audit/Message File Sequential backup file
EXECUTE	CBSVBT	

The control record on FILE04 has the following syntax:

In these positions	Enter	Description
23–28	BACKEM	program name

Running the Restore System Control Repository utility

You use the Restore System Control Repository (DEMO0105) utility to create a random version of the sequential backup of the System Control Repository created with the BACKEM or BACKUP utility.

To run the Restore utility, you execute CBSVB or CBSVBT as follows:

INPUT	FILE04 FILE05	Control Record File Sequential Control File
OUTPUT	FILE03 FILE01/FILE06	Audit/Message File Random Control File
EXECUTE	CBSVB/CBSVBT	UNIX customers must use CBSVBT

The control record on FILE04 has the following syntax:

In these positions	Enter	Description
23–28	DEMO01	program name

FILE01/FILE06 is used only by the Restore process.

Once restored, FILE01/FILE06 should be referred to as FILE01 for all subsequent processing.

The reference to the logical FILE01 (open as input/output) or FILE06 (open as output only—only used when creating FILE01) is machine dependent. Refer to your specific installation job stream to determine your specific use.

See also:

- General considerations ***(on page 240)***

To learn the items you should consider in backing up your system.

Backing up the Employee Database

You can backup the Employee Database using either your system utilities or using the Pay Extract (PAYXTR) program. When using the Pay Extract (PAYXTR) program, you will need to extract all organizations.

To run this program, you execute CBSVB as follows:

INPUT	FILE01 FILE02 FILE04 FILE11	System Control Repository Employee Database Control Record File Batch Master File
OUTPUT	FILE03 FILE10 FILE12	Audit/Message File Time entries and adjustments Extract batch master file (P20)
EXECUTE	CBSVB	

The control record on FILE04 has the following syntax:

In these positions	Enter	Description
23–28	PAYXTR	program name
31–33	ALL	

See also:

- Backup considerations for the Employee Database ***(on page 243)***

To learn how the Employee Database and System Control Repository are related.

Synchronizing the executables

If you have multiple Employee Database executables in production, you must synchronize the executables on the System Control Repository and the Employee Database.

Use the Purge Object Code from the Employee Database (PRG02X) utility. You can execute this utility online or in batch.

Executing PRG02X online

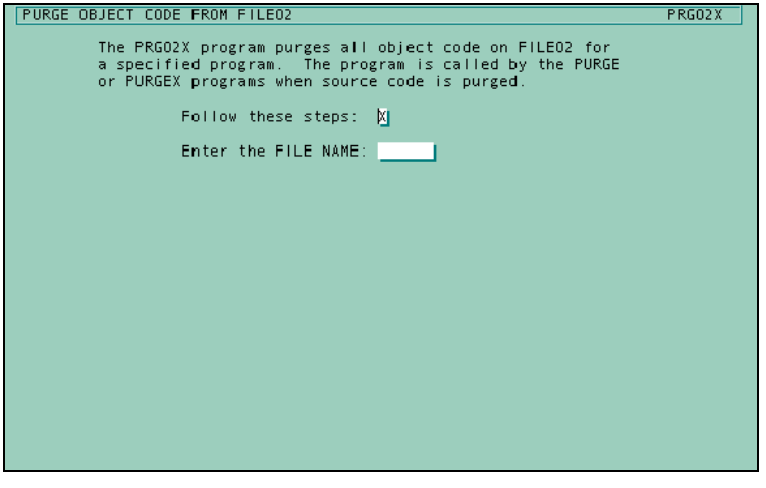
To execute the Purge Object Code from the Employee Database (PRG02X) utility, follow these steps.

1. Access the Purge Object Code from FILE02 form

You access this form by selecting:

Component: Development Tools
Process: Employee Database Utilities
Task: Purge Employee Database Objects

The PRG02X prompt form appears:



2. Enter the name of the program whose object code you want to delete

Enter this six-character name in the File Name field.

3. Press Enter

The system purges the object code for the specified program and returns the message *--COMPLETE--*.

The system *does not ask for verification* of the deletion. However, the system recreates the program's object code on the Employee Database the next time the program is executed.

Executing PRG02X or ZX-DEL in batch

Execute the Purge Object Code from the Employee Database (PRG02X) utility or the Delete ZX Records from FILE02 in batch as follows:

INPUT	FILE01 FILE02 FILE04	System Control Repository Employee Database Control Record File
OUTPUT	FILE03	Audit/Message File
EXECUTE	CBSVB	

The control record on FILE04 has the following syntax:

In these positions	Enter	Description
23–28	PRG02X or ZX-DEL	program name
31–40	object key	(PRG02X only)

You can set up multiple control records in the same run. For example:

```
  1         2         3         4         5
12345678901234567890123456789012345678901234567890123456789
P PRG02XJ00100        PRG02X  F-SEGM
P PRG02XJ00100        PRG02X  SRTFLD
P PRG02XJ00100        PRG02X  COPY
```

See also:

- Synchronizing the executables ***(on page 252)***

To learn how the PRG02X utility synchronizes the executables in the System Control Repository and the Employee Database

Recovering the database

Perform the following steps to completely recover the database:

1. Restore Solution Series Database

Recover the Solution Series database to the point of failure using your associated database vendor process.

2. Recover FILE01

Perform the following steps to recover FILE01:

1. Compile F1RSTR by executing jcf1rstr (Windows, UNIX, z/OS).
2. Recover FILE01 from TABLE01 on your RDBMS by executing jf1rstr
3. Synchronize FILE01 to the application tables on your RDBMS by executing jpopf01

3. Recover FILE02

Perform the following steps to recover FILE02:

1. Compile F2RSTR by executing jcf2rstr (Windows, UNIX, z/OS).
2. Recover FILE02 from latest p20in.mnt by executing jf2rstr

Review of Questions answered

1. What should be considered in the backup and recovery plan?

2. Why is it important to have a sequential backup of the System Control Repository?

3. What facility is provided for creating a sequential backup of the System Control Repository?

4. What facility is provided for restoring from a sequential backup of the System Control Repository?

5. What programs are used for backing up and restoring the Employee Database?

6. What implications are there for users of the relational version of the system?

7. What synchronization issue exists between the System Control Repository and the Employee Database?

CHAPTER 12

Maintaining Cross-Reference Keys

In This Chapter

Introduction 256
QUERY Primary Keys 257
QUERY Alternate Keys....258
Phonetic Keys 260
Employee ID Keys....261
Rebuilding Position Administration cross-references....263
Detailed Directions 264
Review of Questions answered....271

Introduction

In this section you will become familiar with maintaining cross-references within The Solution Series system.

Keys provide direct QUERY access to your data within The Solution Series database. The Solution Series provides three types of keys—QUERY Primary Keys, QUERY Alternate Keys, and Phonetic Keys.

The QUERY Primary Keys require no maintenance and are immediately available to you.

QUERY Alternate Keys need to be maintained on a regular basis.

The maintenance of Phonetic Keys depends on how you have entered your employee data.

Tasks

You must complete the following tasks to maintain your cross-reference data:

- Maintain QUERY Alternate Keys
- Maintain Phonetic and Employee ID Keys

Questions answered in this section

This section answers the following questions:

1. What is a QUERY Primary Key?
2. What is an QUERY Alternate Key?
3. What is a Phonetic Key?
4. What is an Employee ID Key?
5. How do you delete and rebuild QUERY Alternate Keys?
6. How do you delete and rebuild Phonetic and Employee ID Keys?
7. What are the pre-defined QUERY Alternate Keys?
8. What is recommended for maintenance of both the QUERY Alternate Keys and Phonetic Keys?

QUERY Primary Keys

QUERY Primary Keys are used to direct your Query program to the type of record you will be processing, such as employee data or audit record data.

The QUERY Primary Keys are:

- 00—Employee Number
- HL—History/Labor
- MN—Documentation
- P—Program Name
- TX—Tax Records

Recommended maintenance

The QUERY Primary Keys require no maintenance and are immediately available to you.

QUERY Alternate Keys

QUERY Alternate Keys is a term used by The Solution Series to access the employee master record in an order other than by primary key.

These fields are index pointers created using the Master Record Key and other field information. The QUERY program uses them to search and sort records when a query is executed.

The system reads the QUERY Alternate Key record from the System Control Repository and then reads the employee record from the Employee Database using the Organization Control Number, record type, and Employee Number from the QUERY Alternate Key record.

The QUERY Alternate Keys are stored in the System Control Repository as Q records that can be viewed using EDIT.

The QUERY Alternate Keys pre-defined by The Solution Series are:

- 01—Social Security Number
- 02—Employee Name

The Solution Series provides the following utility programs for the maintenance of your QUERY Alternate Key:

- KEYDEL—QUERY Alternate Key Delete
- KEY-00—QUERY Alternate Key Rebuild

KEYDEL Utility Program

The QUERY Alternate Key Delete (KEYDEL) utility program deletes QUERY Alternate Key records from the System Control Repository by QUERY Alternate Key type (depending on the security authorization of the user).

When you run the KEYDEL utility program, control records for each QUERY Alternate Key type must be added. Each key type control record must use the appropriate values in the FROM and TO fields.

KEY-00 Utility Program

The QUERY Alternate Key Build (KEY-00) utility program is used to create QUERY Alternate Keys.

This program must be re-executed on a regular basis to create QUERY Alternate Keys for the new employee records added to the file.

The KEY-00 program, as delivered, creates QUERY Alternate Key records to access employee records by Social Security number and Name (last name, first name).

The program may also create QUERY Alternate Keys that allow you access to other records, such as time entries, adjustment transactions (audit records), or Cyborg Scripting Language program records (if customized).

Recommended maintenance

You should set up a schedule for maintaining the QUERY Alternate Keys.

As new Master Records are being added or employees are transferred between organizations, the QUERY Alternate Key records are not updated. Therefore, QUERY Alternate Key records must be periodically purged and rebuilt using the KEYDEL and KEY-00 programs.

Because you are dealing with a large number of records it is also recommended that you execute these programs in batch mode using a Query Control Record in your job stream.

If you only have a few new lines, you can run KEY-00 online for each new employee.

☞ *Refer to the Cyborg Scripting Language Programming documentation for information on building additional alternate keys.*

Phonetic Keys

Phonetic Keys allow you to access your employee data by using the phonetic spelling of the employee's last name.

Phonetic Key records are stored in the System Control Repository as QPE records and are used by the Phonetic Name Search (PHONET) and Name Search (LOOKUP) programs.

When you execute these programs, they translate the phonetic spelling of the employee's name into a numeric key.

Using that numeric key the programs read the Phonetic Key records from the System Control Repository. Then they read the Employee Record from the Employee Database using the Organization Control Number, record type, and employee number.

The displayed results are either the Employee Number from the Phonetic Key record or a list of all employee names and numbers that match the phonetic spelling you entered.

Phonetic Keys are not used to execute queries.

The Solution Series provides the following utility programs for the maintenance of your Phonetic Keys:

- Phonetic Key Delete (DEL-PE)
- Build Phonetic Keys (KEY-PE)

If you add employee records using The Solution Series online or via batch formatted forms, the Phonetic Keys are automatically produced.

If you add employee records using batch transactions through the P4CALC program your online system will not contain the Phonetic Keys needed to execute the Phonetic Name Search Program (PHONET).

You must periodically rebuild your Phonetic Keys. This is usually done only once after your data is loaded into the Employee Database.

Employee ID Keys

You can also use the Build Phonetic Keys (KEY-PE) program to build Employee ID Keys. These keys allow you to search for employees across organizations. (This is a Workflow enablement feature.)

DEL-PE Utility Program

Before you rebuild, you must first delete all existing Phonetic Keys using the Phonetic Key Delete (DEL-PE) program.

The DEL-PE utility program is run either online or in batch mode and deletes all Phonetic and Employee ID Key records for all organizations.

KEY-PE Utility Program

After the delete is completed, you need to use the Build Phonetic Key (KEY-PE) QUERY program to create the Phonetic Keys in batch or use the online QUERY facility.

The Control Records for each Organization Control Number value must be added to the KEY-PE job and the KEY of 00 must be used with the appropriate FROM and TO values to include all employees.

The KEY-PE program builds Phonetic and Employee ID Keys for each organization.

Recommended maintenance

The maintenance of the Phonetic Keys depends on how you added employee records to your system:

- If you added the employee records online using The Solution Series, you will not need to run the Phonetic Keys Build (KEY-PE) utility program.

  Phonetic Keys are automatically created and/or updated for employee records added to the Employee Database.

- If you added employee records using batch transactions through the P4CALC program, your online system will not contain the Employee ID Keys (needed to execute the Social Security Number search).

  You must rebuild your Employee Keys. This is usually done only once after your data is loaded to the Employee Database.

Recommended maintenance summary

Set up a schedule for maintaining the QUERY Alternate Keys and for the Phonetic and Employee ID Keys.

The following is an overall maintenance summary:

Keys	Maintenance
Primary Keys	Require no maintenance; are immediately available to you.
Alternate Keys	Periodically purge records and rebuild using KEYDEL and KEY-00; execute in batch using Query Control Record in job stream.
Phonetic and Employee ID Keys	*For online*—no maintenance; are automatically created and/or updated for employee records added to the Employee Database. *For batch from P4CALC*—rebuild keys after employee records are added to the Employee Database using the DEL-PE and KEY-PE programs.

Rebuilding Position Administration cross-references

There are three different sets of cross-reference records used in Position Administration:

- T0W—Track the relationships between Organizational Units
- T0X—Track the relationships between Positions and Jobs
- T0Y—Track the relationships between Incumbents and Positions

If you are using MAINTI processes to update or load any of the relationship entries, they may become out of sync. It is also possible for the Incumbent/Position relationships to get out of sync if the Employee Database is restored without the System Control Repository or vice versa.

To rebuild the Organizational Unit cross-reference

To rebuild the Organizational Unit cross-reference, either in batch or online, run the BLDT0W program. It will delete all T0W records on the System Control Repository and then read all of the Org Unit records to recreate the cross-reference records. Once the program is complete, you do not have to do anything else. If large volumes of data are involved, we recommend you run BLDT0W in batch instead of online. The BLDT0W program is not specific to any organization, it will run for every Org Unit on file regardless of the PM control number found on the AX-SCR.

To rebuild the Position to Job cross-reference

To rebuild the Position to Job cross reference, delete the cross reference records for the specific PM Control number specified on the AX-SCR for the organization by running the program DELT0X. If large volumes of data are involved, we recommend you run DELT0X in batch instead of online. If there are multiple organizations using the same PM control number, all entries for them will be deleted.

Rebuild the cross-reference records for the same PM control number by executing the BLDT0X program. If large volumes of data are involved, we recommend you run BLDT0X in batch instead of online. If there are multiple organizations using the same PM control number, all entries for them will be rebuilt.

To rebuild the Incumbent to Position cross-reference:

To rebuild the Incumbent to Position cross-reference, delete the cross reference records for the specific PM Control number specified on the AX-SCR for the organization by running the program DELT0Y. If large volumes of data are involved, we recommend you run DELT0Y in batch instead of online. If there are multiple organizations using the same PM control number, all entries for them will be deleted.

Rebuild the cross-reference records for the same PM control number by executing the BLDT0Y program. The BLDT0Y program should be run as a query for all employees. If large volumes of data are involved, we recommend you run BLDT0Y in batch instead of online.

Detailed Directions

This section provides detailed directions on completing a business task.

Tasks

Maintaining QUERY Alternate Keys 264
Maintaining Phonetic and Employee ID Keys 266

Maintaining QUERY Alternate Keys

1. Delete Alternate Key records from the System Control Repository

The KEYDEL program requires a two-line control record.

The control records for each QUERY Alternate Key type and each Organization Control Number value must be added to the KEYDEL job.

Each QUERY control record must have the appropriate FROM and TO values.

The following are the input files, output files, and the program you need to execute KEYDEL.

To execute this utility, you need to run CBSVB as follows:

INPUT	FILE01 FILE02 FILE04	System Control Repository Employee Database Control Record File
OUTPUT	FILE03	Audit/Message File
EXECUTE	CBSVB	

For QUERY control record line 1:

In These Positions	Enter	Description
23–28	QUERY	
56–61	KEYDEL	
62–63	Key to be deleted	Example: 01,02
64–74	FROM field value (position 1–11)	
75	Continuation character "*"	

For QUERY control record line 2:

In These Positions	Enter
16–23	FROM field entry (positions 12–19)
26–44	TO field entry

QUERY Control Record Example:

Social Security Number Delete:

```
         1    1    2    2    3    3    4    4    5    5    6    6    7    7    8
....5....0....5....0....5....0....5....0....5....0....5....0....5....0....5....0
P QUERY LINE 1        QUERY                          KEYDEL010          *
P QUERY LINE 2           999999999
```

Employee Name Delete:

```
  1    1    2    2    3    3    4    4    5    5    6    6    7    7    8
....5....0....5....0....5....0....5....0....5....0....5....0....5....0....5...0
P QUERY LINE 1        QUERY                          KEYDEL02A          *
P QUERY LINE 2           ZZZZZZZZZ
```

2. Rebuild Alternate Key record from the System Control Repository

The KEY-00 program requires a two-line control record.

The control records for each Organization Control Number value must be added to the KEY-00 job.

The KEY of 00 must be used with the appropriate FROM and TO values to include all employees.

The following are the input files, output files, and the program you need to execute KEY-00.

To execute this utility, you need to run CBSVB as follows:

INPUT	FILE01 FILE02 FILE04	System Control Repository Employee Database Control Record File
OUTPUT	FILE03	Audit/Message File
EXECUTE	CBSVB	

For QUERY control record line 1:

In these positions	Enter
17–22	Control 1-2 value
23–28	QUERY
56–61	KEY-00
62–63	00
64–74	FROM Employee Number (positions 1–11)
75	Continuation character "***"**

For QUERY control record line 2:

In these positions	Enter
16–23	FROM field entry (positions 12–19)
26–44	TO Employee Number

QUERY control record example:

Rebuild for organization 999999:

```
         1    1    2    2    3    3    4    4    5    5    6    6    7    7   8
....5....0....5....0....5....0....5....0....5....0....5....0....5....0....5....0
P QUERY LINE 1  999999QUERY                          KEY-00000          *
P QUERY LINE 2           999999999
```

Rebuild for organization 995555:

```
         1    1    2    2    3    3    4    4    5    5    6    6    7    7   8
....5....0....5....0....5....0....5....0....5....0....5....0....5....0....5....0
P QUERY LINE 1  995555QUERY                          KEY-00000          *
P QUERY LINE 2           999999999
```

Note: *This one control record creates all QUERY Alternate Key types coded in your QUERY Alternate Key Build program. You do not have to create each key type separately.*

See also:

- QUERY Alternate Keys ***(on page 258)***

To learn the various programs used in maintaining Alternate Keys.

- Deleting and recreating Alternate keys - online JBLDAKY ***(on page 913)***

To learn how to rebuild alternate keys using a UK online administration script.

Maintaining Phonetic and Employee ID Keys

1. Indicate the type of key to build

You do this on the second panel of the Company Options form.

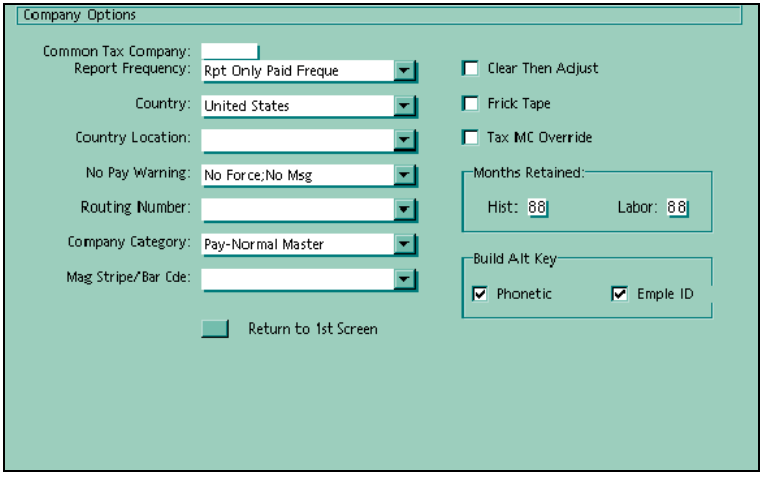
You access this form by selecting:

Component: Payroll Setup Processing
Process: Maintain Organization Payroll Details
Task: Organization Options

and then selecting the "More Options" button.

2. Select the type of key(s) to build

You can choose Phonetic and/or Employee ID. The indicated keys will be built automatically for new or transferred employees.



3. Save the form

4. Delete Phonetic/Employee ID Keys

The first step in rebuilding the Phonetic and/or Employee ID Keys is to delete them.

Generally, you would do this after loading production data during an upgrade.

To run DEL-PE online do the following:

1. Access the Command Entry dialog box
   To access this dialog box from the menus, select:
   Actions ► Enter Command

2. Enter DEL-PE as the **P**rogram name.
3. Click OK or press Enter
   All Phonetic and Employee ID Key records are deleted for all organizations.

   The following **sample** script illustrates how to delete the phonetic keys in batch. In the line that is in bold print in the sample script, notice the "A" that is required in Column 41.

```
@echo off
call mfsetup.bat
set COBSW=+S5
cd ..\data
ECHO
*****************************************************************************
ECHO JALTKEYS IN PROGRESS - this job deletes and rebuilds alternate index records
ECHO
*****************************************************************************
ECHO
*****************************************************************************
ECHO Step 1:  Delete the Q01, Q02, QID, and QPE alternate index recs on file01
ECHO Step 2:  Rebuild the alternate indexes
ECHO
*****************************************************************************
```



```
ECHO P QUERY J00105  01LEAPQUERY                          KEYDEL010          * >
..\work\QUERY.04
ECHO P QUERY J00106           9999999999                >> ..\work\QUERY.04
ECHO P QUERY J00105  01LEAPQUERY                          KEYDEL02A          *
>> ..\work\QUERY.04
ECHO P QUERY J00106           zzzzzzzzzzz               >> ..\work\QUERY.04
ECHO P DEL-PEJ00100  01LEAPDEL-PE            A            >> ..\work\QUERY.04
ECHO P QUERY J00105  01LEAPQUERY                          KEY-00000          *
>> ..\work\QUERY.04
ECHO P QUERY J00106           9999999999                >> ..\work\QUERY.04
ECHO P QUERY J00105  02CRKTQUERY                          KEY-00000          *
>> ..\work\QUERY.04
ECHO P QUERY J00106           9999999999                >> ..\work\QUERY.04
ECHO P QUERY J00105  991111QUERY                          KEY-00000          *
>> ..\work\QUERY.04
ECHO P QUERY J00106           9999999999                >> ..\work\QUERY.04
ECHO P QUERY J00105  993333QUERY                          KEY-00000          *
>> ..\work\QUERY.04
ECHO P QUERY J00106           9999999999                >> ..\work\QUERY.04
ECHO P QUERY J00105  995555QUERY                          KEY-00000          *
>> ..\work\QUERY.04
ECHO P QUERY J00106           9999999999                >> ..\work\QUERY.04
ECHO P QUERY J00105  996666QUERY                          KEY-00000          *
>> ..\work\QUERY.04
ECHO P QUERY J00106           9999999999                >> ..\work\QUERY.04
ECHO P QUERY J00105  999999QUERY                          KEY-00000          *
>> ..\work\QUERY.04
ECHO P QUERY J00106           9999999999                >> ..\work\QUERY.04
ECHO P QUERY J00105  01LEAPQUERY                          KEY-PE000          *
>> ..\work\QUERY.04
ECHO P QUERY J00106           9999999999                >> ..\work\QUERY.04
ECHO P QUERY J00105  02CRKTQUERY                          KEY-PE000          *
>> ..\work\QUERY.04
ECHO P QUERY J00106           9999999999                >> ...04
ECHO P QUERY J00105  991111QUERY                          KEY-PE000          *
>> ..\work\QUERY.04
ECHO P QUERY J00106           9999999999                >> ..\work\QUERY.04
ECHO P QUERY J00105  993333QUERY                          KEY-PE000          *
>> ..\work\QUERY.04
ECHO P QUERY J00106           9999999999                >> ..\work\QUERY.04
ECHO P QUERY J00105  995555QUERY                          KEY-PE000          *
>> ..\work\QUERY.04
ECHO P QUERY J00106           9999999999                >> ..\work\QUERY.04
ECHO P QUERY J00105  996666QUERY                          KEY-PE000          *
>> ..\work\QUERY.04
ECHO P QUERY J00106           9999999999                >> ..\work\QUERY.04
ECHO P QUERY J00105  999999QUERY                          KEY-PE000          *
>> ..\work\QUERY.04
ECHO P QUERY J00106           9999999999                >> ..\work.04
set FILE03=..\list\QUERY.03
set FILE04=..\work\QUERY.04
..\cbsvb
ECHO *
ECHO ******************************************************************************
ECHO *
type ..\list\QUERY.03
ECHO *
ECHO ******************************************************************************
ECHO *
ECHO JALTKEYS COMPLETED
cd ..\runs
```


In this example, an "A" is placed in column 41 of the DEL-PE control card in order for the delete to work in batch. The "A" in column 41 moves the "A" to W7-01-246 which causes the bypassing of the print message statement PP030 ("Press Enter to delete QPE records off FILE01").

The DEL-PE program listing is shown below for informational purposes.

```
00000  SECURITY 'PP'. @ Delete Phonetic Key for All C 1-25      OPP
00001  @LAST MODIFIED ON:  01-11-96  BY:  OLEG  AUTHOR:  SKIP
00003  @The DEL-PE program is used to delete all phonetic
00004  @Alternate Keys used by the PHONET and LOOKUP programs.
00005  @DEL-PE is run on-line.
00100    IF W7-06-246 EQUAL 'DEL-PE'
00105      IF W7-01-264 NOT EQUAL 'A'
00110        MOVE 'A' TO W7-01-264
00115        PRINT-MESSAGE 'PP030'
00120        RETURN.
00130    MOVE ' ' TO W7-01-264.
00180    MOVE '03QPE' TO W7-05-008. DELETE-GLOBAL FILE01.
00200    PRINT-MESSAGE 'SC006'.
00300    MOVE '03QID' TO W7-05-008. READ-UNIQUE FILE01.
00400    IF STAT-KEY EQUAL '00' DELETE-GLOBAL FILE01
00500      PRINT-MESSAGE 'SC136'.
00600    IF W7-06-246 NOT EQUAL 'DEL-PE'
00700      MOVE '09P DEL-TNX' TO W7-11-008 READ-UNIQUE FILE01
00800      IF STAT-KEY EQUAL '00' LINK 'DEL-TN'.
```

5. Rebuild Phonetic/Employee ID Keys from the System Control Repository

The KEY-PE program requires a two-line control record.

The control records for each Phonetic Key type and each Organization Control Number value must be added to the KEY-PE job.

Each control record must have the appropriate FROM and TO values.

The following are the input files, output files, and the program you need to execute KEY-PE.

To execute this utility, you need to run CBSVB as follows:

INPUT	FILE01 FILE02 FILE04	System Control Repository Employee Database Control Record File
OUTPUT	FILE03	Audit/Message File
EXECUTE	CBSVB	

For control record line 1:

In these positions	Enter
17–22	Organization Control Number value
23–28	QUERY
56–61	KEY-PE
62–63	00

In these positions	Enter
64–74	FROM Employee Number (positions 1–11)
75	Continuation character "*"

For control record line 2:

In These Positions	Enter
16–23	FROM field entry (positions 12–19)
26–44	TO Employee Number

Control record example:

Phonetic and/or Employee ID Key Rebuild for organization 999999:

```
         1    1    2    2    3    3    4    4    5    5    6    6    7    7    8
....5....0....5....0....5....0....5....0....5....0....5....0....5....0....5....0
P QUERY LINE 1  999999QUERY                          KEY-PE000          *
P QUERY LINE 2           999999999
```

Phonetic and/or Employee ID Key Rebuild for organization 995555:

```
         1    1    2    2    3    3    4    4    5    5    6    6    7    7    8
....5....0....5....0....5....0....5....0....5....0....5....0....5....0....5....0
P QUERY LINE 1  995555QUERY                          KEY-PE000          *
P QUERY LINE 2           999999999
```

See also:

- Phonetic Keys ***(on page 260)***

To learn the various programs used in maintaining Alternate Keys.

Review of Questions answered

1. What is a QUERY Primary Key?

2. What is an QUERY Alternate Key?

3. What is a Phonetic Key?

4. What is an Employee ID Key?

5. How do you delete and rebuild QUERY Alternate Keys?

6. How do you delete and rebuild Phonetic and Employee ID Keys?

7. What are the pre-defined QUERY Alternate Keys?

8. What is recommended for maintenance of both the QUERY Alternate Keys and Phonetic Keys?

CHAPTER 13

Running Report Options

In This Chapter

Introduction 274
Role of the system administrator in reporting....275
Queries - launching online and viewing....276
Batch reporting process 277
Control structures for reporting 278
The batch reporting programs and steps 282
Online report initiation and viewing 285
Reporting considerations 286
Detailed Directions....290
Review of Questions answered....310

Introduction

This section provides the information you need to administer the reporting function of The Solution Series.

*Note: This section does **not** cover payroll reporting. For information on administering payroll reporting, refer to the Payroll Reports and Balancing Guide.*

Tasks

You must complete the following tasks to run reporting solutions:

- Execute queries online
- Execute an enhanced query
- Execute queries in batch
- Defining valid reports for an organization
- Initiate report runs in batch
- Set up the job streams for SUBMIT and VIEW
- Initiate a report run online by submitting a report online
- Initiate a report run online by submitting a batch query
- Launch a report from the Report Group Activities form (RGMSTR)
- Launch a report from the Navigator
- View held reports online

Questions answered in this section

This section answers the following questions:

1. What is the role of the system administrator in reporting?
2. What control structures need to be set up to administer reporting?
3. What is the flow of the batch report process?
4. What facilities are available for initiating and viewing reports and batch queries online?
5. What are consolidated and roll up reporting?

Role of the system administrator in reporting

Typically, end users determine which reports should be printed and when they should be printed. The system administrator ensures that the end users' needs are met by doing the following:

- Setting up control structures for running reports
- Defining or modifying report job streams
- Submitting report job streams

Queries - launching online and viewing

Queries developed with Solution View (WRITER) can be run online or in batch using the Query Facility (QUERY). Additionally if you are running on Windows or UNIX, you may launch a query using the Launch Enhanced Query Process form (QUESCR). Running a query this way allows you to use the Process Monitor to view the progress of the process and the Report Viewer to view the results.

See also:

- Executing Queries online ***(on page 290)***
For detailed directions on running a query online using the Query Facility (QUERY).

- Executing Queries in batch ***(on page 293)***
For detailed directions on running a query in batch.

- Executing an enhanced query ***(on page 292)***
For detailed directions on running a query using the Launch Enhanced Query Process form (QUESCR).

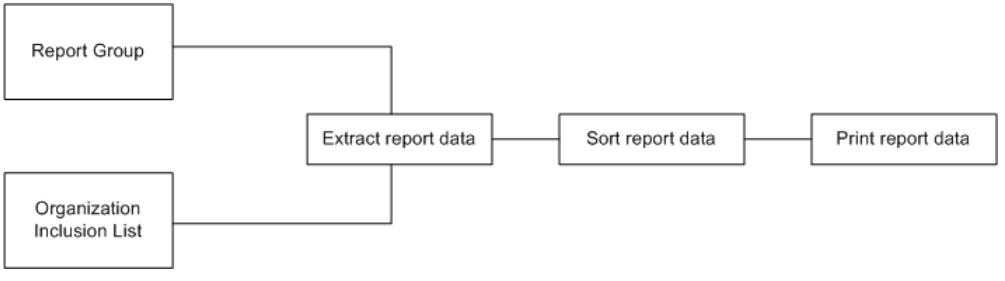
Batch reporting process

To run any standard reports included with the system, or any customized reports you have developed, you must set up certain reporting control structures, and then run report programs.

The control structures, for example, specify what reports to produce.

The report programs create the extract records and print the report output.

The following figure shows the flow of the batch reporting process:



Control structures for reporting

The following structures are used for controlling the running of The Solution Series reports:

- Report Group Activities (RGMSTR)
- Valid reports for an organization (C12RPT) (optional)

Report Group Activities - RGMSTR

The only required structure for running reports is a report group.

Note: *RGMSTR cannot be run from the Web Client.*

A report group is a structure that allows you to specify what reports should be run together. Once you set up a report group, you can add any parameters for the reports and indicate what company data to include on the reports.

Each report group must be assigned a unique, six-position identifier. Special parameters, such as dates, can be added for each report.

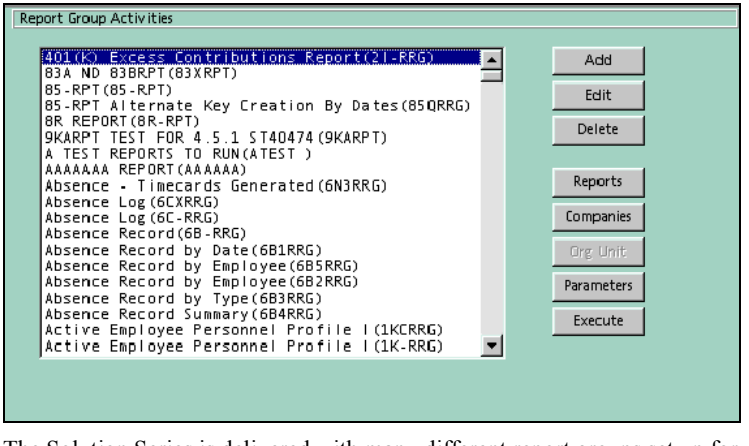
A maximum of 20 reports can be included in a report group.

All report groups that are delivered with The Solution Series end in "RG" to distinguish them from regular programs

Note: *If you are using the online reporting feature, the report group name must end in "RG" if you plan to launch it from the Navigator menu. Because report groups embedded in a user-defined checklist must already exist on the menu, this naming convention also applies to checklist-launched reports.*

If you add a report group that will be launched only from the Report Group Activities form (RGMSTR), the report group name can end in any characters. There is no restriction.

Report groups are defined by completing the Report Group Activities (RGMSTR) form.



The Solution Series is delivered with many different report groups set up for you.

Most components of The Solution Series have report groups already defined. For example, there are report groups defined for Applicant Tracking and Benefits Administration.

You can add your own groups using combinations of delivered reports and reports that your company has customized.

You can define both public and private report groups. Public report groups can be scheduled and run by anyone using the system, while private report groups are for your personal use only.

You can run reports as a background process on the server. These reports can be run directly from the Report Group Activities form (RGMSTR), from the menus and navigator, or from checklists.

Note: Position Administration reports are not currently supported by this feature.

Process Monitor

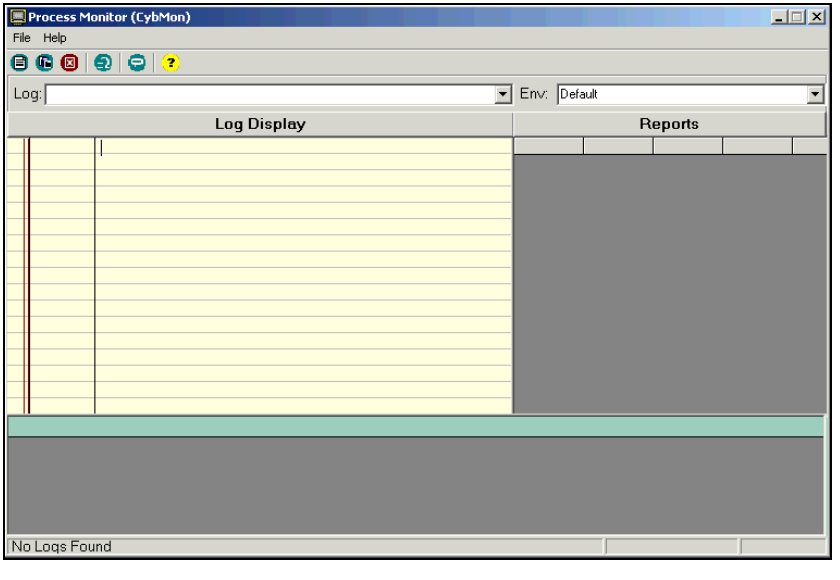
Note: This utility is currently only available on Windows and UNIX platforms.

The Process Monitor allows you to monitor the status of any report that is running.

Using the Process Monitor, you can set up and select processes by environment or by user. You can also display the progress of batch processes in a checklist format, which shows the completion status of individual components of the report.

The status is refreshed every five seconds, although you can set the refresh rate to your preference.

You can also launch the Report Viewer from the Process Monitor.



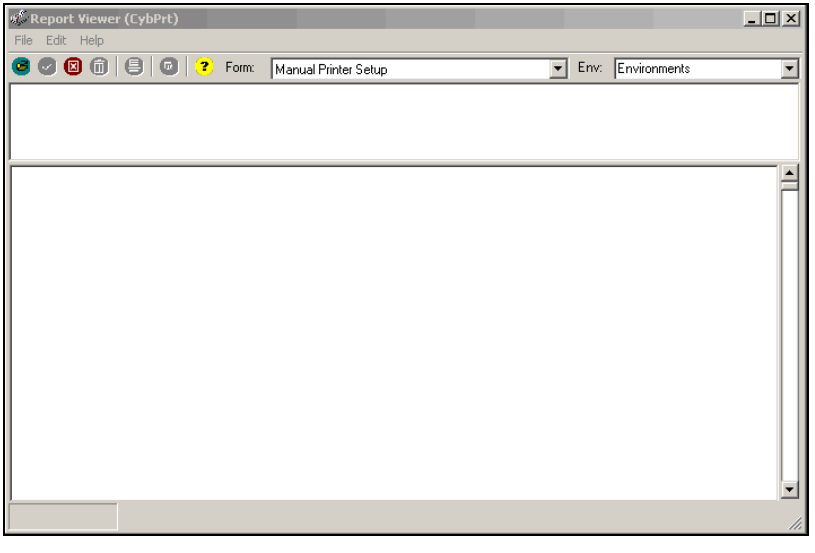
Report Viewer

Note: This utility is currently only available on Windows and UNIX platforms.

The Report Viewer displays the completed report in a customizable window. The reports are stored in your own user folder, and you can customize your viewing and printing preferences.

You can print all the reports or selected reports within a report group. You cannot print selected portions of a report.

You can search and jump within reports. You can also save and delete reports.



☞ *Refer to the Using The Solution Series: Administrative Solutions manual for detailed information about setting up report groups and launching and viewing reports online.*

Report-specific parameter forms

Reports that require parameters have parameter entry forms specifically designed for them.

Some reports share the same report parameter form. For example, the Non-Monetary Perquisite Information report (13-RPT) and the Scheduled Salary Reviews Within Selected Months report (19-RPT) both use the same report parameter form.

Valid reports for an organization - C12RPT

You can set up a valid report for an organization structure if you want to explicitly specify which reports will be valid for an organization.

If you use this option, only those reports entered on the Optional Report Schedule Control (C12RPT) form will be produced for the organization. Therefore, you should use this option judiciously.

The batch reporting programs and steps

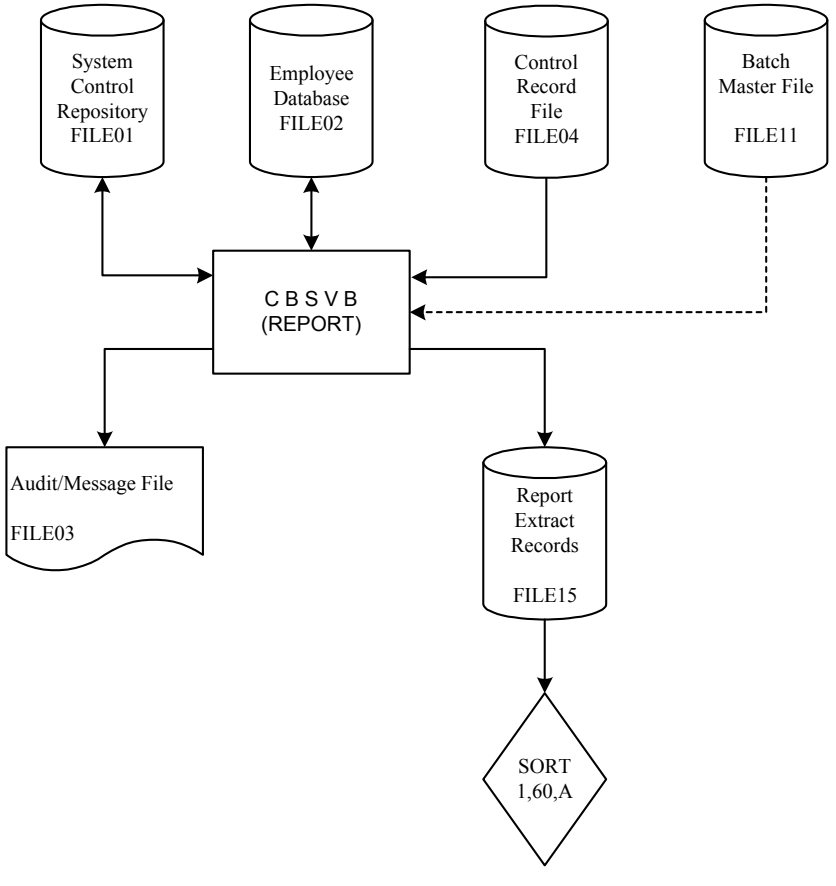
The batch reporting process consists of three steps—extract, sort, and print.

1. Report Extract - REPORT

This program creates report extract records by executing each of the report programs included in a specified Report Group.

To run this program, you execute CBSVB or CBSVBT with a control record as FILE04.

The following figure shows the flow of this program:



2. Sort

The sort step of the job stream prepares the report extract records for the final Report Print step by:

- reading each report extract record (FILE15)
- sorting each record based on the first 60 characters
- writing the sorted report extract records to FILE14

About the sort key

The actual length of the sort area for each report record varies from report to report.

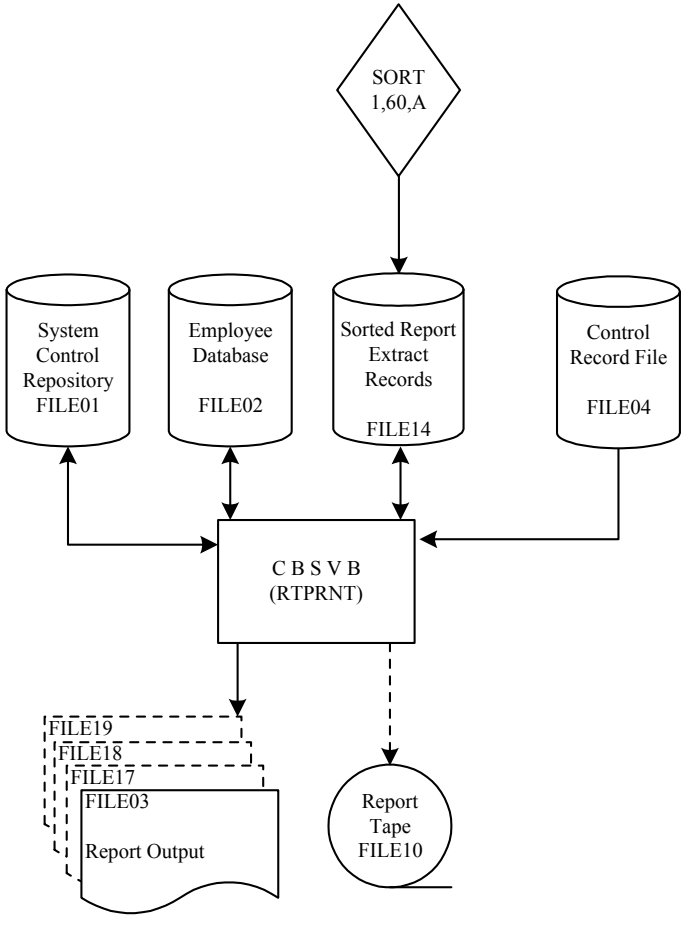
To accommodate all possible sort key lengths defined in your job stream, use a sort key starting position of 1, for a length of 60, in ascending sequence.

3. Report Print - RTPRNT

This program reads the sorted extract records (FILE14), reformats them, and writes them to either FILE03 or one of the alternate print files (FILE17, 18, or 19).

To run this program, you execute CBSVB or CBSVBT with a control record in FILE04.

The following figure shows the flow of the this program:



Online report initiation and viewing

As an alternative to the standard batch reporting steps, you can submit, route, and view reports or queries from an online session. You will find this helpful when working with new reports.

Requesting Reports and Queries Online (SUBMIT)

This program enables you to submit batch jobs. It tells the system to run a query or a report. You can direct the output records to a print file or to the Employee Database for online viewing.

If you direct the output records to the Employee Database, the ROUTER batch subroutine is automatically invoked.

The online (ZR) records are temporary and are deleted when the Employee Database is rebuilt or when the reports are deleted or printed using the View Held Report (VIEW) program.

To avoid space problems, you should limit SUBMIT processing to low-volume reports and queries.

Before you can execute a SUBMIT job, you must prepare the following job streams:

Use this job stream:	To do this:
JRPTopid	Submit reports
JQRYopid	Submit queries
JPRTopid	Write output

Note: SUBMIT and VIEW are only formally supported for Windows and UNIX platforms. Only current implementations with SUBMIT and VIEW will continue to be supported. All other users should consider using Reporting Administration which supplies the same and additional functionality.

Viewing Reports and Queries Online - VIEW

This program enables you to view online the output from the Requesting Reports and Queries Online (SUBMIT) program. The reports may then be printed or deleted.

You can display the first or last 80 positions of a report or query record. You can page up or down in a report or query. However, when you display the last printed page of output, the system prevents you from returning to a previous page.

Note: SUBMIT and VIEW are only formally supported for Windows and UNIX platforms. Only current implementations with SUBMIT and VIEW will continue to be supported. All other users should consider using Reporting Administration which supplies the same and additional functionality.

Reporting considerations

Maximum report lines per page

The maximum number of lines to print on reports is set to a default value when the system is installed. The Security Officer can modify these values on the System Options form.

For reports not using Formatting Report Records - RTPRNT

For reports not using batch reporting and RTPRNT conventions, the maximum values depend on the number of lines per inch (lpi) your printer prints.

The maximum number of lines is as follows:

Lines per inch (LPI)	Maximum Lines
6	66
8	88

For reports using Formatting Report Records - RTPRNT

For reports using batch reporting and RTPRNT conventions, the maximum values depend on the number of lines per inch (lpi) your printer prints.

The maximum number of lines is as follows:

Lines per inch (LPI)	Maximum Lines
6	54
8	76

The RTPRNT program has a lower maximum number of lines per page to allow for headings and total lines on the page.

Consolidated and roll-up reporting

The Solution Series supports both consolidated and roll-up reporting. Special security privileges are required to set up these reporting structures.

Consolidated reporting

Consolidated reports include employees in all or selected organizations.

To set up a consolidated reporting structure, you first establish a report-only Organization Control Number.

The heading information from this report-only Organization Control Number is used on any consolidated reports produced. Any organization-specific headers are removed to indicate that the report is not organization specific. There must be no employees within this organization.

The organizations that you want to include in the report are identified on the Report Company Schedule form as for any other report.

To generate a consolidated report that includes employees in all or selected organizations, you insert a "C" in position 52 of the report control record in batch.

To execute consolidated reporting from the Batch Job Initiator (SUBMIT) form, complete the "Normal, roll-up, or consolidated" field.

Roll-up reporting

Roll-up reports include all employees with a common Org value, such as CS0001 or CS0002.

You must plan your control structures carefully to do roll-up reporting.

To set up a roll-up reporting structure, you first establish a report-only organization.

You then create a new reporting entity consisting of the Org value and the OL2 (Organization Level 2) value from the report-only Organization Control Number.

You create this combination of Org and OL2 for each group to appear on a report.

A separate report will be printed for each combination of Org and OL2.

The organizations that you want to include in the report are identified on the Report Company Schedule form as for any other report.

To produce a roll-up report that includes all employees within a common Org value, you insert an "R" in position 52 of the report control record.

To execute roll-up reporting from the Batch Job Initiator (SUBMIT) form, complete the "Normal, roll-up, or consolidated" field.

Considerations

Keep the following in mind when setting up these reporting structures:

- Both are optional features and do not affect standard batch reporting if you elect not to use them.
- A special organization must be set up prior to initiating consolidated or roll-up reports.

Changing HR reports to use Organization Units

Most of the delivered Solution Series packaged reports use the HR Organization levels 3 to 6 values as entered on the Location Assignment/Changes form (LZR segment) to sort the employee data for the report output. However, when you are using Position Administration, the location of the employee is determined by the Organization Unit to which the employee's Position is assigned (if your organization is using the Organization Unit feature). To allow the delivered packaged reports to continue to function properly without forcing you to keep the 05CSCR Organization level values in sync with the dynamic data available through the organization structure, a verb and subroutine are available.

To modify a packaged report to allow reporting using the organization structure instead of the Organization levels 3 to 6 (Controls 3-6) values on file as of the packaged reports "as of" date, you must include the new verb near the beginning of the packaged report Cyborg Scripting Language (CSL) code. The following example shows the new REPORT-USING-PM verb inserted into the code for the 1A-RPT packaged report.

```
00160     HEADER-4 :38 'NUMBER       THREE   FOUR    FIVE    SIX'.
00180     HEADER-4 :82 'DISTRIBUTION  DATE      STATUS'.
00200     P200-SELECT.
00210     REPORT-USING-PM.
```



```
00215     IF W8-01-750 EQUAL 'N' RETURN.
00220     FIND-ACTIVITY.
00240     IF NOT-FOUND RETURN.
00260     IF RESULTING-EMP-STATUS NOT EQUAL '0' AND '3' AND '4'
```

The REPORT-USING-PM verb calls the BLDLZR subroutine. This subroutine creates an LZR segment on the employee's record. This segment will contain (as the Organization level values) the first four positions of each of the top four Organization Units for the employee's primary incumbency.

In the example above, line 00215 is a test to determine whether the employee's primary incumbency or Position was found. If it was found, W8-01-750 will be equal to "Y". If not, it will be equal to "N".

Special considerations when running Position Administration reports

On an IBM mainframe, Position Administration reports cannot be run using the "I" in the Code 1 position of the control record that would allow users to be online when running reports.

What to look for if the Position Administration Reporting Extract fails

If the extract aborts and does not produce any instructional error messages, it is most likely an issue with the chronology of the relationships within Position Administration. The following are some examples of incorrect relationships:

Example 1

An Organizational Unit is assigned to another using a date prior to its creation date:

- Org Unit A is created on 01-01-2002
- Org Unit B is created on 01-01-2002
- Org Unit B belongs to Org Unit A as of 01-01-2002
- Org Unit C is created on 04-01-2002

The original created entry for Org Unit B was modified to have it belong to Org Unit C as of 01-01-2002. However, the system edits and blocks this reorganization attempt. The proper way to handle the reorganization is to create a new entry on the M46SCR with a reason for reorganization as of 04-01-2002 and then designate that the job belongs to Org Unit C.

Example 2

A Position is assigned to a Job using a date prior to the Job's creation date:

- Job A is created on 01-01-2002
- Position A is created on 01-01-2002
- Position A belongs to Job A as of 01-01-2002
- Job B is created on 04-01-2002

The original created entry for Position A was modified to have it belong to Job B as of 01-01-2002. However, the system edits and blocks this reorganization attempt. The proper way to handle the reorganization is to create a new entry on the M20SCR as of 04-01-2002 and then designate the Job as Job B.

Example 3

A Position is assigned to an Organizational Unit using a date prior to the Organizational Units creation date:

- Org Unit A is created on 01-01-2002
- Position A is created on 01-01-2002
- Position A is assigned to Org Unit A as of 01-01-2002
- Org Unit C is created on 04-01-2002

The original assignment of Org Units for Position A was modified to have it belong to Org C as of 01-01-2002. However, the system edits and blocks this reorganization attempt. The proper way to handle the reorganization is to create a new entry on the M30SCR as of the 04-01-2002 date and then designate the organization as Org Unit C.

Example 4

An Incumbency is assigned to a Position using a date prior to the Position creation date:

- Position A is created on 01-01-2002
- Incumbency 1 is assigned to Position A as of 01-01-2002
- Position B is created on 04-01-2002

The original incumbency assignment was modified to have it be for Position B as of 01-01-2002. However, the system edits and blocks this reorganization attempt. The proper way to handle the reassignment is to create a new entry on the M40SCR as of the 04-01-2002 date. It will automatically handle the adjustment of the prior position to be history.

Ways to identify if any of these situations are causing a problem

There are no automated tools delivered that will detect that situations like the examples above exist. The best way to handle situations like these is to manually determine when some of the reorganizations took place and begin checking those Org Units, Positions and/or Jobs to determine their creation dates. Then review all subordinates to those items and see if any of them were created prior to that date.

Ways to correct the existing situations

Steps to correct situations like the examples above must be done in a specific order. Once a new entry is created on the forms, it is difficult to perform maintenance on the historical entries.

Important!: You must change the original entry back to what it was before your performed any maintenance. The change must be performed prior to any new entries. If not, the new entries will need to be deleted and the entry corrected.

Create the corresponding new entry on the form indicating the reason as reorganization and make the assignment as of the true effective date. All cross-reference records should take care of themselves if you are performing this maintenance online. If you have chosen alternative methods of making the corrections, it may be necessary to delete and rebuild the cross-reference records per their instructions.

Detailed Directions

This section provides detailed directions on completing a business task.

Tasks

Executing Queries online 290
Executing an enhanced query 292
Executing Queries in batch 293
Defining valid reports for an organization (optional) 294
Initiating a report run in batch 296
Setting up the job streams for SUBMIT and VIEW 298
Initiating a report run online by submitting a report online 300
Initiating a report run online by submitting a batch query 302
Launching a report from the Report Group Activities form 304
Launching a report group from the Navigator 306
Viewing a held report online 309

Executing Queries online

To run a query online, follow these steps:

1. Access the QUERY dialog

Access this form by selecting:

Component:  User Tools
Process: User Tools
Task:  Run a Query

2. Enter the Query name

Enter the name of the Query developed under Solution View.

3. Specify a key from the drop-down list

The key indicates the search order for information on the file and the order in which data will be displayed on the QUERY form.

4. Enter the beginning range parameter

5. Enter the ending range parameter

You must enter an ending range parameter.

6. Enter an Organization

Enter the Organization to query. How you do this depends on how your user options for selecting Organizations are set.

If you have opted to select Organizations by number, type the number in to the **O**rganization text box on the dialog.

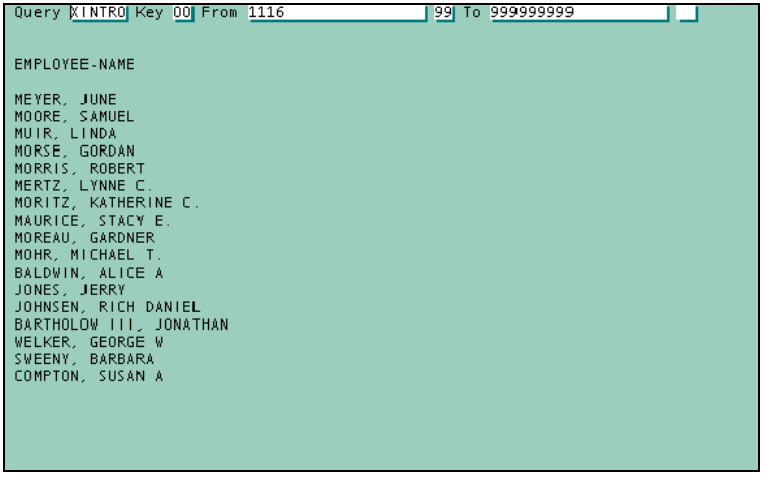
If you have not opted to select Organizations by number, select the Organization by name from the drop-down list.

7. Press Enter or click OK

The Solution Series executes the Query and displays the results on the QUERY form.

The following form shows the first page of the results of running the XINTRO query.

When a query results in multiple forms of results, press Enter to view the next page.



Executing an enhanced query

The Launch Enhanced Query Process form (QUESCR) is available only if you are running on a Windows or UNIX platform. It provides the added ability to view the progress of the process using the Process Monitor and to view the query results using the Report Viewer. To launch an enhanced query, follow these steps:

1. Access the Launch Enhanced Query Process form (QUESCR)

Access this form by selecting:

Component: User Tools
Process: User Tools
Task: Launch Enhanced Query Process

2. Enter the Query/Extract Name

Enter the name of the Query developed under Solution View.

3. Specify a key from the drop-down list

Enter the key information to search the file for entries. Type 01 for Employee Number, 02 for Employee Social Security Number, or 03 for Employee Name.

4. Enter the beginning range parameter

The From text box allows you to select the beginning of the range of employees to include in the query. The type of data you enter is determined by what you entered in the Key text box.

For example, if you entered "01" (Employee Number) in the Key text box, you can enter 0000 in the From text box and 9999 in the To text box to include all employees whose employee number is within that range. To include a single employee, type the employee number in both text boxes.

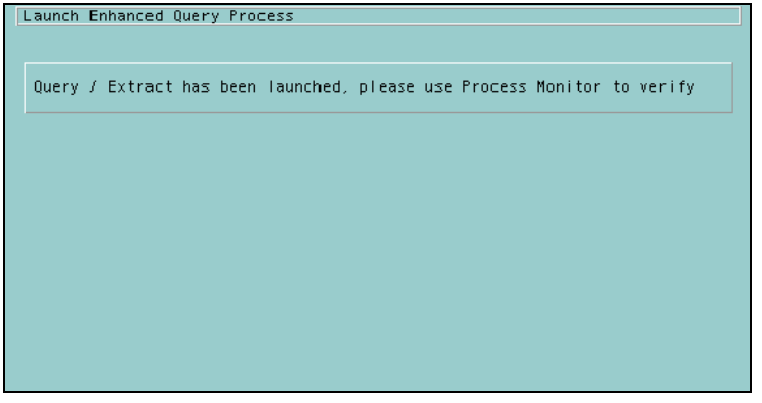
5. Enter the ending range parameter

The To text box allows you to select the ending of the range of employees to include in the query. The type of data you enter is determined by what you entered in the Key text box.

For example, if you entered "01" (Employee Number) in the Key text box, you can enter 0000 in the From text box and 9999 in the To text box to include all employees whose employee number is within that range. To include a single employee, type the employee number in both text boxes.

6. Click Save or press Enter

A confirmation form is displayed indicating that the query has been launched. At this point, you can access the Process Monitor and Report Viewer.



See also:

- Launching and viewing Queries ***(see "Queries - launching online and viewing" on page 276)***

For more information about launching queries online.

- Running a QUERY against a single Org/C12 - online JQUERY (+params) ***(on page 919)***

To learn how to use a UK administration script to launch a query against a single organization

Executing Queries in batch

To run a query in batch, you provide a control record in the Control Record File (FILE04) that specifies the query run-time parameters.

To run a query in batch, you execute CBSV as follows:

INPUT	FILE01 FILE02 FILE04	System Control Repository Employee Database Control Record File
OUTPUT	FILE03 FILE10 FILE15	QUERY report print file Optional 80-character output Optional 150-character output
EXECUTE	CBSVB or CBSVBT	

The control record for line 1 of the query has the following syntax:

In these positions	Enter	Description
16	W	Required character

In these positions	Enter	Description
17–22	Organization Control Number value	
23–28	QUERY	
56–61	query name	
62–63	key	
64–74	FROM	FROM field entry (positions 1–11)
75	*	Continuation character

The control record for line 2 of the query has the following syntax:

In these positions	Enter	Description
16–23		FROM field entry (positions 12–19)
24–25		Duplicate key field
26–44		TO field entry
45–46		Duplicate key field

See also:

- Running a QUERY against a single Org/C12 - online JQUERY (+params) ***(on page 919)***

To learn how to use a UK administration script to launch a query against a single organisation

Defining valid reports for an organization (optional)

You set up an inclusion list if you want to specify which reports are valid for each organization on your Employee Database.

To define an inclusion list, follow these steps:

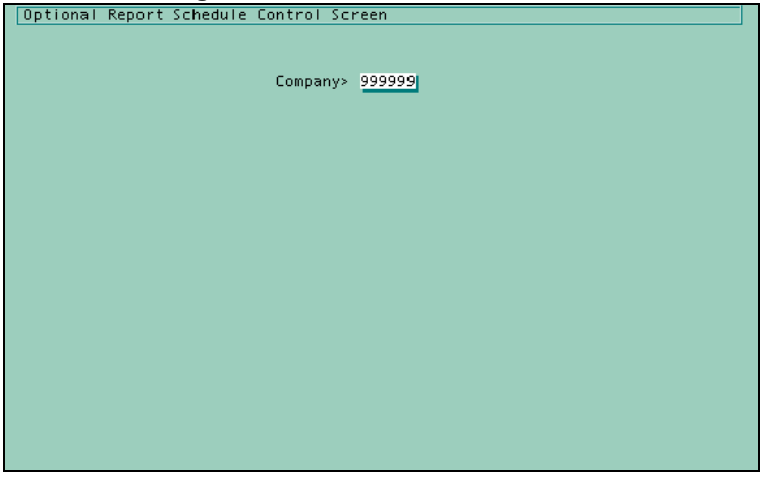
1. Access the Optional Report Schedule Control form

Access this form by selecting:

Component: Reporting
Process: Report Scheduling
Task: Specify Reports for Organization

The first page of the Optional Report Schedule (C12RPT) form is displayed.

2. Enter a valid Organization Control Number



3. Press Enter

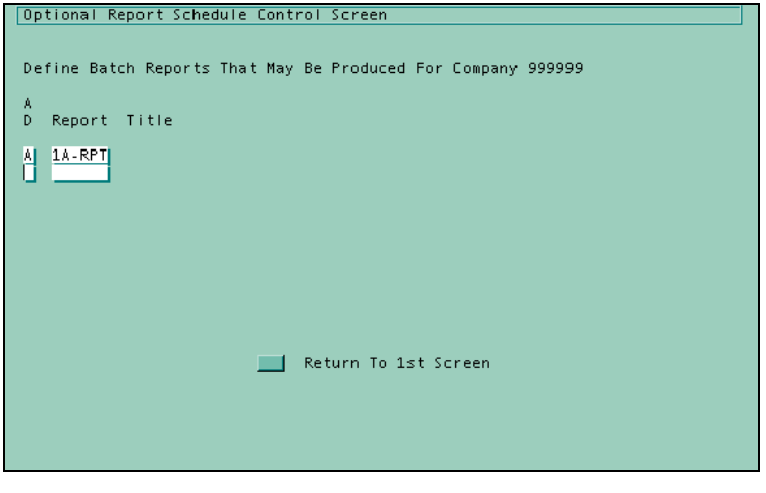
The Optional Report Schedule Control form is displayed.

4. Indicate an action to take

Type an "A" in the action field to add.

5. Specify valid reports for the organization

Enter the exact name of a report. For example, you would enter 1A-RPT to include an alphabetical listing of active and inactive employees.



6. Press Enter

The first 25 positions of the report titles will display in the Report Title field.

See also:

- Control structures for reporting ***(on page 278)***

To learn about setting up valid reports for an organization.

Initiating a report run in batch

To initiate a report run in batch, you run three programs:

- Report Extract (REPORT)
- Sort
- Report Print (RTPRNT)

Running the Report Extract (REPORT program)

To run the Report Extract (REPORT) program, you execute CBSV as follows:

INPUT	FILE01 FILE02 FILE04 FILE11	System Control Repository Employee Database Control Record File Batch Master File (optional)
OUTPUT	FILE03 FILE15	Audit/message file Report extract file
EXECUTE	CBSVB or CBSVBT	

The control record for the REPORT program has the following syntax.

To execute more than one Report Group, include multiple control records.

In these positions	Enter	Description
17–22	Organization Control Number value	Leave blank if you have established an organization inclusion list or if you want to include all organizations
23	REPORT	Name of the program
31–36	report group name	Name of the Report Group
41–44	Fnnn	(Optional) Limit number of employees on report
52	C R	Consolidated report Roll-up report
53–55	F11	Produce reports using FILE11 instead of FILE02
	Qnn	Alternate key ID to report

Running the SORT program

This step prepares the extracted report records for the final Report Print (RTPRNT) step.

The SORT step:

- Sorts each record based on the sort key.
- Writes the sorted report extract records to FILE14.
  This file will be read into the Report Print (RTPRNT) step.

Defining the sort key

To handle all possible sort key lengths defined in your job stream, use a sort key starting in position of 1, for a length of 60, and an ascending sequence.

Running the Report Print (RTPRNT program)

The Report Print (RTPRNT) program reads sorted extract records.

After the records are read, they are reformatted and written to either FILE03 or to an alternate print file.

To run the Report Print (RTPRNT) program, you execute CBSV as follows:

INPUT	FILE01 FILE02 FILE04 FILE14	System Control Repository Employee Database Control Record File Sorted Report Extract File
OUTPUT	FILE03 FILE10 FILE17, 18, 19	Report print file Optional tape report file Alternate print files
EXECUTE	CBSVB or CBSVBT	

The control record for the RTPRNT program has the following syntax:

In these positions	Enter
23–28	RTPRNT

See also:

■ The batch reporting programs and steps ***(on page 282)***
To learn more about the batch reporting programs and steps.

Setting up the job streams for SUBMIT and VIEW

You must set up three job streams to use SUBMIT and VIEW:

- Report Batch Initiator (JRPTxxxx)
- Query Batch Initiator (JQRYxxxx)
- Print Batch Initiator (JPRTxxxx)

Note: SUBMIT and VIEW are only formally supported for Windows and UNIX platforms. Only current implementations with SUBMIT and VIEW will continue to be supported. All other users should consider using Reporting Administration which supplies the same and additional functionality.

Setting up the Report Batch Initiator (JRPTxxxx) job stream

The processing flow of this job stream follows the report steps of Extract, Sort, and Print.

This job stream requires two control cards, one for the Extract step and one for the Print steps.

You run JRPTxxxx by executing CBSVB or CBSVBT as follows:

INPUT	FILE01 FILE02 FILE04	System Control Repository Employee Database Control Record File
OUTPUT	FILE03 FILE15	Audit/Message file Report Extract records
EXECUTE	CBSVB or CBSVBT	

The Extract step control record on FILE04 has the following syntax:

In these positions	Enter	Description
23–28	F04F01	Name of the program
31–40	<CTRLRT	Key
41–44	op ID	The four-position ID of the user who will run the job stream
45	A	

The Print step control record on FILE04 has the following syntax:

In these positions	Enter	Description
23–28	F04F01	Name of the program
31–40	<CTRLRT	Key
41–44	op ID	The four-position ID of the user who will run the job stream
45	D	

Setting up the Query Batch Initiator (JQRYxxxx) job stream

This job stream will direct the process to the various input and output files.

You run JQRYxxxx by executing CBSVB as follows:

INPUT	FILE01 FILE02 FILE04	System Control Repository Employee Database Control Record File
OUTPUT	FILE03 FILE10 FILE15	Audit/Message file 80-character output file (optional) 150-character output file (optional)
EXECUTE	CBSVB or CBSVBT	

The control record on FILE04 has the following syntax:

In these positions	Enter	Description
23–28	F04F01	Name of the program
31–40	<CTRLRT	Key
41–44	op ID	The four-position ID of the user who will run the job stream
45	H	

Setting up the Print Batch Initiator (JPRTxxxx) job stream

This job will extract, print and delete the report from the Employee Database.

You run JRPTxxxx by executing CBSVB or CBSVBT as follows:

INPUT	FILE01 FILE02 FILE04	System Control Repository Employee Database Control Record File
OUTPUT	FILE03	Audit/Message file
EXECUTE	CBSVB or CBSVBT	

The control record on FILE04 has the following syntax:

In these positions	Enter	Description
23–28	F04F01	Name of the program
31–40	<CTRLRT	Key
41–44	op ID	The four-position ID of the user who will run the job stream
45	M	

See also:

- Online report initiation and viewing ***(on page 285)***

To learn more about requesting and viewing reports online.

Initiating a report run online by submitting a report online

To initiate a report run online, use the Batch Job Initiation Menu. You can submit either a report or a batch query. The output from the Batch Job Initiation Menu can be held for online viewing.

To submit a report online, follow these steps:

1. Access the Batch Job Initiation Menu

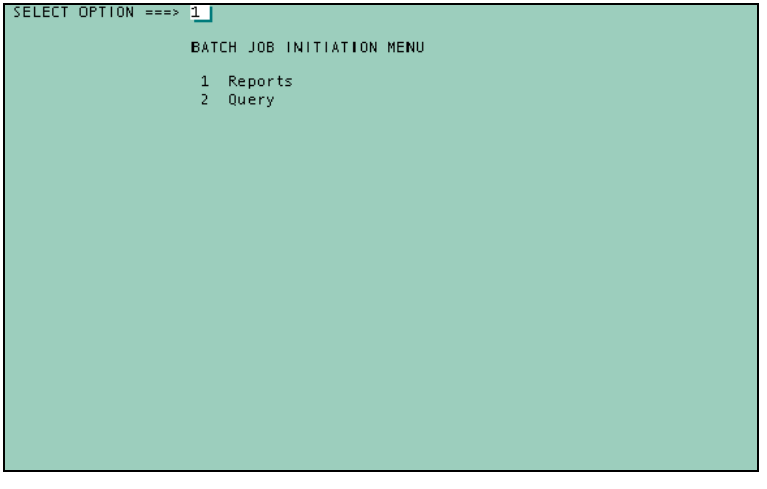
Access this form by selecting:

Component: Reporting
Process: Report Scheduling
Task: Initiate Scheduled Reports

The Batch Job Initiation Menu is displayed.

2. Select the type of batch job to be initiated

Enter a "1" for reports.



3. Press Enter

The system displays the Report Batch Job Initiator form.

4. Enter the name of the Report Group

This Report Group ID must already exist, for example, "WEEKLY".

5. Specify the routing option

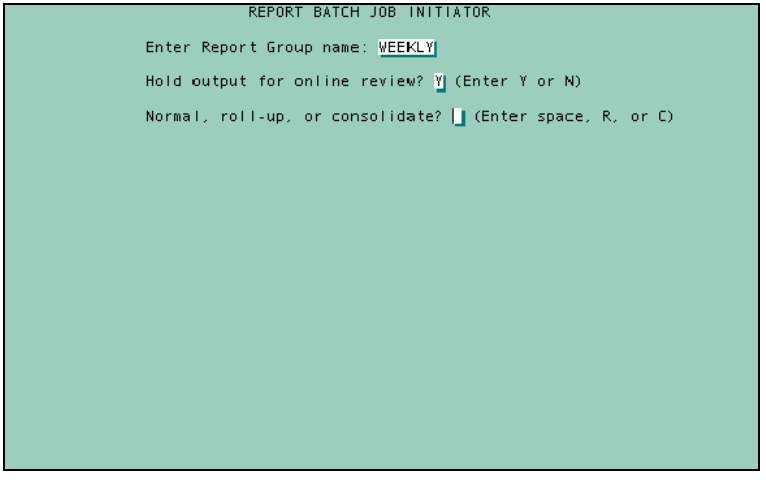
Enter a "Y" to hold the records for online review. Enter an "N" to route the report output to a print file.

6. Indicate consolidation/roll-up reporting (optional)

Leave this field blank if you are not doing consolidation or roll-up reporting.

The consolidation or roll-up reporting structures must already exist.

☞ *Refer to the Implementation Essentials documentation for more information about consolidation and roll-up reporting structures.*



7. Save the form

Depending on the platform on which you are running, the SUBMIT process will do one of the following:

- Display the message "JOB JRPTxxxx SUBMITTED", and submit the batch job stream to execute the Report process.
- Display the message "LOG OFF TO SUBMIT JOB JRPTxxxx". If you see this message, you must log off the system and submit the job stream.

Initiating a report run online by submitting a batch query

To initiate a report run online, use the Batch Job Initiation Menu. You can submit either a report or a batch query. The output from the Batch Job Initiation Menu can be held for online viewing.

To submit a batch query online, follow these steps:

1. Access the Batch Job Initiation Menu

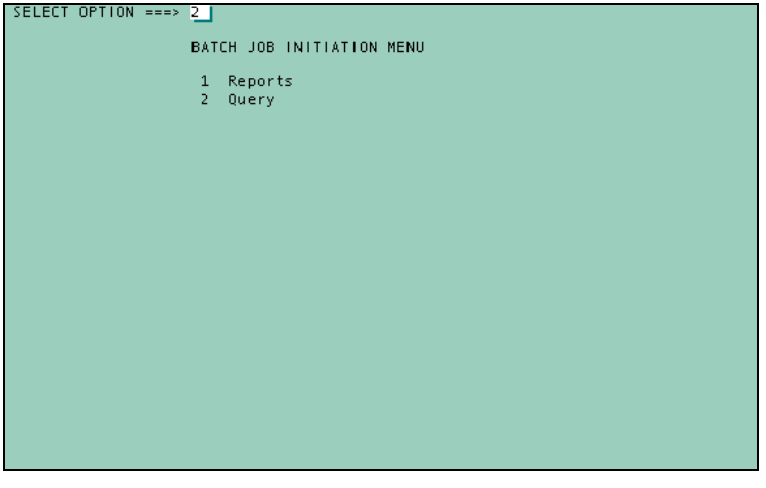
Access this form by selecting:

Component: Reporting
Process: Report Scheduling
Task: Initiate Scheduled Reports

The Batch Job Initiation Menu is displayed.

2. Select the type of batch job to be initiated

Enter a "2" for queries.



3. Press Enter

The system displays the Query Batch Job Initiator form.

These fields will be used to created the batch control record and to determine the routing of the report output.

4. Enter the Control 1-2 (Organization Control Number) to use for the query

If you use 00 as the alternate key, you must supply an Organization Control Number for the query.

For any other alternate key you use, the alternate key will determine which organizations will be accessed by the query.

5. Enter the name of the query

The query must already exist.

6. Enter the key for accessing data

For example, 00 to sort the data by employee number.

7. Enter the "from"-range value

For example, 000000000 to start at the first employee.

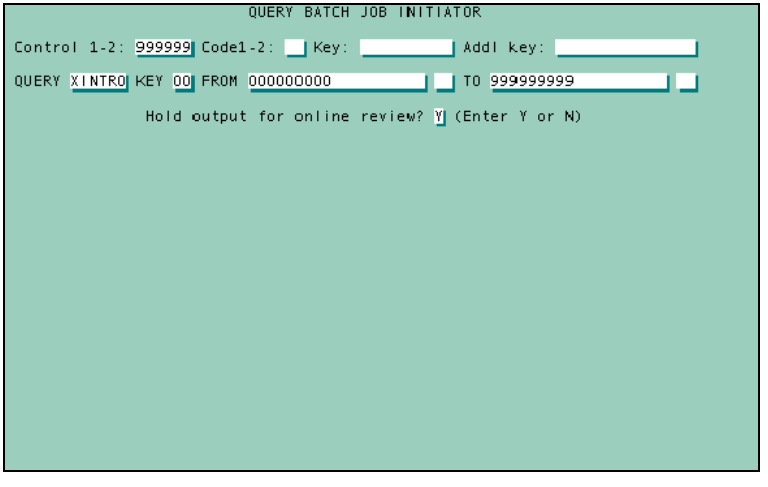
8. Enter the "to"-range value

For example, 999999999 to end at the last employee.

9. Specify the routing option

Enter a "Y" to hold the records for online review.

Enter an "N" to route the report output to a print file.



10. Press Enter

Depending on the platform on which you are running, the SUBMIT process will do one of the following:

- Display the message "JOB JQRYxxxx SUBMITTED", and submit the batch job stream to execute the Report process.
- Display the message "LOG OFF TO SUBMIT JOB JQRYxxxx". If you see this message, you must log off the system and submit the job stream.

See also:

■ Online report initiation and viewing ***(on page 285)***

To learn more about requesting reports and queries online.

Launching a report from the Report Group Activities form

Note: RGMSTR will not run from a Web Client computer.

To launch a report from the Report Group Activities form (RGMSTR), complete the following steps:

Note: In a classroom setting, each student must have a unique User Code, Password, and Operator ID, and user folder to successfully complete the following practice task.

1. Access the Report Group Activities form

Access this form by making the following selections from the Navigator:

Component: Reporting
Process: Report Scheduling
Task: Schedule Report Groups

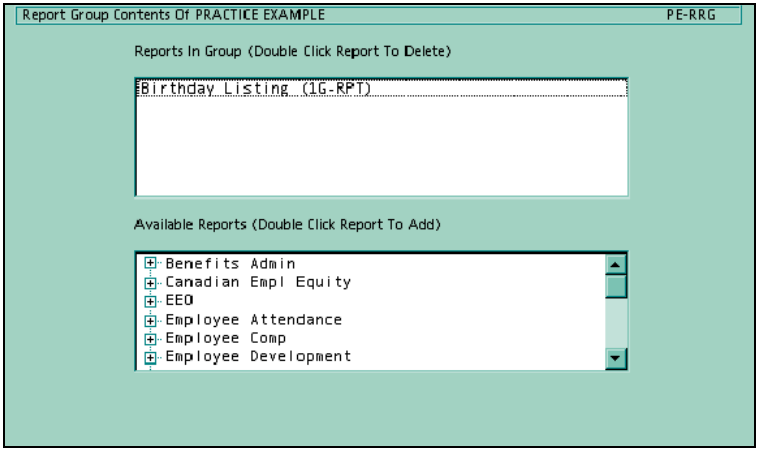
2. Select the report group

Select the report group that contains the report (s) to be run.

3. Click Reports

Click the Reports button to view the reports currently in the report group. Change as necessary.

If you completed the previous steps, the resulting form should look similar to the example that follows:



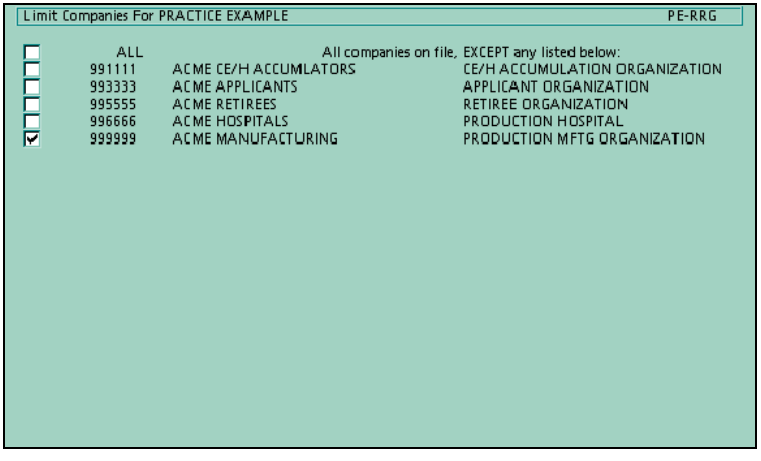
4. Click Save or press Enter

Save the form and return to the Report Group Activities form (RGMSTR).

5. Click Companies

Click the Companies button to view the list of companies to be included in the report. Change as necessary.

If you completed the previous steps, the resulting form should look similar to the example that follows:



6. Click Save or press Enter

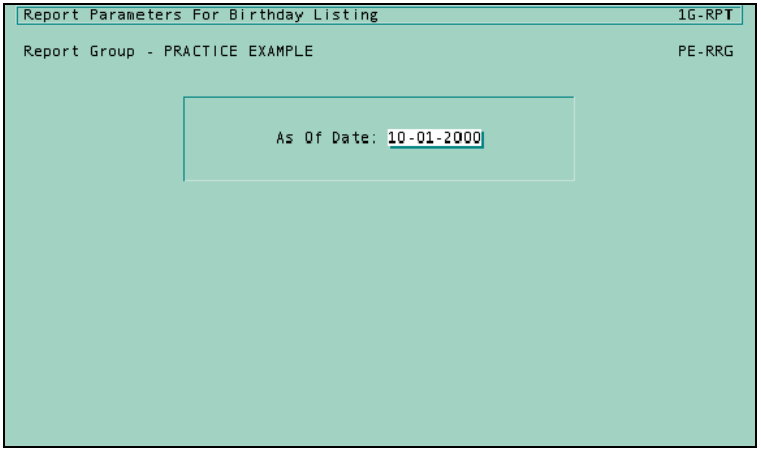
Save the form and return to the Report Group Activities form (RGMSTR).

7. Click Parameters

Click the Parameters button next to each report in the report group and enter the report parameters.

After entering each report's parameters, press Enter to return to the Report Parameters form.

If you completed the previous steps, the resulting form should look similar to the example that follows:



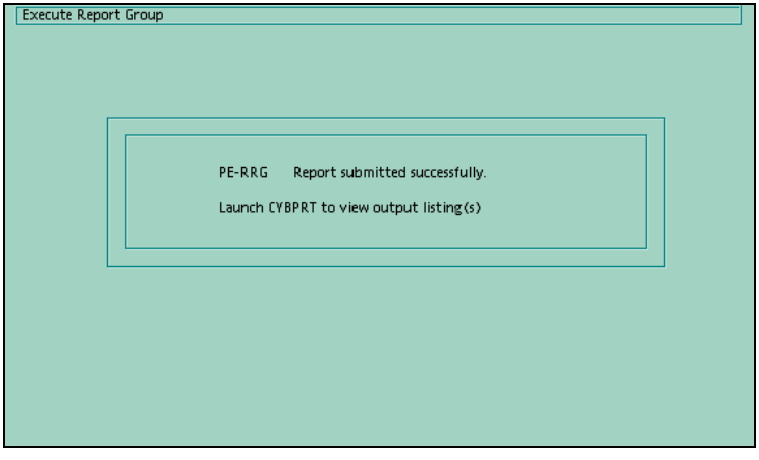
8. Click Save or press Enter

After the last parameter is entered and you have pressed Enter to return to the Report Parameters form, press Enter again to return to the Report Group Activities form (RGMSTR).

9. Click Execute

Click the Execute button to launch the report.

If you completed the previous steps, the resulting confirmation form should look similar to the example that follows:



Launching a report group from the Navigator

To launch a report group from the Navigator, complete the following steps:

Note: Other than Step 1, these detailed directions may also be used to launch a report from the menu.

1. Access the report group from the Navigator

Access the report group by making the following selections from the Navigator:

Component:		Reporting
Process:		any selected report group category
Task:		any selected report group

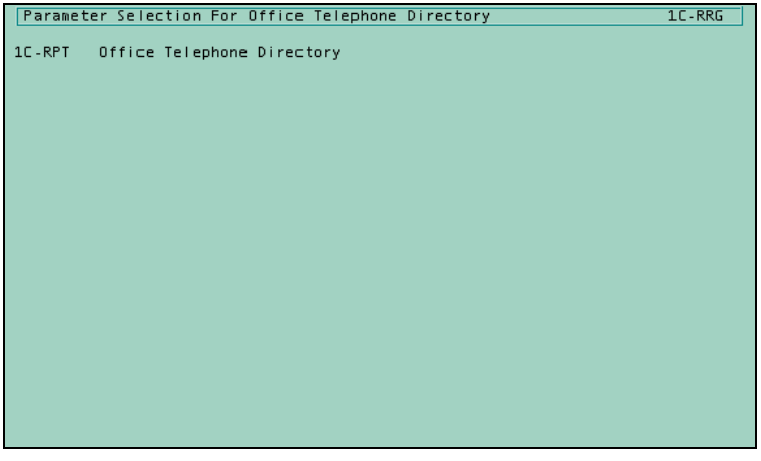
The Parameters Selection form is displayed.

2. Click Parameters

Click the Parameters button next to each report in the report group and enter the report parameters.

After entering each report's parameters, press Enter to return to the Report Parameters form.

If you completed the previous steps, the resulting form should look similar to the example that follows:



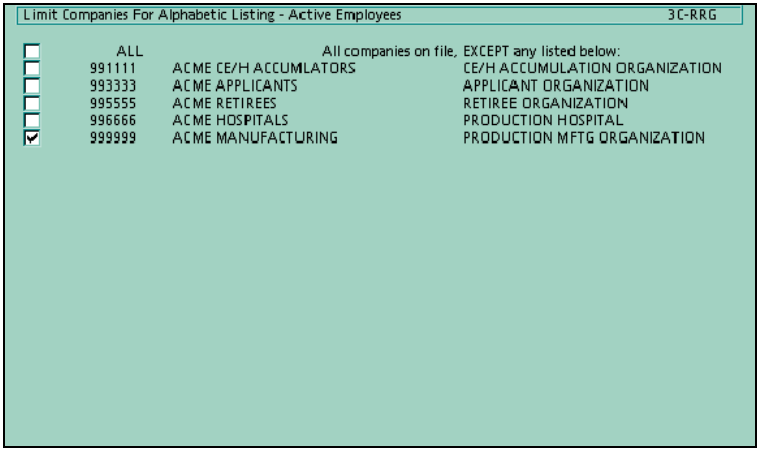
3. Click Save or press Enter

After the last parameter is entered and you are viewing the Report Parameters form, press Enter to save the form and access the Limit Companies form.

4. Select the organizations to be included in the report

The Limit Companies form is automatically displayed. Select the check box next to each organization for which you want to run the report.

If you completed the previous steps, the resulting form should look similar to the example that follows:



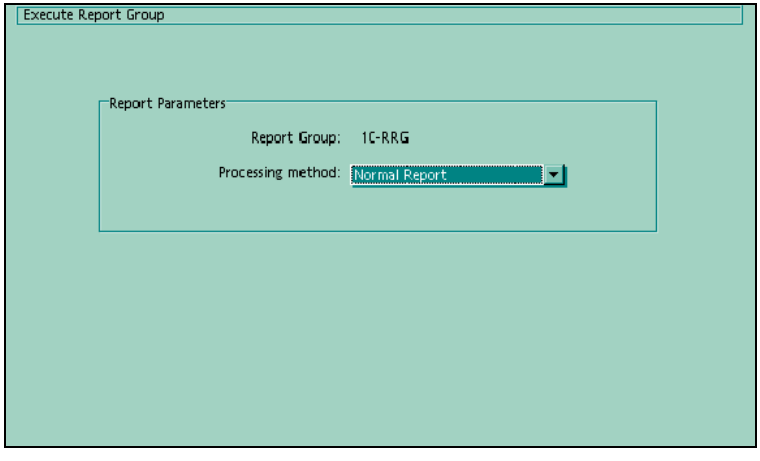
5. Click Save or press Enter

Click Save or press Enter to save the form and access the Execute Report Group form.

6. Execute the report group

The Execute Report Group form is automatically displayed. Select either Normal, Consolidated, or Rollup report processing.

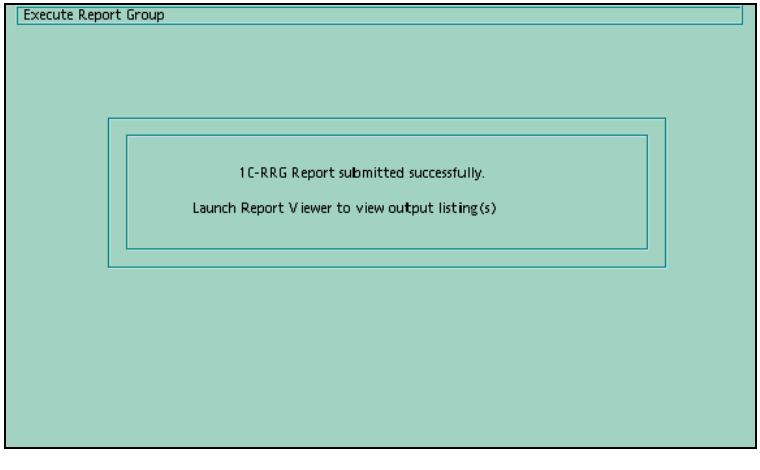
If you completed the previous steps, the resulting form should look similar to the example that follows:



7. Press Enter

Press Enter to launch the report online.

If you completed the previous steps, the resulting confirmation form should look similar to the example that follows:



Viewing a held report online

The View Held Report (VIEW) program allows you to view, print, and/or delete the batch reports and queries routed for online viewing from the Batch Job Initiation Menu process.

The displayed list is for your operator ID only.

1. Access the View Held Reports form

Access this form by selecting:

Component: Reporting
Process: Report Scheduling
Task: View Held Report

The View Held Report form is displayed.

You must have a held output file to view. If you do not, you will see the message: "YOU DO NOT HAVE ANY HELD PRINT FILES".

2. Specify the action to take

Enter a "D" (Delete), "P" (Print), or "V" (View).

3. Enter the ID of the report to work with

The ID of the report will be listed on the form.

4. Press Enter

The system displays the appropriate form. For our example, the first page of the report will be displayed.

See also:

- Online report initiation and viewing ***(on page 285)***

To learn more about viewing reports and queries online.

Review of Questions answered

1. What is the role of the system administrator in reporting?

2. What control structures need to be set up to administer reporting?

3. What is the flow of the batch report process?

4. What facilities are available for initiating and viewing reports and batch queries online?

5. What are consolidated and roll up reporting?

CHAPTER 14

Managing Working Storage

In This Chapter

Introduction 312
A recommended approach to managing working storage areas 313
When to check working storage resources....314
Working storage expansion areas 315
Working storage areas affecting both the online system and Payroll Processing....316
"Payroll-only" expansion areas....318
Working storage delivered with the system....319
Relational database work areas....320
Commit Limit 321
Expansion of the online system COBOL working storage areas 322
Expansion of Payroll Processing COBOL working storage areas 323
Extraction of the online system COBOL programs....324
Extraction of Payroll Process COBOL programs....325
Detailed Directions....326
Review of Questions Answered....337

Introduction

This section provides you with the information you need to manage the working storage requirements of The Solution Series.

The Solution Series programs are delivered with the maximum amounts of working storage. You may find you can decrease these amounts to decrease program sizes. However, you need to ensure that you have adequate amounts of working storage.

Having inadequate amounts of working storage to process your organization's data can result in the abnormal termination of The Solution Series and Payroll Processing programs.

As the amount of information you keep on individuals and companies increases, the larger their logical master records will be. Consequently, you may need to increase the working storage areas of CBSV and associated payroll COBOL programs to accommodate these larger record sizes.

Similarly, you may need to increase data areas of Payroll Processing programs to accommodate batch and online reporting areas.

Relational database customers may need to modify the default storage amounts for keys, update tables, and user tables.

Tasks

You must complete the following tasks to manage working storage:

- Determine if expansion is required for employee and company areas
- Expand employee (Area2) and/or company (Area4) work areas
- Expand working storage areas for relational databases only
- Extract and compile online COBOL programs
- Determine if expansion is required for 'Payroll-only' areas
- Expand "Payroll-only" areas
- Expand working storage for the database commit

Questions answered in this section

This section answers the following questions:

1. What is the recommended approach for managing working storage?
2. When should you check your working storage resources?
3. What are The Solution Series areas that can be expanded?
4. What are the Payroll Processing areas that can be expanded?
5. How much working storage is delivered with the system?
6. What areas should relational database customers consider expanding?
7. Where do you find the size of working storage areas?
8. How do you expand The Solution Series and Payroll Processing working storage areas?
9. How do you extract COBOL source programs for The Solution Series and for Payroll Processing?

A recommended approach to managing working storage areas

Taking an active approach to managing working storage areas means periodically monitoring their sizes and, if necessary, increasing them to accommodate the current data requirements of your organization.

By doing so, you will avoid having to respond to out-of-space error messages such as "RECORD TOO LARGE" in The Solution Series or "EMPLOYEE AREA FULL-BYPASSED" from the Payroll Process Audit Trail report.

When to check working storage resources

In addition to periodic checks, you should check working storage resources in the following situations:

- Before a data load
- Before benefits enrollment
- Before implementing a new application module

Working storage expansion areas

There are three categories of areas that can be expanded:

- Working storage areas that affect both the online system and Payroll Processing COBOL programs.
- Working storage areas that affect only Payroll Processing COBOL programs.
- Additional working storage areas that affect only relational database users.

A discussion of each of these categories follows.

Working storage areas affecting both the online system and Payroll Processing

A discussion of these topics follows:

- The Solution Series CBSV working storage areas
- Payroll expansion areas affected by the online system work areas

CBSV working storage areas

There are four main areas (01 levels) defined in working storage for both CBSVO and CBSVB. The data dictionary uses the pointers in these areas to map where data resides within the program's memory.

AREA1 Pointer Table Time Entries Form (data to terminal/monitor) I/O buffer "Other" records	AREA2 Work (data from terminal/monitor) Tax Master Record Employee Master Record
AREA3 Cyborg Scripting (English) Language Object Code Report Extract	AREA4 Company Master Record

The two areas that you may have to expand are Area2 and Area4.

Area2 is used for Employee Master record information. This area must be large enough to accommodate the largest Employee Master record.

Area4 is used for Company Master record information. This area must be large enough to accommodate the largest Company Master record.

These record sizes are shown on the FILE02 Records (RECSIZ) report.

A sample of this report is shown below:

```
                    FILE02 RECORDS REPORT
LARGEST EMPLOYEE RECORD:         999999      1975            10,541
MAXIMUM EMPLOYEE RECORD:                                     24,957
LARGEST COMPANY RECORD:          999999                      12,312
MAXIMUM COMPANY RECORD:                                      32,721
```

To determine whether expansion is required or not, you will need to complete the Employee Area Expansion and Company Area Expansion worksheets.

☞ *Refer to* **Working Storage Expansion Worksheets** *(on page 519) for copies of these worksheets.*

Payroll expansion areas affected by the online system work areas

The following table shows the payroll expansion areas that must be expanded when their counterparts in CBSV are expanded:

When you expand this CBSV area	Expand this area of P4CALC/O4CALC
Employee (Area2)	EMPLOYEE
Company (Area4)	PAYER

"Payroll-only" expansion areas

The following table describes the areas of the Payroll Processing system that can be expanded:

Area	Program(s)	Use
RPT20	P2EDIT/O4CALC	Transaction/Organization Inclusion List
REPORT BATCH	P4CALC	Loaded Report Generator Logic
REPORT ONLINE	O4CALC	5H5Z and Method Code Generators
PAYER	P4CALC/O4CALC	Company information
TAX	P4CALC	Tax Specification Data
EMPLOYEE	P4CALC/O4CALC	Employee Information
AREAW	P4CALC	WL Data

You should expand these areas under the following conditions:

- Expand any P4CALC area that has less than 2000 positions left as shown on the Payroll Audit Trail report.
- Expand the RPT20 area, if you intend to have more than 50 entries (Organization Control Number values) in the System Generator R.RPT20.
- You should expand the REPORT ONLINE area if the amount shown by program DSP02 is less the delivered size for this area.

☞ *Refer to the* **Part 5 - Maintaining the Payroll System** *(see "Maintaining the Payroll System" on page 369) for more information.*

Working storage delivered with the system

The system is delivered with maximized working storage areas.

The following documents these working storage amounts/sizes:

Area	Delivered size
Employee (Area2)	24, 958
Company (Area4)	32,192

Delivered size of the REPORT ONLINE area

The platform on which you are running the system determines the size of the delivered REPORT ONLINE area. This represents the combined lengths of SRT5G, SRT5H, and RPT5Z.

The following chart lists platforms and delivered area size:

4-Byte Platforms 7500 Bytes
PC
UNIX

Relational database work areas

The following default sizes and maximums are used for relational objects:

Object	Description	Delivered size
Keys	Stores key information	11250 bytes
Individual record segments	Stores record segment keys	750 allowed
User-defined segments	Number of user-defined segments allowed during index creation	99 allowed

Error messages

Following are the error messages associated with overflows of the relational database work areas:

Message	Explanation	Recommended action
KEY OVERFLOW	The system allows 11250 bytes to store key information. This maximum has been exceeded.	Increase the size of REL-AREA3 and REL-AREA4, and the maximum working-storage limit for keys.
UPDATE TABLE OVERFLOW	The system allows 750 segments on any individual record. This maximum has been exceeded.	Increase the update table area and the maximum working-storage limit for updates.
USER TABLE OVERFLOW	The system allows 9 user-defined segments during index recreation process. More than 99 user tables are present.	Increase the user table area.

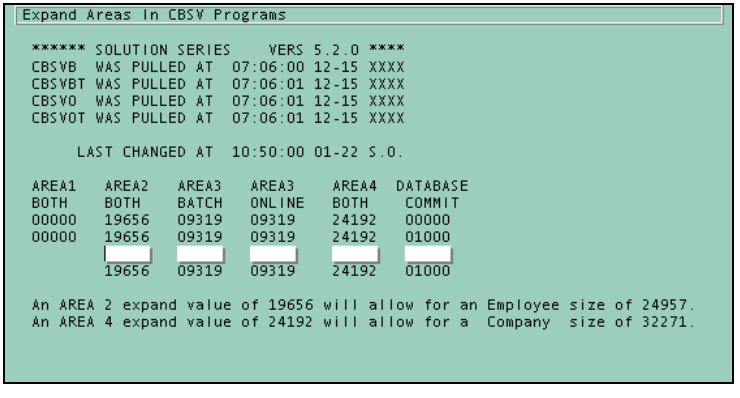
Commit Limit

For background (batch) transactions and high volume I-O to the System Control Repository (FILE01), The Solution Series employs a system configurable commit limit within CBSV. SQLLIM, configurable via the Expand Areas in CBSV (EXPAND) form, is the minimum # of SQL transactions before COMMIT is performed. Generally, the SQLLIM is set high to improve performance. SQLLIM is initialized to 1000 in CBSVO/CBSVB, however during batch DEMO and PAYMRG 171 processing, the limit is automatically reset to 5000. The value of SQLLIM is dependent on the amount and size of the rollback logs available for use. If the limit is reached prior to the completion of background (batch) process, we will force a commit to maintain the integrity of the rollback files.

Expansion of the online system COBOL working storage areas

You use the Expand Areas in CBSV Programs form to enter expansion figures for the online system COBOL working storage areas.

The values entered will be the total size needed for that area including the expansion amount.



Note: The numbers beneath the white blocks in the form example above reflect previous expansions and current sizes.

Expansion of Payroll Processing COBOL working storage areas

You enter EXPAND transactions on the P05RDR override file to expand the Payroll Processing COBOL working storage areas.

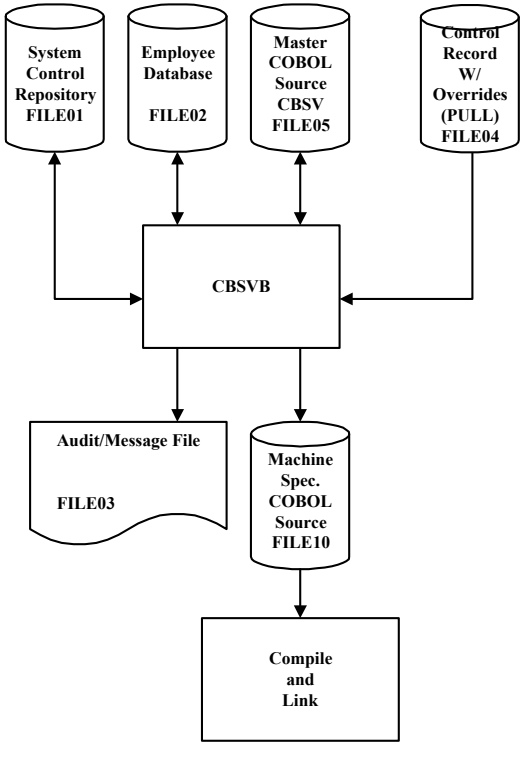
Extraction of the online system COBOL programs

Source code for the online system COBOL programs is stored in the CBSV source file.

You extract these programs from this file using the COBOL Extract (PULL) process.

Once extracted, these programs must be compiled and linked using your standard processes.

The following figure shows the flow for extracting these programs:



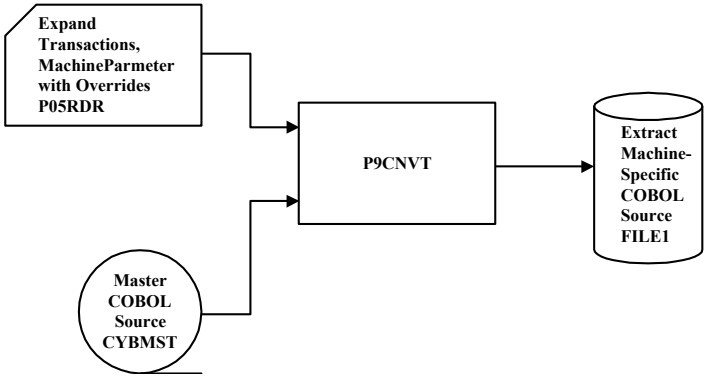
Extraction of Payroll Process COBOL programs

Source code for the Payroll Process COBOL programs is stored in the member C.P0PRGM in CYBMST.

You extract these programs from this file using the P9CNVT program.

Once extracted, these programs must be compiled and linked using your standard processes.

The following figure shows the flow for extracting these programs:



You use the Machine Parameter record in the P05RDR input file to identify the program to extract from CYBMST.

☞ *Refer to* **Working with CYBMST** *(on page 435) for more information about P9CNVT.*

Detailed Directions

This section provides detailed directions on completing a business task.

Tasks

Determining if expansion is required for employee and company areas 326
Expanding employee (Area2) and/or company (Area4) work areas 327
Expanding working storage areas for relational databases only 329
Extract and compile online COBOL programs 330
Determining if expansion is required for "Payroll-only" areas 332
Expanding "Payroll-only" areas 334
Expanding working storage for the database commit 335

Determining if expansion is required for employee and company areas

The following provides detailed instructions for the tasks relating to managing working storage as summarized in the previous section:

1. Identify largest employee and company records

To identify the largest employee and company records on the database, you use the RECSIZ report.

To generate this report, you run CBSVB as follows:

INPUT	FILE01 FILE02 FILE04	System Control Repository Employee Database Control Record File
OUTPUT	FILE03	FILE02 Record Size (RECSIZ) Report
EXECUTE	CBSVB	

The control record on FILE04 has the following syntax:

In these positions	Enter	Description
23–28	RECSIZ	Name of the program
31–36	DETAIL or blank	Blank to show only the largest company and employee record lengths

You will use the numbers on the output report on the worksheets for determining whether expansion is required, and if so, what the expansion amounts should be.

☞ *Refer* **Working Storage Expansion Worksheets** *(on page 519) for blank worksheets and to* **Report Quick Reference** *(on page 607) for detailed information about the FILE02 (Employee Database) Record Size report.*

2. Determine amount of expansion required

Complete Step 1 of the Employee Area Expansion and Company Area Expansion worksheets to determine the amount of expansion required.

In Step 1 of the worksheets, you:

- Calculate the positions left in working storage for the records.
- Calculate the record/segment growth size for the next 6 to 12 months.
- Calculate the estimated storage requirement.
- Compare the estimated storage requirement to the positions left.

If you determine that expansion is required, you should complete Task 2: Expanding employee (Area2) and/or company (Area4) work areas.

See also:

- When to check working storage resources ***(on page 314)***

To learn what circumstances working storage resources should be checked.

- Launching the FILE02 Record Sizing Report - online JRECSIZ ***(on page 920)***

To learn how to use a UK administration script to run the RECSIZE report

Expanding employee (Area2) and/or company (Area4) work areas

1. Calculate the expansion amounts

Complete Step 2 of the Employee Area Expansion and the Company Area Expansion worksheets to calculate the employee area expand amount and the company area expand amount for The Solution Series and the Payroll Process.

In Step 2 of the worksheets, you:

- Calculate The Solution Series working storage requirement
- Calculate the expand area requirement
- Calculate The Solution Series expand amount
- Compare the Payroll Process expand amount

2. Expand the online system work areas

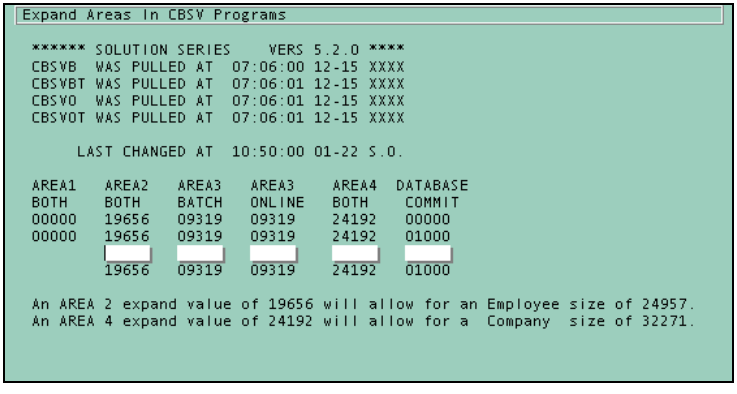
Complete Step 3 of the Employee Area Expansion and the Company Area Expansion worksheets.

1. Access the Expand Areas in CBSV Programs form.

You access this form by selecting:

Component:		Development Tools
Process:		System Operations
Task:		Expand Program Memory

The Expand Areas in CBSV Programs form is displayed:



2. Enter the total expanded amount for the employee in AREA2-BOTH.
   For example, enter 0027656.

Note: The numbers beneath the white blocks in the form example above reflect previous expansions and current sizes.

3. (Optional) Enter the total expanded amount for the company in AREA4-BOTH, if you need to expand the company area.
4. Press Enter.

3. Expand the Payroll Process work areas

Create an override file containing the Expand transactions.

An EXPAND transaction has the following syntax:

In these positions	Enter	Description
1–6	EXPAND	
8–23	EMPLOYEE or PAYER	Name of area to expand
25–31	nnnnnnn	Number of characters the area should be changed by or the number of additional occurrences for reports
32	–	De-expand switch

To increase the EMPLOYEE area, use the figure from the Employee Area Expand worksheet.

To increase the PAYER area, use the figure from the Company Area Expand worksheet.

For example, the following EXPAND transactions are set to increase the EMPLOYEE area by 8000 positions and to increase the PAYER area by 799 positions:

```
         1         2         3         4         5         6
123456789023456789012345678902345678902345678902345678902345678 9
04CALC     LI45VSEPCYd  24     VAX-11.
EXPAND EMPLOYEE         0008000
EXPAND PAYER            0000799
```

Note: P9CNVT recalculates expansion amounts.

4. Extract the Payroll Process COBOL programs to include the EXPAND transactions

Use P9CNVT to extract P4CALC and O4CALC programs from CYBMST.

All source code for P4CALC and O4CALC is included in the member C.P0PRGM of CYBMST.

Only one program can be extracted from CYBMST during each execution of P9CNVT.

5. Compile and link the online system and Payroll Process COBOL programs

Note: For UNIX and Windows systems, the extract and compile steps are contained in one job.

For the Payroll Process, compile and link P4CALC and O4CALC.

Use the FILE1 output from the P9CNVT execution as input to the compile and load process.

See also:

- Working storage areas affecting both the online system and Payroll Processing ***(on page 316)***

To learn more about the areas of working storage which may need to be expanded.

Expanding working storage areas for relational databases only

To expand storage for keys, update segment tables, and user-defined segments, follow these steps:

1. Calculate the expansion figure(s)

Based on your needs, calculate the expansion figures.

2. Modify the appropriate storage amounts in the override dataset

Enter the override COBOL code into FILE04, as follows:

For key storage, modify the values of REL-AREA3, REL-AREA4, and RELMAX.

```
         1         2         3         4         5         6
123456789012345678901234567890123456789012345678901234567890
B143100+R   05  REL-AREA3                PIC X(45008).
B143150+R   05  REL-AREA4                PIC X(45008).
B152300+R   05  RELMAX           PIC S9(9)   COMP VALUE +45008.
```


For update segment tables, modify the values of SEGMAX and the associated OCCURS clauses.

```
         1         2         3         4         5         6
123456789012345678901234567890123456789012345678901234567890
B148400+R           OCCURS 3000 TIMES INDEXED BY UX1, UX2, UX3
B148800+R           OCCURS 3000 TIMES INDEXED BY UX21.
B149050+R           OCCURS 3000 TIMES INDEXED BY UX41.
B152350+R   05 SEGMAX            PIC S9(4)  COMP VALUE +3000.
```

For user-defined segments, modify the values of USRMAX and the associated OCCURS clause.

```
         1         2         3         4         5         6
123456789012345678901234567890123456789012345678901234567890123456789012345
B152200+R   05 USER-TABLE        PIC X(4)  OCCURS 200 TIMES INDEXED BY UT1.
B152400+R   05 USRMAX            PIC S9(4)   COMP  VALUE +199.
```

Note: Verify that these are the correct sequence numbers for the data items by reviewing the FILE03 audit and compile listings.

See also:

- Relational database work areas ***(on page 320)***

To learn about working storage issues unique to relational databases.

Extract and compile online COBOL programs

1. Extract the online system COBOL programs to include the new key storage amounts

Note: For UNIX and NT systems, the extract and compile steps are included in one job.

Extract CBSVO, CBSVOT, CBSVB, and CBSVBT using PULL.

Each program must be pulled separately.

To extract these programs, you run CBSVB as follows:

INPUT	FILE01 FILE02 FILE04 FILE05	System Control Repository Employee Database Control Record File Master CBSV Source File
OUTPUT	FILE03 FILE10	Audit/Message File Extracted CBSV Source Code
EXECUTE	CBSVB	

The control record on FILE04 has the following syntax:

In these positions	Enter	Description
23–28	PULL	Name of the program.
29	5	
30	M	Optional override COBOL code.

In these positions	Enter	Description
31–37	CBSVO. CBSVOT. CBSVB. CBSVBT.	Name of program to execute followed by a period (full stop).
38–40	Op. sys. code	Refer to the appendices for a list of these codes.
41–47	Additional key	Optional. A COBOL Program-ID to override the ID. It must end in a period.
49	1, 2, or 4	Optional. 1 = FILE23 2 = FILE24 4 = FILE25 You can add these codes together to indicate various file combinations.

2. Compile and link the online system CBSV COBOL programs

For the online system, compile and link CBSVO, CBSVOT, CBSVB, and CBSVBT.

Use the FILE10 output from the PULL process as input to the compile and link processes.

3. Delete the AREA size record

To do this, run the DEL-ZX program.

You run this program in batch as follows:

INPUT	FILE01 FILE02 FILE04	System Control Repository Employee Database Control Record File
OUTPUT	FILE03	Audit/Message File
EXECUTE	CBSVB	

The control record on FILE04 has the following syntax:

In these positions	Enter	Description
23–28	DEL-ZX	Name of the program

This program deletes the ZXCYB88W record for the PC-LAN version of The Solution Series or the ZXCYB88M record for all non-PC platforms.

A new record, ZXCYB88W or ZXCYB88M as appropriate, will be created on the Employee Database the next time the COBOL programs are executed.

Determining if expansion is required for "Payroll-only" areas

When determining if expansion is required for "Payroll-only" areas, you will need to examine the following areas:

- P4CALC
- RPT20
- REPORT ONLINE

Following are specific directions for examining each of these areas.

P4CALC program areas

1. **Run the Payroll Audit Trail (0101) report**
2. **Determine if expansion is required**

   If the POSITIONS LEFT value for any of the expandable areas is less than 2000, expand that area.

RPT20

1. **Review the System Generator R.RPT20**
2. **Determine if expansion is required**

   If you plan on exceeding the delivered maximum of 50 entries for Organization Control Number value validation, expand this area.

REPORT ONLINE area

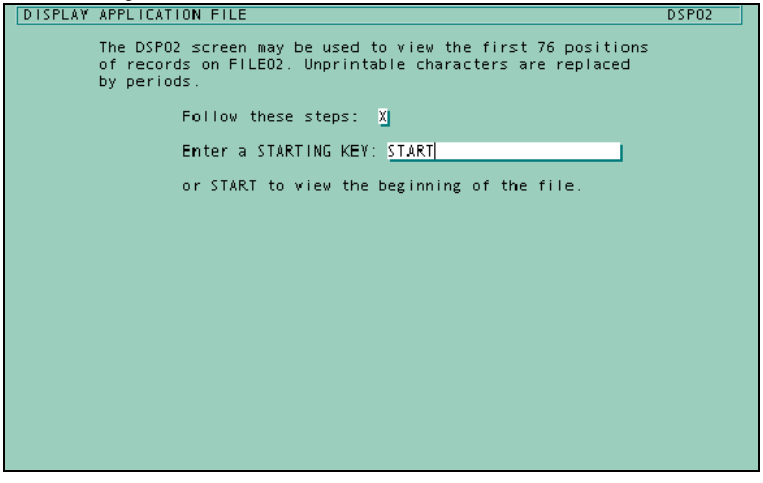
1. **Execute the List Employee Database Records utility (DSP02)**

   You execute this utility by selecting:

   Component: Development Tools
   Process: Employee Database Utilities
   Task: List Employee Database Records

   The Display Application File form is displayed.

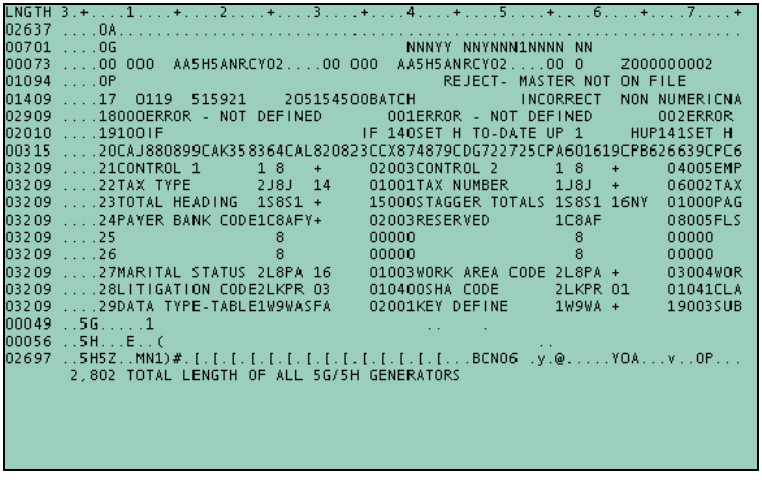
2. Enter a key value of START



3. Press Enter

The system displays the report generators on the Employee Database.

In the following figure, the total length of all 5G/5H generators is 2,802:



4. Determine if expansion is required

Verify that the size of the REPORT ONLINE area is at least the default size.

☞ *Refer to* **Expansions** *(on page 446) for further information.*

See also:

- *"*"Payroll-only" expansion areas *(see ""Payroll-only" expansion areas" on page 318)*
  To learn what the expansion issues are limited to Payroll Processing.
- Working storage delivered with the system *(on page 319)*
  For information on the size or the REPORT ONLINE area for your platform.

Expanding "Payroll-only" areas

1. Enter an EXPAND transaction

Enter the EXPAND transaction immediately following the Machine Parameter transaction in the P05RDR input override file.

The EXPAND transaction has the following syntax:

In these positions	Enter	Description
1–6	EXPAND	
8–23	area-name	Name of area to expand.
25–31	nnnnnnn	Number of characters the area should be changed by or the number of additional occurrences for reports.
32	blank or "-"	Use blank for expand. Use "-" to de-expand.

Refer to the following table for area names:

Area	Programs
RPT20	P2EDIT/O4CALC
REPORT BATCH	P4CALC
REPORT ONLINE	O4CALC
TAX	P4CALC
AREAW	P4CALC

If you are forced to make an area smaller, due to compiler restrictions, place a minus sign in position 32 to subtract the amount from the delivered size.

2. Extract the program associated with the area

Execute P9CNVT, using P05RDR as input.

3. Keep the EXPAND transaction(s) with your control language

You can expand as many areas as needed.

You can enter EXPAND transactions in any sequence.

In its diagnostic report, P9CNVT will identify the original record as "ORIG" and the changed version as "EXPAND".

See also:

- "Payroll-only" expansion areas ***(on page 318)***

To learn what the expansion issues are limited to Payroll Processing.

Expanding working storage for the database commit

Perform the following to expand working storage for the database commit. The database commit area should only be expanded if you want to allow more than the delivered value of 1000 transactions to be held before a commit is performed in batch only. Before expanding the database commit area, expand your RDBMS' rollback/archive area. Modifying the database commit value will expand both the TABLE01-TABLE-ENTRY and SQLLIM entries.

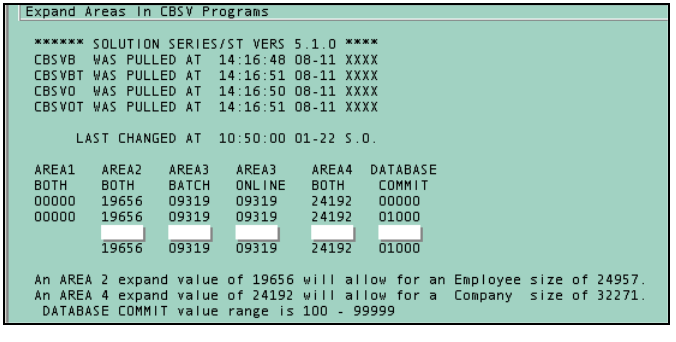
TABLE01-TABLE-ENTRY stores FILE01 keys involved in adds, changes, and deletions to FILE01 prior to the LUW being committed. SQLLIM in the minimum number of SQL transactions for FILE01 and the Employee Database before a commit is performed.

1. Access the Expand Areas in CBSV Programs (EXPAND) form

Access the Expand Areas in CBSV Programs form by selecting the options below:

Component: Development Tools
Process: System Operations
Task: Expand Program Memory

The Expand Areas in CBSV Programs form is displayed:



Perform the following steps, to expand the database commit area:

1. Expand the database commit area

The database commit area should only be expanded if you want to allow more than the delivered value of 1000 transactions to be held before a commit is performed in batch only. Before expanding the database commit area, expand your RDBMS' rollback/archive area. Modifying the database commit value will expand both the TABLE01-TABLE-ENTRY and SQLLIM entries.

TABLE01-TABLE-ENTRY stores FILE01 keys involved in adds, changes, and deletions to FILE01 prior to the LUW being committed. SQLLIM in the minimum number of SQL transactions for FILE01 and the Employee Database before a commit is performed.

2. Extract and compile

Extract and compile the CBSV COBOL programs to include the expanded database commit value:

- For Windows and UNIX, run JPULCVR/JCMPCVR
- For z/OS, run JCBSVO, JCBSVOT, JCBSVB, and JCBSVBT.

See also:

- Commit Limit ***(on page 321)***

To understand the concept of setting commit limits.

Review of Questions Answered

1. What is the recommended approach for managing working storage?

2. When should you check your working storage resources?

3. What are The Solution Series areas that can be expanded?

4. What are the Payroll Processing areas that can be expanded?

5. How much working storage is delivered with the system?

6. What areas should relational database customers consider expanding?

7. Where do you find the size of working storage areas?

8. How do you expand The Solution Series and Payroll Processing working storage areas?

9. How do you extract COBOL source programs for The Solution Series and for Payroll Processing?

CHAPTER 15

Synchronizing Relational Tables and Indexes

In This Chapter

Introduction 340
The System Control Repository in the relational version 341
Synchronization of the System Control Repository and relational tables....342
The Employee Database in the relational version 343
Data manipulation errors 344
CSL programs with high volume I-O within a logical unit of work....346
Detailed Directions....347
Review of Questions answered....353

Introduction

This section is only applicable to users of the relational version of The Solution Series.

This section explains how to ensure that the processing objects from the System Control Repository and the Employee Database are synchronized with their associated relational tables.

Tasks

You must complete the following tasks to synchronize relational database tables and indexes:

- Synchronize the System Control Repository and the relational tables
- Synchronize the System Control Repository (FILE01) with the database
- Synchronize the Employee Database (FILE02) with the database
- Rebuild all Employee Database index records
- Rebuild individual Employee Database index records online
- Rebuild individual Employee Database index records in batch

Questions answered in this section

This section answers the following questions:

1. How is the System Control Repository organized in the relational version and why is synchronization important?
2. What program is used to synchronize the System Control Repository and the relational tables?
3. How is the Employee Database organized in the relational version and why is synchronization important?
4. What programs are available to synchronize the Employee Database, the index table, and the relational tables?

The System Control Repository in the relational version

You will find information on these topics in the following sections:

- System Control Repository replication
- Impact on processing
- Synchronization of the System Control Repository and relational tables

System Control Repository replication

All option lists and application tables stored in the System Control Repository are replicated in relational tables. The data is then available for reporting by third-party tools. For example, you can include both an option list code and its value on a report.

Impact on processing

The Solution Series programs (for example, CBSV) use the System Control Repository as input and assume that it is current.

Synchronization of the System Control Repository and relational tables

Updates to the System Control Repository are reflected in the appropriate relational tables.

However, should a synchronization problem occur, you use the Build/Rebuild Control File Relational Tables (POPF01) program to synchronize the System Control Repository and its associated relational tables.

The Employee Database in the relational version

The following table summarizes the relationship between the Employee Database and the relational database tables:

This component	Is stored
Organization Level 1, Organization Level 2, and Employee Number	In previous releases, this information was stored in the Employee Database. In the current version of the system, the Employee Database no longer contains any permanent company, employee or tax information, all information is resident in relational database tables.
Index (secondary key)	Stored in a relational database table. Provides a cross-reference to the tables where the actual data resides
Employee and company data	Stored in relational database tables

Impact on processing

The Solution Series programs (for example, CBSV) use the Data Manipulation Language (DML) SQL subroutines (RDBPGMA-G) to manipulate the data stored in the relational tables.

Database recovery and index rebuilds

In previous releases, if you needed to rebuild the database indexes for the Employee Database, two programs were provided. They are described in the following table.

In the relational implementation of the current version of the system, the Employee Database no longer contains any permanent company, employee or tax information--all information is resident in relational database tables.

Program	Description	Run in
INDEXS	Fixes all index records. This program can be run for all or selected organizations.	Batch
FIXIDX	Fixes a particular record index.	Online (recommended) Batch

Note: Running INDEXS for all organizations can be time consuming. We encourage you to breakup this task for selected organizations.

Make sure users are not accessing the data being restored. INDEXS requires a larger time window and is more disruptive to user processing than FIXIDX.

Data manipulation errors

This section lists and explains information messages that may be encountered using the relational version of the system. No user action is required.

ZE records

Informational error messages encountered during execution of DML statements by CBSV programs are written to ZE records on the System Control Repository.

The error messages are reported and deleted using ZE-PRT.

The layout of the ZE record is as follows:

Columns	Contents
01–02	ZE
03–22	Organization Control Number (Control 1-2), Employee Number, Labor/History Number
23–24	Sequence Number
25–38	Time and Date
40–43	User Code
46–51	Program/Screen Name
52–55	Table Name
56–61	SQLCODE
62–74	Segment Key

Specific error codes

INDEX ERROR CORRECTED ON TABLE....
This message is issued if the index record indicates that a specific row exists on the database, but the SQL SELECT results in a non-zero SQLCODE (Row not found).

No user action is required.

The pointer is removed from the Employee Database and it is automatically corrected to reflect actual database information. It corrects the fault cross-reference index.

The following audit record is written to the System Control Repository:

```
1...5...10...15...20...25...30...35...40...45...50...55...60...65...70..
ZE9999991001          0015:30:14 09-01 XXXX  PAYXTRMLZC 00100215D17001

COL 01-02:  ZE
COL 03-22:  CONTROL 1-2, EMPLOYEE NUMBER, LABOR/HISTORY NUMBER
COL 23-24:  SEQUENCE NUMBER
COL 25-38:  TIME & DATE
COL 40-43:  USER CODE
COL 46-51:  PROGRAM/SCREEN NAME
COL 52-55:  TABLE NAME
COL 56-61:  SQLCODE
COL 62-74:  SEGMENT KEY
```


RECORD NOT FOUND ON TABLE....
This message is issued if the Employee Database indicates that a record exists on the database, but the SQL SELECT for the first segment of that record results in a non-zero SQLCODE (Row not found).

No user action is required.

The Employee Database is automatically corrected to reflect database information.

The following audit record is written to the System Control Repository:

```
1...5...10...15...20...25...30...35...40...45...50...55...60...65...70..
ZE9999991002          0015:30:14 09-01 XXXX  PAYXTRMLZC 00100

COL 01-02:  ZE
COL 03-22:  CONTROL 1-2, EMPLOYEE NUMBER, LABOR/HISTORY NUMBER
COL 23-24:  SEQUENCE NUMBER
COL 25-38:  TIME & DATE
COL 40-43:  USER CODE
COL 46-51:  PROGRAM/SCREEN NAME
COL 52-55:  TABLE NAME
COL 56-61:  SQLCODE
```


CSL programs with high volume I-O within a logical unit of work

Although our commit methodology enforces a logical unit of work (LUW) throughout CBSVO/B for update of both online and background (batch) transactions, it is possible for CSL programs to have high volume I-O within a logical unit of work. To make sure these processes remain within your system's configured commit limit, SQLLIM, a new CSL verb, COMMIT-CHECK, has been delivered. Each time a record is updated, a counter, SQLCNT is incremented. Each time the verb COMMIT-CHECK is executed, it performs a check to see if the SQLCNT > (SQLLIM – 100) and performs a COMMIT when the condition is met. Several core CSL programs have been updated to include a call to the COMMIT-CHECK verb after each update:

ABSTMC	CONSID	CYB707
CY710P	CYB710	CYB90B
DEMOY2	F-XREF	HHMSCR
KEYDEL	MAINTI	MASSTR
POPF01	PULL	PURGE
QUERY	RELOAD	RELOADW
TMCARD	WWWDEL	

COMMIT-CHECK is a quick verb and its use does not impact run time performance and is recommended for customer use should there be custom CSL that includes the high volume I-O. If included in CSL, it must be placed immediately after the write to the employee or in the case of FILE01, place it right after the file output statement.

Detailed Directions

This section provides detailed directions on completing a business task.

Tasks

Synchronizing the System Control Repository and the relational tables 347
Synchronizing the System Control Repository (FILE01) with the database 348
Synchronizing the Employee Database (FILE02) with the database 348
Rebuilding all Employee Database index records 349
Rebuilding individual Employee Database index records online 351
Rebuilding individual Employee Database index records in batch 351

Synchronizing the System Control Repository and the relational tables

To synchronize the System Control Repository and the relational tables, you run the Build/Rebuild Control File Relational Tables (POPF01) program in batch as follows:

Note: Running Build/Rebuild Control File Relational Tables (POPF01) online is possible, but not recommended, as it can be a very time-consuming process.

1. Verify that the System Control Repository is current

Because the System Control Repository is used to rebuild the relational tables, you should verify that the file you use as input is current.

2. Run POPF01

You run this program in batch as follows:

INPUT	FILE01 FILE02 FILE04	System Control Repository Employee Database Control Record File
OUTPUT	FILE03	Audit/Message File
EXECUTE	CBSVB	

The control record on FILE04 has the following syntax:

In these positions	Enter	Description
23–28	POPF01	program name

3. Check the output

A successful run will produce a "COMPLETED" message in FILE03.

See also:

- The System Control Repository in the relational version ***(on page 341)***

To learn how the System Control Repository functions in a relational environment.

Synchronizing the System Control Repository (FILE01) with the database

If FILE01 is out of sync with the database (TABLE01) and FILE01 is more current than TABLE01, execute the following processes:

1. JBACKEM to record all FILE01 changes in FILE10
2. JREBUILD using option DEMO01 to restore synchronization with FILE10
3. Synchronize FILE01 to the application tables on your RDBMS by executing jpopf01

If FILE01 is out of sync with the database (TABLE01) and TABLE01 is more current than FILE01, execute the following processes:

1. Compile F1RSTR by executing jcf1rstr (Windows, UNIX, z/OS)
2. Rebuild FILE01 from TABLE01 on your RDBMS by executing jf1rstr

Important: For Windows and UNIX beginning with the 5.1 version of the relational system, using the MicroFocus utility FHREBUILD/REBUILD is prohibited. It could cause FILE01 to be out of sync with TABLE01.

Synchronizing the Employee Database (FILE02) with the database

If you are using the version 5.1 system (or above), there is no dependency between the indexed FILE02 and the database. Perform the following steps:

1. Compile F2RSTR by executing jcf2rstr (Windows, UNIX, z/OS)
2. Rebuild FILE02 from latest p20in.mnt by executing jf2rstr

Important: For Windows and UNIX beginning with the 5.1 version of the relational system, using MicroFocus utility FHREBUILD/REBUILD is prohibited.

Note: If you are using the version 5.1 system (or above), there is no reason to use FIXIDX or INDEXS.

Rebuilding all Employee Database index records

Important: If you are using the version 5.1 system (or above), skip this task. In the 5.1 relational implementation, the Employee Database no longer contains any permanent company, employee, or tax information. All information is resident in relational database tables.

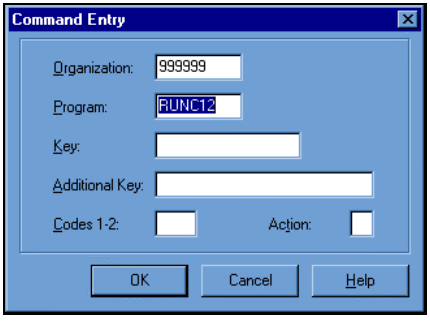
To rebuild all Employee Database index records, you run the INDEXS program in batch as follows:

1. (Optional) Specify organizations

Set up an organization inclusion list to indicate which organizations to include in the rebuild.

To set up an organization inclusion list, do the following.

1. Access the Command Entry dialog box.
   To access this dialog box from the menus, select:
   Actions ▶ Enter Co**m**mand
2. Enter "RUNC12" as the program name.



3. Click OK or press Enter. The first panel of the Report Company Schedule (RUNC12) form displays.
4. Type the organization inclusion list name in the Schedule Name text box. The name you enter here will also be entered in the control record on FILE04.
5. Save the form. The second panel of the Report Company Schedule (RUNC12) form displays.
6. Type "A" in the A/D text box and the number of the organization you want to include in the rebuild in the Company ID entry box. Repeat this to include other organizations in the rebuild.
7. Save the form.

2. Run INDEXS

You run this program in batch as follows:

INPUT	FILE01 FILE02 FILE04	System Control Repository Employee Database Control Record File
OUTPUT	FILE03	Audit/Message File
EXECUTE	CBSVB	

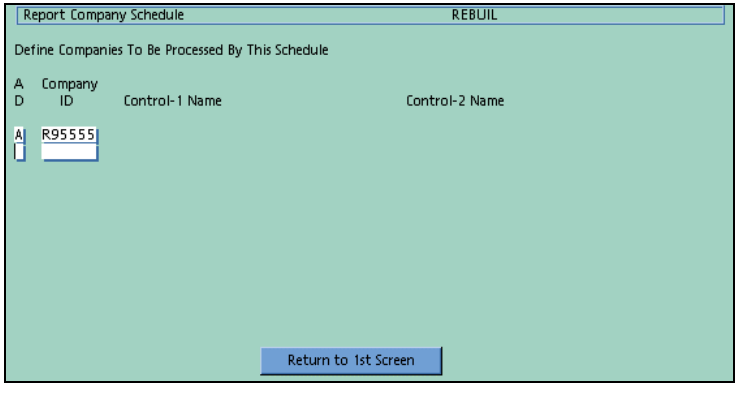
The control record on FILE04 has the following syntax:

In these positions	Enter	Description
23–28	INDEXS	Name of the program
31–36	blank or organization inclusion list name	If blank, the index records for all organizations will be rebuilt

For example, to rebuild the index records for all organizations, the control record would look like this:

```
         1         2         3         4         5
12345678901234567890123456789012345678901234567890123456789
                       INDEXS
```

To rebuild the index records for organization R95555, the Report Company Schedule form would look similar to this:



To rebuild the index records for organization R95555, the control record would look like this:

```
         1         2         3         4         5
12345678901234567890123456789012345678901234567890123456789
                       INDEXS  REBUIL
```

3. Check the output

The Audit/Messages file (FILE03) will contain a "COMPLETED" message following a successful run of INDEXS.

Note: INDEXS should not be run online.

See also:

- The Employee Database in the relational version ***(on page 343)***

To learn how the Employee Database functions in a relational environment.

Rebuilding individual Employee Database index records online

Important: If you are using the version 5.1 system (or above), skip this task. In the 5.1 relational implementation, the Employee Database no longer contains any permanent company, employee, or tax information. All information is resident in relational database tables.

To rebuild an individual index record, you run the FIXIDX program either online (recommended) or in batch as follows:

To run FIXIDX online, follow these steps:

1. Access the Command Entry dialog box

To access this dialog box from the menus, select:

Actions Enter Co**m**mand

2. Enter the FIXIDX program name

3. Specify the record whose index should be rebuilt

Enter the specific company, employee number or TX (for tax records) in the key field.

If you leave the key field blank, it rebuilds the index for the current company record.

4. Click OK or press Enter

When the program has completed, a "---Complete---" message displays.

Rebuilding individual Employee Database index records in batch

Important: If you are using the version 5.1 system (or above), skip this task. In the 5.1 relational implementation, the Employee Database no longer contains any permanent company, employee, or tax information. All information is resident in relational database tables.

To run FIXIDX in batch, follow these steps:

1. Run FIXIDX

You run this program in batch as follows:

INPUT	FILE01 FILE02 FILE04	System Control Repository Employee Database Control Record File
OUTPUT	FILE03	Audit/Message File
EXECUTE	CBSVB	

The control record on FILE04 has the following syntax:

In these positions	Enter	Description
17–22	6 position organization value	Organization number
23–28	FIXIDX	program name
31–40	Employee number, TX nxxxxxx (for tax record), or blanks	The specific employee or tax number. If you leave this blank, the company record index will be rebuilt.
41–44	Master number	Particular labor or history record(s) for an employee.

For example, to rebuild the index for a company record, the control record would look like this:

```
         1         2         3         4         5
12345678901234567890123456789012345678901234567890123456789
               995555FIXIDX
```

To rebuild the index for a tax record, the control record would look like this:

```
         1         2         3         4         5
12345678901234567890123456789012345678901234567890123456789
               999999FIXIDX  TX 102
```

To rebuild the index for an employee record, the control record would look like this:

```
         1         2         3         4         5
12345678901234567890123456789012345678901234567890123456789
               999999FIXIDX  1001
```

To rebuild the index for a history and labor record, the control record would look like this:

```
         1         2         3         4         5
12345678901234567890123456789012345678901234567890123456789
               999999FIXIDX  1001      0019
```

2. Check the output

The Audit/Messages file (FILE03) will contain a "COMPLETED" message following a successful run of FIXIDX.

See also:

- The Employee Database in the relational version ***(on page 343)***

To learn how the Employee Database functions in a relational environment.

Review of Questions answered

1. How is the System Control Repository organized in the relational version and why is synchronization important?

2. What program is used to synchronize the System Control Repository and the relational tables?

3. How is the Employee Database organized in the relational version and why is synchronization important?

4. What programs are available to synchronize the Employee Database, the index table, and the relational tables?

CHAPTER 16

Performance Tuning for Relational Databases

In This Chapter

Introduction 356
Dynamic SQL vs. static SQL 357
Selectable table processing for Payroll 358
Labor and History record optimization 361
Detailed Directions 362
Review of Questions answered 368

Introduction

This section explains how relational customers can tune the performance of The Solution Series.

Relational customers can improve both the online and the batch performance of The Solution Series using the following methods:

- Converting dynamic SQL to static SQL
- Extracting only the data required for payroll processing
- Optimizing Labor and History record processing in Pay Merge

About pay extract and pay merge processing

This section addresses only specific programs used to improve pay extract and pay merge processing. It does not address payroll processing itself.

For information on payroll processing, refer to the payroll documentation.

Specific relational database tuning

Particular relational database management systems will offer their own tuning techniques. For example, customers using ORACLE can often improve performance by redistributing table spaces for better I/O or increasing the size of the System Global Area (SGA).

Customers are encouraged to make use of the tuning techniques offered by their RDBMS vendors.

Tasks

You must complete the following tasks for tuning the performance of relational databases:

- Convert dynamic SQL to static SQL
- Use selectable Extract (EXT) records to speed up Payroll processing
- Optimize for Labor and History records

Questions answered in this section

This section answers the following questions:

1. What is the difference between static and dynamic SQL?
2. When is dynamic SQL generated?
3. Why is static SQL more efficient than dynamic SQL?
4. What methods are available to improve pay extract and pay merge processing run times?
5. If I want to improve pay extract and pay merge processing run times, can I still restrict the organizations in the run?

Dynamic SQL vs. static SQL

There are two occasions when running the CASE tool, RDBPGM0, is either required or optional by a user running a relational version of The Solution Series:

- You must run the CASE tool if new fields have been added via the Field Maintenance And Edit form or the Change Control Facility Maintenance Input (MAINTI).
- You may choose to run the CASE tool when you want to convert dynamic SQL to static SQL.

During the installation of the relational version of The Solution Series, the CASE tool, RDBPGM0, will generate the initial Data Definition Language (DDL) and Data Manipulation Language (DML) statements to create and to access the relational database and its associated structures-tables, indexes, and views.

These DDL and DML SQL statements are embedded in application programs and called *static* SQL. Static SQL statements are interpreted and converted during precompilation of the programs.

Note: The installation process creates one physical database.

Dynamic SQL are SQL statements created by a program. These SQL statements must be interpreted and converted to executable SQL statements at run time, prior to being executed.

Since the interpretation and conversion of such statements occurs at run time, rather than during precompilation, dynamic SQL is generally less efficient than static SQL.

When dynamic SQL is generated

Dynamic SQL is generated when the New Form (NEWSCR) facility is used to create a new segment.

WRITER (NEWSCR) calls the NEWTAB subroutine that creates the database table and dynamic SQL for accessing the table.

Subsequent manipulation of the segment/rows created by NEWSCR will utilize dynamic SQL. This allows you to use the new form immediately, but many users prefer the more efficient static SQL.

If you require static SQL, you must drop the database, run the CASE tool, and recreate the database.

To eliminate the use of the dynamic SQL, you regenerate the SQL subroutines using the current field table (F) records and the current field table menu (RFM) records from the System Control Repository as input to the CASE tool (RDBPGM0).

Note: It is important to remember that "FTM" is the object code that provides "RFM" records.

Selectable table processing for Payroll

The Solution Series provides a method for improving pay extract and pay merge processing performance—selecting the data for a pay run.

All relational database users can specify the table data that will be extracted by the Pay Extract program (PAYXTR) using Extract (EXT) records.

You have three choices for how you run PAYXTR, as explained in the following table:

To	Do this
Have PAYXTR extract all table data. *Note: If you choose this option, no improvement in processing will occur.*	Use the Extract (EXT) record as delivered.
Have PAYXTR extract only the table data required for payroll processing.	Delete the delivered Extract (EXT) record.
Have PAYXTR extract only the table data required for payroll processing, plus table data you specify.	Supply an Extract (EXT) record for each table (over and above those required for Payroll processing) whose data should be extracted by PAYXTR.

Extract (EXT) records can also be used with the New Extract (NEWXTR) program.

Each of these choices is explained in more detail later in this section.

Note: You should restrict the editing of Extract records to authorized personnel.

Option 1: Use all table data

To select all table data for inclusion in payroll processing, use the Extract record as delivered. No action is required on your part.

This option means that all Payroll and Human Resource segments will be extracted; this may impede performance.

The Extract record is delivered with the following setting:

```
         1         2         3         4         5         6
123456789012345678901234567890123456789012345678901234567890123456789
EXT00ALL
```

Note: If pay extract is used to create a backup of the Employee Database, Option 1 must be used.

Option 2: Extract only required table data

To select only required table data for inclusion in payroll processing, you delete the delivered Extract record using the EDIT facility.

If you use this option, the following data will be extracted by PAYXTR:

- All company, tax, and "other" records.
- All new history and labor created by the PAY-CP process. The matching or pre-existing history and labor records are taken from FILE11.

In addition, the following employee data tables are extracted:

- EMPLOYEE
- EMPLOYEE_PAYMT
- EMPLOYEE_TRANSFER
- NAME_ADDRESS
- PAY_ALLOCATIONS
- EMP_EARN_DED
- EMP_TAX_DED
- V80_INSURANCE
- V80_MED_COVERAGE
- V80_BENEFIT
- SALARY_CHANGE
- CAN_EMP_EQUITY
- V80_INJURY_DISABLE
- PAY_PERIOD

Performance of the Pay Extract process should be greatly improved due to selecting only the segments necessary for payroll processing.

Option 3: Extract additional specified table data

If you want to include tables in addition to those described in Option 2, you will need to use the Edit facility and supply an Extract record for every table whose data should be extracted for inclusion in payroll processing.

These tables are *in addition to* the base data extracted.

To specify additional table data to be selected, you use an EXT 00 record. For example, if you want to include the Employee Flexible Credits table, the Tuition Reimbursements table, and the Unauthorized Time Off table in the PAYXTR process, the EXT records would look like this:

```
         1         2         3         4         5         6
12345678901234567890123456789012345678901234567890123456789012345678901234567890
EXT00EMP_FLEX_CREDITS
EXT00TUITION_REIMBURSMT
EXT00UNAUTH_TIME_OFF
```

Note: You must not change your EXT record choice between running Pay Extract (PAYXTR) and Pay Merge (PAYMRG). The EXT record must be in the same state for the pay merge

process as it was for the pay extract process.

For example, if the EXT record did not exist for the pay extract process, it should not be present for the pay merge process.

Changing the EXT record under these circumstances will lead to data integrity problems.

Organization processing

The Pay Extract (PAYXTR) process has not changed. You can still extract all or selected organizations.

If you are specifying certain organizations for processing, you must make that designation on the Selected Company Payroll Run Schedule form (PAYC12).

Regardless of extracting all or selected organizations, the appropriate entry must be made in the pay extract control record (FILE04).

Once the EXT00ALL record is removed from the System Control Repository, the selected table processing is automatically invoked when the pay extract is processed.

For example, suppose you want to include the Employee Flexible Credits table, the Tuition Reimbursements table, and the Unauthorized Time Off table in the pay extract process, but only for organization 999999. You have set up a Select Company Payroll Run Schedule form that references this control number.

The control record to select the particular organization would look like this:

```
          1         2         3         4         5         6
1234567890123456789012345678901234567890123456789012345678901234567890
                        PAYXTR  PAY999
```

The EXT records would look like this:

```
         1         2         3         4         5         6
12345678901234567890123456789012134567890123456789012345678901234567890
EXT00EMP_FLEX_CREDITS
EXT00TUITION_REIMBURSMT
EXT00UNAUTH_TIME_OFF
```

Troubleshooting

If all table data is not extracted, verify that the correct table names have been specified in the Extract records.

The EDIT facility does not edit for correct table names. Consequently, any tables with incorrect table names are excluded from the extract process.

Note: *The use of pay extract processing to create a FILE02 backup will require replacing the EXT00ALL record. Without it, a partial backup will result.*

Labor and History record optimization

Preventing the deletion and recreation of Labor/History records during Pay Merge drastically reduces processing time.

PAYXTR will take all key matched Labor and History records from the input P20 file (FILE11) rather than select the exact same data from the database.

CBSVB places a "flag" in all of the existing Labor/History records it writes to FILE12 during PAYXTR. The flag is zero in field KEY_FIELD_1 through KEY_FIELD_4.

This is done to identify the pre-existing Labor and History records when they come back in after the Pay and Maintenance runs.

CBSVB identifies three categories of Labor and History records it processes during Pay Merge:

1. An unchanged "flag" bypasses all processing other than being written to FILE12 when necessary.
2. If the "flag" is changed by P4CALC, the fields were changed and are updated on the database.
3. Any other "flag" value indicates new data which is added to the database.

Note: *When running Pay Merge following a Labor/History archive run or when using it to restore the Employee Database from backup, you do not want to prevent the deletion and recreation of Labor/History records.*

Detailed Directions

This section provides detailed directions on completing a business task.

Tasks

Converting dynamic SQL to static SQL 362
Using selectable Extract (EXT) records to speed up Payroll processing 363
Optimizing for Labor and History records 367

Converting dynamic SQL to static SQL

To convert generated dynamic SQL Data Manipulation Language (DML) statements to static SQL, follow these steps:

1. Export the Field Name Table records

Export the first line of the F records and the RFM records by running EXPORT as follows:

INPUT	FILE01 FILE02 FILE04	System Control Repository Employee Database Control Record File
OUTPUT	FILE03 FILE10	Record count F and RFM records
EXECUTE	CBSVB	

Two control records are required, as follows:

The control record to export the F records has the following syntax:

In these positions	Enter	Description
23–28	EXPORT	Name of the program
31–32	F1	Field Entry
54	Y	Extract only the first line of each record

The control record to export the RFM records has the following syntax:

In these positions	Enter	Description
23–28	EXPORT	Name of the program
31–33	FTM	Field Table Name Menu

Note: It is important to remember that "FTM" is the object code that provides "RFM" records.

2. Run the CASE tool

This step produces the RDBPGM1 (program on UNIX, script on Windows and z/OS) with the DDL statements and the SQL subroutines (RDBPGMA-RDBPGMG) and COBOL subroutine (RDBPGMH) which contain the DML statements. Execute jcrtpgms for your platform/database.

3. Precompile and compile the DML subroutines

Precompile and compile the following SQL subroutines:

- RDBPGMA
- RDBPGMB
- RDBPGMC
- RDBPGMD
- RDBPGME
- RDBPGMF
- RDBPGMG
- RDBPGMH (compile only)

4. Link the DML subroutines into CBSV

This step creates an executable CBSV program that contains all of the SQL needed to manipulate the data in the relational databases. This SQL resides in subroutines that are statically linked with CBSV.

If required by your environment, you must also link 04CALC into CBSVO and CBSVOT.

The database name needs to be supplied as an override to these programs.

See also:

- Dynamic SQL vs. static SQL ***(on page 357)***

To learn the benefits of converting dynamic SQL to static SQL.

Using selectable Extract (EXT) records to speed up Payroll processing

You can control what data will be used in Payroll Processing by using Extract (EXT) records.

You can use Extract (EXT) records with both the Pay Extract Program (PAYXTR) and the New Extract Program (NEWXTR).

If you do not modify the delivered Extract (EXT) record, all table data will be extracted.

Your options for using Extract (EXT) records to select what data will be included in payroll processing are as follows:

- Extract and merge only the minimal amount of data required for payroll processing (see ***Option 1 - Extract and merge only the required data for payroll processing*** (on page 364))
- Extract and merge the minimal amount of data required for payroll processing, plus selected table data (see ***Option 2 - Extract and merge the minimal amount of data required for payroll processing, plus selected table data*** (on page 365))

Option 1 - Extract and merge only the required data for payroll processing

To extract and merge only the required data for payroll processing, you delete the EXT00ALL record as follows:

1. Access the Edit form

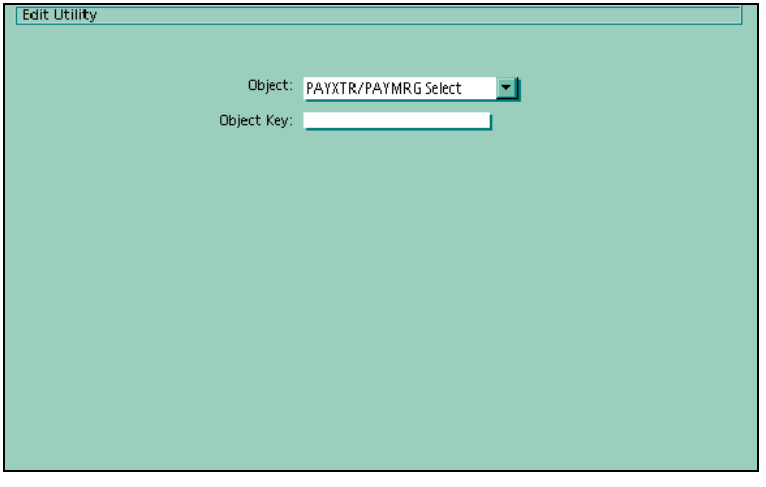
You access this form by selecting:

Component: Development Tools
Process: System Control Repository Utilities
Task: Edit Control Repository Object

The Edit Utility form is displayed.

2. Select the Extract (EXT) record

Select PAYXTR/PAYMRG Select from the Object pull-down list.

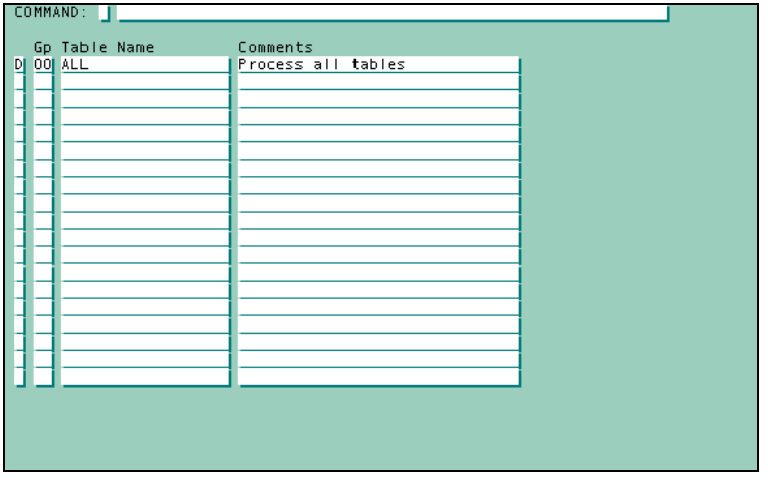


3. Press Enter

The EXT00ALL record is displayed in the Editor.

4. Delete the Extract (EXT) record

Type a "D" in the action field next to the record.



5. Press Enter

Option 2 - Extract and merge the minimal amount of data required for payroll processing, plus selected table data

To extract and merge the required data for payroll processing, plus selected table data, follow these steps:

1. Access the Edit form

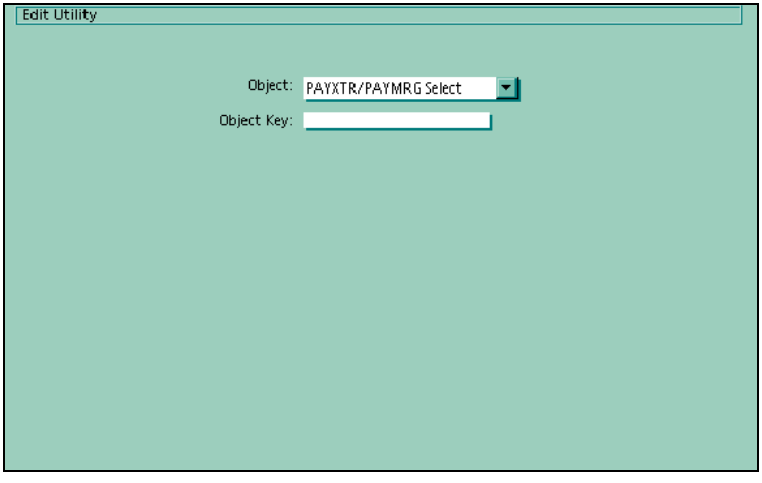
You access this form by selecting:

Component: Development Tools
Process: System Control Repository Utilities
Task: Edit Control Repository Object

The Edit Utility form is displayed.

2. Select the Extract (EXT) record

Select PAYXTR/PAYMRG Select from the Object pull-down list.



3. Press Enter

The EXT00ALL record is displayed in the Editor.

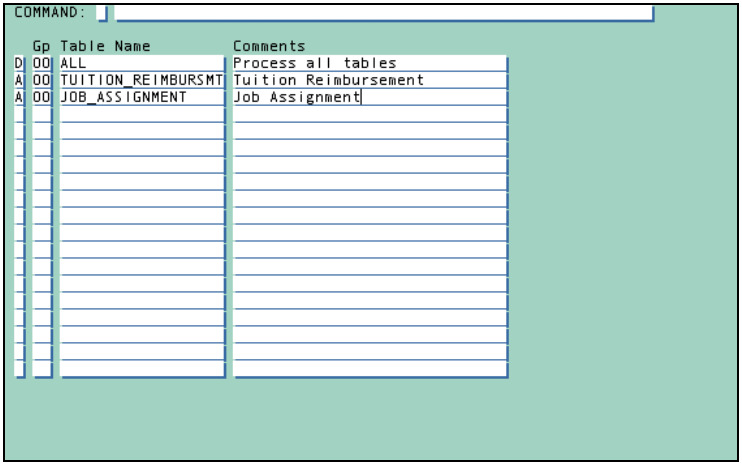
4. Delete the Extract (EXT) record

Type a "D" in the action field next to the record.

5. Specify table data

If you need to use additional tables, create an Extract (EXT) record for each table to include in the pay extract process. The format of this record is shown in the following table:

In these positions	Enter	Description
01–03	EXT	Record identifier
04–05	00 xx	Payroll processing group Future use
06–23	table name or ALL	18-character name of the table
24–53	user defined	Comments



6. **Press Enter**

See also:

- Selectable table processing for Payroll ***(on page 358)***

To learn the different methods for performing Pay Extracts and Pay Merges.

Optimizing for Labor and History records

To leave existing Labor and History records on your database rather than deleting and replacing them, you must enter an "A" in the PAYMRG control record in position 40, which is the last position of the key field as shown below:

```
         1         2         3         4         5         6
12345678901234567890123456789012134567890123456789012345678901234567890
                999999PAYMRG            A1 7 1
                999999PAYMRG            A2 2 1
```

When you do this, you will see a message in your FILE03 report indicating "Adding/Updating Labor and History".

You will eventually want to purge Labor and History records.

When you do this, you must not use the "A" in the PAYMRG control record. When the "A" is not used, CBSVB will delete all of the data in the existing Labor and History tables and replace them with the data from FILE11. This will cause the message "Labor and History tables will be replaced" to be in the FILE03 report.

See also:

- Labor and History record optimization ***(on page 361)***

To learn how controlling labor and history records can improve performance.

Review of Questions answered

1. What is the difference between static and dynamic SQL?

2. When is dynamic SQL generated?

3. Why is static SQL more efficient than dynamic SQL?

4. What methods are available to improve pay extract and pay merge processing run times?

5. If I want to improve pay extract and pay merge processing run times, can I still restrict the organizations in the run?

PART 5

Maintaining the Payroll System

In This Section

The Payroll System....371
Special processing runs....413
Working With CYBMST....435

CHAPTER 17

The Payroll System

In This Chapter

Introduction 372
The batch environment 373
Batch payroll system files - An Introduction 374
Pre-Payroll Processing.....386
Extracting payroll information (PAYXTR) 389
Calculating pay 391
Post-payroll processing.....409
Online payroll calculation.....410
Payroll run recovery 411

Introduction

This section introduces the technical considerations of the batch payroll system. It discusses the main programs, the major files, and the flow of data through the job streams.

Prerequisites

Before you can perform the tasks in this section, the following prerequisites must be established:

- The Solution Series must be installed
- You must be familiar with the concepts covered in the Implementation Essentials documentation

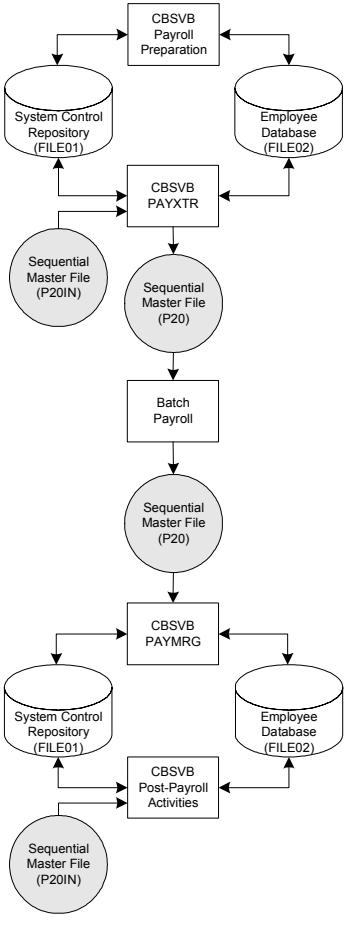
The batch environment

The online portion of Payroll Administration refers to the interactive sessions during which you make entries on payroll forms.

To process a payroll run, you work within the batch environment where the system does the processing.

☞ *Refer to the Introduction to Payroll Administration and Using Payroll Administration documentation for more information about the online steps involved in preparing for a payroll run.*

The following diagram provides a pictorial overview of the batch payroll process.



Batch payroll system files - An Introduction

The batch payroll system uses several main files. The following table details the layout of each of the files discussed in this section:

File name	Input/output	Record size (bytes)
Reader File (P05RDR)	Input	80
Recycle File (P05IN)	Input	118
Recycle File (P05OUT)	Output	118
Transaction File (P05T80)	Input/output	80
Transaction File (P05T81)	Input	80
History Archive File (H20IN)	Input	256
Sequential Master File (P20IN)	Input	256
Sequential Master File (P20OUT)	Output	256
Extracted Report Records File (P40IN/P40IN1)	Input	200
Extracted Report Records File (P40OUT/P40OUT1)	Output	200
Output files (P50OT5, P50ACH, P51W2T, P50CT4, P50CDD, P50QR1, P5UST9)	Output	varies
Output print files (PRINT1, PRINT2, PRINT3, PRINT4, PRINTT, PRINTU, PRINTW)	Output	132

The following P9CNVT files are also used for payroll processing:

File name	Input/output	Record size (bytes)
Batch Master Source Library (CYBMST)	Input	80
Member Extract File (FILE1)	Output	80
Updated CYBMST (FILE24)	Output	80

FILE01 is The Solution Series server file that may be accessed during payroll processing:

File name	Input/output	Record size (bytes)	Description
FILE01	Input/output	80	System Control Repository

Reader File (P05RDR)

The BATCH transaction in the Reader File controls which optional files are accessed, including the Recycle File (P05IN). On most platforms, the Reader Files are embedded in the various job or command files and are usually permanent. The contents of each Reader File vary depending on the program being run.

Reader File transaction for P2EDIT

The Reader File read by the P2EDIT program must contain a BATCH transaction. This record tells P2EDIT which optional files to access and whether to perform certain special functions.

This BATCH transaction may contain the information listed in the following table.

Position	Description
1-5	BATCH (literal string)
6-7	Control 1 value
8-11	Control 2 value
12-15	Batch number
16	Y - no transactions are written to the output file for this batch
17	Y - no employees transactions are present in this batch
18	Y - process the Recycled File (P05IN) (This position effective only on the first BATCH transaction read in the Reader File.)
19	Y - process the Transaction File P05T80 S - process the Transaction File P05T81 B - process both Transaction Files (This position effective only on the first BATCH transaction read in the Reader File.)
20-21	File Version Number
22	Y - Payment reconciliation run
23-80	spaces

It is possible to add transactions other than the BATCH transaction to the Reader File. It is generally a better idea, however, to use this file exclusively as a control file containing only a constant BATCH transaction.

Note: *Refer to* **The Payroll BATCH transaction** *(on page 731) for more information about the BATCH transaction.*

Reader File transaction for P4CALC

The P4CALC program reads two records from the Reader File: the H2 and P4 transactions. If P4CALC finds an H2 or P4 transaction with entries, the program changes its default mode of operation.

The following table shows the H2 transaction layout.

Position	Description
1-2	H2 (literal string)
3-5	Cutoff code for Payment History Records and Labor Records (retention of records is controlled by Company Options form): OLD - (previous) Do not write employee Permanent Master Records, uncleared Payment History Records or Labor Records created after the date in positions 6-11. NEW - (current) Do not write Payment History Records or Labor Records created on or before the date in positions 6-11 unless they are for uncleared payments. Do not write Labor Records created on or before the date in positions 6-11.
6-11	Cutoff date (YYMMDD format) This date is compared to the change date in the EA records. The change date is either the run date from the Payroll Run Process Control form (AE-SCR) or the computer run date on the day the record was created. The Payroll Run Process Control form overrides the computer run date.
12	Payroll Recon: Blank - Archive or purge cleared History & Labor records. R - Archive or purge cleared and uncleared History & Labor records. H - Archive or purge only cleared History records, but not Labor records. I - Archive or purge cleared and uncleared History records only but not Labor records. L - Archive or purge only Labor records but not History records. *Note: When the H, I, or L options are used, a subsequent merger of the archive files will not restore the original order. If you have report generator or CSL programs that access the History records and then use the Labor records associated with the History records, use of these options is not recommended.*
13	Output master: blank - Write a Sequential Master File (P20OUT). O - Do not write a Sequential Master File. D - Do not write a Sequential Master File and enable the report generator debugging mode. E - Do not write a Sequential Master File and enable the report generator debugging and tracing mode.

Position	Description
14	Merge masters B - Report generators and tax specification records are on the Sequential Master File (P20IN) and a separate master file, H20IN. (If both of these files contain a generator with the same report code, the one from P20IN is used.) F - Report generators and tax specification records are on a separate master file, H20IN. M - Merge two history files S - Merge two current Sequential Master Files (P20IN).
15	History Update: blank - Normal run 7 - Do not modify the Sequential Master File (P20IN) after a payroll run. Do not convert payment masters to History Records. Do not set the organization header record zeros (clear the Payroll Run Process Control setup information on the run immediately following the payroll run). Do not reset the Key Maintenance field in each employee's record to 9999 (so that report generators can react). You may enter report generators, D transactions, or transactions to update user-defined organization-level fields, but no other transactions. You can produce reports (on a run after a payroll run) that contain the same information as they would if they had been selected during the payroll run. 8 - Same as 7, except that you can select reports only by using the P4 transaction. You can produce reports (on a run after a payroll run) that contain the same information as they would if they had been selected during the payroll run.
16	Run Select: Load any report generators with an entry in column 20 of the R0 transaction that contains a 0 or 1, or matches the entry specified here. All other report generators are not loaded.

Position	Description
17	Input transaction: blank - Process the sorted Valid Transactions File (P05IN) from P2EDIT. T - Do not process the sorted Valid Transactions File (P05IN) from P2EDIT.
18	Input master: blank - Process the Sequential Master File (P20IN). I - Do not process the Sequential Master File (P20IN). D - Drop all generators.
19	Random file: blank - No Employee Database (FILE02) is present nor will one be created. R - If column 21 contains a P, an Employee Database is created during this run. This option is used only if you are required to build the Employee Database using P4CALC instead of PAYMRG.
20	Update run: blank - Process update transactions. U - Do not process any file maintenance transactions; recycle them.
21	Payroll run: blank: Pay may be calculated this run. P - No pay is calculated this run.
22	Report run: blank - Reports may be produced this run. R - No reports are produced this run except those with a zero in position 20 of the R0 transaction.
23	Forms code Z: Z - Change the forms code to a Z in every extract record that has a forms code of 0 or 1 just before it is written to P40OUT. This causes these reports to print during the second execution of P5PRNT in the payroll run process. The reports will print in organization, then report code sequence.
24	Conversion run blank - No Sequential Master File conversion occurs in this run. C - A Sequential Master File conversion occurs in this run. Sometimes when a new version of the system is released, you must run a Sequential Master File conversion. Use this column to indicate that a conversion is being run.

Always include H2 and P4 transactions in your jobstream. You may often find that you need only blank records to provide the appropriate default values.

The P4 transaction applies to all organizations on the Sequential Master File.

The following table describes the P4 transaction layout in the Reader File (P05RDR) for P4CALC:

Position	Description
1-2	P4 - Transaction code
3-18	Override reports - values typed here override the Report Select value on the Payroll Run Process Control form (AE-SCR)
19-80	Additional report - Values typed here select reports in addition to those typed in the Report Select field on the Payroll Run Process Control form

Report requests on the Payroll Run Process Control form affect only the organization for which they are entered.

Reader File transaction for P5PRNT

The Reader File for the P5PRNT program is a P5 transaction. As with the P4CALC program, P5PRNT does not need a transaction; you can use a blank file instead.

The system allows only one P5 transaction for each payroll run. This transaction has two purposes: it causes the P5PRNT program to print all reports that match the P5 Report Code, and it requests the printing of the Combined Register (2222) report.

It is recommended that you always include a blank P5 transaction in your jobstream, and change it as necessary.

The P5 transaction layout is shown in the following table:

Position	Description
1-2	P5 - Transaction code
3	Forms code
4-7	Report code
8-9	Control 1 value
10-13	Control 2 value
14-23	blank
24-40	COMBINED REGISTER (literal string) This is used only for the second execution of P5PRNT during a payroll run to produce the Combined Register (2222) report.
24-47	COMBINED REGISTER TOTALS (literal string) This is used only for the second execution of P5PRNT during a payroll run to produce a summary report of the Combined Register (2222) report.
41-80	blank

If you leave positions 3-80 blank, all reports available on the sorted Extracted Report Records File (P40IN1) will be printed.

Any non-blank entry in positions 3 through 80 prevents the P5PRNT program from opening the P05IN, P05OUT, and P40OUT files.

To reprint previously printed reports other than the Combined Register (2222) report or pay documents, use positions 3-13.

Non-blank entries in these positions are compared to equivalent positions in each extract record, and those records that match are processed.

Reader File transaction for P9CNVT

The first Reader File record read by the P9CNVT program is known as the Machine Parameter record.

☞ *Refer to* **Working with CYBMST** *(on page 435) and* **Machine Parameters** *(on page 872) for more information on the Machine Parameter record.*

Valid Transactions File (P05IN)

The Valid Transactions File (P05IN) is created by the P2EDIT program.

This 118-character file contains transactions for sorting and processing by the P4CALC program.

The P5PRNT program may read the Valid Transactions File (P05IN) containing P6 transactions created by the P2EDIT program.

Recycle File (P05OUT)

The Recycle File (P05OUT) is created by the P5PRNT program.

This file is processed as the Valid Transactions File (P05IN) by the P2EDIT program during the next payroll or maintenance run.

The batch payroll system uses the Recycle File to pass information from one run to the next. If a time entry has been entered for an employee whose frequency is not being paid, the P5PRNT program writes the time entry to the Recycle File. The P2EDIT program processes the time entry on its next execution.

The Recycle File may contain data not processed during previous payroll runs, such as time entries and adjustments for a pay frequency not being paid during the current payroll run, future-dated time entries, check Reconciliation Numbers temporarily held for processing, and transactions generated during previous payroll runs.

The Recycle File is used to update Multiple Master Records with the pay document numbers that the P5PRNT program assigns during the payroll run. This process occurs during the maintenance run step of the payroll run, when the system converts the Multiple Master Records to Payment History Records. The EA records written to the Recycle File contain the pay document number, Master Number, and other pertinent information.

The check reconciliation process also uses the Recycle File. ER records that represent uncleared checks are written to the Recycle File during the run before the reconciliation process.

A report generator may create transactions.

Using a report generator to create transactions for the Recycle File is a convenient way to construct mass maintenance changes for updating the Sequential Master File.

The report generator translates organization and employee information into a compatible Recycle File transaction format. Transactions written to the Recycle File by a report generator are formatted as shown in the chart below.

Because the Organization Number is present in every record, it is not necessary to write any BATCH transactions to the Recycle File.

The Recycle File is completely replaced during the payroll run. The replacement file may, however, include data that was present at the beginning of the run.

Always keep the Recycle File, even if it is empty. Read it into the next payroll run.

Make sure that the P05OUT file created from any run type is accessed as P05IN by the next run.

Transaction Files (P05T80 and P05T81)

The Transaction Files (P05T80 and P05T81) are 80-character files that can be used as optional input/output files:

- P05T80 can be used as an optional P2EDIT input transaction file or as an optional P5PRNT output transaction file. It is conventionally used to access the time entry and adjustment transactions from the online system; in this case, it read in as FILE10 from the PAYXTR process.
- P05T81 is an optional P2EDIT input transaction file. It may contain tax specification records, report generators extracted from the CYBMST file, payment reconciliation information from the clearing bank, or data from another system.

☞ *Refer to the* **P9CNVT** *(on page 437) discussion in* **Working with CYBMST** *(on page 435) for further information about the P05T80 and P05T81 files.*

Extracted Report Records File (P40IN)

The Extracted Report Records File (P40IN) is created by the P4CALC program. After being sorted, it is read by the P5PRNT program.

The Extracted Report Records File (P40IN) contains 200-character records of extracted report data read by the P5PRNT program.

The P4CALC program originally writes this file as P40OUT, which is sorted for input as P40IN to the P5PRNT program. On some platforms, the sort process is known as P45SORT.

During Step 3 of the payroll run, P5PRNT reads the Extracted Report Records File (P40IN), then writes a P40OUT version for input to Step 4 of the payroll run when P5PRNT is executed a second time to produce the Combined Register (2222) report.

P40OUT

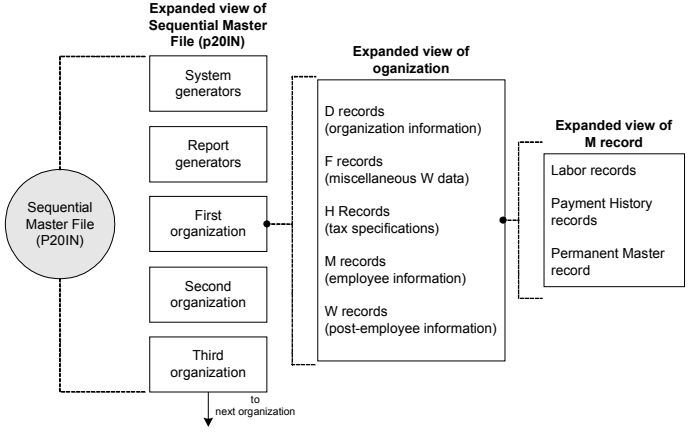
The P4CALC program originally writes the Extracted Report Records File (P40IN) as P40OUT. This file is then sorted for input as P40IN to the P5PRNT program.

During Step 3 of the payroll run, P5PRNT reads the Extracted Report Records File (P40IN), then writes a P40OUT version for input to Step 4 of the payroll run when P5PRNT is executed a second time to produce the Combined Register (2222) report.

Sequential Master File (P20IN)

The Sequential Master File (P20IN) is the current batch master file used as input to a batch payroll run.

It contains report processing information, organization options and parameters, tax specification records and related information for each organization, and the payroll and human resource information for each employee, as shown in the following diagram:



It does not contain reconciliation records.

The logical record length of the Sequential Master File (P20IN) is 256 bytes, the first four of which are a record counter, beginning with 1.

- The P4CALC program creates this file as P20OUT during each payroll run. Following each payroll run, it becomes the new (updated) Sequential Master File.
- The CBSVB program may create the Sequential Master File as FILE12 and may access it as FILE11 and FILE13.

The data in P20IN is organized into record groups.

The chart above shows the hierarchy of employer and employee data.

Each record group spans one or more logical records and comprises the record group length, the Organization Number, a record type identifier, and the data. All the record groups for each organization are grouped together.

The following data is contained in the Sequential Master File (P20IN).

System initialization generators

The first records on the Sequential Master File are Report Generator object components, starting with system or table generators.

These generators are not reports. They are used by the P2EDIT and P4CALC programs to initialize working storage areas.

Operating report generators

Following the system generators are the available report generators.

Application data

Within each organization, the data is separated into five record types.

Each record type is organized into logical units called record groups, which are composed of one or more 256-character logical records. Examples of such units are the complete Organization Header Record and the employee's Permanent Master Record.

The following table describes each of the record types:

Record type	Description
D (Organization Header Record)	High-level organization information, including legal name and address, earning and deduction parameters, and report request schedule.
F (W records)	W data (WLFD and WLGD). Maximum of three WL records in each P20IN F record.
H (Tax Specification Records)	Tax specification information. One record group for each tax authority, such as federal, FICA-OASDI, FICA-HI, state tax, and local tax
M (employee records)	Employee information. Three different types of employee record groups exist: Labor Records, Payment History Records, and Permanent Master Records.
W (post-employee records)	Post-employee W records with keys such as WLWB. These records are stored following all of the employee data in an organization.

Each record group begins with the same three pieces of information following the record number: group length (3 positions), Organization Number (6 positions), and Record Type (1 position).

Those record groups that take up more than one physical file record have the length, organization, and data type in the first record in the group only.

The P4CALC program uses the group length to control the number of reads necessary for a complete group.

The record layout below shows an example of a record group that requires more than one file record, where mmm = record length and nnnn = record number.

```
         1         2         3         4         5         6         7         8
1...5....0....5....0....5....0....5....0....5....0....5....0....5....0....5....0
    nnnnmmm999999M1234      99EE 123-45-6789 11  M01629  CODE3390715  221A15
    nnnnCONTINUATION RECORD
    nnnn3RD RECORD
    nnnn4TH RECORD
```

Note: The Payroll Audit Trail (0101) report contains a Loaded/Not Loaded portion that shows a list of the generators currently on the Sequential Master File. The report generator records are followed by the application data, listed sequentially by organization.

H20IN

H20IN is an optional file accessed by the P4CALC program. The format of H20IN file records is identical to that of the P20IN file. You can use the H20IN file to merge P20IN files or to store report generators.

CYBMST

CYBMST is the Master Source Library File for the batch system. This 80-character file contains all the report generators and programs.

Use the P9CNVT program to extract these programs from the CYBMST file.

Although CYBMST is a sequential file, its records are logically arranged in members. Each member is defined by a header and trailer record.

The following table describes the CYBMST header record layout:

Position	Description
1-3	spaces
4-5	**
6	space
7	Member type: T - non-source information, such as copyright and version information R - BATCH transaction C - COBOL source A - Assembler routines machine language source B - Burroughs Symbolic routines machine language source

Report Generator and COBOL source logic begin in position 4 of each record. Positions 1 through 3 are program codes that the P9CNVT program uses in conjunction with positions 26 through 28 of the Machine Parameter transaction.

Comments in the program P9CNVT specify sample machine and program parameter values for each program on every platform.

The following example shows the CYBMST member record for a Payroll tax bulletin:

```
         1         2         3         4         5         6         7         8
1...5....0....5....0....5....0....5....0....5....0....5....0....5....0....5....0

   ** T.FILEVERS
02 JUL 30  2002 SOLUTION SERIES 5.0    PAYROLL UPDATE BULLETIN 39.00
   **
```

The following example shows the CYBMST BATCH transaction that is used when extracting report generators:

```
         1         2         3         4         5         6         7         8
1...5....0....5....0....5....0....5....0....5....0....5....0....5....0....5....0
   ** T.ZZBATCH
BATCH999999RPTS Y
   **
```

The following example shows the CYBMST report generator sort, SRT01, and part of system generator, RPT0A:

```
         1         2         3         4         5         6         7         8
1...5....0....5....0....5....0....5....0....5....0....5....0....5....0....5....0
   ** R.SRT01
   S101000     1116                2Y
   S701010SFC0;LIT05
   **
   ** R.RPT0A
   R00A000            2   PERMANENT CONSTANTS                      01        2
   R70A010S02;ZC;SNC;LIT046500;CFC;S02;CTR;253;FLD001;A1C;BCL;BD3;255;BOP
   R70A020BU3;253;LIT09999999999;CFC;CTR;FLD001;*GLIT02;*GFLD001
   R70A025LIT010;CFC 1H
```

The following example shows a small section of the CYBMST member, C.P0PRGM, which contains the main payroll operating programs.

Note the program selection code in the first three positions. The B in position 3 indicates batch only; a "Z" restricts line 18 to the O4CALC program only.

```
         1         2         3         4         5         6         7         8
1...5....0....5....0....5....0....5....0....5....0....5....0....5....0....5....0
   ** C.P0PRGM
   000014 IDENTIFICATION DIVISION.
   000015 PROGRAM-ID.
4 B000017     P4CALC.
4 Z000018     O4CALC.
2 B000020     P2EDIT.
   000040 ENVIRONMENT DIVISION.
**
```


Pre-Payroll Processing

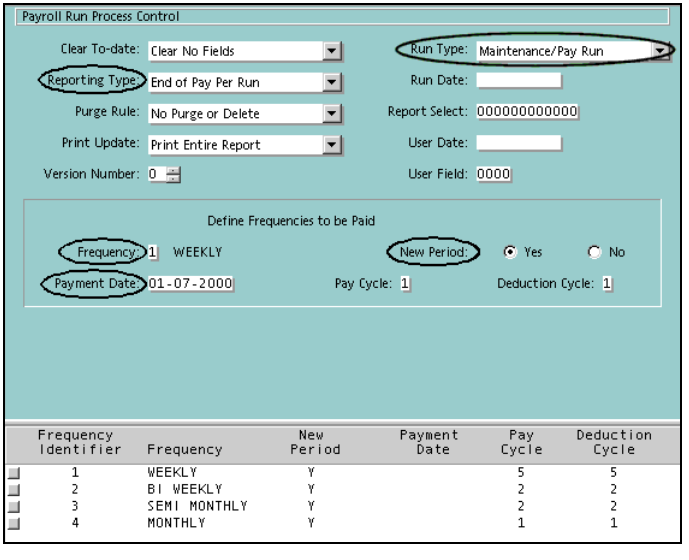
In preparation for executing a pay calculation, you must set up process parameters that direct the payroll programs to execute a pay or maintenance run.

You must identify the type of run you are preparing to execute, which pay frequencies are to be processed and the corresponding pay date, and which report types are to be executed during the pay run.

Establish payroll processing options

Use the Payroll Run Process Control form (AE-SCR) to establish payroll processing options for each run.

The fields that are circled in the following example must be completed for the run to process correctly:



The ten fields on the top half of the Payroll Run Process Control form (AE-SCR) are in effect for all frequencies established for the organization. If you change any of these entries, you are changing all selected frequencies in the organization.

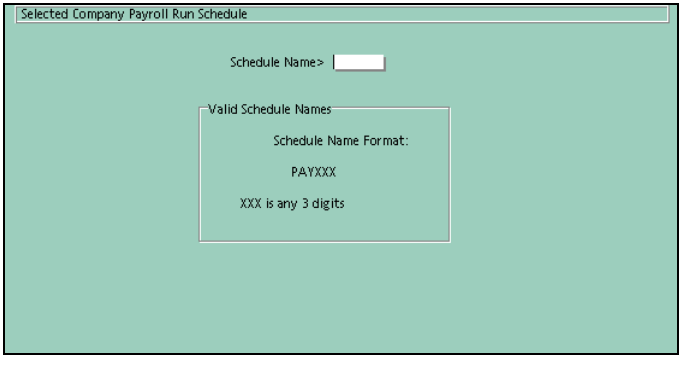
For example, if you selected Purge Terminated Emp (1) from the Purge Rule (PP37) option list for the first frequency, all additional frequencies will use this value.

Pay only selected companies

Rather than paying all organizations at once, you can use the Selected Company Payroll Run Schedule form (PAYC12) to define specific groups of organizations to be processed and paid at the same time. This keeps the organizations that are not being paid active online. These active organizations can then be updated.

You must define these specific groups when you perform multinational payroll processing.

Note: *Launching a pay calculation online is not available if you are paying only selected organizations.*
You must manually execute the batch payroll scripts for the pay extract, pay run, and maintenance run in batch mode.



If you will pay all organizations at the same time, you do not have to define any specific groups. Just specify the ALL option in the control record when you execute the Pay Extract program, PAYXTR.

When accessing the two-part Selected Company Payroll Run Schedule form (PAYC12), you must assign a name to the group that you wish to process with this payroll run. This name must begin with the letters 'PAY' followed by three numbers or alphabetic characters of your choice.

Once you have established a group name, you can add or delete an organization from the group.

After you save the form, it will display the Org Level 1 and Org Level 2 titles. This form initially displays with two entry lines available. If your group contains more than two organizations, complete the first two lines and save the form. It will return with two more blank lines. If you need even more entries, save the form again. Save the form after you have entered all the information.

Recalculate benefit coverage/contributions

A couple days before each pay run, the Recalc Benefit Coverage/Contributions report (85-RPT) should be run to recalculate coverage and contributions.

After ensuring that the deductions for the next pay run are correct, the employees' deduction information must be copied to Payroll Administration by running the HED Segment Changes Effective This Period report program (8R-RPT).

This program copies deduction information from the Benefits Administration Solution to Payroll Administration.

Verify employee updates

Prior to running a payroll calculation, the IS/WAS report should be run to verify the employee updates that took place since the previous pay run were entered correctly.

Additionally, if you use Benefits Administration you should also run a series of benefits processing reports to ensure that employee deductions for the upcoming pay run are correct.

IS/WAS Audit Trail report (ISWAS)

The IS/WAS Audit Trail (ISWAS) report lists all additions, deletions, and changes made online using The Solution Series. The primary use of the IS/WAS Audit Trail (ISWAS) report is to verify that an entry was made when questions arise during the batch process.

The IS/WAS reads and reports on the audit records created each time an online entry is made and the update accepted. Every form is programmed with extensive edits for both field content and form. If an error exists at the time of entry, a reject occurs and no updating is done.

The audit record is created only when no errors exist and the update is accepted. Due to the error-free nature of the online updating, there are no reject messages or informational warnings applicable to the report.

This report is used differently than other payroll reports. It is normally used to prove that an entry that should not have been made actually was made. When a pay run creates correct checks and balances, there is no reason to verify that a specific entry was made. However, when a pay run completes incorrectly, this report will show you where the error has occurred.

For example, an employee's increase is not reflected on his or her pay, or income taxes are not withheld from a new employee's pay. It is probable that the increase was recorded with an incorrect future date or that the new employee's tax records are inactive.

Both are examples of entries that would be accepted—many increases are future dated and tax records can legitimately be inactivated—but which, under the circumstances, did not have the desired results.

☞ *Refer to the Payroll Reports and Balancing documentation for more information about the IS/WAS Audit Trail report (ISWAS).*

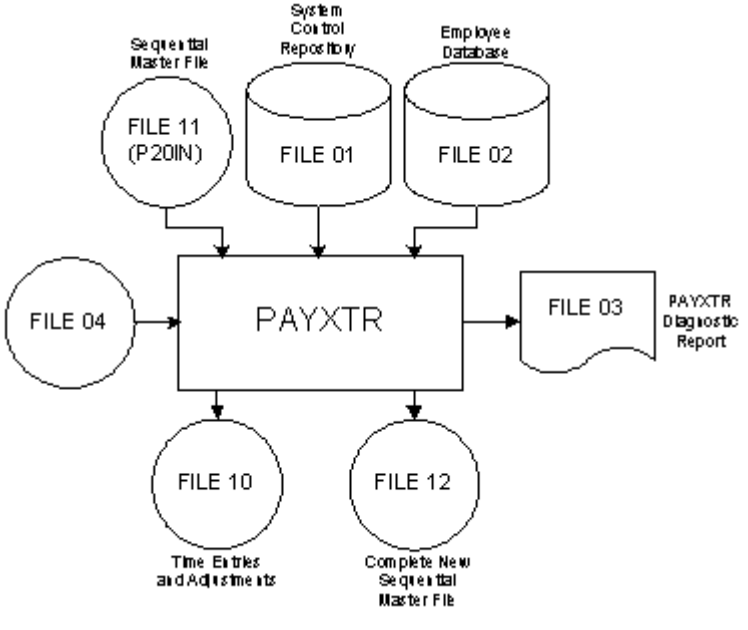
Extracting payroll information (PAYXTR)

To perform a payroll run, you must first extract the online Sequential Master File (P20IN), which is updated during the pay calculation process. The new Sequential Master File is then used to update the online system.

Note: *It is strongly recommended that you back up all payroll data files. Backups should provide safety and ease of recovery from any hardware failure, software failure, or outside disaster. At a minimum, you should back up the System Control Repository, Employee Database, P20IN, P05IN, P05T80, and P05T81.*

The Pay Extract (PAYXTR) process extracts a copy of information from the online Employee Database (FILE02) and creates a new copy of the Sequential Master File (P20IN) from the extracted information. The PAYXTR process also produces a diagnostic report on FILE03. Always verify this report to be sure that the process completes successfully. Compare the FILE12 record count to the RECORDS READ count on the Payroll Audit Trail. These must always match.

You have two options when executing PAYXTR:



Extracting all organizations

If you are extracting all organizations, the PAYXTR function accesses the most recent Sequential Master File (P20IN) as FILE11. The report generators from this file are copied to the Sequential Master File and output as FILE12.

PAYXTR then copies the application data from the Employee Database. Payment History and Labor Records that are not on the Employee Database are copied from FILE11 to the Sequential Master File and output as FILE12.

PAYXTR also creates a FILE10 containing batches of time entries and adjustment input entered online for the extracted organizations.

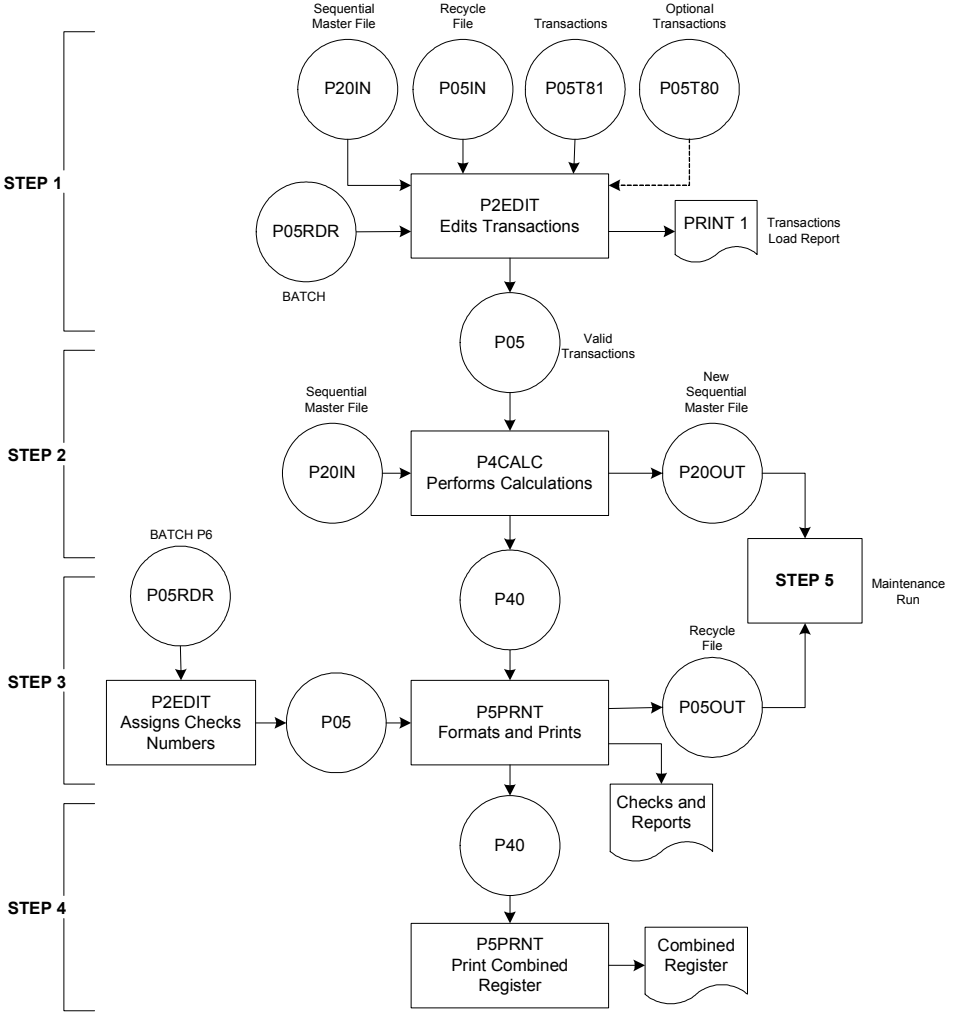
If you have performed any online pay calculations before the PAYXTR process and you have updated the employee records with the results of the calculation, the Sequential Master File (P20IN) will now contain Labor Records and Multiple Master Records for each payment calculated and retained. These records appear in the payroll process as manual payments in the Combined Register (2222) report.

Extracting selected organizations

If you are extracting selected organizations, the PAYXTR accesses only the Organization Numbers entered on the Selected Company Payroll Run Schedule form. PAYXTR accesses the Sequential Master File (P20IN) as FILE11. Following the payroll run, the PAYMRG function accesses FILE11 as FILE13. PAYXTR also creates a FILE10 containing batches of time entries and adjustment input entered online for the extracted organizations.

Calculating pay

Once you have established the Sequential Master File (P20IN), you can run a payroll run. The payroll run consists of five steps, which are discussed in this section.



Incoming transactions edited (P2EDIT)

The Transaction Editor Program (P2EDIT) is the first program executed as part of the batch payroll process. This program edits the input transactions.

P2EDIT performs the following steps:

- P2EDIT gathers transactions from the Reader File (P05RDR), Sequential Master File (P20IN), Recycle File (P05IN), and Transaction Files (P05T80 and P05T81). All employee transactions will be denoted by the Employee Number in positions 3 through 12. The system treats all other transactions as organization transactions.

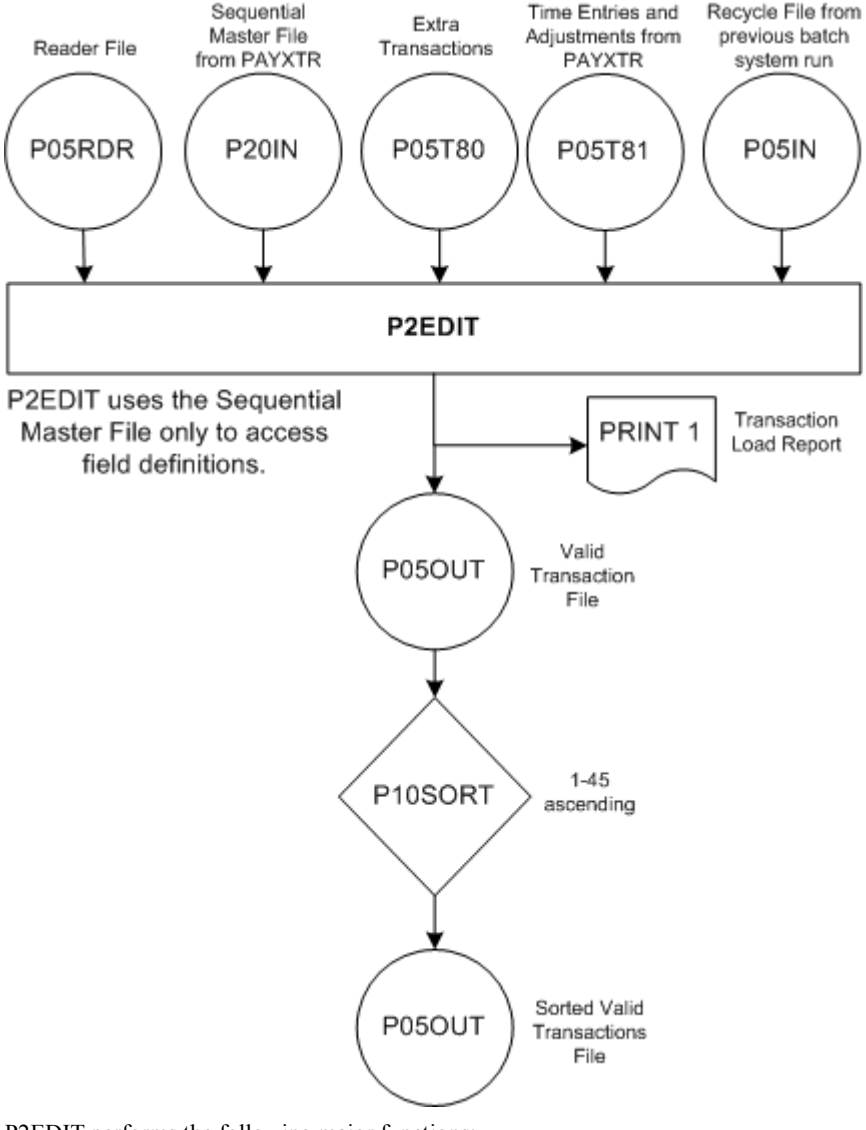
Note: If you process the P05IN, P05T80, and P05T81 files and create empty files after reading them, you do not have to alter the P05RDR file BATCH transaction.

- The Valid Transactions File (P05OUT) is sorted for input into P4CALC. On some platforms, the sort utility is known as P10SORT.

  If you are using the Payment Reconciliation feature, you must execute the P2EDIT program again. This step reads the sorted valid transactions and matches outstanding and cleared payment data, creating clearing transactions for the P4CALC program.

- The Transaction Load report is created for payment reconciliation, if the Payment Reconciliation feature is used.

The following diagram shows the P2EDIT program passing records to the P4CALC program.



P2EDIT performs the following major functions:

- Gathers transaction information
  P2EDIT begins by accessing the Sequential Master File (P20IN). However, P2EDIT does not use any application data from the Sequential Master File (P20IN). It reads only

system table generator information, specifically generators 17 through 29. This information initializes tables in working storage that P2EDIT uses to compile report generators and validate input transactions.

Any changes to generators 17 through 29 take effect only after the generators are replaced on the Sequential Master File (P20IN); in other words, on subsequent runs. The changes are not in effect during the run in which you input them.

- Edits the transactions
  P2EDIT then opens the Reader File (P05RDR) and reads the first record, which must be a BATCH transaction.

  The BATCH transaction controls file access in each P2EDIT run. Depending on information found in the BATCH transaction, P2EDIT may process a maximum of three optional input files: P05T80, P05T81, and the Recycle File (P05IN).

  As each BATCH transaction is read, the country code for the organization referenced in RPT20 is accessed to determine the field editing. Any U.S. organization is edited based upon the field number table (RPT21-29). Any non-U.S. organization uses a table in the P2EDIT program to edit country specific field differences.

☞ *P05T80, P05T81, and the Recycle File are discussed later in this section. Refer to* **The Payroll BATCH transaction** *(on page 731) for more information about the BATCH transaction.*

- Passes valid, edited data to the Valid Transactions File (P05OUT)
  With the exception of time entries, each input transaction processed by the P2EDIT program may result in several records being written to the Valid Transactions File (P05OUT). This file contains one record for each valid field on the transaction.

- Sorts the Valid Transaction File (P05OUT)
  The Valid Transaction File (P05OUT) is sorted in ascending sequence on the first 45 positions. It is then passed to the P4CALC program, which accesses the sorted file as P05IN. This step is referred to as P10SORT on some platforms.

- Prints the Transaction Load Report as PRINT1 output.

Transaction Load Report for incoming transactions

```
CONTROL 1    01                                  TRANSACTION LOAD REPORT        REPT                FILE VERSION     PAGE     3
CONTROL 2    0001                                                               0000  BATCH PXTR   TIME 16:59:08 DATE 05/31/2003
CARD IMAGE                                                                    ERROR       FLD FIELD          COL.  FIELD    CARD
1...5...10...15...20...25...30...35...40...45...50...55...60...65...70...75...80 MESSAGE     NBR DESCRIPTION    NBRS. CONTENTS NBR.
BATCH010001PXTR                                                                                                              2
KA1001      006200            00001887800145000000340O                      +3                                               3
KB1001      001000100000                                                    +3                                               4
KC1001      00067431                                                        +3                                               5
1 1001      004000       20500                                                                                               6
4 1001           0075000

1...5...10...15...20...25...30...35...40...45...50...55...60...65...70...75...80
CONTROL 1    01                                  TRANSACTION LOAD REPORT        REPT                FILE VERSION     PAGE     4
CONTROL 2    0001                                                               0000  BATCH PXTR   TIME 16:59:08 DATE 05/31/2003
CARD IMAGE                                                                    ERROR       FLD FIELD          COL.  FIELD    CARD
1...5...10...15...20...25...30...35...40...45...50...55...60...65...70...75...80 MESSAGE     NBR DESCRIPTION    NBRS. CONTENTS NBR.
           COUNT      REGULAR     OVERTIME      HOURS 1      HOURS 2      HOURS 3      HOURS 4  REG. $/RATE  OVT. $/RATE
BATCH CARD       0          .00          .00          .00          .00          .00          .00          .00          .00
INPUT            0        40.00         5.00          .00          .00          .00          .00       750.00       674.31
DIFFERENCE       0          .00          .00          .00          .00          .00          .00          .00          .00
INPUT FILES PROCESSED-P05RDR P05T80 P05T81 P05IN
```

Update and calculate pay information (P4CALC)

P4CALC performs the payroll calculations and updates to the Sequential Master File (P20IN) during a batch payroll run.

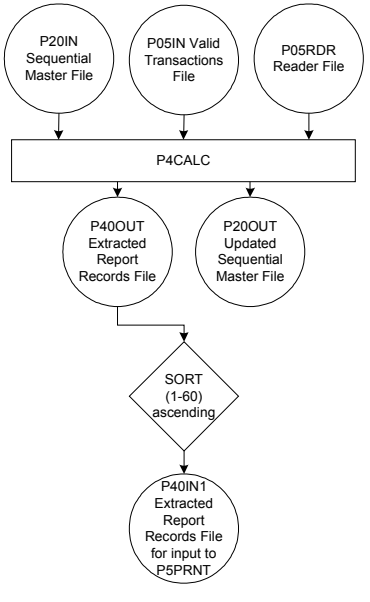
P4CALC performs the following steps:

1. P4CALC creates a new Sequential Master File (P20OUT). This file contains new Labor Records, adjustment and payment Multiple Master Records, and the updated employee Permanent Master Records.
2. Updates and to-date adjustments are applied.
3. Pay calculation is performed.
4. Information is extracted for reporting. The Extracted Report Records File (P40OUT) is sorted. On some platforms, this is known as P45SORT.

The following diagram shows the inputs and outputs for this P4CALC.

Note: P4CALC can be used with the P5PRNT program as a report-only system.

Payroll Calculation Program (P4CALC)



The P4CALC program performs five major functions:

- Reads the input files
  During a normal payroll run, the P4CALC program reads information from the Sequential Master File (P20IN) and the Reader File (P05RDR).
- Applies maintenance transactions from the sorted Valid Transactions File (P05IN) from P2EDIT
  The P4CALC program conducts a sequential process that merges the sorted Valid Transaction File (P05IN) transactions with the Sequential Master File (P20IN). This step is known as P45SORT on some platforms. During this process, P4CALC adds, deletes, and modifies information as necessary.
- Creates the updated Sequential Master File (P20OUT)
  The program stores information from the Sequential Master File (P20IN) in the working storage areas shown in the following table.
  P4CALC then creates the new Sequential Master File (P20OUT).

The report generator schedule is tested for each area. You may have to expand these areas.

Area	Record	Description
REPORT		Report generator logic
PAYER	D	Organization information
TAX	H	Tax specification information
EMPLOYEE	M	Employee information (Permanent Master Records, Payment History, an Labor Records, to-date adjustments) If there are to-date
AREAW	F	W (miscellaneous) information

- Calculates pay for all employees whose frequencies are being paid
  The P4CALC program processes time entries and automatic earnings, taxes, and deductions. The report generator schedule is exercised for each Payment History and Labor Record created. P4CALC then writes the Permanent Master Record group to the updated Sequential Master File (P20OUT). After all employee records have been processed, any post-employee W (miscellaneous) data is processed. Each organization is processed in this manner until the entire Sequential Master File (P20IN) is complete.

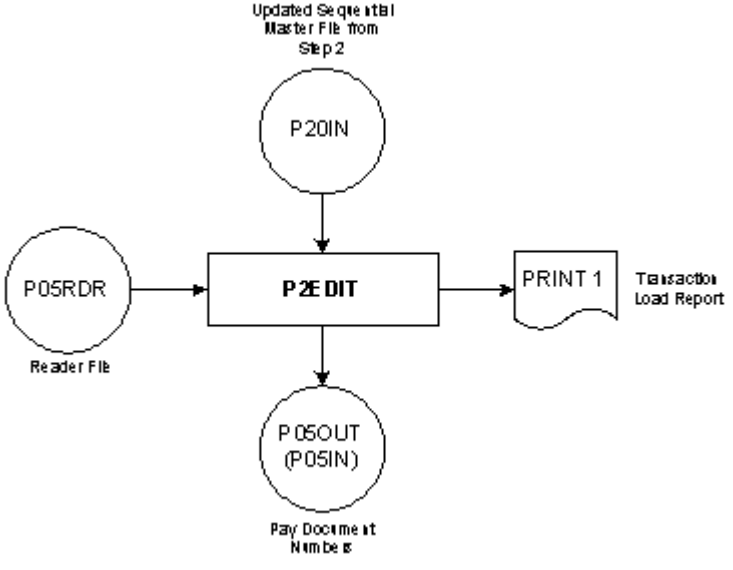
- Creates and sorts the Extracted Report Records File (P40OUT)
  P4CALC creates the Extracted Report Records File (P40OUT). This extracted information will be written to printed reports. The P45SORT function then sorts the P40OUT file, in ascending sequence on the first 60 characters, for input to the P5PRNT program as P40IN1.

Edit pay document numbers (P2EDIT)

P2EDIT edits supplied pay document numbers and P5PRNT produces pay documents, reports, and files.

P2EDIT performs the following steps:

- The P2EDIT program reads the Reconciliation Numbers.
  For this step, you must enter pay document numbers, or Reconciliation Numbers, for both checks and deposit advices. Reconciliation Numbers are entered with P6 transactions that are read by the P5PRNT program as Recycle File (P05IN).



☞ *Refer to Employee Payments in the Using Payroll Administration documentation for more information about the Check Reconciliation feature.*

The P6 transaction layout is shown in the following table.

Position	Description
1-2	P6 literal
3	Forms code: U - checks V - deposit advices
4-11	Lowest Reconciliation Number (beginning form number)
12-19	Highest Reconciliation Number (ending form number) Usually 99999999, which assigns Reconciliation Numbers in sequence until the end of the job.

Position	Description
20	Print option: P - print live forms X - print line-ups
21-31	Bank Code and Routing Number (if entered on the Organization Options form (AF-SCR), it must also be entered here.)

- Performs check and payment reconciliation
  The P2EDIT program also performs payment reconciliation, matching outstanding checks against bank notifications that the checks have been cleared.

☞ *Refer to Employee Payments in the Using Payroll Administration documentation for more information about the Check Reconciliation feature.*

- Verifies new Organization Numbers
  The P2EDIT program stores information from system generator 20 in a working storage area called the Organization Validation Table (RPT20). The Organization Validation Table contains a list of valid Organization Numbers. You must update this list before you can submit any transactions for new organizations.

Note: If the Organization Validation Table contains more than 50 entries, you must increase its size.

- Produces the Transaction Load report
  P2EDIT outputs the Transaction Load Report as PRINT1, which lists all transactions and each optional file that has been processed. This report identifies any transactions in error and any out-of-balance batches.

  Recycle File transactions do not show on the Transaction Load Report.

  The last few lines of the Transaction Load Report inform you if any errors were detected during the P2EDIT execution. These lines also indicate which input files P2EDIT accessed.

Transaction Load Report for editing pay document numbers

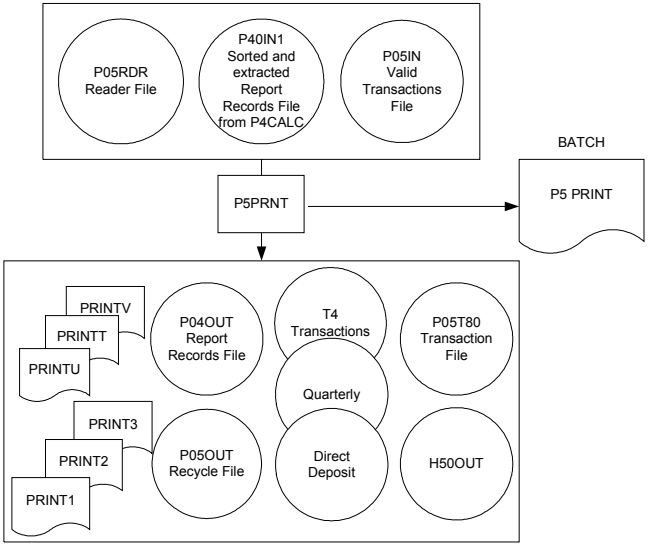
```
CONTROL 1    99                                    TRANSACTION LOAD REPORT        REPT                  FILE VERSION     PAGE     1
CONTROL 2    9999                                                                 0000  BATCH TEST    TIME 13:53:45 DATE 02/25/2004
PROGRAM VERS.  39.04         *COPYRIGHT (C) 1989 - 2004 HEWITT ASSOCIATES LLC.
IMAGE                                                                          ERROR       FLD FIELD           COL.  FIELD    CARD
1...5...10...15...20...25...30...35...40...45...50...55...60...65...70...75...80 MESSAGE     NBR DESCRIPTION     NBRS. CONTENTS NBR.
BATCH999999TEST Y                                                                                                                1
P6U00000001000000003X                                                                                                            2
P6U00000004999999999P                                                                                                            3
P6V00000001000000003X                                                                                                            4
P6V00000004999999999P                                                                                                            5



CONTROL 1    99                                    TRANSACTION LOAD REPORT        REPT                  FILE VERSION     PAGE     2
CONTROL 2    9999                                                                 0000  BATCH TEST    TIME 13:53:45 DATE 02/25/2004
CARD IMAGE                                                                     ERROR       FLD FIELD           COL.  FIELD    CARD
1...5...10...15...20...25...30...35...40...45...50...55...60...65...70...75...80 MESSAGE     NBR DESCRIPTION     NBRS. CONTENTS NBR.
             COUNT      REGULAR     OVERTIME      HOURS 1      HOURS 2      HOURS 3      HOURS 4  REG. $/RATE  OVT. $/RATE
BATCH CARD       0          .00          .00          .00          .00          .00          .00          .00          .00
INPUT            0          .00          .00          .00          .00          .00          .00          .00          .00
DIFFERENCE       0          .00          .00          .00          .00          .00          .00          .00          .00
INPUT FILES PROCESSED-P05RDR
```

Produce pay documents, reports, and files (P5PRNT)

P5PRNT produces pay documents, reports, and files.

- P5PRNT writes a new Extracted Report Records File (P40OUT1).
  This file is sorted and used as output to the Combined Register (2222) report.
  On some platforms, this sort process is known as P45SORT.
- The P5PRNT program reads the sorted Extracted Report Records File (P40OUT) and the Recycle File (P05IN) containing the P6 transactions.
- P5PRNT produces all selected reports, the pay documents, the data files, and the new Recycle File.
- Writes valid update records.
  (P2EDIT also writes valid update records to the Valid Transactions File (P05OUT).)

P5PRNT formats and creates all output, including payments, printed reports, ACH tapes, and records that must be recycled to future payroll runs.



P5PRNT formats the sorted Extracted Report Records File (P40IN1) for external presentation. This presentation may be either on paper or magnetic media. In addition, P5PRNT creates the Recycle File (P05OUT), which the system accesses on the next processing run. During a payroll run, P5PRNT also creates an Extracted Report Records File (P40OUT) with extracted report data for the Combined Register (2222) report.

With the exception of P40OUT and P05OUT, the P5PRNT output files are opened, one at a time. Each output file is identified by a single-character file code, called a forms code, in the first position of each P40IN1 record.

The P5PRNT program uses the forms code to determine which of its output files is to be written. This code is the first position in the sort key. The following table lists the most common valid Forms codes.

Forms code*	File name	Description
0	PRINT1	printer - reserved for Sort 01 (Payroll Audit Trail (0101) report and Control Headers (0103) report)
1	PRINT1	printer
2	PRINT2	printer
3	PRINT3	printer - quarterly regulatory reports
4	PRINT4	printer
5	P50OT5	80-character file
6	P05T80	80-character file
7	H50OUT	print image file
8	P05OUT	Recycle File
9	P40OUT	reserved for Sort 22 (Combined Register (2222) report)
M	P50CT4	Canadian T4 file
N	P5UST9	NJ quarterly file
P	P50CDD	Canadian direct deposit file
Q	P50QR1	Canadian Relevé 1 file
R	P50W2T	quarterly files using federal S record
S	P50ACH	ACH tape
T	PRINTT	printer - pay documents
U	PRINTU	printer - pay documents
V	PRINTV	printer - pay documents used for deposit statements
W	PRINTW	printer - pay documents
X	P51W2T	NY quarterly file
Z	P40OUT	Report will be printed during the second pass of P5PRNT using the PRINT1 file
$	P50SBB	Service Bureau statistics tape

* Except for Forms codes 8 and $, the next four positions of the extract record contain the Report Generator code. A Report Generator code is a two-position Sort code followed by a two-position Report code.

** For Forms code $, positions 2 through 81 of the extract record must contain an image of the record to be written to the Service Bureau Billing File, P50SBB. Positions 6 through 11 contain the Organization Number.

Reprint reports and files

By adding entries to positions 3 through 13 of the P5PRNT control record (P5), you can reprint previously printed reports.

Note: This option is not available for the Combined Register, pay documents, quarterly, and year-end reports.

The following table defines the positions that must be entered on the P5PRNT control record:

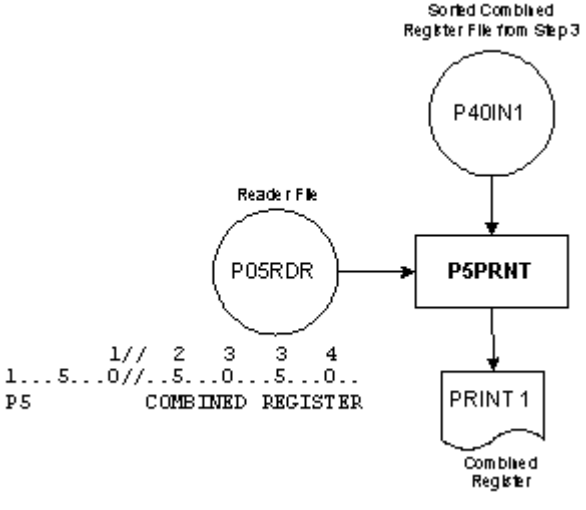
In this position...	Enter...
Position 3	Forms code
Positions 4 - 7	Report code
Positions 8 - 13	Organization number

By specifying an Organization number in positions 8 through 13, you can print a report for a specific organization. When P5PRNT is run, the program compares the entry in positions 3 through 13 to positions 1-11 in the extract record. If the entries match, the report is printed for the specified organization.

Create Combined Register (2222)

The P5PRNT program is executed a second time.

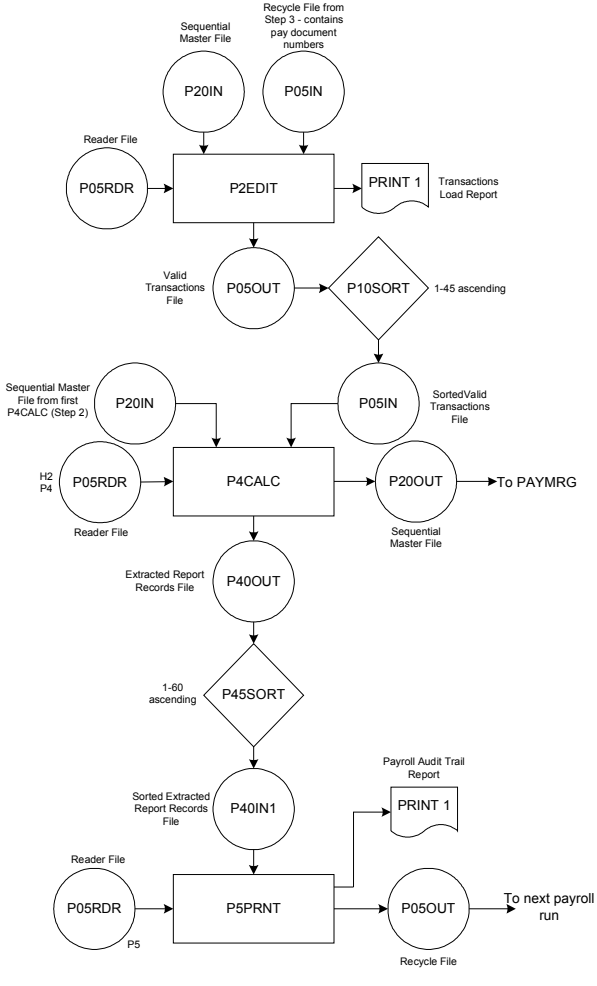
It accesses the Extracted Report Records File, created in the preceding step, and produces the Combined Register (2222) Report.



Perform Maintenance Run

Maintenance run is performed (P2EDIT, P4CALC, and P5PRNT).

To complete the payroll process, payment and adjustment Multiple Master Records are converted to current History Records.



P2EDIT

The P2EDIT program accesses the Recycle File (P05OUT) created during Step 3. This file contains payment number information (EA records) from the current pay calculation.

Normally, this is the only transaction file processed by this step.

P4CALC

The P4CALC programs accessed the recycle file (P05OUT) created during Step 1 and the Sequential Master File (P20OUT) created by the first P4CALC execution in Step 2.

The Valid Transactions File (P05OUT) is sorted. On some platforms, the sort utility is know as P10SORT.

All Multiple Master Records are converted to Payment History Records.

Labor Records reflect the basic unit of labor costing. They are created at the rate of at least one for each time entry, automatically paid earning, or earning adjustment. If an employee has more than one occurrence of location or charge-to information, the system may create more than one Labor Record for each time entry. (It is possible to create 98 Labor Records from a single time entry.)

The P4CALC program creates Payment History Records for each adjustment or payment that it processes or creates. These records include no to-date information; in other words, only current activity is shown.

Only the earning, deduction, or tax authority records affected by the payment or adjustment are included in the Payment History Record.

☞ *Refer to Employee Maintenance in the Using Payroll Administration manual for more information about the Payroll Home Location/Pay Allocations.*

P4CALC then matches the payment number transactions with the Payment History and Labor Records created during Step 2. This process creates a new Sequential Master File.

Note: Because P4CALC is processing the entire Sequential Master File during this step, it is possible to perform additional reporting as well.

The Extracted Reports Records File (P40OUT) is sorted. On some platforms, the sort is known as P45SORT.

P5W2PR

P5W2PR is a component of the year-end processor. The Year-End Processor uses a series of report generators and a COBOL program, P5W2PR, to produce all year-end output.

It formats all of the necessary information extracted by the P4W2CA program for year-end reporting.

☞ *Refer to the Year-End Processing Guide for more information about this program.*

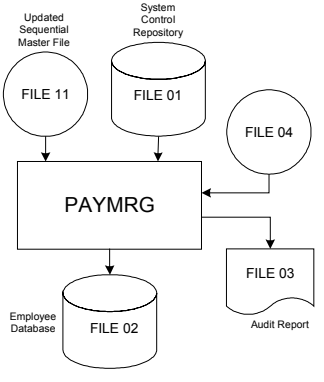
P5PRNT

The P5PRNT program processes the new P40IN file, producing, at a minimum, the Payroll Audit Trail (0101) report as PRINT1 and the new Recycle File (P05OUT) to be read by the P2EDIT program during the next payroll run.

Merging payroll information (PAYMRG)

When the payroll run is complete, you must bring the updated information on the Sequential Master File into the online environment. This is accomplished on most platforms by executing the PAYMRG function. There are two methods used to run PAYMRG:

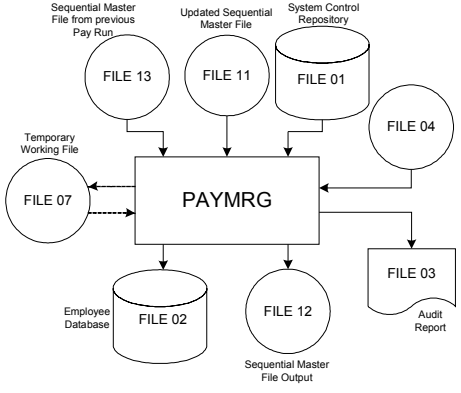
- If you extracted all organizations during the PAYXTR process, you now process PAYMRG to recreate the Employee Database using the FILE04 parameter 1 7 1.



- If you extracted selected organizations during the PAYXTR process, process PAYMRG as an update to the Employee Database using the FILE04 parameter 2 2 2 or 2 2 1.

  This method also merges the final Sequential Master File from the payroll run with the complete Sequential Master File that served as FILE11 in the PAYXTR process. Thus, the Sequential Master File will always match the Employee Database.

  The output Sequential Master File from the partial PAYMRG execution contains all processed organizations, and it becomes the input Sequential Master File to the next PAYXTR.



Below is a sample from a PAYMRG diagnostic report showing PAYMRG running successfully.

```
CSSS <UTIL( (999999(PAYMRG(  (          (1 7 1          )16:29:57 04-22 XXXX
FILE11 RECORD COUNT -    2,911
FILE12 RECORD COUNT -
FILE13 RECORD COUNT -
```

The FILE11 record count must match the Records Written count on the Payroll Audit Trail from the prior execution of P4CALC. This is normally the maintenance run following the pay run. These counts must always match.

The following report sample shows that PAYMRG encountered an error and stopped processing.

```
CSSS <UTIL( (999999(PAYMRG(  (          (1 7 1          )15:56:23 05-06 XXXX
            ***REJECT***
PP085R: FILE11 INVALID - CREATED DURING A PAY RUN
SC216R: ERROR ENCOUNTERED - RUN CANCELLED
FILE11 RECORD COUNT -      863
FILE12 RECORD COUNT -
FILE13 RECORD COUNT -
```


Post-payroll processing

Once you complete the PAYMRG process, you should back up the Employee Database.

You should back it up before proceeding with the Considered Earnings/Hours Accumulators (CONSID) report and Update Benefit Plan Balance Information (BAXACT) report because these processes update the Employee Database.

The alternative would be a total (1 7 1) PAYMRG process, using the complete Sequential Master File.

Online payroll calculation

O4CALC

When an online pay calculation is performed, O4CALC is invoked by CBSVO, The Solution Series online program.

O4CALC calculates a payment and formulates the pay document image when the Calculate Pay For: form (PAY-CP) is used.

If you are retaining the results of the online payment calculation, O4CALC writes the Multiple Master and Labor Records to the Employee Database and updates the to-date figures on the employee's Permanent Master Record.

Although O4CALC is not a purely batch program, it combines most of the tasks performed by P2EDIT and P4CALC.

In terms of expansions, it has the same requirements as P2EDIT for the Organization Validation Table (RPT20) working storage area. O4CALC must match P4CALC in the PAYER and EMPLOYEE working storage areas, but it has separate REPORT and TAX areas.

Note: *The online system invokes O4CALC in different ways, depending on your platform. On a Microsoft Windows machine, O4CALC is linked with The Solution Series CBSVO program. On the IBM mainframe, CBSVO issues an XCTL to the O4CALC program, and the return is handled in the same manner.*

Payroll run recovery

You should always back up your payroll files prior to performing a pay run. If you encounter problems during the pay run you will be able to recover using your backed up copy. Following are some guidelines for the actions to take depending on the point within the process at which you encountered problems:

Point at which problem occurred	Recommended action
Any time throughout the pay run process **before** the pay merge	Restore from backup
During pay merge	Rerun the pay merge
Pay merge completes but something is incorrect	Restore from backup

CHAPTER 18

Special processing runs

In This Chapter

Introduction 414
Payment reconciliation 415
Payroll restart and recovery 417
Reprinting pay documents 422
What is a Maintenance Run? 424
Purging History and Labor Records.....425
Merging history files with the current Sequential Master File 428
Sequential Master File merges.....429
Report generators on a separate file.....432

Introduction

This section identifies the procedures and maintenance tasks that can be accomplished with special processing runs.

Prerequisites

Before you can perform the tasks in this section, the following prerequisites must be established:

- The Solution Series must be installed
- Organization-level information is established
- You must be familiar with the concepts covered in the Implementation Essentials documentation

Payment reconciliation

The Payment Reconciliation feature requires an extra run of the P2EDIT program and the P10SORT utility. During the previous payroll run, the Outstanding Payment Records (2C2C) report creates records for each uncleared payment. These records are read into the reconciliation process from the Recycle File (P05IN). The Transaction File (P05T80 or P05T81) contains a record for each payment cleared by the bank.

Perform the reconciliation as shown in the following steps:

1. Prepare input for the first P2EDIT execution

This can be performed during Step 5, the maintenance run, of the payroll process.

1. Run the Outstanding Payment Records (2C2C) report . The Recycle File (P05IN) contains one ER record for each uncleared check payment.

2. On a stand-alone PAYXTR/Reconciliation/PAYMRG run, or as part of the next payroll cycle, read in the ER clearing transactions from the bank. Each payment cleared by the bank has an ER record.

   Alternately, your bank may be able to supply a magnetic tape containing an ER record for each payment processed. ER records are always loaded behind a BATCH999999 record.

3. Prepare a BATCH transaction for the Reader File (P05RDR). Place a Y in position 18 to tell the program to process the Recycle File (P05IN).

   Position 19 must contain the code appropriate to the processing of the Transaction File (P05T80 or P05T81), whichever contains the bank clearing transactions.

   The following table shows the ER record layout for payment reconciliation:

Position	Description
1-2	ER - Transaction code
3-4	Bank Code
5-12	Recon Number
13-21	Payment amount (net pay)
22	Recon Clear code (optional) 3 or Space - cleared this run (default)
25-33	Routing Number

4. Process all other payroll transactions along with the ER records. For example, if you are executing a payroll run, such other transactions could include time entries and adjustments.

5. Verify that the Recycle File (P05IN) contains all uncleared Payment History Records.

2. Execute the P2EDIT program

This is the first execution of the P2EDIT program.

3. Execute the P10SORT utility

This action compares the ER transactions from the Outstanding Payment Records (2C2C) report with the ER transactions from the bank. Each matched pair of transactions is cleared.

4. Execute the P2EDIT program again

This time P2EDIT requires the following input:

- BATCH transaction for the Reader File (P05RDR)

- Sorted Valid Transactions File (P05IN)
  The sorted Valid Transaction File (P05IN) is the output file from the P10SORT utility. It contains ER records with corresponding uncleared payment records from the Recycle File (P05IN), for payment reconciliation. This file may contain other transactions as well.

  If errors are found, the following error messages will be printed on the Transaction Load report: "PAYMENT AMOUNTS DIFFER" (the Payment History net pay does not match the ER record amount) and "PAYMENT NBR NOT OUTSTANDING" (there is no matching Recon Number (no check) for the ER transaction).

☞ *Refer to* **The Payroll BATCH transaction** *(on page 731) for more information about the BATCH transaction used for P2EDIT.*

The remaining payroll process steps execute normally. Select the Pay Reconciliation (1C1C) report to print it. The payments that match an ER record in the P2EDIT execution will have the RECON CLEAR CODE set to 3 (cleared this run) in their Payment History and Labor Records. If you are performing payment reconciliation as a separate run, you must precede it with the PAYXTR process and follow it with the PAYMRG process.

Payroll restart and recovery

You may sometimes find it necessary to rerun all or part of the batch payroll process, such as when an erroneous payment date is entered, when a system or hardware failure occurs, or when checks need to be reprinted or check numbers reassigned.

Many variables, including platform type, pay run times, and backup run times, will determine your strategy. Your file-naming conventions, as well as the availability and use of true temporary data sets, will also affect restart procedures.

The most obvious backup and restore strategy is to back up the complete environment, including the System Control Repository and the Employee Database, just before you begin the batch processes.

In this case, the rerun comprises a general restore, followed by the rerunning of the batch process.

Preliminary steps

Before beginning the pay process, execute the PAYXTR function with the following files.

- System Control Repository (FILE01)
  The PAYXTR function sets the security to inquiry mode. If necessary, you can use the CYBRST program to reset this indicator.

- Employee Database (FILE02)
  The PAYXTR function alters this file by writing a session record to the Employee Database, which is shown on the PAYXTR03 diagnostic report.

- PAYXTR10 (P05T80 or P05T81)
  The PAYXTR function creates a file of BATCH, time entry, and adjustment transactions. A rerun will simply create or recreate another version of this file. No special handling is necessary.

- PAYXTR11 and PAYXTR12 (P20IN)
  The PAYXTR function reads the latest Sequential Master File as FILE11 and creates an updated version as FILE12.

If you have to rerun, make sure that the version of P20IN that was processed as FILE11 is the same as before. This may mean uncataloguing or deleting the version that was created as PAYXTR12.

1. Execute the P2EDIT program

Execute the P2EDIT program with the following files:

- Sequential Master File (P20IN)
  The P2EDIT program accesses this file for system generators only. This file is generally the FILE12 created by the PAYXTR process.

- Recycle File (P05IN)
  The Recycle File is generally created during Step 5 of the payroll process. If the P2EDIT program or its subsequent sort have created a new version of this file, make sure that the new P05IN is removed. The rerun must read the appropriate version.

- Transaction Files (P05T80 and P05T81)
  These two files contain transactions from the PAYXTR process and possibly a CYBMST file extract or output P05T80 file from a previous P5PRNT program step.

- P05OUT
  This file contains all transactions gathered and passed by the P2EDIT program. It is sorted and then processed by the next step.

Note: Do not re-input the P05OUT file or its sorted version to a rerun. Doing so will result in the doubling of all time entries and adjustments.

If you use the Payment Reconciliation feature, the step following the P10SORT utility may be another execution of the P2EDIT program. You would execute P2EDIT for the second time with the following files:

- Sequential Master File (P20IN)
  The P2EDIT program accesses this file for system generators only. This is generally the same file as for the first P2EDIT execution.

- Sorted Valid Transactions File (P05IN)
  This is the sorted Valid Transactions File. If the P2EDIT program or its subsequent sort have created a new version of this file, make sure that the new P05IN is removed. The rerun must read the appropriate version.

- P05OUT
  This file contains all transactions gathered and passed by the P2EDIT program. It is sorted and then processed by the next step.

Note: Do not re-input the P05OUT file or its sorted version to a rerun. Doing so will result in the doubling of all time entries and adjustments.

2. Execute the P4CALC program

Execute the P4CALC program with the following files:

- Recycle File (P05IN)
  This is the sorted Valid Transactions File from the final P2EDIT and P10SORT pair in the previous step.

- Sequential Master File (P20IN)
  This is the Sequential Master File created during the previous PAYXTR process. Make sure to use the correct version of this file on a rerun, NOT the P20OUT file created by this step.

- Output Sequential Master File (P20OUT)
  This is the output Sequential Master File. If the P4CALC program aborts or must be run again, remove this version of the file first.

- P40OUT/P40IN1
  This is the output file containing all report detail records, including payment detail for pay documents. This file is sorted and then read by the P5PRNT program.

  This file should not be a temporary file, in case you have to restart the payroll run at the P5PRNT step.

3. Execute the P2EDIT and P5PRNT programs

This step processes P6 transactions from the P05RDR file that contain starting pay document numbers only.

Execute the P2EDIT program with the following files:

- Sequential Master File (P20IN)
  P2EDIT accesses this file for system generators only. This is generally the P20OUT file from the previous P4CALC step.

- P05OUT
  This file contains the edited P6 transactions. It is generally renamed P05IN for processing by the P5PRNT program.

Note: Do not re-input this P05OUT file to a rerun, in case the pay document numbers differ.

Execute the P5PRNT program with the following files:

- Recycle File (P05IN)
  This is the P05OUT file from the latest execution of P2EDIT, containing valid P6 transactions.

- Transaction File (P05T80)
  This is an optional, 80-character output file.

Note: Avoid accidentally reading this file into the P2EDIT program on a rerun.

- P05OUT
  This is the Recycle File, to be read as P05IN by the next batch process.

Note: Avoid accidentally reading this file into the P2EDIT program on a rerun.

4. Execute the P5PRNT program

Execute the P5PRNT program to print the Combined Register (2222) report.

This step produces a report file, PRINT1.

5. Perform the maintenance run

Execute the P2EDIT program with the following files.

- Sequential Master File (P20IN)
  This is the version of the Sequential Master File created by the payroll process. The P2EDIT program accesses this file for system generators only.

- Recycle File (P05IN)
  The Recycle File is created by the P5PRNT program in Step 3 of payroll process. If this step or its subsequent sort has created a new version of this file, be sure that the new version is removed, and that the rerun reads the appropriate version to be sure that the proper pay document numbers are applied to the Payment History and Labor Records.

- P05OUT
  This file contains the transactions gathered and passed by the P2EDIT program. It is sorted, renamed P05IN, and processed by the P4CALC program.

Note: *Do not re-input this P05OUT file or its sorted version to a rerun.*

Execute the P10SORT utility on the new Valid Transaction File.

Execute the P4CALC program with the following files:

- P05IN
  This is the Sorted Valid Transactions file from the P2EDIT/P10SORT execution.

- P20IN
  This is the Sequential Master File created during the payroll process. Be careful to use the right version of the file, not the P20OUT file created by this step.

- P20OUT
  This is the output Sequential Master File. If the P4CALC program aborts or needs to be run again, be sure to remove this version of the file first.

Execute the P5PRNT program with the following files:

- P05T80
  This is an optional, 80-character output file. Take care to avoid its accidental input to the P2EDIT program on a rerun.

- P05OUT
  This is the Recycle File to be read as P05IN by the next batch process. Be careful to avoid its accidental input to the P2EDIT program on a rerun.

Executing PAYMRG

Following the payroll run, execute the PAYMRG function. Two methods are available for this purpose:

Method 1 (1 7 1)

This method recreates the Employee Database. This method must be used if you performed a full PAYXTR.

With this method, PAYMRG reads the Sequential Master File (P20) and creates the Employee Database (FILE02).

You can restart PAYMRG without removing any files.

The PAYMRG function accesses P20IN as FILE11. It is created by the P4CALC program during the maintenance step of the payroll process.

The PAYMRG program creates the Employee Database (FILE02).

Variations include a sequential output file, followed by a system utility that creates the Random Master File. Whatever the means, the 1 7 1 PAYMRG process results in the recreation of the Employee Database.

To rerun the entire batch payroll process, starting with the PAYXTR function or the pre-payroll batch runs, you must restore the Employee Database from a backup taken before those runs were performed.

Method Two (2 2 2)

The second method updates the Employee Database (FILE02) and creates a new, updated Sequential Master File (P20IN). You must use this method if you performed a selective PAYXTR.

With this method, PAYMRG replaces entire organizations on the Employee Database (FILE02), using the Sequential Master File created by the P4CALC program during the maintenance step of the payroll process.

The Sequential Master File, containing all organizations, is processed as FILE13. (This file was FILE11 in the partial PAYXTR execution.)

During this process, PAYMRG creates FILE12, using the information on FILE11 to replace entire organizations from FILE13.

The PAYMRG program updates the Employee Database, as entire organizations are deleted and then rewritten, using the data on FILE11.

FILE11 is the Sequential Master File created by the P4CALC program during the payroll process maintenance Step 5.

FILE12 is the new complete Sequential Master File. If you need to run the PAYMRG process again, be sure to remove this version of the file first.

FILE13 is the complete Sequential Master File containing all organizations. Be careful on a rerun that you use this same version, not the FILE12 created by this step.

Reprinting pay documents

This procedure describes how to restart the printing of pay documents, if there is a paper jam or the printed check or deposit advice numbers do not agree with the preprinted numbers on the pay document form. This run type is different from a normal payroll run in that it requires three or more P6 transactions.

The first P6 transaction identifies the pay documents that do not need reprinting. The second and subsequent P6 transactions provide line-ups and Reconciliation Numbers for pay documents that are to be reprinted. Change these records and rerun the payroll process beginning after the P45SORT that follows the P4CALC program execution in Step 2. This procedure assumes that you have retained the P40IN1 input file to the P5PRNT program.

To reprint pay documents, you first tell the system to bypass the pay documents that printed correctly. This is done by submitting a P6 transaction with the range of pay documents you are not reprinting and an N in the Print Option field. Next you submit one or more P6 transactions with the range of pay documents that must be reprinted and a P in the Print Option field.

You may also submit P6 records with an X in the Print Option field for line-up. You would then rerun the P5PRNT portion of payroll process Step 3, using the P40IN file created by the sort following the P4CALC execution. Then you would run, or rerun if necessary, the rest of the payroll process.

1. Determine which documents need to be reprinted

Note the first and last numbers of the pay documents which are not to be reprinted.

2. Prepare the P6 transactions

Prepare three P6 transactions as input to the P2EDIT program as shown in the following chart.

Position	Description	First P6 transaction	2nd P6 transaction	3rd P6 transaction
1-2	Transaction Code	P6	P6	P6
3	Forms Code	Same as original	Same as original	Same as original
4-11	Low pay document number	Same as original	First good pay document number for line-up test	First pay document number to be printed on the new run
12-19	High pay document number	Last good pay document number printed on first run	Last good pay document number for line-up test (add 1 to the number above)	99999999

Position	Description	First P6 transaction	2nd P6 transaction	3rd P6 transaction
20	Print option	N for no print	X for line-up	P for print
21-31	Bank Code/Routing Number	Same as original	Same as original	Same as original

Complete the remaining fields in all transactions as originally submitted.

During the printing of a range of pay documents beginning with number 910001, those with the numbers 910201 through 910203 were damaged.

This record layout shows the three P6 transactions needed to reprint pay documents in this situation.

```
         1         2         3         4         5         6         7         8
1...5....0....5....0....5....0....5....0....5....0....5....0....5....0....5....0
P6U  910001  910200N
P6U  910204  910206X
P6U  91020799999999P
```

The first P6 transaction accounts for the pay documents that were successfully printed. The second P6 transaction provides a range for test line-ups. The third P6 transaction designates the range for the pay documents that remain to be printed.

3. Restart the system

Restart the system after the sort following the P4CALC step (Step 2). This is the P40IN file you sorted.

If pay document numbers have been changed and you have run the system beyond the first execution of the P5PRNT program, you must rerun the payroll maintenance step (Step 5) to pick up the proper pay document numbers for assignment to the Payment History Records.

4. Execute the P2EDIT program

Execute the P2EDIT program in Step 3 of the payroll run with the P6 transactions that you prepared above. The P2EDIT program writes a P05OUT file that passes, unsorted, as the P05IN file to the P5PRNT program.

5. Execute the P5PRNT program

Execute the P5PRNT program and the rest of the payroll process. The new pay documents and all other reports print, including the Combined Register (2222) report.

What is a Maintenance Run?

Any run performed in the batch environment that does not include a pay run is considered a maintenance run.

A maintenance run does not calculate pay or produce pay calculation reports. It is used to update organization and employee information in the Employee Database, apply a Regulatory Bulletin, apply adjustments.

You may also perform a maintenance run when high volume employee changes are generated by an external source.

☞ *Refer to the Overview of the Payroll Process in the Introduction to Payroll Administration documentation for information about other types of runs.*

Purging History and Labor Records

With each payroll run, Payment History and Labor Records accumulate and increase the Sequential Master File (P20IN) size. Because a large file results in longer processing, you should periodically purge accumulated Payment History and Labor Records from the Sequential Master File and archive them.

You can then merge this storage file with other history files.

There are two methods available for purging Payment History and Labor records:

Use the Retain History field (option list PP26) on the Company Options form

This option list indicates whether Payment History and Labor records are retained during each payroll run.

The length of time that Payment History and Labor Records are retained is determined by typing values in the Months Retained fields on the second part of the Company Options form.

☞ *Refer to Establishing an Organization in the Implementation Essentials documentation for more information about this method*

Use the batch payroll process

This method requires a special execution of the P4CALC program with a specific H2 transaction. You must identify a date parameter for the purging.

You can also archive records with this method.

Always execute PAYXTR for all organizations before the archiving and purging process. Finish the process with a PAYMRG 1 7 1.

To perform a history purge, complete the following the steps:

1. Archive the history records

Set up the Reader File (P05RDR) with a specific H2 transaction as shown in the following record layout.

Position	Description
1-2	H2 (literal string)
3-5	OLD (literal string)
6-11	Date in YYMMDD format This is the cutoff date. Any Payment History or Labor Record created on or before this date will be written to the output archive file. This date is compared to the Change Date (run date) on the Payment History and Labor Records.

Position	Description
12	Blank - Archive or purge cleared History & Labor records. R - Archive or purge cleared and uncleared History & Labor records. H - Archive or purge only cleared History records, but not Labor records. I - Archive or purge cleared and uncleared History records only but not Labor records. L - Archive or purge only Labor records but not History records.
13-16	blank
17	T - Do not process P05IN; there are no input transactions.

Note: When the H, I, or L options are used, a subsequent merger of the archive files will not restore the original order. If you have report generator or CSL programs which access the History records and then use the Labor records associated with the History records then use of these options is not recommended.

Execute the P4CALC program with the following files:

- P05RDR - H2 record
- P20IN - Sequential Master File

P4CALC writes the output Sequential Master File (P20OUT) for Payment History and Labor Records.

The P20OUT file contains all report generators, organization records, and Payment History and Labor Records created on or before the cutoff date in the H2 transaction.

You can save this file for merging with other history files.

History and labor reporting can use this file, but it contains no Permanent Master Records or human resource data.

2. Purge the Payment History and Labor Records

Set up the Reader File (P05RDR) with a specific H2 transaction. Use the layout described in the chart below.

Position	Description
3-5	NEW (literal string)
6-11	Cutoff date in YYMMDD format This is the cutoff date from the H2 record in the previous step. Any Payment History or Labor Record created after this date will be written to the output Sequential Master File (P20OUT).
12	Blank - Archive or purge cleared History & Labor records. R - Archive or purge cleared and uncleared History & Labor records. H - Archive or purge only cleared History records, but not Labor records. I - Archive or purge cleared and uncleared History records only but not Labor records. L - Archive or purge only Labor records but not History records.

Position	Description
17	Blank - drop Payment History and Labor Records on a normal run T - purge Payment History and Labor Records on a special run

Note: When the H, I, or L options are used, a subsequent merger of the archive files will not restore the original order. If you have report generator or CSL programs which access the History records and then use the Labor records associated with the History records then use of these options is not recommended.

Use the current Sequential Master File as the P20IN file. This is the same file used as input in Step 1.

The P4CALC program writes a P20OUT file as the new Sequential Master File. This file contains all Payment History and Labor Records created after the cutoff date, plus the normal master file data. It excludes Payment History and Labor Records created on or before the date in the H2 transaction.

This file is the new Sequential Master File, which the PAYMRG function will access as FILE11.

3. Merge the History Master Files

To archive files, execute the P4CALC program with a specially-prepared H2 transaction.

Follow the steps below to merge two history files.

Create an H2 transaction with the following data:

Position	Description
14	M - Merge option
17	T - There are no input transactions

Execute the P4CALC program with the following files:

- P20IN - current History Master File
- H20IN - previous History Master File
- P20OUT - merged History Master File

The output merged History Master File contains report generators from the current history master file. The current History Master Records follow the previous History Master Records for each employee on the output file.

Merging history files with the current Sequential Master File

You may need to merge a History Master File with a production Sequential Master File, such as if you purged history previously and need to put it back on the current Sequential Master File. To do this, use a specially-prepared H2 transaction.

Create an H2 transaction with the following data:

Position	Description
14	M - Merge option
17	T - There are no input transactions

Execute the P4CALC program with the following files:

- P20IN - current Sequential Master File
- H20IN - previous History Master File
- P20OUT - merged file that includes both the current production data and the restored History Records

You must perform a maintenance run before processing PAYMRG to correctly order the restored History Records. Failure to do this results in a failed PAYMRG with a key sequence error.

Note: As you perform multiple history cutoffs, you may want to merge all Payment History files and maintain them in one archive.

Sequential Master File merges

You may sometimes want to replace an organization on the Sequential Master File, such as when a rerun is required only for one organization in a multiple-organization environment.

To rerun only one organization, you must replace the current Sequential Master File data for that organization with the previous Sequential Master File, without changing the remaining organizations on that file.

To accomplish such a file version change, merge the previous Sequential Master File with the current Sequential Master File. This procedure is outlined in the following steps.

1. Prepare a BATCH transaction for each organization to be restored to its previous version.
   This transaction layout is shown in the following table:

Position	Description
1-5	BATCH (literal string)
6-11	Organization Number Enter the Organization Number of the organization to be restored.
12-15	Batch Number
16-80	blank

2. Prepare a Payroll Run Process Control form for each organization to be restored to its previous version. Place the file version number of the previous Sequential Master File in the Version Number field. Leave all other fields on the form blank.

3. Prepare an H2 transaction with an S in position 14.

4. Run the BATCH and Payroll Run Process Control (AE) transactions through the P2EDIT program.

5. Execute the P10SORT utility.

6. Execute the P4CALC program with the following files:
   - P05RDR - H2 record with S in position 14
   - P05IN - input transactions
   - P20IN - current Sequential Master File
   - H20IN - previous Sequential Master File
   - P20OUT - revised Sequential Master File

7. Execute the P5PRNT program.

8. Verify that the Payroll Audit Trail (0101) report is free of any error messages. The output Sequential Master File contains the data from the previous Sequential Master File for the organizations with Payroll Run Process Control (AE) transactions. You can rerun only specified organizations using this revised Sequential Master File as input. All other organizations contain data from the current Sequential Master File.

9. Use a utility program or write a program to create a new Recycle File (P05IN) that contains the following:
   - data for the organizations that are being rerun from the previous Recycle File
   - data for the other organizations from the current Recycle File

   The Organization Numbers are found in the first six positions of the Recycle File.

Adding new organizations

When you add a new organization, you must validate it before you can process any transactions through the P2EDIT program (such as the Online Pay Calculation).

The P2EDIT program verifies the new Organization Number on each BATCH transaction against the Organization Numbers stored in the Organization Validation Table (RPT20; system generator R.RPT20).

If an Organization Number is invalid, P2EDIT rejects all following transactions until it finds a BATCH transaction containing a valid Organization Number.

Add the new Organization Number to the Organization Validation Table by updating the Sequential Master File (P20IN). This is done with an override transaction. Make these overrides permanent and include them when you re-extract R.RPT20.

The following table describe the positions of the override format:

Position	Description
1-3	blank
4-7	R720 (constant)
8-10	Sequence number (any number in the range 200 - 500)
11-16	LIT09U (constant)
17	blank
18	Country code from Company Options form: USA - blank Canada - 1 UK - 2
19-24	Organization Number
25-80	Unused

The following example shows an override used to add the NEWORG Organization, where nnn is a sequence number between 200 and 500 and x is a country identifier.

```
         1         2         3         4         5         6         7         8
12345678901234567890123456789012345678901234567890123456789012345678901234567890
TEST        MI54PEc              AS400.
   ** T.ZZBATCH
   999999

   ** R.RPT20
   R720nnnLIT09U xNEWORG
   999999
```

The FILE1 extracted in this procedure is submitted to the next payroll or maintenance run as P05T80 or P05T81, depending on your setup. The new RPT20 working storage area will be available for use on subsequent system runs. Transactions for this organization cannot be included in the same run that updates RPT20 with the new organization.

Note: Be careful when adding entries to system generator R.RPT20. The entire table must fit into the RPT20 area in the P2EDIT and O4CALC programs. The RPT20 area is delivered with 33 entries, and it can hold a maximum of 50 entries.

Deleting organizations

To remove all of the information for a organization from the Sequential Master File (P20IN), type an AA transaction with DELETE in the Control 1 Name field. This transaction removes all organization, tax, employee, and miscellaneous information.

This action leaves the Organization Number in the RPT20 area. To prevent this value from being used again, remove the Organization Number from the RPT20 overrides. Then re-extract RPT20 and load it on your next run.

Here is an override example to delete an organization, where xx = Control 1, yyyy = Control 2, and ZZZZ = batch name.

```
         1         2         3         4         5         6         7         8
12345678901234567890123456789012345678901234567890123456789012345678901234567890
BATCHxxyyyyZZZZ Y
AADELETE
```

☞ *Refer to Establishing an Organization in the Implementation Essentials documentation for more information about deleting an organization.*

Report generators on a separate file

Payroll Administration offers the option of maintaining report generators on a separate master file.

If you choose this option, the Sequential Master File will contain only organization and employee records, report generators 0A - 29, SRT5G, and 5H5Z, and any method code generators. These records and generators are needed for the Online Pay Calculation feature.

Using this option simplifies the maintenance of report generators if you process a large number of organizations involving several separate Sequential Master Files.

To create a master file containing only report generators, complete the following steps:

1. Create the separate master file

Create the master file with report generators and tax specification records, but do not include organization or employee data.

1. Execute P2EDIT with the following input files, in order:
   - Reader File (P05RDR) - Include a BATCH999999 record with a BATCH number, a Y in position 17, and a B in position 19
   - Transaction File (P05T80) - Include Formats 17 - 29, extracted from CYBMST. Do not precede this with a BATCH record.
   - Transaction File (P05T81) - Include a BATCH999999 record with a BATCH number and a Y in position 17; all required report generators, including sort 01 and formats 0A, 0G, 0O, 0P, and 17 - 29.
2. Execute the P10SORT utility.
3. Execute the P4CALC program. Use an H2 transaction with an I in position 18. Do not bring in the Sequential Master File (P20IN).
4. Execute the P45SORT utility.
5. Execute the P5PRNT program.
6. Execute the P5PRNT program. Use a 1 in position 3 of the P5 transaction to print all reports assigned to PRINT1.

The system creates a master file containing only the report generators.

2. Create a one-record Sequential Master File

Execute the P4CALC program, using an H2 transaction with a T in position 17 and an I in position 18. P4CALC creates a one-record Sequential Master File.

3. Add data to the one-record Sequential Master File

Run the PAYXTR ALL function. This process reads the one-record Sequential Master File as FILE11. PAYXTR creates a FILE12 Sequential Master File with no report generators.

4. Extract table and other generators from CYBMST

Execute the P9CNVT program with the following P05RDR input. P9CNVT extracts the report generators from CYBMST.

```
         1         2         3         4         5         6         7         8
1...5....0....5....0....5....0....5....0....5....0....5....0....5....0....5....0
   ** T.ZZBATCH
   999999
   ** R.RPT0A
   999999
   ** R.RPT0G
   999999
   ** R.RPT0O
   999999
   ** R.RPT0P
   999999
   ** R.RPT17
   999999
   ** R.RPT18
   999999
   ** R.RPT19
   999999
   ** R.RPT20
   999999
   ** R.RPT21
   999999
   ** R.RPT22
   999999
   ** R.RPT23
   999999
   ** R.RPT24
   999999
   ** R.RPT25
   999999
   ** R.RPT26
   999999
   ** R.RPT27
   999999
   ** R.RPT28
   999999
   ** R.RPT29
   999999
   ** R.SRT5G
   999999
            (any Solution Series method code generators)
   999999
   ** R.SRT5H
   999999
   ** R.RPT5Z
   999999
```

5. Add table generators to the Sequential Master File

The table generators will be used later by the O4CALC program.

1. Execute the P2EDIT program with the following input:
   - The report generator master file as P20IN (the output from the P4CALC program in Step 1)
   - A BATCH transaction with a Batch Number and a Y in position 17
   - The extract file from Step 4 as P05T80
   - Any method code generators as P05T81
   - The Reader File (P05RDR) with necessary transactions to set up employees for this organization

2. Execute the P10SORT utility.

3. Execute the P4CALC program with the following input:
   - An H2 transaction with an F in position 14
   - The one-record Sequential Master File created in Step 2 as P20IN
   - The report generator master file as H20IN

4. Execute the P45SORT utility.

5. Execute the P5PRNT program. Use a P5 record with a 1 in position 3.

You have added the report generators required by the O4CALC program to the Sequential Master File.

Payroll run using an H20IN file with report generators

To process a payroll with report generators on the H20IN file requires special input. For this type of payroll run, you would use the following input:

- Sequential Master File (P20IN) when executing the P4CALC program
- Report generator master file as input file P20IN when executing the P2EDIT program and as input file H20IN when executing the P4CALC program
- For a normal system run, an H2 transaction with either an F or a B in position 14

☞ *See* **Overview of the Batch Payroll System** *(see "The Payroll System" on page 371) for more information on these options on the H2 record in the P05RDR file.*

Maintaining a report generator master file

To update or add report generators to your system, you would use the following input. The Sequential Master File containing application data is not involved in this process.

- Report generator master file as P20IN
- A blank in position 14 of the H2 transaction

Note: Do not add or update report generators during a regular payroll run. Doing this would add the generators to the P20IN file instead of the H20IN file.

CHAPTER 19

Working With CYBMST

In This Chapter

Introduction 436
P9CNVT 437
Machine Parameter Record 438
Job streams for extracting 439
Files for extracting 440
Required Reader File records 441
Member selection 443
Performing extractions 444
Expansions 446
Report loading and selecting 456

Introduction

The library file for the batch payroll master source is called CYBMST. CYBMST contains report generator, COBOL, and machine language source code. The library program, P9CNVT, extracts programs and data from CYBMST members and updates CYBMST.

Updates to CYBMST are delivered in Service Packs or may be completely replaced with a later version of the software.

☞ *Refer to* **CYBMST program changes** *(on page 214) and* **Report Generator temporary fixes** *(on page 217) for information on updating CYBMST.*

The CYBMST file is accessed sequentially. When you are extracting multiple members from CYBMST, the extract commands must appear in the order in which they are stored on CYBMST. For composite members, such as C.P0PRGM and C.P39MVE, you can extract only one program during a single run of the P9CNVT program.

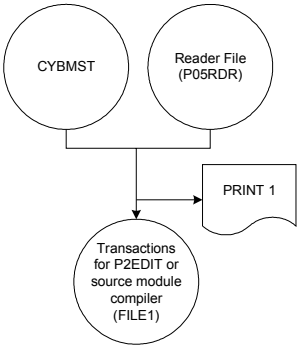
Prerequisites

Before you can perform the tasks in this section, the following prerequisites must be established.

- The Solution Series must be installed
- Organization-level information is established
- You must be familiar with the concepts covered in the Implementation Essentials documentation

P9CNVT

P9CNVT is the batch payroll source library management program.



P9CNVT performs the following functions:

- Extracts report generators, COBOL programs, and subroutines from CYBMST, including any overrides.
- Creates FILE1 during the extract from CYBMST.
  FILE1 is an 80-character output file, which contains either program source code to be used by a compiler or Report Generator source code to be read by P2EDIT as P05T80 or P05T81.
- Writes a diagnostic report, PRINT1, during the extract and update.

Machine Parameter Record

The Machine Parameter Record defines the nature of extracted CYBMST members. It first tells P9CNVT whether to open FILE1 for extraction or FILE24 to create a new CYBMST file.

When extracting the pay document generators, you must include the appropriate program parameters in positions 26 through 28. You also must use a Machine Parameter Record when extracting report generators. To set up a report generator extract job, copy the Machine Parameter Record from the P4CALC extract job and leave position 26 blank.

Note: *On certain platforms, this record requires additional code.Refer to the machine-specific comments for your platform in the P9CNVT program source code.*

See also:

- Performing extractions ***(on page 444)***

For complete documentation on extracting these generators.

- Machine parameters

For samples of parameter records and column information.

Job streams for extracting

In a typical environment you might have the following job streams when working with CYBMST:

- One job stream for updating CYBMST
- Job streams for extracting the report generators that you use from CYBMST
- One or more job streams to extract the system or table generators, with your permanent overrides.
  Set up a CYBMST job that extracts system generators R.SRT01, R.RPT0A, R.RPT0G, R.RPT0O, R.RPT0P, and R.RPT17 through R.RPT29, with all of your overrides to these generators.
  Use this job to extract these system generators each time any one of them is changed in a Payroll Update Bulletin (PUB). This is easier and risks less error than extracting only those members that have changed.
- One job stream to be used for extractions, as needed
- Separate job streams to extract, compile, and, where applicable, link each of the COBOL programs and subroutines

Keep any overrides to CYBMST member C.P0PRGM (contains programs P2EDIT, P4CALC, and O4CALC) and any EXPAND transactions in a single file.

Keep any overrides for CYBMST member C.P5PRNT (contains program P5PRNT) in a separate file. Use the particular file, following the appropriate Machine Parameter Record, when you extract from CYBMST.

Refer to **Extracting COBOL programs** *(on page 445) later in this section for a discussion of the programs contained in C.P0PRGM, C.P5PRNT, and C.P5W2PR.*

Files for extracting

The following table lists the files used to extract CYBMST members.

File Name	Type	Description
P05RDR	Input	Transaction, selection records, and overrides
CYBMST	Input	Master Library
PRINT1	Output	Activity report
FILE1	Output	Selected members

Required Reader File records

To begin extracting members from the CYBMST file, the P9CNVT program reads the Reader File (P05RDR) for instructions.

This Reader File contains at least three records:

- the Machine Parameter Record
- the transaction specifying which member to select for extraction
- a termination record

In the case of a report generator or COBOL extraction, the Machine Parameter Record also provides necessary information about machine type and desired options. This record tells the P9CNVT program which computer you are using.

You must include a Machine Parameter Record in every execution of the P9CNVT program when extracting any CYBMST member.

For extractions, the first Reader File record read by the P9CNVT program is the Machine Parameter Record.

Extraction from some CYBMST file members, such as C.P0PRGM and the pay document programs, requires that you type a program parameter in positions 26 through 28 of the Machine Parameter Record.

Note: Extracting COBOL programs for the IBM DOS platform requires the coding of SYS numbers on the Machine Parameter Record.

The chart below lists the Machine Parameter Record layout for extracting CYBMST members.

Position	Description
1-12	Comment area. You can use this area to identify the purpose of this transaction or the name of the program, generator, or subroutine the run is accessing.
13-25	Machine parameters. These codes identify the computer, operating system, and compiler, so that P9CNVT can customize the programs and generators appropriately. These parameters are required.
26-28	Program indicators. Entries in this area may identify the COBOL program being selected. The program indicators may affect the extraction of certain report generators, such as 6767 and 6868.
29-33	Not currently used.

Position	Description
34-80	Source computer name. For all systems except IBM DOS, this field contains the computer name in the format appropriate for the SOURCE-COMPUTER/OBJECT-COMPUTER statements of the COBOL program being selected.

The beginning of the P9CNVT program shows comments containing Machine Parameter Records for all machines. See the comments for your platform.

Member selection

Following the Machine Parameter Record are one or more sets of transactions selecting one or more members for extraction. Each set contains a minimum of a header record and a trailer record. You may place override records between the header and trailer records.

In CYBMST terms, an override is a change made to a source member during an extraction from CYBMST. The source member is not altered. Only the extracted copy of the member is affected by the change. The P9CNVT diagnostic report indicates that an override has been performed.

The following table shows the header record format for extracting members.

Character	Description
+	Time is typed as hours and minutes on time entries. P2EDIT converts to hours and tenths.
1-3	spaces
4-5	**
6	space
7	member type
T	text; non-source information, such as copyright and version information
R	report generator source logic
C	COBOL source
A and B	machine language source
8	. (period)
9-75	member name
76-80	spaces

The following table shows the trailer record format for extracting members.

Position	Description
1-3	spaces
4-9	999999
10-80	spaces

Performing extractions

When a report generator is changed and you update the Sequential Master File, you extract that report generator from the CYBMST file.

You may also have to extract and recompile the COBOL programs if they have been changed.

Extracting Report Generators

Report Generators are composed of two members, a sort and a format, which must always be extracted together. The sort member always precedes the format member.

The name of the member to be extracted and the sort are preceded by two asterisks and one space. Following each member name is a delineator record of six 9s (999999). Lines begin in position 4.

The following example shows a Reader File (P05RDR) for a sample extraction. This Reader File directs the P9CNVT program to extract T.BATCH, followed by report generators 0202 and 5H5Z. The T.ZZBATCH member contains the batch transaction necessary for the processing of report generator input by the P2EDIT program.

```
         1         2         3         4         5         6         7         8
12345678901234567890123456789012345678901234567890123456789012345678901234567890
TEST        |ISEV@              MICRO-FOCUS
   ** T.ZZBATCH
   999999
   ** R.SRT02
   999999
   ** R.RPT02
   999999
   ** R.SRT5H
   999999
   ** R.RPT5Z
   999999
```

If you are processing more than one member in a single extract job, members must appear in the Reader File in the same sequence in which they exist on CYBMST.

If you wanted to extract the same members, but with an override to R.RPT02, the P05RDR file would look like the following example:

```
12345678901234567890123456789012345678901234567890123456789012345678901234567890
         1         2         3         4         5         6         7         8
TEST        |ISEV@               MICRO-FOCUS
   ** T.ZZBATCH
   999999
   ** R.SRT02
   999999
   ** R.RPT02
   R702070*       THIS IS A TEST COMMENT.
   999999
   ** R.SRT5H
   999999
   ** R.RPT5Z
   999999
```

The P9CNVT Activity Report would show the override being performed as the members were being extracted to FILE1, as shown in the following example:

```
 P9CNVT ACTIVITY REPORT (P9CNVT LAST COMPILED FROM P.U.B. 37.00)12/12/1997
11:33:07
 MACHINE PARAMETER:>TEST        |ISEV@        MICRO-FOCUS             <
 *** UPDATE LISTING FOR    ** T.ZZBATCH
 *** UPDATE LISTING FOR    ** R.SRT02
 *** UPDATE LISTING FOR    ** R.RPT02                                2
 ADDED         R702070*       THIS IS A TEST COMMENT.
 *** UPDATE LISTING FOR    ** R.SRT5H                                0
 *** UPDATE LISTING FOR    ** R.RPT5Z
```

Extracting COBOL programs

Programs P2EDIT, P4CALC, and O4CALC are all stored in a single CYBMST member called C.P0PRGM. Program P5PRNT is stored in member C.P5PRNT.

When extracting these programs from CYBMST, you must tell P9CNVT which program you want. Do this with the Program Indicator in positions 26 through 28 of the Machine Parameter Record.

The Program Indicator codes are listed in the following table:

Program	CYBMST member	Program Indicator
P2EDIT	C.P0PRGM	2
P4CALC	C.P0PRGM	4
O4CALC	C.P0PRGM	24
P5PRNT	C.P5PRNT	5
P5W2PR	C.P5W2PR	5
P9CNVT	C.P9CNVT	none

Expansions

The use of EXPAND records in the Reader File (P05RDR) read into the P9CNVT program allows you to increase the size of certain data areas in the P2EDIT, P4CALC, and O4CALC programs. With this procedure, you create EXPAND records with approximate expansion amounts. The P9CNVT program then calculates the precise expansion and applies it to the appropriate variables as it extracts the source program. Do not confuse the use of EXPAND records with the Expand Areas in CBSV Programs form.

EXPAND records expand the programs listed in the chart below. The Expand Areas in CBSV Programs form expands the CBSVO and CBSVB programs. You can expand the areas listed in the chart below using the EXPAND record procedure.

Area	Program name	Description	Delivered size[1]
RPT20	P2EDIT/O4CALC	List of valid transactions and organizations	500 entries
REPORT BATCH	P4CALC	Loaded report generator logic	65K
REPORT ONLINE	O4CALC	5H5Z[2] and method code generators	32K
PAYER	P4CALC/O4CALC	Organization information	32K
TAX	P4CALC	Tax specification information	14K
EMPLOYEE	P4CALC/O4CALC	Employee information	24K
AREAW	P4CALC	W miscellaneous data	400 entries

[1] For initial release of PUB38 on a 4 bit computer.

[2] A report generator which controls the O4CALC program when running an online pay calculation.

EXPAND record format

When creating an EXPAND record, you must type the area name exactly as listed in the previous area chart.

You may expand as many areas as needed and enter the EXPAND records in any sequence, as long as they follow the Machine Parameter Record and precede the C.P0PRGM record.

In its diagnostic report, the P9CNVT program identifies the original record as Orig and the changed version as Expand.

The following table lists the EXPAND record format.

Position	Description
1-6	EXPAND (literal string)
8-23	Name of Area being expanded - left justify.

Position	Description
25-29	Number of additional entries for RPT20 and AREAW. For other areas, it is the number of positions by which to increase the area; right justify, zero fill.
30	De-expand switch.
31-80	spaces

Using EXPAND transactions

A line at the end of the Loaded/Not Loaded portion of the Payroll Audit Trail (0101) report identifies the positions left in each of the P4CALC program's expandable areas.

A sample report is shown on the opposite page.

If you have more information for any of these areas than the system is capable of storing, an error message and possible abnormal termination will result.

If any of the printed values is less than 2000, you should consider expanding the appropriate area as shown in the area size chart later in this section.

The Payroll Audit Trail (0101) report does not provide information on the RPT20 and REPORT ONLINE areas. The RPT20 area must be large enough to contain system generator format R.RPT20.

Payroll Audit Trail

```
                                                PAYROLL AUDIT TRAIL    REPT                    FILE VERSION    PAGE     2
                                                                         0101                    TIME 12:10 DATE 03/24/2002
CC   EMPLOYEE IDENT-   FLD FIELD              FIELD OR CARD CONTENTS         CARD  MESSAGE                          BATCH    CARD
      NUMBER  IFIER    NBR NAME                                              COLS.                                  NBR.     NBR.
R09091 1234   C                  LOADED                      ALL FREQ. TAX FILING RPT                        02/11/02 17:12:52
R09696       7   O T             NOT LOADED                  T4 SLIPS GOV. 1992                              02/11/02 17:12:52
R09999       7   O T             NOT LOADED                  RELEVE 2 SLIPS                                  02/11/02 17:12:52
R09E9E       7CT                 LOADED                      MASTER FILE STATUS (US)                         02/11/02 17:12:52
R09I9I       7     T             NOT LOADED                  T4 PROOF LIST                                   02/11/02 17:12:52
R09J9J       7     T             NOT LOADED                  T4 TAPE                                         02/11/02 17:12:52
R09K9K       7     T             NOT LOADED                  REL2 PROOF LIST                                 02/11/02 17:12:52
R09N9N       7   O               LOADED                      INSURABLE EARNINGS                              02/11/02 17:12:52
R09O9O       7     T             NOT LOADED                  T4A PROOF LIST                                  02/11/02 17:12:52
R09P9P             Q             NOT LOADED                  9T9T TOTALS REPORT                              02/11/02 17:12:52
R09Q9Q       7   O T             NOT LOADED                  NR4B SLIPS                                      02/11/02 17:12:52
R09T9T       7C  O Q             NOT LOADED                  STATE QUARTERLY TAPE                            02/11/02 17:12:52
R09U9U       7   O               LOADED                      RECORD OF EMPLOYMENT                            02/11/02 17:12:52
R09V9V       7   O T             NOT LOADED                  RELEVE 1 SLIPS                                  02/11/02 17:12:52
R09W9W       7     T             NOT LOADED                  RELEVE 1 PROOF LIST                             02/11/02 17:12:52
R09X9X       7     T             NOT LOADED                  RELEVE 1 TAPE                                   02/11/02 17:12:52
R09Z9Z       7   O T             NOT LOADED                  T4A SLIPS - 1992                                02/11/02 17:12:52
POSITIONS LEFT IN DATA AREAS - REPORT AREA  26,892 PAYER AREA     424 TAX AREA  10,696 EMPLOYEE AREA  4,636 AREAW      648
```

Determining the size of area

Determining the size of the REPORT ONLINE area is handled online.

Steps for this determination are outlined below.

1. Execute the following menu action:

Actions ► Enter Command

2. Type DSP02 in the Program field.
3. Type START in the Key field.
4. Click on OK or press Enter.

A form returns displaying the generators in the Employee Database.

At the end of the generator display is an informational line stating the size of all online report generators.

```
 CSSS <0005( (      (DSP02 (  (          (              )12:09:00 05-27 XXXX
LNGTH 3.+....1....+....2....+....3....+....4....+....5....+....6....+....7....+
02633 ....0A..................................................................
00701 ....0G                                    NNNYY NNYNNN1NNNN NN
00073 ....0O 000  AA5H5ANRCY02....0O 000  AA5H5ANRCY02....0O 0   ZO000000002Z
01059 ....0P                                      REJECT- MASTER NOT ON FILE
01409 ....17  0119  515820    205154500BATCH           INCORRECT  NON NUMERICNA
02909 ....18000ERROR - NOT DEFINED       001ERROR - NOT DEFINED      002ERROR
01749 ....19100IF                       IF 140SET H TO-DATE UP 1     HUP141SET H
00315 ....20CAJ880899CAK358364CAL820823CCX874879CDG722725CPA601619CPB626639CP C6
03209 ....21CONTROL 1      1 8   +     02003CONTROL 2      1 8   +     04005EMP
03209 ....22TAX TYPE       2J8J  14    01001TAX NUMBER     1J8J  +     06002TAX
03209 ....23TOTAL HEADING  1S8S1 +     15000STAGGER TOTALS 1S8S1 16NY 01000PAG
03209 ....24PAYER BANK CODE1C8AFY+     02003RESERVED       1C8AF      08005FLS
03209 ....25                 8         00000                 8         00000
03209 ....26                 8         00000                 8         00000
03209 ....27MARITAL STATUS 2L8PA 16    01003WORK AREA CODE 2L8PA +     03004WOR
03209 ....28LITIGATION CODE2LKPR 03    01040OSHA CODE      2LKPR 01    01041CLA
03209 ....29DATA TYPE-TABLE1W9WASFA    02001KEY DEFINE     1W9WA +     19003SUB
00049 ..5G.....1                              ..    ..
00053 ..5H...(                                     ...
02697 ..5H5Z..MN1)..[.[.[.[.[.[.[.[.[.[.[.[.[.[...BCN06 .x.@.....Y0A...v..0P...
       2,799 TOTAL LENGTH OF ALL 5G/5H GENERATORS
```

The delivered system requires a minimum of 2750 positions in the REPORT ONLINE area. This represents the combined lengths of report generators SRT5G, SRT5H, and RPT5Z.

To expand an area, do the following:

1. Enter an EXPAND record immediately following the Machine Parameter Record, as shown in the examples on the following pages.
   - Specify the area being expanded and the number of characters by which to expand. For the RPT20 and AREAW areas, use the number of occurrences. The P9CNVT program makes any necessary minor adjustments to the amounts you type.
2. Once you have expanded, keep the EXPAND records in your override file.

Due to constraints on certain platforms, you may find it necessary to make certain areas smaller. The system limits area de-expansion.

The following table shows the maximum reduction values.

AREA	DE-EXPANSION LIMIT
AREAW	48 entries
EMPLOYEE	21168 characters
PAYER	25956 characters
RPT20	47 entries
TAX	11980 characters

If, due to compiler restrictions, you are making an area smaller, place a minus sign in position 30 of the EXPAND record to subtract the amount from the original size.

Sample EXPAND records

The sample layout below shows the EXPAND records set to decrease the EMPLOYEE area by 2520 positions, increase the PAYER area by 799 positions, and increase the RPT20 area by 99 occurrences.

```
         1         2         3         4         5         6         7         8
12345678901234567890123456789012345678901234567890123456789012345678901234567890
O4CALC      LI45VSEPCYd  24      VAX-11.
EXPAND EMPLOYEE         02520-
EXPAND PAYER            00799
EXPAND RPT20            00099
   ** C.P0PRGM
   999999
```

The P9CNVT Activity Report sample on the next page corresponds to these transactions. Notice that when necessary, P9CNVT has recalculated the expansion amounts.

In the next example, the EXPAND transactions are set to increase AREAW by 21 occurrences, decrease the EMPLOYEE area by 2520 positions, increase the REPORT BATCH area by 5200 positions, and increase the TAX area by 25,000 positions.

```
1         2         3         4         5         6         7         8
12345678901234567890123456789012345678901234567890123456789012345678901234567890
P4CALC      OP           4       IBM-370.
EXPAND AREAW            00021
EXPAND EMPLOYEE         02520-
EXPAND REPORT BATCH     05200
EXPAND TAX              25000
   ** C.P0PRGM
   999999
```

The P9CNVT listing corresponding to these EXPAND transactions is shown on the next page. Notice that when necessary, the P9CNVT program has recalculated the expansion amounts.

P9CNVT Activity Report

```
P9CNVT ACTIVITY REPORT (P9CNVT LAST COMPILED FROM VERSION 5.1)                                                    11/21/2003 15:25:21
MACHINE PARAMETER: O4CALC      |ISEV@           24      MICRO-FOCUS
          EXPAND EMPLOYEE         02520-                                                  OK
          EXPAND PAYER            00799                                                   MULTIPLE OF 252 REQUIRED. USING   756
          EXPAND RPT20            00099                                                   OK
*** UPDATE LISTING FOR    ** C.P0PRGM
ORIG      4  015790     05  HOLD-PAYEE                PIC X(24192).
EXPAND       015790     05  HOLD-PAYEE                PIC X(21672).
ORIG      4  016682     10  FILLER                    PIC X(26000).
EXPAND       016682     10  FILLER                    PIC X(26756).
ORIG      4  016690     10  PYR-RECORD-BODY PIC X(252) OCCURS 00128 TIMES
EXPAND       016690     10  PYR-RECORD-BODY PIC X(252) OCCURS 00131 TIMES
ORIG      4  016710     10  PYR-ISAM-BODY   PIC X(240) OCCURS 00134 TIMES
EXPAND       016710     10  PYR-ISAM-BODY   PIC X(240) OCCURS 00137 TIMES
ORIG      4  016720     10  FILLER                    PIC X(00087).
EXPAND       016720     10  FILLER                    PIC X(00123).
ORIG      4  016730    08  B-ENTRY   OCCURS 00384 TIMES INDEXED BY B-INDEX B-INDEX-2.
EXPAND       016730    08  B-ENTRY   OCCURS 00393 TIMES INDEXED BY B-INDEX B-INDEX-2.
ORIG      4  016820    08  C-ENTRY   OCCURS 00384 TIMES INDEXED BY C-INDEX C-INDEX-2.
EXPAND       016820    08  C-ENTRY   OCCURS 00393 TIMES INDEXED BY C-INDEX C-INDEX-2.
ORIG      4  016860    08  D-ENTRY   OCCURS 01152 TIMES INDEXED BY D-INDEX D-INDEX-2.
EXPAND       016860    08  D-ENTRY   OCCURS 01179 TIMES INDEXED BY D-INDEX D-INDEX-2.
ORIG      4  016930       15  TCOND1 OCCURS 01007 TIMES.
EXPAND       016930       15  TCOND1 OCCURS 01030 TIMES.
ORIG      4  016938       15  TCOND2 OCCURS 01111 TIMES.
EXPAND       016938       15  TCOND2 OCCURS 01136 TIMES.
ORIG      4  016942         15  FILLER                PIC X(00005).
EXPAND       016942         15  FILLER                PIC X(00016).
ORIG      4  016945       10  FILLER                    PIC X(00023).
EXPAND       016945       10  FILLER                    PIC X(00043).
ORIG      4  016970  10 1-CHAR PIC X OCCURS 32256 TIMES INDEXED BY CC-INDEX.
EXPAND       016970  10 1-CHAR PIC X OCCURS 33012 TIMES INDEXED BY CC-INDEX.
ORIG      4  017177       15  FILLER                    PIC X(30744).
EXPAND       017177       15  FILLER                    PIC X(31500).
ORIG      4  017640     10  FILLER                    PIC X(21672).
EXPAND       017640     10  FILLER                    PIC X(19152).
ORIG      4  018225  05  1-CHAR  REDEFINES PAYEE-AREA PIC X OCCURS 24192 TIMES
EXPAND       018225  05  1-CHAR  REDEFINES PAYEE-AREA PIC X OCCURS 21672 TIMES
ORIG      4  018240         OCCURS 00096 TIMES INDEXED BY ER-INDEX.
EXPAND       018240         OCCURS 00086 TIMES INDEXED BY ER-INDEX.
ORIG      2  021285         15  EXPAND-RPT20           PIC X(00432).
EXPAND       021285         15  EXPAND-RPT20           PIC X(01323).
ORIG      2  021315         OCCURS 00051 TIMES INDEXED BY USER-INDEX.
EXPAND       021315         OCCURS 00150 TIMES INDEXED BY USER-INDEX.
```

In the next example, the EXPAND transactions are set to increase AREAW by 21 occurrences, decrease the EMPLOYEE area by 2520 positions, increase the REPORT BATCH area by 5200 positions, and increase the TAX area by 25,000 positions.

```
1         2         3         4         5         6         7         8
12345678901234567890123456789012345678901234567890123456789012345678901234567890
P4CALC      OP           4       IBM-370.
EXPAND AREAW            00021
EXPAND EMPLOYEE         02520-
EXPAND REPORT BATCH     05200
EXPAND TAX              25000
   ** C.P0PRGM
   999999
```

The P9CNVT listing corresponding to these EXPAND transactions is shown on the next page. Notice that when necessary, the P9CNVT program has recalculated the expansion amounts.

In the next example, the EXPAND transactions are set to increase AREAW by 21 occurrences, decrease the EMPLOYEE area by 2520 positions, increase the REPORT BATCH area by 5200 positions, and increase the TAX area by 25,000 positions.

```
1         2         3         4         5         6         7         8
12345678901234567890123456789012345678901234567890123456789012345678901234567890
P4CALC      OP           4       IBM-370.
EXPAND AREAW            00021
EXPAND EMPLOYEE         02520-
EXPAND REPORT BATCH     05200
EXPAND TAX              25000
   ** C.P0PRGM
   999999
```

The P9CNVT listing corresponding to these EXPAND transactions is shown on the next page. Notice that when necessary, the P9CNVT program has recalculated the expansion amounts.

P9CNVT Activity Report - Expand continued

```
P9CNVT ACTIVITY REPORT (P9CNVT LAST COMPILED FROM VERSION 5.1)                                                    11/21/2003 15:25:21
MACHINE PARAMETER: O4CALC      |ISEV@       24      MICRO-FOCUS                                                  EXPAND EMPLOYEE         02520-OK
          EXPAND PAYER            00799                                                  MULTIPLE OF 252 P9CNVT Listing
P9CNVT ACTIVITY REPORT (P9CNVT LAST COMPILED FROM P.U.B. 35.03)                                                    11/21/2003 15:35:37
MACHINE PARAMETER: P4CALC      OP           4       IBM-370.
          EXPAND AREAW            00021                                                  OK
          EXPAND EMPLOYEE         02520-                                                 OK
          EXPAND REPORT BATCH     05200                                                  OK
          EXPAND TAX              25000                                                  OK
*** UPDATE LISTING FOR    ** C.P0PRGM
ORIG       4  015790     05  HOLD-PAYEE                PIC X(24192).
EXPAND        015790     05  HOLD-PAYEE                PIC X(21672).
ORIG       4  016095     07  EXPAND-TAX                PIC X(12000).
EXPAND        016095     07  EXPAND-TAX                PIC X(32767).
EXPAND        016095     07  EXPAND-TAX                PIC X(04233).
ORIG       4  016615     05  W-ENTRY  OCCURS 00050 TIMES INDEXED BY W-INDEX W-INDEX-2.
EXPAND        016615     05  W-ENTRY  OCCURS 00071 TIMES INDEXED BY W-INDEX W-INDEX-2.
ORIG       4  017640     10  FILLER                    PIC X(21672).
EXPAND        017640     10  FILLER                    PIC X(19152).
ORIG       4  018225  05  1-CHAR  REDEFINES PAYEE-AREA PIC X OCCURS 24192 TIMES
EXPAND        018225  05  1-CHAR  REDEFINES PAYEE-AREA PIC X OCCURS 21672 TIMES
ORIG       4  018240         OCCURS 00096 TIMES INDEXED BY ER-INDEX.
EXPAND        018240         OCCURS 00086 TIMES INDEXED BY ER-INDEX.
ORIG       4  018345     04  D-ACTIVE OCCURS 06500 TIMES
EXPAND        018345     04  D-ACTIVE OCCURS 07020 TIMES
```

Report loading and selecting

Report generators reside on the Sequential Master File, preceding all organization and employee data.

One of the first tasks that the P4CALC program performs is to read any newly-entered generators from the Valid Transactions File and any generators stored on the Sequential Master File.

Loading report programs with the H2 transaction

The P4CALC program determines which generators will be available for use during the current run by analyzing the Run Select Code in the H2 transaction and in each generator's R0 transaction.

The H2 transaction is shown on the first page of the Payroll Audit Trail report, followed by the R0 transaction for each report generator residing on the Sequential Master File.

A generator is available for use for the following:

- The Run Select code in its R0 transaction is zero.
- The Run Select codes in the R0 and H2 transactions are equal.
- The Run Select code in the R0 transaction is blank, and no H2 transaction is used or the Run Select Code in the H2 transaction is blank.

Every generator available for use in the Sequential Master File is listed on the Payroll Audit Trail (0101) report, followed by the word Loaded. Generators not available for use are also listed, followed by the words Not Loaded.

When a generator is loaded, the P4CALC program copies the formatting information to the extract file, P40OUT, for use by the P5PRNT program.

The following sample Payroll Audit Trail (0101) report shows Loaded and Not Loaded report generators.

During a normal payroll or maintenance run, position 16 of the H2 transaction must be blank.

A value in position 16 loads any special report generators to be executed. Make an entry in position 16 only when we send specifications to do so.

The H2 record position 16 value interacts with the R0 record position 20 value to determine whether a report generator is Loaded or Not Loaded.

The chart below shows the relationship between these two values to determine whether or not a report generator is to be loaded into working storage.

R0 POSITION 20 (RUN SELECT CODE)	H2 POSITION 16
0 (zero) (always loaded)	any value
blank or alpha character	matching value only
1 - loaded one time only (not written to output Master File)	any value

Selecting reports with the P4 transaction

Once a report generator is loaded, you may select it for any or all of the organizations on the Sequential Master File.

To select a generator you must enter, or have previously entered, a Report Requests form (DD-SCR).

The Payroll Audit Trail (0101) report also lists all reports selected for a company. Each report has either Selected or Not Selected printed after it.

Only selected reports are executed.

The following Payroll Audit Trail report sample shows selected reports.

You may select a generator by a variety of methods. In each case, the entry in the Report Select field on the Report Requests form (DD-SCR) is compared to entries made in the Payroll Run Process Control form (AE-SCR) or a P4 transaction.

The P4 is an optional transaction that the P4CALC program may access in the P05RDR file. This record affects all organizations during the payroll run.

☞ *Refer to* **The Payroll System** *(on page 371) for an example of the P4 transaction.*

If the Report Select field entry matches any of positions 3 through 80 of the P4 transaction, the report is selected.

If no P4 transaction is present or positions 3 through 18 of the P4 transaction are blank, the report is selected if the following conditions occur:

- This is a payroll run and the entry in the Report Select field of the Report Requests form is numeric and less than or equal to the entry in the Reporting Type field of the Payroll Run Process Control form.
- This is a payroll run and the entry in the Report Select field of the Report Requests form matches an entry in the Report Select field of the Payroll Run Process Control form.

During a normal payroll or maintenance run, the P4 transaction generally remains blank. You can use this record to override or add to the Payroll Run Process Control form Report Select options.

Entries in positions 3 through 18 of the P4 transaction override the Payroll Run Process Control form Report Select options. The only report programs selected are those with a Report Select field entry on the Report Requests form that matches a value in positions 3 through 18 on the P4 transaction.

The value you type in positions 19-80 of the P4 transaction is matched with a corresponding selection in the Report Select field on the Report Requests form to determine which additional report generators are to be selected.

The P4 transaction is not organization-specific. Any entries in the P4 record cause the P4CALC program to process all organizations on the Sequential Master File, selecting generators currently Loaded with the appropriate Report Requests form entries.

You can schedule and run non-payroll-run reports according to your needs. For example, you may set up a reporting package using the R0, H2, and P4 transactions so that the generators are loaded only when you want to use them.

☞ *Refer to the Implementation Essentials documentation for information about the Payroll Run Process Control form and its relationship to the Report Requests form.*

Selected reports and the P4CALC program

Once you select a report, the system passes control to that report generator whenever it encounters a record that contains the type of data requested on the Report Requests form (DD-SCR).

This occurs if any of the fields on the Report Requests form following the Report Select field contains an option that is less than or equal to the option in the Reporting Type field on the Payroll Run Process Control form (AE-SCR).

If the Report Requests form asks for more than one kind of data, it is possible for a generator to receive control more than once for a given record.

Control passing to a generator means that the report generator handling portion of the P4CALC program runs that generator. It may select or reject records, build extract records containing selected data, and write the records to the Extracted Report Records File (P40OUT).

The data select requests will function only if the report generator's R0 transaction has a code in the corresponding position.

The P45SORT utility program sorts the extract file, and the sorted file becomes input to the P5PRNT program.

The extracted information that a generator creates arrives behind the formatting information previously written by the P4CALC program.

The P5PRNT program finishes the job by producing the desired output files and reports.

Producing reports

In summary, reports are produced in a three-step phase.

These steps are:

- The P4CALC program creates and writes extract records.
- The P45SORT utility program sorts the extract records.
- The P5PRNT program formats and produces the output file or report.

PART 6

Maintaining Reporting Administration

In This Section

Administering Reporting Administration 461

CHAPTER 20

Administering Reporting Administration

In This Chapter

Introduction 462
Extraction/Insertion overview.....464
Extraction of system changes.....474
Data mart 475
Delivered Impromptu catalogs setup 477
Analytics.....478
Detailed Directions.....480
Review of Questions answered.....507

Introduction

Before successful reporting can take place between the client computer running Cognos Impromptu and PowerPlay, and the server running The Solution Series, you must retrieve the information from The Solution Series and place it in the data mart.

This section guides you through the processes required for getting the data to the Impromptu users.

Tasks

This section explains the following:

- Extract core system data - full extract
- Extract core system data - incremental extract
- Extract labor and history data
- Define parameters for the Reporting Admin FILE08 Extract Report
- Select the core system extract components
- Configure the labor and history extract
- Initiate core system data extraction from the command prompt
- Initiate core system data extraction using a scheduler
- Initiate core system data extraction online
- Initiate labor and history data extraction using a scheduler
- Initiate labor and history data extraction from the command prompt
- Initiate labor and history data extraction online
- Initiate core system changes data extraction from the command prompt
- Initiate core system data extraction using a scheduler
- Display the Replication Holding File (FILE08)
- Maintain the Replication Holding file (MNTF08)
- Maintain the Replication Holding file (MNTF08) online
- Back up Reporting Administration components
- Recover core system extract
- Recover labor and history extract

Prerequisites

Before you can successfully perform the tasks described in this section, you must have:

- Installed Reporting Administration on the server
- Installed Cognos Impromptu on the client computer(s)
- Installed Cognos PowerPlay on the client computer(s)
- Configured the client computer(s) to point to the relational tables (data mart) resulting from the extraction process

☞ *Refer to the Installing and Configuring Reporting Administration guide for instructions on performing these tasks on your computer platform.*

- Attended the Cognos administrator classes for Impromptu and PowerPlay

Questions answered

The following questions are answered in this section:

1. What are the three stages of the extraction/insertion process?
2. How do the Core System and Labor and History extractions differ?
3. What is a data mart?

Extraction/Insertion overview

Data is extracted from The Solution Series and is loaded into the data mart via a temporary system file, the Data-mart Extract File (FILE36).

There are three extract/import processes you can perform, depending on the type of data you want—core system, Labor and History, system changes. The core system extraction copies data from the System Control Repository and Employee Database and places the copied data in the Data-mart Extract File. A COBOL program, the Data-mart Extract File Splitter (RSPLIT), creates separate files for every representative table, with the Data-mart Extract File as input. An SQL script generated by the extract process truncates (empties) the target data mart table via an SQL interpreter and a bulk loader then loads the data from the tables created by the splitter program into the data-mart table. A full core system extract runs this process on the entire Employee Database, while an incremental core system extract runs the process only for the changed data in the Employee Database. As delivered, an incremental extract can be run only for the Employee Database and does not apply to Position Administration or company data.

Note: *The incremental extract facility is for North American systems only.*

The Labor and History extraction is a payroll-related process. It employs an incremental extraction strategy by accessing the Batch Master File (FILE02) twice, the first time to extract records into the Data Mart Extract File (FILE36) and the second time to mark the extracted records so they will not be extracted again. The Data Mart Extract File Splitter creates separate files for every representative table, with the Data Mart Extract File as input. A bulk loader then loads the data from these tables into the data mart table.

System changes are extracted from FILE01 by the program RAUDIT, which time stamps FILE01. The next time you run the program, only the changes made subsequent to the time stamp are extracted. The information extracted includes the date and time, the operator, the segment, and the old and new values for the field. A utility loads the data into the four catalogs.

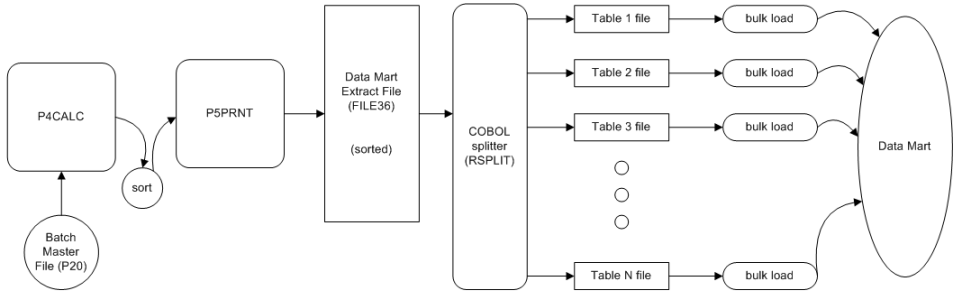
Stage 1: Extract

Core system extraction

Core system extraction is done using two different algorithms.

The majority of the data is extracted using REPORT, while the Position Administration (PM) process, which is incompatible with REPORT, derives the Position Administration data.

The following figure depicts core system extraction:



A command line script is initiated and stage 1 extraction begins. CBSV is started and reads the commands it is to perform from FILE04. You can initiate this script three ways:

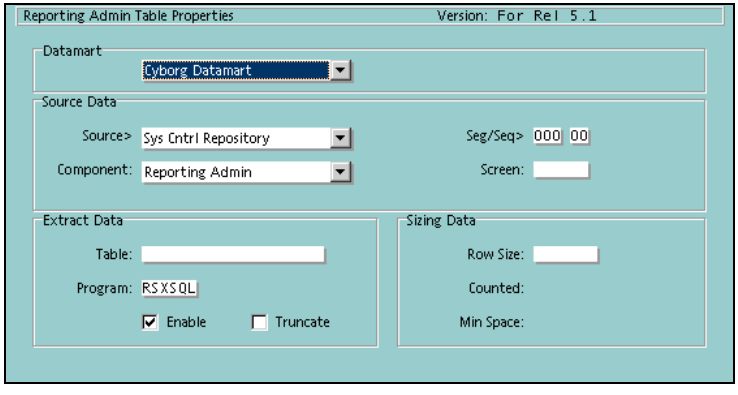
- From the command prompt
- Using a scheduler
- Online using the Launch Data mart HR Data Extract (HRDTCR) form (if Enhanced Payroll and Reporting capabilities have been installed)

Note: Enhanced Payroll and Reporting capabilities (the Report Launcher and Process Monitor) are installed on the client, but there is some server setup for menu additions. Enhanced Payroll and Reporting is available for Windows and UNIX platforms only.

The first extract step in FILE04 is to run the REPORT program (RSXRPT).

The System Control Repository contains a table listing names of extraction routines to run, approximately one routine per Reporting Administration table. This table contains information about each routine, including whether or not its data is flagged to be extracted.

The data mart administrator can modify this list (turning on/off or adding/subtracting routines) through the Reporting Administration Table Properties form (RSXSCR):



Note: *The Reporting Administration Table Properties form is intended for use by the data mart administrator only. Detailed knowledge of the architecture of The Solution Series and the data model is required to use this form. Attending the Customizing Reporting Administration class is recommended in order to fully understand the use of this form.*

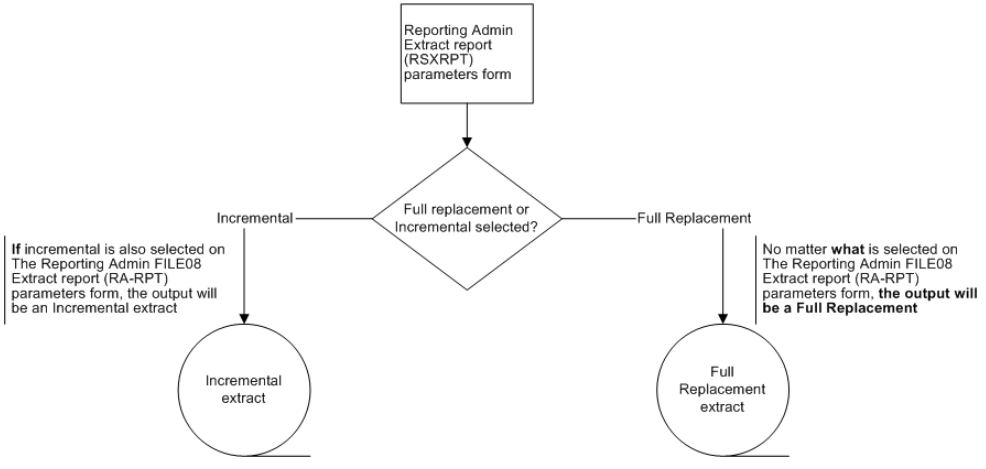
The RSXRPT program reads this list and loops through it, executing each Cyborg Scripting Language (CSL) routine that is turned on.

The CSL routines are designed to extract all data necessary to populate their target Reporting Administration table and write it to the Data Mart Extract File (FILE36), in the order in which the corresponding columns occur in the target data mart table.

Once RSXRPT completes, the next step in FILE04 will cause CBSV to derive the Position Administration information and append it to the Data Mart Extract File (FILE36).

After all CSL routines (turned on in the list) have been executed, a small sort routine is executed on the Data Mart Extract File (FILE36) to group records by data mart table, and stage 1 is completed.

The designation of Full Replacement on the parameter for the Reporting Admin Extract report (RSXRPT) form dictates the type of extract that will be performed.



See also:

- Extracting core system data - full extract ***(on page 481)***
- Extracting core system data - incremental extract ***(on page 482)***
- Initiating core system data extraction from the command prompt ***(on page 490)***
- Initiating core system data extraction using a scheduler ***(on page 491)***
- Initiating core system data extraction online ***(on page 492)***

For detailed directions on extracting core system data.

Incremental core system extraction

An incremental core system extraction basically follows the same process as a full extraction, but includes a few preceding steps to determine which employee data has changed and needs to be loaded into the data mart.

Note: The incremental extract facility is for North American systems only.

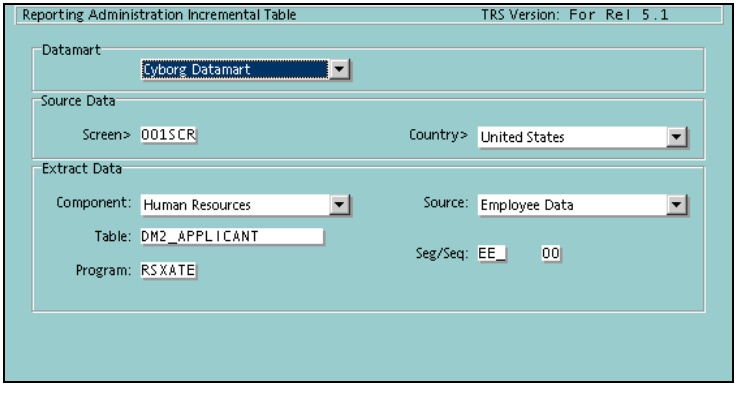
Prior to the first incremental extract, the following must be established:

- System Options (SCOPTS)—the Reporting Administration Incremental checkbox must be selected so that the changes made between extracts are recorded in the Replication Holding File (FILE08).
- Reporting Administration Incremental Table (RAISCR)—establish the task list for the incremental data mart extraction. This form is similar to the Reporting Admin Table Properties form (RSXSCR), which is used with a full extract. The system is delivered with entries for all employee tables included in the data mart. Access this form to create entries for any additional employee tables or any customized tables created for your system.

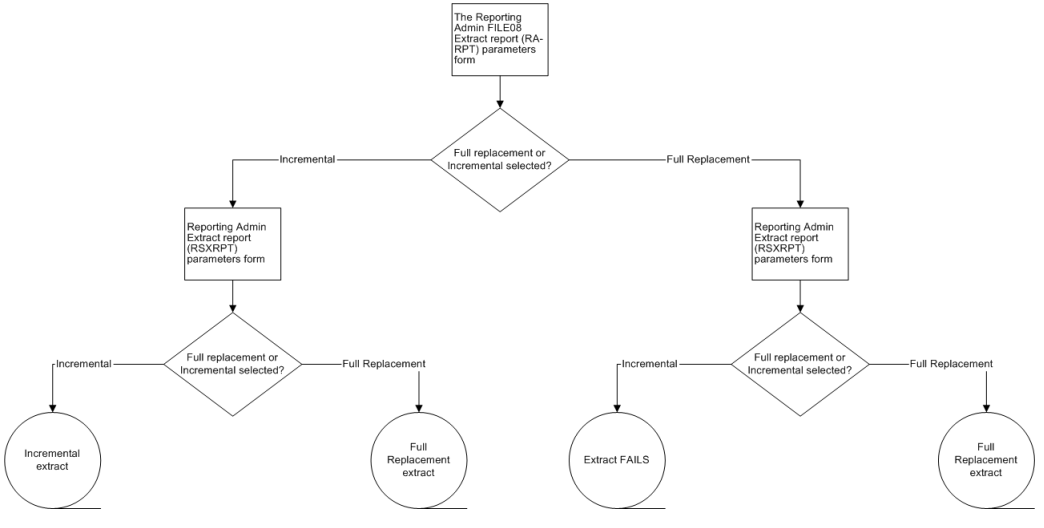
The difference between a full and incremental extract process is that the Reporting Admin FILE08 Extract Report (RA-RPT) is run prior to the incremental extraction and the

Reporting Administration Incremental Table (RAISCR) is used instead of the Reporting Admin Table Properties form (RSXSCR).

The Reporting Admin FILE08 Extract Report (RA-RPT) reads the records in the Replication Holding File (FILE08) and produces a FILE10, which is renamed to FILE05 for use as input to the incremental extraction routine. The Reporting Administration Incremental Table (RAISCR) calls the extract routines appropriate for an incremental extract. As with the Reporting Admin Table Properties form (RSXSCR) for full extracts, the data mart administrator can modify this list (turning on/off or adding/subtracting routines) as needed:



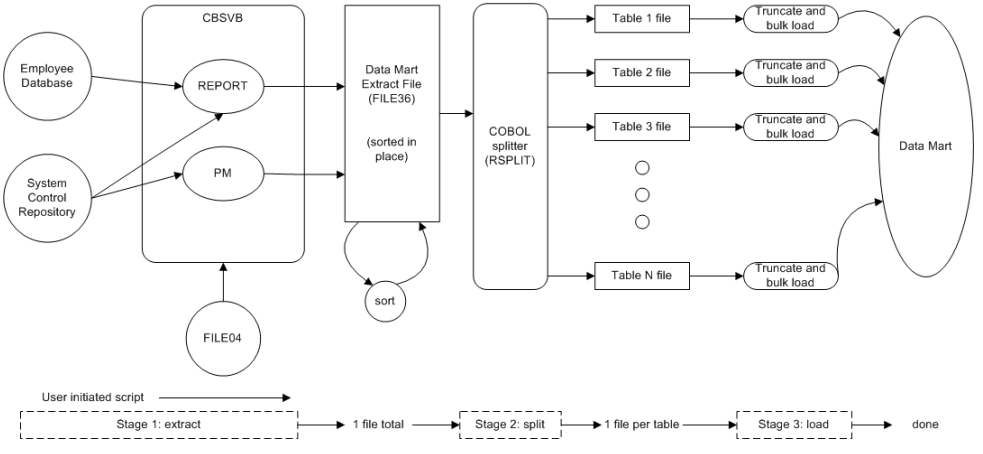
The combination of a designation of Incremental on the parameters for The Reporting Admin FILE08 Extract report (RA-RPT) **and** Reporting Admin Extract report (RSXRPT) forms dictate whether or not an incremental extract will be performed. Incremental must be selected on both parameter forms in order for an incremental extract to be created.



Labor and History extraction

A payroll-related process initiates a script and stage 1 extraction begins.

In the following figure, Labor and History extraction is depicted:



Rather than extracting Labor and History data from the Employee Database, it is extracted from the Batch Master File (P20) using the Report Generator (RG) routine: the data mart Labor and History Extract (7E7E). You can initiate this routine three ways:

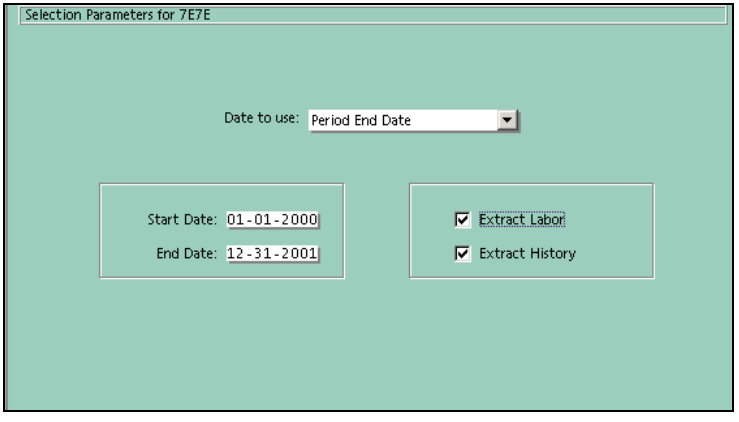
- From the command prompt
- Using a scheduler
- Online using the Launch Datamart History and Labor Extract (HLDTCR) form (Windows and UNIX platforms only)

The P4CALC and P5PRNT programs are run in sequence over payroll data, writing new Labor and History records to the data mart Extract File, and stage 1 is completed.

There is sometimes a problem when there is not enough space when running the generator to extract for Reporting Administration.

The 7E7E generator reads a WFLD7E7E transaction and only processes those records that fall within the dates on the transaction or to process only labor or only history records.

The Selection Parameters for 7E7E form (RSPSCR) was created to enter the WFLD7E7E transaction:



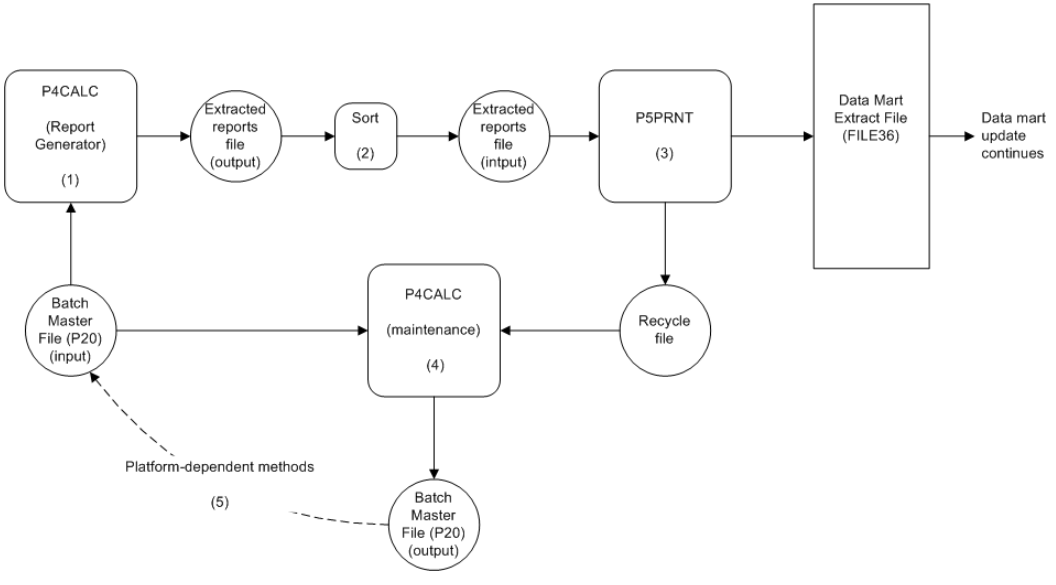
If there is no WLFD7E7E transaction the generator extracts all records not previously extracted.

Note: *If a "FILE SIZE TOO LARGE" message is displayed during P45SORT, too much labor/history data is being extracted. The Selection Parameters for 7E7E form (RSPSCR) should be used to enter parameters to selectively extract the data within date ranges.*

This process may have to be run multiple times based on the amount of labor and/or history on P20.

If no WL transaction is entered, all labor/history not marked as already extracted will be extracted.

The following figure depicts Stage 1 of the Labor and History extract process:



The following steps occur in sequence as the main part of stage 1 of each Labor and History extraction:

1. P4CALC uses the Report Generator function to process the Batch Master File, extracting all new, unmarked Labor and History records (these are ones that have not been previously extracted) into an Extracted Reports output file.
2. The Extracted Reports output file is sorted into the Extracted Reports input file.
3. P5PRNT processes the Extracted Reports input file, writing all extracted records to the data mart Extract File for the data mart update and creating a recycle file so that these newly extracted records can be later marked in the Batch Master file.

Note: At this point, stages 2 and 3 of Labor and History extraction can proceed independently to complete the (re)population of the data mart.

4. P4CALC, in a maintenance cycle, processes the recycle file and Batch Master input file, marking the recently extracted records and writing the complete, updated Batch Master file contents to the Batch Master output file.
5. The Batch Master output file is migrated back to be the next Batch Master input file through platform dependent methods.

At this point, all steps for stage 1 of Labor and History incremental extraction are completed.

Note: The incremental extract facility is for North American systems only.

See also:

- Extracting labor and history data ***(on page 483)***
- Configuring the labor and history extract ***(on page 488)***
- Initiating Labor and History data extraction from the command prompt ***(on page 494)***
- Initiating Labor and History data extraction using a scheduler ***(on page 493)***
- Initiating Labor and History data extraction online ***(on page 495)***

For detailed directions on extracting Labor and History data.

Core System versus Labor and History extraction

Labor and History extraction differs in several ways from core system extraction.

For example, Labor and History extraction uses payroll-related processes rather than CBSV and the System Control Repository and Employee Database to extract Solution Series data. This is because the nature and location of Labor and History records, primarily contained within static data in the Batch Master File, make it very difficult to do otherwise.

The static nature of most Labor and History records also leads to the other main difference from core system extraction. Since a company's Labor and History records build linearly with time, and once created hardly ever change except to add new ones, a strategy to incrementally extract only the newly created records is an absolute necessity.

Normally, Labor and History extraction employs an incremental strategy by accessing the Batch Master File twice during extraction activities, the first time to actually extract records and the second time to mark the just accessed records so they are not extracted again.

On occasion you may wish to extract all labor and history data, regardless of whether or not they have been previously extracted. You would do this using the "ALL" feature in the User Field on the Report Request form (DD-SCR) when you set it up to run the 7E7E.

Apply the Concept

What are the two main types of extracts and what are the differences between them?

Stage 2: Split

The data being output to The Data mart Extract File (FILE36) is not in an appropriate form for the bulk loaders. This file therefore needs to be split into separate files after it has been sorted.

The splitting process is very simple. A COBOL program is run, taking the Data mart Extract File (FILE36) as input and creating a separate file for each target Reporting Administration table, with all the data intended for that table properly formatted for loading into Reporting Administration through bulk loader methods.

This process is the same for both core system and Labor and History extractions.

Stage 3: Load

The loading process is also very simple. For each table file, a bulk loader is run that uses platform-specific configuration information found in a separate format file.

There is one format file for each table file.

An SQL script generated by the extract process is run to truncate (empty) the target Reporting Administration table prior to bulk loading. When all table files are bulk loaded, the (re)population of the data mart is complete.

Stage 3 of Labor and History extraction is similar to those for core system extraction. Since Labor and History extraction is incremental, however, there are two differences in the stage 3 processing:

- Data extracted for the first time is bulk loaded without first truncating the target table.
- Data which was extracted due to change is placed in a separate file so that it can be used to update the target table.

Extraction of system changes

Running the RAUDIT program extracts data changes from FILE01, and a utility loads the data into your catalogs. Using Cognos Impromptu, you can then filter, sort, group, and produce reports of system change data. The data exists for changes made down to the field level and details who made the change.

Run RAUDIT

Before running the RAUDIT program to extract data changes from FILE01, be sure that you have checked "Incremental" in the Reporting Adm area of the System Options form (SCOPTS). When you run RAUDIT, the program:

- Reads the changes from FILE01 and writes the date and time the file was read to the file.
- Sorts the data into an internal table and extracts data from FILE08.
- Outputs a sequential file to FILE10, displaying old and new values for changed FILE02 fields. Each field is a record.
- Applies the option list description (in the appropriate language) to records where the field contained an option list.
- A utility in the job loads the information into Datamart tables.

Using the FILE04 Control Record you can have RAUDIT print the information as it extracts it from FILE08. You can also use this record to manually set the date at which RAUDIT extracts information from FILE08. When you enter a date/time in positions 9 to 27 on the control record, the program extracts data changes made after that date.

Remember to periodically run the Replication Management Program (DSCL08) to purge FILE08. This program purges only data 30 days older than the oldest distribution date.

See Also:

- Initiating core system data extraction from the command prompt ***(see "Initiating core system data extraction using a scheduler" on page 491)***
- Initiating core system data extraction using a scheduler ***(on page 491)***
- Initiating core system data extraction online ***(on page 492)***

For detailed instructions on running the RAUDIT program to extract system changes and load the information into the Data Mart.

Data mart

The extract process automatically (re)populates the data mart.

The data mart is a relational database on the server that contains tables populated by the enhanced data. The Reporting Administration data mart consists of approximately 172 tables containing the following data:

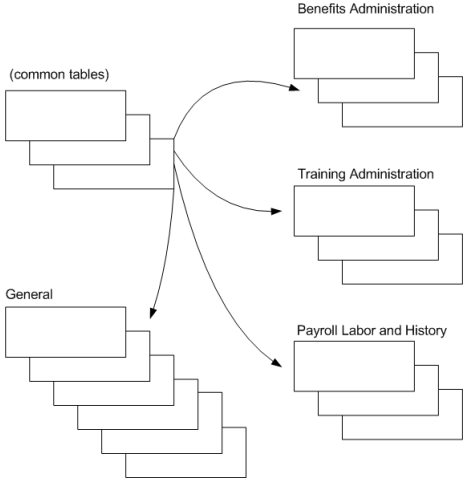
- Company Information
- Employee Information
- Position Administration Information
- Employee Skills and Competencies
- Applicant Tracking Data
- Labor and History Records
- Training Administration
- Employee Earnings and Deductions
- Benefits Administration
- System Changes

It is organized into 34 sub-models and a collection of common tables. The four main components are:

- General
- Payroll Labor and History
- Training Administration
- Benefits Administration

☞ *Refer to the Workforce Data Mart Data Model, Overview of the Data Model for detailed information on the sub-models.*

The following figure shows the general data-mart organization.



When the data is extracted from The Solution Series, Reporting Administration is able to automatically populate its tables, making the data immediately available for users to report upon.

If the data mart remains on the server at the location the data was extracted to, it will be overwritten each time an extract is performed, which means these files (if not moved) always contain the most current extract data.

Note: *The database administrator is responsible for maintaining the data mart. Users will create views of the data, based on effective dates they enter when using Impromptu, but these views are dynamic and unique to each user, and are not the responsibility of the database administrator.*

A spreadsheet, the Reporting Administration Catalog Cross Reference, which shows the data elements of the data mart and catalogs is available on the Customer Center and can be downloaded. This tool is delivered in a soft copy format so you can add data elements or re-sort it to meet your needs. If you choose to print it, it will have to be done on legal paper size to get the formatting to show correctly. Any data element marked DATA MART ONLY is an element that will only be shown in the Administrator's folders. There is a tab for the filters, since they can be copied into another folder if needed.

☞ *Refer to The Solution Series Data Model and the Workforce Data Mart Data Model for more details on the data elements.*

Delivered Impromptu catalogs setup

There are several ways to set up an Impromptu catalog.

The delivered catalogs are distributed catalogs. This means they reside on the Impromptu administrator's computer and the administrator makes them available to other users.

The Cognos Impromptu administrator configures different levels of security (user classes) for different types of users, presenting only the information appropriate for an Impromptu user's specific security class.

Users may create their own reports with the data from the catalogs, but do not have the authority to change it since The Solution Series restricts users to a read-only version of the catalog files.

The Impromptu administrator should use distributed copies of the delivered catalogs. This way, you can receive and apply future enhancements without affecting any custom folders you may have set up in the catalogs for your organizational or personal use. You can then distribute copies of your customized version of the catalogs to your users however you see fit (as "shared", "secured", or "distributed").

Note: *We recommend that you create a secured folder into which you copy the delivered catalogs prior to making any customization.*

☞ *Refer to the Customizing Reporting Administration documentation for further details on customizing catalogs. This documentation is only available to those attending the Customizing Reporting Administration class due to the complexity of customizing Reporting Administration.*

Analytics

eCyborg Analytics refers to the web-based capabilities offered through Cognos' PowerPlay Web product. Customers can access their analytics cubes anywhere, anytime through a browser. eCyborg 5.0 featured two delivered PowerPlay models (cubes): one for Position Administration and one for non-Position Administration data; these cubes are currently offered with Reporting Administration.

eCyborg 5.1 Analytics seeks to further enhance an organization's ability to measure and analyze the performance of their employees by offering three, possibly four, new analytics models. These cubes will be created using PowerPlay. Once created, the models are able to be viewed via PowerPlay Web. When data is updated, users must refresh the cube data using PowerPlay (at the Client level). This cannot be done using PowerPlay Web as it is a read-only application.

The delivered models are:

- Turnover Analysis
- Time Away (Absence) Analysis (North America only)
- Work Related Injury Analysis

Analytics cubes

- **Turnover Analysis Model**—allows an organization to evaluate its turnover from a number of different employee, organizational structure and occupation perspectives. Analysis can be performed on the employee demographics of gender, age, and length of service. Analysis can also be performed against structural elements of the organization such as organization units, jobs, and positions. The reasons that employees are leaving can be evaluated against these elements to pinpoint problem areas and areas of success.

- **Time Away (Absence) Analysis Model (North America only)**—allows an organization to evaluate its absenteeism as an employee relations or relationship management metric. Determining whether absenteeism is increasing or decreasing is important and being able to pinpoint segments of high absenteeism to determine the root cause of this absenteeism is the first step in determining most effective corrective initiatives.

- **Work Related Injury Analysis Model**—provides an organization with the ability to evaluate the work-related injury history from the perspective of severity and frequency. The alternate drill-down paths from Injury Category through to the specific injury description allow the user to evaluate severity along with the additional measures of number of days lost and number of days restricted. This evaluation can be performed for the organization as a whole or down through the organizational structure to pinpoint problem areas and areas that are showing improvement. Employee demographics of age, sex and length of service can be evaluated in relation to the other dimensions. Occupations groups, jobs and positions add more dimensions for analysis.

- **Compensation Change Analysis Model**—allows the organization to evaluate changes in monetary compensation specific salary, bonuses, commissions and monetary

perquisites. It allows the monetary compensation factors to be analyzed from a number of different employee, organizational structure and occupation perspectives. Analysis can be performed on the employee demographics of gender, age, and length of service. Analysis can also be performed against structural elements of the organization such as organization units, jobs and positions.

☞ *Refer to the Using Reporting Administration and Analytics documentation for more information about Analytics.*

Detailed Directions

This section provides detailed directions on completing a business task.

Tasks

Extracting core system data - full extract 481
Extracting core system data - incremental extract 482
Extracting labor and history data 483
Defining parameters for the Reporting Admin FILE08 Extract Report 484
Selecting the core system extract components 486
Configuring the labor and history extract 488
Initiating core system data extraction from the command prompt 490
Initiating core system data extraction using a scheduler 491
Initiating core system data extraction online 492
Initiating labor and history data extraction using a scheduler 493
Initiating labor and history data extraction from the command prompt 494
Initiating labor and history data extraction online 495
Initiating core system changes data extraction from the command prompt 496
Initiating core system data extraction using a scheduler 497
Displaying the Replication Holding File (FILE08) 498
Maintaining the Replication Holding file (MNTF08) 499
Maintaining the Replication Holding file (MNTF08) online 501
Backing up Reporting Administration components 503
Recovering core system extract 504
Recovering labor and history extract 505

Extracting core system data - full extract

To create a full replacement extract, always run the JRSXRPT script—even if you generally run incremental extracts. It is a good idea to run a full extract from time to time. The files created from the full and incremental extracts are named differently, so performing a full extract periodically ensures backup of your data.

1. Select extract components

This step is accomplished by configuring the report parameters for the Reporting Admin Extract report (RSXRPT) form.

☞ *Refer to* **Selecting the core system extract components** *(on page 486) for detailed instructions.*

The designation of Full Replacement on the parameter for the Reporting Admin Extract report (RSXRPT) form dictates the type of extract that will be performed.

2. Extract core system data

There are three ways to perform the extract command, depending on your platform, environment, and implementation.

- Command prompt (see ***Initiating core system data extraction from the command prompt*** (on page 490))
- Scheduler (see ***Initiating core system data extraction using a scheduler*** (on page 491))
- Online (see ***Initiating core system data extraction online*** (on page 492)) (Windows and UNIX only, and only if Enhanced Payroll and Reporting capabilities have been installed)

3. Back up Reporting Administration components

When you have an extract, it is a good time to save a backup of the relevant components, in case you ever need to restore data.

☞ *Refer to* **Backing up Reporting Administration components** *(on page 503) for detailed instructions.*

Extracting core system data - incremental extract

Two scripts are delivered to run the extraction of data from The Solution Series and import it to the Reporting Administration—JRSXRPT and JRSXRPTI. The JRSXRPTI script contains programming to perform an incremental extract.

Note: The incremental extract facility is for North American systems only.

1. Set up the report parameters for FILE08 extract

FILE08 keeps tabs on the adds, changes, and deletes performed against the data in your system. By configuring the report parameters for The Reporting Admin FILE08 Extract report (RA-RPT) to perform an Incremental extract, the system is notified that it will be using the data on FILE08.

☞ *Refer to* **Defining parameters for the Reporting Admin FILE08 Extract Report** *(on page 484) for detailed instructions.*

2. Select extract components

This step is accomplished by configuring the report parameters for the Reporting Admin Extract report (RSXRPT) form.

☞ *Refer to* **Selecting the core system extract components** *(on page 486) for detailed instructions.*

To run an incremental extract you must run the JRSXRPTI script. The combination of a designation of Incremental on the parameters for The Reporting Admin FILE08 Extract report (RA-RPT) **and** Reporting Admin Extract report (RSXRPT) forms dictate whether or not an incremental extract will be performed. Incremental must be selected on both parameter forms in order for an incremental extract to be created.

3. Extract core system data

There are three ways to perform the extract command, depending on your platform, environment, and implementation.

- Command prompt (see ***Initiating core system data extraction from the command prompt*** (on page 490))
- Scheduler (see ***Initiating core system data extraction using a scheduler*** (on page 491))
- Online (see ***Initiating core system data extraction online*** (on page 492)) (Windows and UNIX only, and only if Enhanced Payroll and Reporting capabilities have been installed)

4. Back up Reporting Administration components

When you have an extract, it is a good time to save a backup of the relevant components, in case you ever need to restore data.

☞ *Refer to* **Backing up Reporting Administration components** *(on page 503) for detailed instructions.*

Extracting labor and history data

The data extracted is taken from the P20, rather than the Employee database. Depending on how much labor and history data you may have on your P20 payroll batch master file, there may not be enough space when running the generator to extract labor and history for Reporting Administration.

The 7E7E generator reads a WFLD7E7E transaction and only process those records that fall within the dates on the transaction or to process only labor or only history records. The Selection Parameters for 7E7E form (RSPSCR) creates the WFLD7E7E transaction.

1. Configure the 7E7E report generator (optional)

If there is no WLFD7E7E transaction, the generator extracts all records not previously extracted.

If you want to limit the number or type of records to be extracted, configure the WLFD7E7E transaction by entering selections on the Selection Parameters for 7E7E form (RSPSCR)

☞ *Refer to* **Configuring the labor and history extract** *(on page 488) for detailed instructions.*

2. Extract labor and history data

There are three ways to perform the extract command, depending on your platform, environment, and implementation.

- Command prompt (see ***Initiating Labor and History data extraction from the command prompt*** (on page 494))
- Scheduler (see ***Initiating Labor and History data extraction using a scheduler*** (on page 493))
- Online (see ***Initiating Labor and History data extraction online*** (on page 495)) (Windows and UNIX only, and only if Enhanced Payroll and Reporting capabilities have been installed)

3. Back up Reporting Administration components

When you have an extract, it is a good time to save a backup of the relevant components, in case you ever need to restore data.

☞ *Refer to* **Backing up Reporting Administration components** *(on page 503) for detailed instructions.*

Defining parameters for the Reporting Admin FILE08 Extract Report

The Reporting Admin FILE08 Extract Report (RA-RPT) is run to create a listing of the employee data that has changed since the last extract.

Note: *The incremental extract facility is for North American systems only.*

To define parameters for the Reporting Admin FILE08 Extract Report (RA-RPT), follow these steps:

1. Access the Report Group Activities form (RGMSTR)

Access the Report Group Activities form by making the following menu selection:

Component: Reporting
Process: Report Scheduling
Task: Schedule Report Groups

2. Select the Reporting Admin File08 Extract (RA-RPT)

From the Report list, select Reporting Admin File08 Extract (RA-RPT).

3. Click Set Parameters

Click Set Parameters to access the parameters form for the Reporting Solution Extract Report.

4. Select the Data mart

Select a data mart to determine which data will be written from the Data mart option list. The values are populated from the Data mart Name (RS03) option list.

5. Select the Database

Select a database management system from the Database option list. The values are populated from the Database Type (RS01) option list.

6. Indicate if you want the extract to start over at the beginning of FILE08

Select the New Starting Key checkbox to extract all of the employee records in the Replication Holding file (FILE08), regardless of whether those records were previously extracted. Leaving the checkbox blank causes the extract to begin with the last record read during the previous incremental extract. The last record processed displays at the bottom of the form.

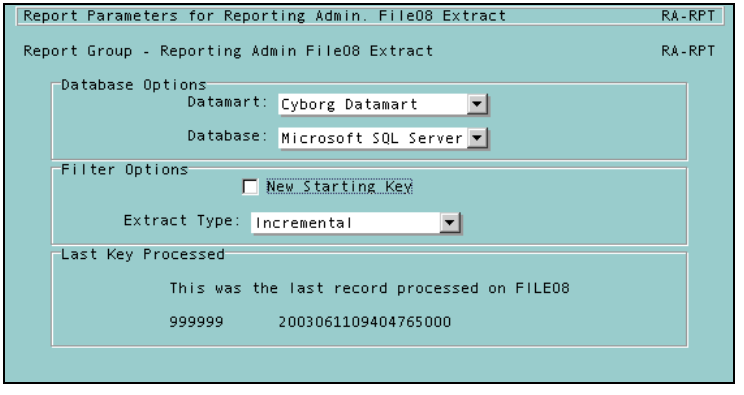
7. Select the Extract Type

Choose whether you are preparing to run the report for an incremental extract or a full replacement.

8. Click Save or press Enter

Click Save to accept the changes and be returned to the previous form.

If you completed the previous steps, your form should look similar to the example that follows:



See also:

- Extraction/Insertion overview ***(on page 464)***

For more information on the extraction process.

Selecting the core system extract components

Use the Report Parameters for Reporting Administration Extract Report form (RSXRPT) to select which Solution Series components are extracted.

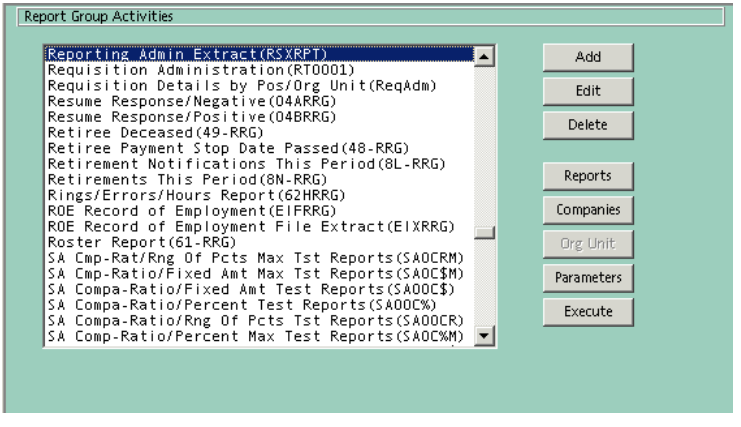
Note: This form is generally configured during installation. Take care when amending this form, as you may not get the data you expect in the extract if you de-select a module.

Note: You should not need to revisit this configuration unless you want to create multiple, separate data marts or to switch between an incremental and full replacement extraction.

1. Access the Report Group Activities form

Access the Report Group Activities form by making the following menu selection:

Component: Reporting
Process: Report Scheduling
Task: Schedule Report Groups



2. Select Reporting Admin Extract (RSXRPT)

From the Report list, select Reporting Administration Extract (RSXRPT) and click Parameters.

The Parameter Selection for Reporting Administration Extract form (RSXRPT) will display.

3. Click Set Parameters

Click Set Parameters.

The Report Parameters for the Reporting Administration Extract Report form (RSXRPT) will display.

4. Select data mart

Select the name of the data mart to receive the extracted data.

Normally you would only have one data mart, but it is possible to have more than one. An example would be a live data mart and a test data mart.

5. Select database

Select the target database to receive the extracted data and SQL. This is needed so that the appropriate SQL scripts are created.

6. Select module options

Select any Administrative Solution modules that are to be included in the data extract. The extract process is faster if you turn off modules which are not part of your installed system.

7. Specify cut-off date

Data superceded prior to the date specified in this text box will not be extracted. It should be in the format of MM-DD-CCYY or CCYYMMDD (US and Canada) or DD-MM-CCYY or CCYYDDMM (elsewhere).

Note: This is only applicable for full extracts and does not apply to Position Administration data.

8. Select an Extract Type

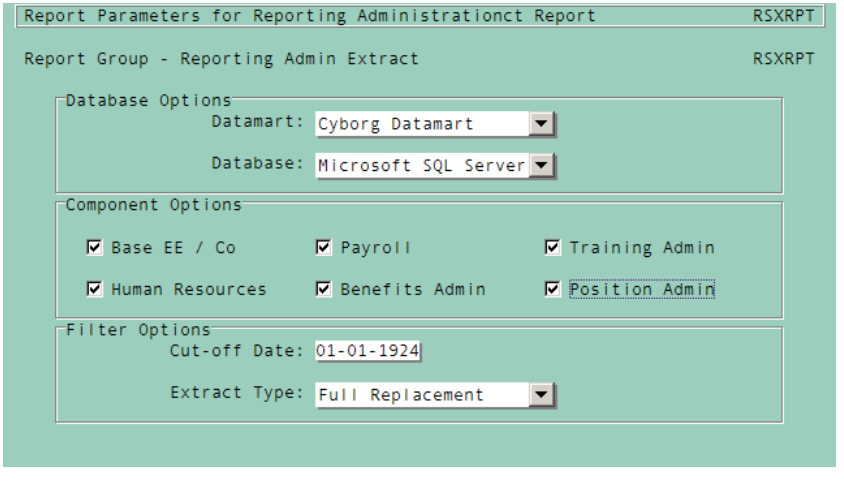
Choose whether you are preparing to run the report for an incremental extract or a full replacement.

Note: The incremental extract facility is available on North American systems only.

9. Press Enter

The parameters for the extract have now been set.

If you completed the previous steps, the results should look similar to the example that follows:



See also:

■ Extraction/Insertion overview ***(on page 464)***
For more information on the extract process.

Configuring the labor and history extract

Use the Selection Parameters for 7E7E form (RSPSCR) to process those records that fall within the dates on the transaction or to process only labor or only history records.

1. Access the Selection Parameters for 7E7E form (RSPSCR)

Selection Parameters for 7E7E form (RSPSCR) by making the following selections from the Navigator:

Component: Reporting Administration
Process: Reporting Administration
Task: Selection Parameters for 7E7E

2. Select the date to use

Select the date to use when refining the date selection. Options include: Change Date, Payment Date, Period End Date, and No Date Range.

3. Enter the start date

Enter the beginning date of the comparison. It should be in the format of MM-DD-CCYY or CCYYMMDD (US and Canada) or DD-MM-CCYY or CCYYDDMM (elsewhere).

4. Select the end date

Enter the beginning date of the comparison. It should be in the format of MM-DD-CCYY or CCYYMMDD (US and Canada) or DD-MM-CCYY or CCYYDDMM (elsewhere).

5. Indicate if you want labor data

If you want the extract to include labor data, select the checkbox.

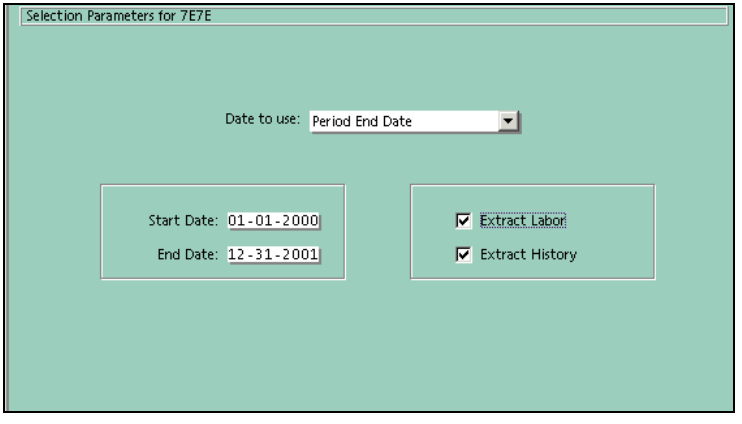
6. Indicate if you want history data

If you want the extract to include history data, select the checkbox.

7. Press Enter

The parameters for the extract have now been set.

If you completed the previous steps, the results should look similar to the example that follows:



See also:

- Extraction/Insertion overview ***(on page 464)***

For more information on the extract process.

Initiating core system data extraction from the command prompt

To extract the core system data from the command prompt, follow these steps:

1. Access extract scripts

Access the command prompt and go to the *n*:\e*Cyborgxx*\Runs directory, where *n* is the drive, and e*Cyborgxx is* the directory on which the extract script is stored, and "*xx*" represents the version of The Solution Series you are using.

2. Execute extract

If you are running an incremental extract, at the command prompt, type:

```
jrsxrpti > \log\jrsxrpti.log
```

Note: The incremental extract facility is for North American systems only.

OR

At the command prompt, type the command above, or type:

```
jrsxrpt > \log\jrsxrpt.log
```

3. Press Enter

The extract batch file will run, calling the splitter and bulk load programs, and the data mart will be created.

4. Verify extract

If the batch job has successfully run there will be no errors in the following log files:

- *n*:\e*Cyborgxx*\Log\jrsxrpt.log (or jrsxrpti.log)

In addition, there should be no ".bad" files with non-zero sizes in the *n*:\e*Cyborgxx*\BCPERR directory.

See also:

- Core system extraction ***(on page 465)***

For more information on core system extraction.

- Performing a full Reporting Administration extract - online JRSXRPT ***(on page 924)***

To learn how to use a UK administration script to run a full data extraction

Initiating core system data extraction using a scheduler

If your system has a scheduler installed, the batch job could be scheduled to run automatically at a particular time, for example overnight.

1. Decide extract schedule

Decide on a schedule for the extract process, for example once a week, overnight on a Wednesday, but before the Labor and History extraction is scheduled to run.

Note: Be sure to notify users of your data mart extract schedule as they must make reporting decisions depending on when they need data and how close to "live" it must be.

2. Log onto the server

Log onto the server using an account with administrator privileges.

3. Schedule job

Using your operating system's scheduler, schedule jrsxrpt.bat, or jrsxrpti.bat if running both incremental and full extracts, to run on the days and times previously identified.

Note: The incremental extract facility is for North American systems only.

4. Verify extract

Verify the extract after it has been run. If the batch job has successfully run there will be no errors in the following log files:

- *n*:\e*Cyborgxx*\Log\jrsxrpt.log
- *n*:\e*Cyborgxx*\Log\jrsxsplt.log
- *n*:\e*Cyborgxx*\Log\jrsxload.log

In addition, there should be no ".bad" files with non-zero sizes in the *n*:\e*Cyborgxx*directory.

See also:

- Core system extraction ***(on page 465)***

For more information on core system extraction.

Initiating core system data extraction online

You can launch the core system extract online using the Launch Datamart HR Data Extract form (HRDTCR). (Windows and UNIX only, and only if Enhanced Payroll and Reporting capabilities have been installed.)

Note: You must run a full extract if launching the script online.

1. Access the Launch Datamart HR Data Extract form (HRDTCR)

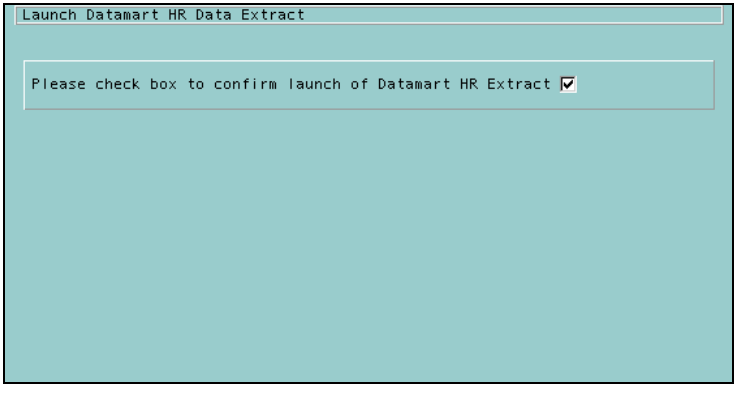
Access this form by making the following selections from the Navigator:

Component: Reporting Administration
Process: Reporting Administration
Task: Extract and Load HR Data into Datamart

2. Select the confirmation checkbox

Click the checkbox to confirm the launch of the core system extract.

If you completed the previous steps, the resulting form should look similar to the example that follows:



3. Click Save or press Enter

The extract is launched. You can access the Process Monitor to watch the progress of the run.

See also:

- Core system extraction ***(on page 465)***

For information about core system extraction.

Initiating labor and history data extraction using a scheduler

If your system has a scheduler installed, the batch job could be scheduled to run automatically at a particular time, for example, overnight.

1. Decide extract schedule

Decide on a schedule for the extract process, for example, once a week overnight on a Wednesday, but after the core system extraction is complete.

Note: Be sure to notify users of your data mart extract schedule as they must make reporting decisions depending on when they need data and how close to "live" it must be.

2. Log onto the server

Log onto the server using an account with administrator privileges.

3. Schedule job

Using your operating system's scheduler, schedule jrsxpay.bat to run on the days and times previously identified.

4. Verify extract

Verify the extract after it has been run. If the batch job has successfully run there will be no errors in the *n*:\e*Cyborgxx*\Log\jrsxpay.log log file.

In addition, there should be no ".bad" files with non-zero sizes in the *n*:\e*Cyborgxx*\BCPERR directory.

See also:

- Labor and History extraction ***(on page 469)***

For more information on Labor and History extraction.

Initiating labor and history data extraction from the command prompt

To extract the Labor and History data from the command prompt, follow these steps:

1. Access extract scripts

Access the command prompt and go to the *n*:\e*Cyborgxx*\Runs directory, where *n* is the drive, and e*Cyborgxx* is the directory on which the extract scripts are stored.

"xx" represents the version of The Solution Series you are using.

2. Execute extract

At the command prompt, type:

```
jrsxpay > \log\jrsxpay
```

3. Press Enter

Press Enter.

The extract batch file will run, calling the splitter and bulk load programs, and the data mart will be created.

4. Verify extract

If the batch job has successfully run there will be no errors in the *n*:\e*Cyborgxx*\Log\jrsxpay.log log file.

In addition, there should be no ".bad" files with non-zero size in the *n*:\e*Cyborgxx*\BCPERR directory.

"xx" represents the version of The Solution Series you are using.

See also:

- Labor and History extraction ***(on page 469)***

For more information on Labor and History extraction.

Initiating labor and history data extraction online

You can launch the Labor and History extract online using the Launch Datamart History and Labor Extract form (HLDTCR). (Windows and UNIX only, and only if Enhanced Payroll and Reporting capabilities have been installed.)

1. Access the Launch Datamart History and Labor Extract form (HLDTCR)

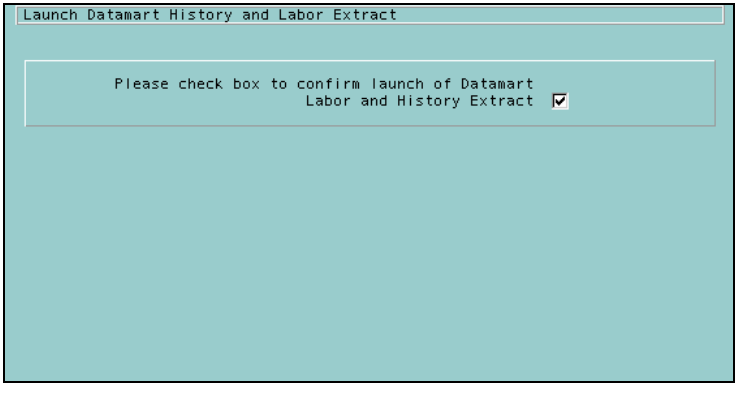
Access this form by making the following selections from the Navigator:

Component: Reporting Administration
Process: Reporting Administration
Task: Load Hist and Labor Data into Datamart

2. Select the confirmation checkbox

Click the checkbox to confirm the launch of the extract.

If you completed the previous steps, the resulting form should look similar to the example that follows:



3. Click Save or press Enter

The extract is launched. You can access the Process Monitor to watch the progress of the run.

See also:

- Core system extraction ***(on page 465)***

For information about core system extraction.

Initiating core system changes data extraction from the command prompt

To run RAUDIT and extract the system change data, acess the command prompt and follow these steps:

1. Access extract scripts

Access the command prompt and go to the *n*:\e*Cyborgxx*\Runs directory, where *n* is the drive, and e*Cyborgxx is* the directory on which the extract script is stored, and "*xx*" represents the version of The Solution Series you are using.

2. Execute extract

At the command prompt, type:

```
jraudit > \log\jraudit.log
```

3. Press Enter

The extract batch file will run, and the utility will load the data into the Data Mart.

4. Verify extract

If the batch job has successfully run there will be no errors in the following log file:

- *n*:\e*Cyborgxx*\Log\jraudit.log

In addition, there should be no ".bad" files with non-zero sizes in the *n*:\e*Cyborgxx*\BCPERR directory.

See also:

- ***Extraction of system changes***

For more information on extracting system changes data.

Initiating core system data extraction using a scheduler

If your system has a scheduler installed, the batch job could be scheduled to run automatically at a particular time, for example overnight.

1. Decide on the extract schedule

Decide on a schedule for the extract process, for example once a week, overnight on a Wednesday.

2. Log onto the server

Log onto the server using an account with administrator privileges.

3. Schedule job

Using your operating system's scheduler, schedule jraudit.bat to run on the days and times previously identified.

4. Verify extract

Verify the extract after it has been run. If the batch job has successfully run there will be no errors in the following log file:

- *n*:\e*Cyborgxx*\Log\jraudit.log

In addition, there should be no ".bad" files with non-zero sizes in the *n*:\e*Cyborgxx*directory.

See also:

■ ***Extraction of system changes***
For more information on extracting system changes data.

Displaying the Replication Holding File (FILE08)

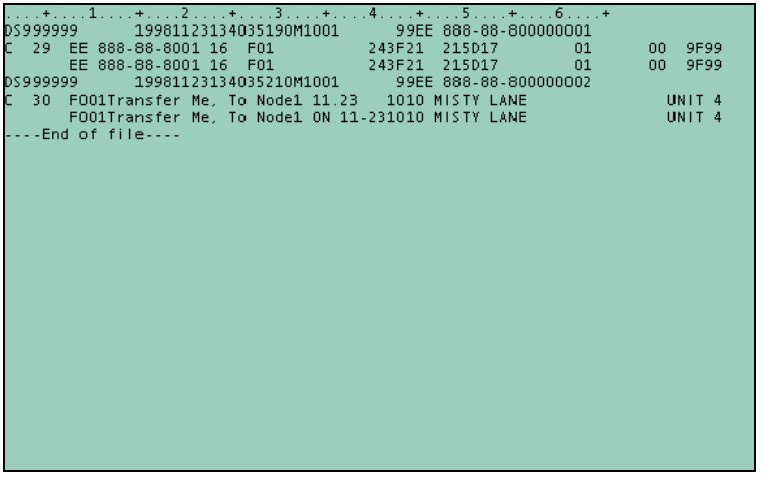
Use this form to display the status of the Replication Holding File (FILE08).

Access the Display Replication Holding File form (DSP08)

Access this form by making the following selection from the Navigator:

Component:		Distributed Administration
Process:		Display Replication Holding File
Task:		Display Replication Holding File

Changes to option lists and tables, as well as payroll, company, and employee information are displayed:



Maintaining the Replication Holding file (MNTF08)

Note: Although the form is available and the process can be run online, we recommend it be run in a batch background process (for optimal performance).

Run the Replication Maintenance Program as part of your regularly scheduled maintenance. Retention parameters are used against the current date on the server. The retention parameters are subtracted from the current date and a work date is computed. The work date is then compared against the dates previously processed by Distributed Administration UDS3 and Reporting Administration VRAI records. The lesser of the two dates is used in the purge process. Accordingly, the Replication Holding File (FILE08) is purged of any records older than allowed.

Note: A Reporting Administration incremental extract or a Distributed Administration replication must have previously taken place or the system will not purge FILE08.

1. Create a Replication Maintenance Program (MNTF08) control record in FILE04

Control record format:

In these positions	Enter	Description
23–28	MNTF08	Program name
31–32	YY	Number of years you want to retain data (for example, for 1 year, enter "01") Valid entries = 0–99
33	blank	leave this position blank
34–35	MM	Number of months you want to retain data (in addition to the number of years in positions 31–32) (for example, for 1 year+4 months, enter "01" in positions 31–32 and "04" in positions 34–35) Valid entries = 0–12
36	blank	leave this position blank
37–38	DD	Number of days you want to retain data (in addition to the number of years in positions 31–32 and months in positions 34–35) (for example, for 1 year+4 months+3 days, enter "01" in positions 31–32, "04" in positions 34–35, and "03" in positions 37–38) Valid entries = 0–31
39–41	blank	leave this position blank

In these positions	Enter	Description
42	Y or N	Flag for Distributed Administration if you want the computed work date to be compared against Distributed Administration replication dates and UDS records.
43	blank	leave this position blank
44	Y or N	Flag for Reporting Administration Incremental Extract if you want the computed work date to be compared against Reporting Administration incremental extract dates and VRAI records.
45	blank	leave this position blank

Note: The least amount of time you may configure is a single day. Thus, the Replication Holding File (FILE08) will always contain at least one day's records.

Examples:

1 year, 4 months, 3 days, flagged for Reporting Administration Incremental Extract

```
          1    1    2    2    3    3    4    4    5     8
0....5....0....5....0....5....0....5....0....5....0....5....0 ... 0
                       MNTF08  01 04 03   N Y
```

1.5 months, flagged for Distributed Administration and Reporting Administration Incremental Extract

```
          1    1    2    2    3    3    4    4    5     8
0....5....0....5....0....5....0....5....0....5....0....5....0 ... 0
                       MNTF08  00 01 15   Y Y
```

3 months, flagged for Distributed Administration

```
          1    1    2    2    3    3    4    4    5     8
0....5....0....5....0....5....0....5....0....5....0....5....0 ... 0
                       MNTF08  00 03 00   Y N
```

2. Execute the CBSVB program with FILE04 as input

The following are the input files, output files, and the program you need to execute:

INPUT	FILE04 FILE08	Control record file Replication Holding File
OUTPUT	FILE03 FILE08	Audit/message File Replication Holding File
EXECUTE	CBSVB	Core program

Maintaining the Replication Holding file (MNTF08) online

Note: Although the form is available and the process can be run online, we recommend it be run in a batch background process (for optimal performance).

Run the Replication Maintenance Program as part of your regularly scheduled maintenance. Retention parameters are used against the current date on the server. The retention parameters are subtracted from the current date and a work date is computed. The work date is then compared against the dates previously processed by Distributed Administration UDS3 and Reporting Administration VRAI records. The lesser of the two dates is used in the purge process. Accordingly, the Replication Holding File (FILE08) is purged of any records older than allowed.

Note: The least amount of time you may configure is a single day. Thus, the Replication Holding File (FILE08) will always contain at least one day's records.

1. Access the Maintain replication Holding File form (MNTF08)

Access this form by making the following selections from the Navigator:

Component: Reporting Administration
Process: Reporting Admin
Task: Maintain Incremental FILE08

2. Indicate the number of years you want to retain data

Valid entries = 0–99

3. Indicate the number of months you want to retain data

Enter the number of months you want to retain data (in addition to the number of years). Valid entries = 0–12

4. Indicate the number of days you want to retain data

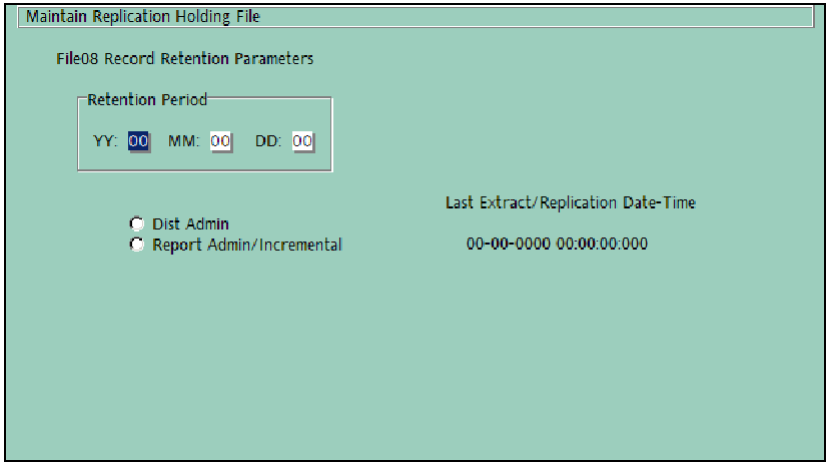
Enter the number of days you want to retain data (in addition to the number of years and months). Valid entries = 0–31

5. Indicate if you want the work date compared against Distributed Admin or Reporting Admin

If you want the computed work date to be compared against Reporting Administration incremental extract dates and VRAI records, then select the Reporting Admin/Incremental radio button.

If you want the computed work date to be compared against Distributed Administration replication dates and UDS records, then select the Dist Admin radio button.

Note: *If the Last Extract/Replication Date-Time indicates all zeros (as in the example below), you cannot maintain (clear out) data from FILE08. A Reporting Administration incremental extract or a Distributed Administration replication must have previously taken place.*



Backing up Reporting Administration components

To back up Reporting Administration components, follow these steps:

Note: It is recommended that a backup is taken of the database prior to each new extract.

1. Back up The Solution Series

You should ensure that there is a strategy in place to ensure the integrity of the data in The Solution Series and that there are procedures to restore this data if needed.

☞ *Refer to* **Using the Backup and Restore Utilities** *(on page 237) for information on backup procedures.*

2. Back up the data mart

You may wish to maintain backup copies of the data mart which could be used to restore the data mart in the event of a problem with new data.

You should discuss a backup strategy of the data mart with your database administrator.

☞ *Refer to the documentation for your relational tool for information on database backup procedures.*

3. Back up the data mart Extract file (FILE36)

You may wish to maintain backup copies of the extract files from the last extract.

You should discuss a backup strategy of the data mart Extract file (FILE36) with your database administrator.

Recovering core system extract

In the event of a failure during a core system extract, refer to the following table for the appropriate recovery action you would need to take:

Script	Step of failure	Resolution	Notes
JRSXRPT or JRSXRPTI	CBSVB	Restart script at "Extract"	
	Sort Split Truncate Load	Restart script at "Sort"	The script does not stop when an error occurs and, to conserve disk space, intermediate files are cleaned up. As a result, it is not possible to restart the scripts at any desired point. FILE36 is preserved, allowing the script to be restarted on the step just following extraction. You may wish to manually delete FILE36 following a successful extraction.

Recovering labor and history extract

In the event of a failure during a Labor and History extract, refer to the following table for the appropriate recovery action you would need to take:

Script	Step of failure	Resolution	Notes
JRSXPAY	Split Purge	Restart script at "Split"	The script does not stop when an error occurs and, to conserve disk space, intermediate files are cleaned up. As a result, it is not possible to restart the scripts at any desired point. FILE36 is preserved, allowing the script to be restarted on the step just following extraction. You may wish to manually delete FILE36 following a successful extraction.
	Load	Set the error threshold high on the table that was loading when the crash occurred. Delete the data files for those tables that have already loaded. Restart script at "Split"	You will get errors for the data that loaded prior to the crash. These errors can be ignored.
JMNTRUN		Restart payrun process from the beginning, using the backup copies of the files that feed the payrun process.	Currently P5PRNT overwrites the recycle file. If a crash occurs in P5PRNT, the job must be restarted at that point. Note that the delivered script will require editing to do this.

Note: Since Labor and History extraction is incremental, a case may arise where you need to re-extract data that has already been marked as extracted. The simplest solution is to truncate the Labor and History tables and re-extract all the Labor and History data, by passing the ALL parameter to the Report Generator (7E7E) by using the User Field on the Report Request form (DD-SCR).

There is no delivered script for this, so the recommendation is that you contact Customer Support in this event.

Review of Questions answered

1. What are the three stages of the extraction/insertion process?

2. How do the Core System and Labor and History extractions differ?

3. What is a data mart?

PART 7

Appendices

In This Section

Basic Customizations to the Web Client....511
Working Storage Expansion Worksheets....519
Relational Tables and Views....527
Operating System Codes....549
Object Codes....553
Record Key Structures....563
System Files....585
Payroll Process Files....589
Naming Conventions....591
Report Quick Reference....607
Program and Utility Quick Reference....617
Online Pay Document Printer Interface....687
Analyzing and Editing the Difference File....701
Disk Requirements Worksheets....715
The Payroll BATCH Transaction....731
BATCH Transaction Layouts....741
Pay Document Program Setup....785
Laser Check Printing....801
Error and Warning Messages....819
Machine Parameters....871
Practice and Review Answers....875
Running UK Online Administration Scripts....911
Report Generators....929

APPENDIX A

Basic Customizations to the Web Client

In This Appendix

Introduction 512
Documenting Customizations 513
Changing graphics files 514
Cascading Style Sheets 515
Rebuilding the web help index 516

Introduction

This appendix covers some of the changes you can make to the Web Client to tailor it to your company's needs.

eCyborg implementation and customization services are provided to the customer.

Basic customizations are covered in this chapter. The following basic customizations are supported:

- Documenting customizations
- Changing graphics files
- Changing web page appearance using Cascading Style Sheets
- Rebuilding the web help index

Documenting Customizations

As with other enhancements, record keeping or logging of all customization to your original system is very important. By keeping these records using a consistent method, you create an audit trail that can then be reconstructed and applied, or when you receive upgrades to the software.

Changing graphics files

Graphics that display on a Web Client page are stored as .gif files.

ServletExec .gif files can be found in the following default filepath:

\ServletExec\se-*instance*\eCyborg\WAR\webclient

Tomcat .gif files can be found in the following default filepath:

tomcat_home\webapps\eCyborg\webclient

To make changes to graphics, first, identify the current graphic file in the \webclient directory. Then, copy a new graphic file into that directory using the name of the old file.

When adding graphics, consider the following to ensure that the graphics fit the look and feel of the web pages:

- The new graphic should be roughly the same size as the graphic being replaced.
- The colors in the new graphic should blend well with the colors on the page.

Note: *If the graphics do not display properly in Internet Explorer, there could be a caching issue. If this arises, make the following selections from Internet Explorer:*

Tools ► *Internet Options* ► *Temporary Internet Files*

and click Clear History. Then click Settings under "Temporary Internet Files", and select "Every time you start Internet Explorer" under "Check for newer version of pages:".

Apply the Concept
How would you replace a graphic in Interactive Workforce with your company's logo?

Cascading Style Sheets

The style sheet is a text file in which is stored the information that the system uses to generate the overall appearance of the web pages. You can edit the style sheet to change the appearance of pages: background colors, fonts, etc.

These files are universal, so any changes made to this file will apply to all web pages generated by the Web Client. Any changes made in one file should be made in the other for the pages to remain consistent. They can be edited using any text editor.

In order to change style sheets, you should have a solid understand of how Cascading Style Sheets work.

ServletExec. Style sheets can be found in the following default filepath:

\ServletExec\se-*instance*\ServletExecData\Default\eCyborg\WAR

Tomcat. Style sheets can be found in the following default filepath:

tomcat_home\webapps\eCyborg\webclient

Following is a list of Cascading Style Sheets:

File	Defines the look of the following...
checklist.css	Checklists
dialog.css	Dialog boxes
error.css	Error message dialogs
login.css	Login dialog
message.css	Message dialogs
navbar.css	Navigation bar
screen.css	Form area
toolbar.css	Toolbar

Rebuilding the web help index

If you need to rebuild the support system index, follow these steps.

Note: While the index is rebuilding, users accessing it will get an error.

You need to rebuild the index from the command line.

For UNIX with Tomcat:

```
cd [TOMCAT_HOME]/webapps/eCyborgHelp/help

java -cp ../WEB-INF/lib/search.jar:../WEB-INF/lib/lucene-1.2.jar com.cyborg.utils.search.HTMLIndexBuilder -i ../WEB-INF/index .
```

For Windows with Tomcat:

```
cd [TOMCAT_HOME]\webapps\eCyborgHelp\help

java -cp ..\WEB-INF\lib\search.jar;..\WEB-INF\lib\lucene-1.2.jar com.cyborg.utils.search.HTMLIndexBuilder -i ..\WEB-INF\index .
```

For Windows with ServletExec:

```
cd [SERVLETEXEC_HOME]\se-[INSTANCE]\ServletExecData\default\eCyborgHelp\WAR\help

java -cp ..\WEB-INF\lib\search.jar;..\WEB-INF\lib\lucene-1.2.jar com.cyborg.utils.search.HTMLIndexBuilder -i ..\WEB-INF\index .
```

Full list of options for the HTMLIndexBuilder:

Usage: HTMLIndexBuilder [options] docRoot

Options:

--index or -i <directory>

write index to `directory'.

--relative or -r <path>

index documents relative to `path'.

--summary or -s <length>

summary of `length' characters required

--create or -c

create the index afresh (otherwise update it)

docRoot

the root of the documents to be indexed

The "relative" option is not needed if the command is run from the "help/" directory. In the above examples the "docRoot" parameter is the dot (current directory) at the end of the line.

Important! The reindexing process could take some time. Do not log out until it has finished as this could corrupt the index.

APPENDIX B

Working Storage Expansion Worksheets

In This Appendix

Employee Area Expand Worksheet 520
Employee Record/Segment Growth Worksheet 523
Company Area Expand Worksheet 524
Company Record/Segment Growth Worksheet 526

Employee Area Expand Worksheet

Step	Action	Calculation		Amt.
1.	Determine if expansion is required.			
	a. Use the RECSIZ report to calculate the Positions Left in Working Storage for the Employee Record.	Maximum Employee Record		
		Largest Employee Record	+	
		Positions Left	=	
	b. Calculate the Employee Record growth size for the next 6–12 months (Complete the Employee Record/Segment Growth Worksheet).	Growth Estimate	=	
	c. Calculate the Estimated Expansion Requirement.	Growth Estimate (Step 1b)		
		Safety Factor	+	2000
		Estimated Expansion Requirement	=	
Note:	*If the Estimated Expansion Requirement is* **Less Than** *the Positions Left,* **NO EXPANSION IS REQUIRED.**			
2.	Calculate the Employee Area Expand Amount for the Payroll Process and The Solution Series.			
	a. Calculate the Working Storage Requirement.	Largest Employee Record (Step 1a)		
		Estimated Expansion Requirement (Step 1c)	+	
		Working Storage Requirement	=	
	b. Calculate The Solution Series Expand Amount by subtracting The Solution Series Base Area 2 Value.	Working Storage Requirement (Step 2a)		
		The Solution Series Base Area 2	-	5301
		The Solution Series Expand Amount	=	

Step	Action	Calculation		Amt.
	c. Calculate the Payroll Process Expand Amount by subtracting the Payroll Process Base Value.	Working Storage Requirement (Step 2a)		
		Payroll Process Base Value	-	23688
		Payroll Process Expand Amount		
3.	Expand The Solution Series AREA2-BOTH field on the EXPAND form.	CSSS Base Value		
		The Solution Series Expand Amount (Step 2b)	+	
		AREA2-BOTH	=	
4.	Expand the Payroll Process P4CALC and O4CALC programs by replacing the EXPAND EMPLOYEE value with the Payroll Process Expand Amount (Step 2c) in the P05RDR file.			

```
         1    1    2    2    3    3    4    4    5    5    6    6    7    7    8
1...5....0....5....0....5....0....5....0....5....0....5....0....5....0....5....0
Machine parameter transaction
EXPAND EMPLOYEE          00000
EXPAND PAYER             00000
EXPAND TAX               00000
EXPAND REPORT ONLINE     00000
EXPAND RPT20             00000
EXPAND AREAW             00000
Additional COBOL overrides...
```

Step	Action	Calculation	
5.	Extract the Payroll Process Programs using the P9CNVT programs.	Check box when completed	□ P4CALC □ 04CALC
6.	Extract The Solution Series COBOL programs using the PULL program	Check box when completed	□ CBSVO □ CBSVOT □ CBSVB □ CBSVBT

Step	Action	Calculation	
7.	Compile and Link ALL COBOL programs	Check box when completed	□ P4CALC □ 04CALC □ CBSVO □ CBSVOT □ CBSVB □ CBSVBT
8.	Purge old expand records using DEL-ZX	Check box when completed	□ DEL-ZX

Employee Record/Segment Growth Worksheet

Step	Segment Type	Segment Size		Number of Segments to be added		Estimated Segment Size
1.	**F** - Name & Address	124	X		=	
2.	**G** - Labor Detail	34	X		=	
3.	**H** - Earnings & Deductions	101 (4 byte counter)				
	* See Note	OR				
		109 (5 byte counter)	X		=	
		OR				
		117 (6 byte counter)				
4.	**J** - Employee Taxes	163 (4 byte counter)				
	* See Note	OR				
		195 (5 byte counter)	X		=	
		OR				
		227 (6 byte counter)				
5.	**L** - HR/User Defined Data	71	X		=	
6.	**P** - Period End Table	19 (4 byte counter)				
	* See Note	OR				
		22 (5 byte counter)	X		=	
		OR				
		25 (6 byte counter)				
7.	Total Employee Record/Segment Growth				=	

Note: All platforms are 6-byte, starting with the Solution Series 5.1 release.

Company Area Expand Worksheet

Step	Action	Calculation		Amt.
1.	Determine if expansion is required.			
	a. Use the RECSIZ report to calculate the Positions Left in Working Storage for the Company Record.	Maximum Company Record		
		Largest Company Record		
		Positions Left	=	
	b. Calculate the Company Record growth size for the next 6–12 months (Complete the Company Record/Segment Growth Worksheet).	Growth Estimate	=	
	c. Calculate the Estimated Storage Requirement.	Growth Estimate (Step 1b)		
		Safety Factor	+	2000
		Estimated Storage Requirement	=	
Note:	If the Estimated Storage Requirement is **Less Than** the Positions Left, **NO EXPANSION IS REQUIRED**.			
2.	Calculate the Company Area Expand Amount for the Payroll Process and The Solution Series.			
	a. Calculate The Solution Series Working Storage Requirement.	Largest Company Record (Step 1a)		
		Estimated Storage Requirement (Step 1c)	+	
		Working Storage Requirement	=	
	b. Calculate The Solution Series Expand amount by subtracting The Solution Series Base Area 4 Value	Working Storage Requirement (Step 2a)		
		The Solution Series Base Area 4	-	8079
		The Solution Series Expand Amount	=	
	c. Calculate the Payroll Process Expand Amount by subtracting the Payroll Process Base Value.	Working Storage Requirement (Step 2a)		

Step	Action	Calculation		Amt.
		Payroll Process Base Value	-	32012
		Payroll Process Expand Amount	=	
3.	Expand The Solution Series AREA4-BOTH field on the EXPAND form.	CSSS Base Value		0
		The Solution Series Expand Amount (Step 2b)	+	
		AREA4-BOTH	=	
4.	Refer to the example table below	Place the calculated values in columns 25 through 29.		

```
         1    1    2    2    3    3    4    4    5    5    6    6    7    7  8
1...5....0....5....0....5....0....5....0....5....0....5....0....5....0....5..0
Machine parameter transaction
EXPAND EMPLOYEE         00000
EXPAND PAYER            00000
EXPAND TAX              00000
EXPAND REPORT ONLINE    00000
EXPAND RPT20            00000
EXPAND AREAW            00000
Additional COBOL overrides...
```

Step	Action	Calculation	
5.	Extract the Payroll Process Programs using the P9CNVT programs.	Check box when completed	□ P4CALC □ 04CALC
6.	Extract The Solution Series COBOL programs using the PULL program	Check box when completed	□ CBSVO □ CBSVOT □ CBSVB □ CBSVBT
7.	Compile and Link ALL COBOL programs	Check box when completed	□ P4CALC □ 04CALC □ CBSVO □ CBSVOT □ CBSVB □ CBSVBT
8.	Purge old expand records using DEL-ZX	Check box when completed	□ DEL-ZX

Company Record/Segment Growth Worksheet

Step	Segment Type	Segment Size		Number of Segments to add		Estimated Segment Size
1.	B—Earnings & Deductions	84	X		=	
2.	C—Other Detail/User Defined	84	X		=	
3.	D—Report Request Selection	28	X		=	
4.	**Total Company Record/Segment Growth**				=	

APPENDIX C

Relational Tables and Views

In This Appendix

Tables by Subject Area 528
Tables by Pointer and Table Reference 538

Tables by Subject Area

1 - Human Resources Subject Area

TABLE NAME	VIEW NAME	POINTER	SEGMENT
ADJ_EMP_STATUS	YTF_VIEW	40	TF
APPL_INTERVIEW	MLZ5_VIEW	36	Z5
APPL_PRE_TRANSFER	MLZ9_VIEW	36	Z9
APPLCNT_REF_ADDR	MLOH_VIEW	36	OH
APPLCNT_REFERENCE	MLOG_VIEW	36	OG
APPLICANT	MLOF_VIEW	36	OF
ASSIGNED_AUTO	MLZJ_VIEW	36	ZJ
ASSIGNED_PROPERTY	MLZI_VIEW	36	ZI
BENEFICIARY	MLOA_VIEW	36	OA
BENEFICIARY_ADDR	MLOB_VIEW	36	OB
BENEFICIARY_CITY	MLOC_VIEW	36	OC
BONUS	MLZE_VIEW	36	ZE
BRIDGE_LOAN	MLRR_VIEW	36	RR
CAN_EMP_EQUITY	MLPQ_VIEW	36	PQ
CANCEL_COURSE_BOOK	YT_X_VIEW	40	T*X
CERTIFICATION	MLZN_VIEW	36	ZN
CITIZENSHIP	MLZB_VIEW	36	ZB
CLASS_EVALUATION	YT_Y_VIEW	40	T*Y
CLASS_SCHEDULE	YT_S_A_VIEW	40	T*S A
CLASS_SCHEDULE_B	YT_S_B_VIEW	40	T*S B
CLASS_SCHEDULE_C	YT_S_C_VIEW	40	T*S C
CLASS_SCHEDULE_D	YT_S_D_VIEW	40	T*S D
CLASS_SCHEDULE_E	YT_S_E_VIEW	40	T*S E
CLOSING_COST_EXP	MLRQ_VIEW	36	RQ
COORDINATOR	YT_C_A_VIEW	40	T*C A
COORDINATOR_B	YT_C_B_VIEW	40	T*C B
COORDINATOR_C	YT_C_C_VIEW	40	T*C C
COORDINATOR_D	YT_C_D_VIEW	40	T*C D
COORDINATOR_E	YT_C_E_VIEW	40	T*C E
COURSE_BOOKING	YT_Z_VIEW	40	T*Z
COURSE_DEVP_COST	YT_A_VIEW	40	T*A
COURSE_OFFERING	YT_D_A_VIEW	40	T*D A
COURSE_OFFERING_B	YT_D_B_VIEW	40	T*D B

TABLE NAME	VIEW NAME	POINTER	SEGMENT
COURSE_OFFERING_C	YT_D_C_VIEW	40	T*D C
COURSE_OFFERING_D	YT_D_D_VIEW	40	T*D D
COURSE_OFFERING_E	YT_D_E_VIEW	40	T*D E
COURSE_OFFERING_F	YT_D_F_VIEW	40	T*D F
COURSE_PROVIDER	YT_N_A_VIEW	40	T*N A
COURSE_PROVIDER_B	YT_N_B_VIEW	40	T*N B
COURSE_PROVIDER_C	YT_N_C_VIEW	40	T*N C
COURSE_PROVIDER_D	YT_N_D_VIEW	40	T*N D
COURSE_PROVIDER_E	YT_N_E_VIEW	40	T*N E
DEPENDENT	MLO1_VIEW	36	01
DEPENDENT_EMPLYR	MLO2_VIEW	36	02
DEPENDENT_INSUR	MLO3_VIEW	36	03
DISCIPLINE_ACTION	MLRD_VIEW	36	RD
DRIVERS_LICENSE	MLZL_VIEW	36	ZL
EEO_4_EXEMPTIONS	MLVE_VIEW	36	VE
EEO_6	MLO8_VIEW	36	08
EEO_ESTABLISHMNT	YTX__A_VIEW	40	TX A
EEO_ESTABLISHMNT_B	YTX__B_VIEW	40	TX B
EEO_ESTABLISHMNT_C	YTX__C_VIEW	40	TX C
EEO_ESTABLISHMNT_D	YTX__D_VIEW	40	TX D
EEO_ESTABLISHMNT_E	YTX__E_VIEW	40	TX E
EMP_CLASS_COST	MLT5_VIEW	36	T5
EMP_CLASS_REG	MLT0_VIEW	36	T0
EMP_CLASS_RESULT	MLT2_VIEW	36	T2
EMP_COURSE_OBJ	MLT3_VIEW	36	T3
EMP_EARN_DED	MH_VIEW	32	MH
EMP_INCUMBENCY	MLPM_VIEW	36	PM
EMP_LOCATION	MLZR_VIEW	36	ZR
EMP_SKILL	MLZ4_VIEW	36	Z4
EMP_TRAIN_COURSE	MLZ3_VIEW	36	Z3
EMP_TRAIN_REQ	MLT1_VIEW	36	T1
EMP_TRAIN_SALARY	MLT4_VIEW	36	T4
EMPLOYEE_1	MLZA_VIEW	36	ZA
EMPLOYEE_CONTACT	MLWF_VIEW	36	WF
EMPLOYEE_TRANSFER	MEEB_VIEW	29	EB
EMPLOYMT_ACTIVITY	MLZC_VIEW	36	ZC
EMRGY_CONTACT	MLO4_VIEW	36	O4

TABLE NAME	VIEW NAME	POINTER	SEGMENT
EMRGY_CONTACT_ADDR	MLO5_VIEW	36	O5
EMRGY_PHYS_ADDR	MLO7_VIEW	36	O7
EMRGY_PHYSICIAN	MLO6_VIEW	36	O6
EXIT_INTERVIEW	MLZK_VIEW	36	ZK
FORMAL_EDUCATION	MLZ1_VIEW	36	Z1
GRIEVANCE	MLVG_VIEW	36	VG
HEALTH_CONDITION	MLZM_VIEW	36	ZM
HOUSE_HUNTING_EXP	MLRM_VIEW	36	RM
HR_TABLE_CTRL	YTZAX_VIEW	40	TZAX
IMAGE_INFORMATION	MLWA_VIEW	36	WA
JOB_APPLIED_FOR	MLOI_VIEW	36	OI
JOB_ASSIGNMENT	MLZD_VIEW	36	ZD
JOB_BASIC	YT0D01_VIEW	40	T0D01
JOB_BASIC_02	YT0D02_VIEW	40	T0D02
JOB_CODE	YTA__A_VIEW	40	TA A
JOB_CODE_B	YTA__B_VIEW	40	TA B
JOB_DOC_REF	YT0D10_VIEW	40	T0D10
JOB_EDUCATION	YT0D08_VIEW	40	T0D08
JOB_EVAL_CRIT	YT0D04_VIEW	40	T0D04
JOB_EVAL_PROFILE	YTC__A_VIEW	40	TC A
JOB_EVAL_PROFILE_B	YTC__B_VIEW	40	TC B
JOB_EVALUATION	YT0D03_VIEW	40	T0D03
JOB_LICENSES	YT0D07_VIEW	40	T0D07
JOB_MEMBERSHIP	YT0D06_VIEW	40	T0D06
JOB_NEXT_JOB	YT0D09_VIEW	40	T0D09
JOB_REQ_EXP	YT0D11_VIEW	40	T0D11
JOB_REQ_TRAINING	YT0D13_VIEW	40	T0D13
JOB_SKILLS	YT0D05_VIEW	40	T0D05
MONETARY_PERQ	MLZT_VIEW	36	ZT
MOVING_EXPENSE	MLRN_VIEW	36	RN
NAME_ADDRESS	MF_VIEW	30	MF
NON_MONETARY_PERQ	MLZH_VIEW	36	ZH
OCCUPATION_GROUP	YTE_VIEW	40	TE
ORG_UNIT_BASIC	YT0B01_VIEW	40	T0B01
ORG_UNIT_DEF_NAME	YT0B99_VIEW	40	T0B99
ORG_UNIT_DOC_REF	YT0B10_VIEW	40	T0B10
ORG_UNIT_FTE	YT0B03_VIEW	40	T0B03

TABLE NAME	VIEW NAME	POINTER	SEGMENT
ORG_UNIT_LVL_NAME	YT0B02_VIEW	40	T0B02
PAY_FREQUENCY	DCAJ_VIEW	23	AJ
PERFORMANCE_RATING	MLZG_VIEW	36	ZG
PHYSICAL_EXAM	MLZ7_VIEW	36	Z7
PHYSICAL_EXAM_RSLT	MLZ8_VIEW	36	Z8
PLANNED_SALARY	MLZP_VIEW	36	ZP
POSITION_ACTUAL	YPR7_VIEW	40	PR7
POSITION_ASSIGNMT	MLRS_VIEW	36	RS
POSITION_BASIC	YT0A01_VIEW	40	T0A01
POSITION_BASIC_02	YT0A02_VIEW	40	T0A02
POSITION_BUDGET_PC	YPR6_VIEW	40	WPFP
POSITION_COMPLEMNT	YT0A56_VIEW	40	T0A56
POSITION_CTL_BASIC	YPR1_VIEW	40	PR1
POSITION_CTL_SKILL	YPRS_VIEW	40	PRS
POSITION_CTRL_HDR	YPRH_VIEW	40	PRH
POSITION_DEPT	YPR5_VIEW	40	PR5
POSITION_DOC_REF	YT0A10_VIEW	40	T0A10
POSITION_EDUCATION	YT0A08_VIEW	40	T0A08
POSITION_EVAL	YT0A03_VIEW	40	T0A03
POSITION_EVAL_CRIT	YT0A04_VIEW	40	T0A04
POSITION_FROM_DATA	YPR2_VIEW	40	PR2
POSITION_FTE	YT0A55_VIEW	40	T0A55
POSITION_FUND	YT0A52_VIEW	40	T0A52
POSITION_HEADER	YPR0_VIEW	40	PR0
POSITION_INCUMBENT	YPR9_VIEW	40	PR9
POSITION_LICENSES	YT0A07_VIEW	40	T0A07
POSITION_LOCATION	YT0A51_VIEW	40	T0A51
POSITION_MEMBERSHIP	YT0A06_VIEW	40	T0A06
POSITION_MISC_DATA	YT0A12_VIEW	40	T0A12
POSITION_NARRATIVE	YPR4_VIEW	40	PR9
POSITION_NEXT_JOB	YT0A09_VIEW	40	TOA09
POSITION_NEXT_REVW	YT0A54_VIEW	40	T0A54
POSITION_REQ	YPR8_VIEW	40	PR8
POSITION_REQ_EXP	YT0A11_VIEW	40	T0A11
POSITION_REQ_TRAIN	YT0A13_VIEW	40	T0A13
POSITION_SKILLS	YT0A05_VIEW	40	PRS
POSITION_STATUS	YT0A50_VIEW	40	T0A50

TABLE NAME	VIEW NAME	POINTER	SEGMENT
POSITION_TO_DATA	YPR3_VIEW	40	PR3
POSITION_VEHICLE	YT0A53_VIEW	40	T0A53
PRIOR_EMPLOYMENT	MLZ6_VIEW	36	Z6
PROFESSIONAL_ASSOC	MLZO_VIEW	36	Z0
PROGRAM_SCHEDULE	YT_P_A_VIEW	40	T*P A
PROGRAM_SCHEDULE_B	YT_P_B_VIEW	40	T*P B
PROGRAM_SCHEDULE_C	YT_P_C_VIEW	40	T*P C
PROGRAM_SCHEDULE_D	YT_P_D_VIEW	40	T*P D
PROGRAM_SCHEDULE_E	YT_P_E_VIEW	40	T*P E
PROGRAM_SCHEDULE_F	YT_P_F_VIEW	40	T*P F
RELOCATION_1	MLRJ_VIEW	36	RJ
RELOCATION_2	MLRK_VIEW	36	RK
RELOCATION_3	MLRL_VIEW	36	RL
REQ_BASIC_DETAILS	YURT01_VIEW	40	URT01
REQ_CAND_BASIC	YURT11_VIEW	40	URT11
REQ_CAND_BASIC_2	YURT12_VIEW	40	URT12
SALARY	MLZF_VIEW	36	ZF
SALARY_CHANGE	MLPH_VIEW	36	PH
SALARY_GRADE	YTI_VIEW	40	TI
SALARY_GRADE_ANN	YTBA_VIEW	40	TBA
SALARY_GRADE_HRLY	YTBC_VIEW	40	TBC
SALARY_GRD_PAY_PD	YTBB_VIEW	40	TBB
SALARY_INC_DEFN_0	YTDT2_VIEW	40	TDT2
SALARY_INC_DEFN_1	YTDC1_VIEW	40	TDC1
SALARY_INC_DEFN_2	YTDC2_VIEW	40	TDC2
SALARY_INC_DEFN_3	YTDC3_VIEW	40	TDC3
SALARY_INC_DEFN_4	YTDC4_VIEW	40	TDC4
SALARY_INC_DEFN_5	YTDR1_VIEW	40	TDR1
SALARY_INC_DEFN_6	YTDR2_VIEW	40	TDR2
SALARY_INC_DEFN_7	YTDR3_VIEW	40	TDR3
SALARY_INC_DEFN_8	YTDR4_VIEW	40	TDR4
SALARY_INC_DEFN_9	YTDT1_VIEW	40	TDT1
SALARY_PLAN	YTH_VIEW	40	TH
SALARY_REVIEW	MLZQ_VIEW	36	ZQ
SAVINGS_BOND	MLR4_VIEW	36	R4
SCHEDULED_APPRSL	MLZS_VIEW	36	ZS
SHIPPING_EXP	MLRP_VIEW	36	RP

TABLE NAME	VIEW NAME	POINTER	SEGMENT
SYSTEM_OPTIONS	YTG_VIEW	40	TG
TEMP_LIVING_EXP	MLRO_VIEW	36	R0
TRAINING_REQUIRED	YT_T_VIEW	40	T*T
TUITION_REIMBURSMT	MLZ2_VIEW	36	Z2
WORK_PREFERENCES	MLOJ_VIEW	36	OJ

2 - Benefits Subject Area

TABLE NAME	VIEW NAME	POINTER	SEGMENT
ALT_COMP_TOTALS	MLR5_VIEW	36	R5
ANNUITANT_FACTOR	YTQ_VIEW	40	TQ
AVG_DEFERRAL_PCT	MLQR_VIEW	36	QR
BENEFICIARY	MLOA_VIEW	36	OA
BENEFICIARY_PCT	MLQS_VIEW	36	QS
BENEFIT_PLAN	YTK__A_VIEW	40	TK A
BENEFIT_PLAN_B	YTK__B_VIEW	40	TK B
BENEFIT_TABLE_CTRL	YTZAY_VIEW	40	TZAY
BREAK_IN_SVC_RUL	YTU__A_VIEW	40	TU A
BREAK_IN_SVC_RUL_B	YTU__B_VIEW	40	TU B
COBRA_QUALIFY_EVNT	MLQY_VIEW	36	QY
COVERAGE_COST	YTM_VIEW	40	TM
COVERAGE_COST_B	YTZ_VIEW	40	TZ
COVERED_DEPENDENTS	MLOD_VIEW	36	OD
DB_ACCT_ACTIVITY	MLQK_VIEW	36	QK
DB_ACCT_BALANCE	MLQJ_VIEW	36	QJ
DB_PLAN_ACCUM	MLQI_VIEW	36	QI
DC_ACCT_ACTIVITY	MLQM_VIEW	36	QM
DC_ACCT_BALANCE_1	MLQP_VIEW	36	QP
DC_ACCT_BALANCE_2	MLQQ_VIEW	36	QQ
DC_ACCT_TRANSFER	MLQN_VIEW	36	QN
DC_CONTRIBUTION	MLQE_VIEW	36	QE
DC_PLAN_ACCUM	MLQL_VIEW	36	QL
DEPENDENT	MLO1_VIEW	36	01
EMP_DEFERRED_PLAN	MLQ4_VIEW	36	Q4
EMP_ELIGIBILITY	MLRA_VIEW	36	RA
EMP_FLEX_CREDITS	MLQO_VIEW	36	Q0
EMP_FLEX_PLN_CR_PR	MLOZ_VIEW	36	0Z

TABLE NAME	VIEW NAME	POINTER	SEGMENT
EMP_PLAN_CONTRIB	MLQ5_VIEW	36	Q5
EMP_PLAN_COVERAGE	MLQ8_VIEW	36	Q8
EMP_PLAN_SERVICE	MLQ3_VIEW	36	Q3
EMP_PLAN_VESTING	MLQ9_VIEW	36	Q9
EMP_RETIREMENT	MLQ0_VIEW	36	Q0
EMP_WELFARE_PLAN	MLQ1_VIEW	36	Q1
FINAL_AVG_EARNINGS	MLQX_VIEW	36	QX
FLEX_CREDIT_CALC	YU1_VIEW	40	U1
FLEX_PLAN_OPTS	YU2_VIEW	40	U2
FSA_ACCT_BALANCE	MLQT_VIEW	36	QT
FSA_CLAIM	MLQU_VIEW	36	QU
FUND_ALLOC_METHOD	YTRD_VIEW	40	TRD
FUND_INTEREST_RATE	YTRB_VIEW	40	TRB
HIGHLY_PAID_DEF_1	MLQV_VIEW	36	QV
HIGHLY_PAID_DEF_2	MLQW_VIEW	36	QW
J_S_BENEFIT_WAIVER	MLQZ_VIEW	36	QZ
MASTER_PLAN	YTP_VIEW	40	TP
PENSION_BENEFIT	MLQ6_VIEW	36	Q6
PENSION_PROJCTION	MLQ7_VIEW	36	Q7
PLAN_ALLOC_METHOD	YTRC_VIEW	40	TRC
PLAN_EARN_DED_RULE	YTS_VIEW	40	TS
PLAN_ELIGIBILITY	YTL_VIEW	40	TL
PLAN_INTEREST_RATE	YTRA_VIEW	40	TRA
PLAN_OPT_ACTIVITY	YTT_VIEW	40	TT
PLAN_PARTICIPATE	YTN__A_VIEW	40	TNA
PLAN_PARTICIPATE_B	YTN__B_VIEW	40	TN B
PLAN_RETIRE_RULE	YTJ__A_VIEW	40	TJ A
PLAN_RETIRE_RULE_B	YTJ__B_VIEW	40	TJ B
SHARE_ACCT_BALANCE	MLR2_VIEW	36	R2
SHARE_DISTRIBUTION	MLR0_VIEW	36	R0
SHARE_WITHDRAWAL	MLR1_VIEW	36	R1
STOCK_CASH_BALANCE	MLR3_VIEW	36	R3
TS_FUND_ACCUM	MLQB_VIEW	36	QB
TS_FUND_ACTIVITY	MLQC_VIEW	36	QC
TS_FUND_ALLOCATION	MLQA_VIEW	36	QA
TS_FUND_BALANCE_1	MLQF_VIEW	36	QF
TS_FUND_BALANCE_2	MLQG_VIEW	36	QG

TABLE NAME	VIEW NAME	POINTER	SEGMENT
TS_FUND_SHARE	MLQH_VIEW	36	QH
TS_FUND_TRANSFER	MLQD_VIEW	3	QD

3 - Time & Attendance Subject Area

TABLE NAME	VIEW NAME	POINTER	SEGMENT
ABSENCE	MLVA_VIEW	36	VA
ABSENCE_EARN_CODE	YT_AB_VIEW	40	T<AB
AUTH_TIME_OFF	MLRT_VIEW	36	RT
CO_EARN_DED_RULE	DB_VIEW	22	B
CREW_ROTATION_08_A	YT_C2A_VIEW	40	T<C2A
CREW_ROTATION_08_B	YT_C2B_VIEW	40	T<C2B
CREW_ROTATION_08_C	YT_C2C_VIEW	40	T<C2C
CREW_ROTATION_14_A	YT_C3A_VIEW	40	T<C3A
CREW_ROTATION_14_B	YT_C3B_VIEW	40	T<C3B
CREW_ROTATION_14_C	YT_C3C_VIEW	40	T<C3C
CREW_ROTATION_14_D	YT_C3D_VIEW	40	T<C3D
ISSUED_BADGE	MLTB_VIEW	36	TB
LEAVE_OF_ABSENCE	MLQ2_VIEW	36	Q2
POLICY_ACTIVITY	YT_P_VIEW	40	T<P=
POLICY_TABLE	YT_PT_VIEW	40	T<PT
SCHEDULE_ACTIVITY	YT_S_VIEW	40	T<S=
SCHEDULE_ASSIGNMNT	MLTS_VIEW	36	TS
SCHEDULE_TABLE	YT_ST_VIEW	40	T<ST
SHIFT_PREMIUM	YT_SP_VIEW	40	T<SP
TA_EARN_CODE	YT_EC_VIEW	40	T<EC
UNAUTH_TIME_OFF	MLRU_VIEW	36	RU

4 - Company and Payroll Subject Area

TABLE NAME	VIEW NAME	POINTER	SEGMENT
ACCRUAL_ROUTINE	YT_ARA_VIEW	40	T!ARA
ACCRUAL_ROUTINE_B	YT_ARB_VIEW	40	T!ARB
ACCRUAL_ROUTINE_C	YT_ARC_VIEW	40	T!ARC
ACCRUAL_SELECTION	YT_VIEW	40	T!
ACCRUAL_TABLE_CTRL	YTZAZ_VIEW	40	TZAZ
ACCUMULATOR_RULES	YTO_VIEW	40	TO
CO_EARN_DED_RULE	DB_VIEW	22	B

TABLE NAME	VIEW NAME	POINTER	SEGMENT
COMPANY_ROE	DCAM_VIEW	23	AM
COMPANY_XREF	YT_R_VIEW	40	T*R
DISCRIMINATION_TST	YTV_VIEW	40	TV
EEO_STATISTICS	YTY_VIEW	40	TY
EMP_EARN_DED_MM	QH_VIEW	32	QH
EMP_LOCATION_LH	NG_VIEW	31	NG
EMP_LOCATION_MM	QG_VIEW	31	QG
EMP_NAME_ADDR_LH	NF_VIEW	30	NF
EMP_NAME_ADDR_MM	QF_VIEW	30	QF
EMP_ROE_1	MLYA_VIEW	36	YA
EMP_ROE_2	MLYB_VIEW	36	YB
EMP_ROE_3	MLYC_VIEW	36	YC
EMP_ROE_4	MLYD_VIEW	36	YD
EMP_ROE_5	MLYE_VIEW	36	YE
EMP_TAX_DED	MJ_VIEW	34	MJ
EMP_TAX_DED_MM	QJ_VIEW	34	QJ
EMPLOYEE_LH	NEE_VIEW	29	NEE
EMPLOYEE_MM	QEE_VIEW	29	QEE
EMPLOYEE_PAYMT	MEEA_VIEW	29	EA
EMPLOYEE_PAYMT_LH	NEEA_VIEW	29	NEEA
EMPLOYEE_PAYMT_MM	QEEA_VIEW	29	QEEA
GL_ACCOUNT_NBRS	DCAK_VIEW	23	AK
LABOR_DIST_SPLIT1	NLG1_VIEW	36	NLG1
LABOR_DIST_SPLIT2	NLG2_VIEW	36	NLG2
LABOR_DIST_SPLIT3	NLG3_VIEW	36	NLG3
LABOR_HIS_EARN_DED	NH_VIEW	33	NH
LABOR_HIS_TAX_DED	NJ_VIEW	35	NJ
PAY_ALLOCATIONS	MG_VIEW	31	MG
PAY_DOC_PRINT	DCAL_VIEW	23	AL
PAY_PERIOD	MP_VIEW	37	MP
PAY_PROCESS_OPT	DCAF_VIEW	23	AF
PAY_STUB_MESSAGE1	DCAG_VIEW	23	AG
PAY_STUB_MESSAGE2	DCAH_VIEW	23	AH
PAYROLL_REPT_DEFN	DD_VIEW	24	D
PRIOR_YEAR_TOTAL	YTW__A_VIEW	40	TW A
PRIOR_YEAR_TOTAL_B	YTW__B_VIEW	40	TW B
TAX_SPECIFICATION	H_VIEW	25	H

TABLE NAME	VIEW NAME	POINTER	SEGMENT
TAX_TABLE_BRACKET	H5_VIEW	27	H5
TAX_TABLE_DEFN	H4_VIEW	26	H4

Systems Subject Area

TABLE NAME	VIEW NAME	POINTER	SEGMENT
CODESET	ZCSUNV_VIEW	NA	ZCSUN
CODESET_C12	ZCSC12_VIEW	NA	ZCSC1
COMPANY	D_VIEW	21	AA
DIDX	DIDX_VIEW	NA	RDB
EMPLOYEE	MEE_VIEW	29	E
F_OTHER_RECORD	F_VIEW	39	F
FIELD_NAMES	Y40FN_VIEW	40	40FN
G_OTHER_RECORD	G_VIEW	39	G
HIDX	HIDX_VIEW	NA	RDB
MIDX	MIDX_VIEW	NA	RDB
NIDX	NIDX_VIEW	NA	RDB
QIDX	QIDX_VIEW	NA	RDB
V80_BENEFIT	MLPD_VIEW	36	PD
V80_INJURY_DISABLE	MLPR_VIEW	36	PR
V80_INSURANCE	MLPB_VIEW	36	PB
V80_MED_COVERAGE	MLPC_VIEW	36	PC
W_OTHER_RECORD	W_VIEW	39	W
X_OTHER_RECORD	X_VIEW	39	X

6 - Distributed Administration Subject Area

TABLE NAME	VIEW NAME	POINTER	SEGMENT
DISTRIB_ACCESS_LOG	YUDS3_VIEW	40	UDS3
DISTRIBUTION_RULES	YUDS4_VIEW	40	UDS4
MACHINE_PARAMETERS	YUDS2_VIEW	40	UDS2
NODE_CONTROL_TABLE	YUDS1_VIEW	40	UDS1

Tables by Pointer and Table Reference

NA	RDB	DIDX	DIDX_VIEW
NA	RDB	HIDX	HIDX_VIEW
NA	RDB	MIDX	MIDX_VIEW
NA	RDB	NIDX	NIDX_VIEW
NA	RDB	QIDX	QIDX_VIEW
NA	ZCSC1	CODESET_C12	ZCSC12_VIEW
NA	ZCSUN	CODESET	ZCSUNV_VIEW
21	AA	COMPANY	D_VIEW
22	B	CO_EARN_DED_RULE	DB_VIEW
23	AF	PAY_PROCESS_OPT	DCAF_VIEW
23	AG	PAY_STUB_MESSAGE1	DCAG_VIEW
23	AH	PAY_STUB_MESSAGE2	DCAH_VIEW
23	AJ	PAY_FREQUENCY	DCAJ_VIEW
23	AK	GL_ACCOUNT_NBRS	DCAK_VIEW
23	AL	PAY_DOC_PRINT	DCAL_VIEW
23	AM	COMPANY_ROE	DCAM_VIEW
24	D	PAYROLL_REPT_DEFN	DD_VIEW
25	H	TAX_SPECIFICATION	H_VIEW
26	H4	TAX_TABLE_DEFN	H4_VIEW
27	H5	TAX_TABLE_BRACKET	H5_VIEW
29	E	EMPLOYEE	MEE_VIEW
29	EA	EMPLOYEE_PAYMT	MEEA_VIEW
29	EB	EMPLOYEE_TRANSFER	MEEB_VIEW
29	NEE	EMPLOYEE_LH	NEE_VIEW
29	NEEA	EMPLOYEE_PAYMT_LH	NEEA_VIEW
29	QEE	EMPLOYEE_MM	QEE_VIEW
29	QEEA	EMPLOYEE_PAYMT_MM	QEEA_VIEW
30	MF	NAME_ADDRESS	MF_VIEW
30	NF	EMP_NAME_ADDR_LH	NF_VIEW
30	QF	EMP_NAME_ADDR_MM	QF_VIEW
31	MG	PAY_ALLOCATIONS	MG_VIEW
31	NG	EMP_LOCATION_LH	NG_VIEW
31	QG	EMP_LOCATION_MM	QG_VIEW
32	MH	EMP_EARN_DED	MH_VIEW

NA	RDB	DIDX	DIDX_VIEW
32	QH	EMP_EARN_DED_MM	QH_VIEW
33	NH	LABOR_HIS_EARN_DED	NH_VIEW
34	MJ	EMP_TAX_DED	MJ_VIEW
34	QJ	EMP_TAX_DED_MM	QJ_VIEW
35	NJ	LABOR_HIS_TAX_DED	NJ_VIEW
36	01	DEPENDENT	MLO1_VIEW
36	02	DEPENDENT_EMPLYR	MLO2_VIEW
36	03	DEPENDENT_INSUR	MLO3_VIEW
36	08	EEO_6	MLO8_VIEW
36	0Z	EMP_FLEX_PLN_CR_PR	MLOZ_VIEW
36	NLG1	LABOR_DIST_SPLIT1	NLG1_VIEW
36	NLG2	LABOR_DIST_SPLIT2	NLG2_VIEW
36	NLG3	LABOR_DIST_SPLIT3	NLG3_VIEW
36	O4	EMRGY_CONTACT	MLO4_VIEW
36	O5	EMRGY_CONTACT_ADDR	MLO5_VIEW
36	O6	EMRGY_PHYSICIAN	MLO6_VIEW
36	O7	EMRGY_PHYS_ADDR	MLO7_VIEW
36	OA	BENEFICIARY	MLOA_VIEW
36	OB	BENEFICIARY_ADDR	MLOB_VIEW
36	OC	BENEFICIARY_CITY	MLOC_VIEW
36	OD	COVERED_DEPENDENTS	MLOD_VIEW
36	OF	APPLICANT	MLOF_VIEW
36	OG	APPLCNT_REFERENCE	MLOG_VIEW
36	OH	APPLCNT_REF_ADDR	MLOH_VIEW
36	OI	JOB_APPLIED_FOR	MLOI_VIEW
36	OJ	WORK_PREFERENCES	MLOJ_VIEW
36	PB	V80_INSURANCE	MLPB_VIEW
36	PC	V80_MED_COVERAGE	MLPC_VIEW
36	PD	V80_BENEFIT	MLPD_VIEW
36	PH	SALARY_CHANGE	MLPH_VIEW
36	PM	EMP_INCUMBENCY	MLPM_VIEW
36	PQ	CAN_EMP_EQUITY	MLPQ_VIEW
36	PR	V80_INJURY_DISABLE	MLPR_VIEW
36	Q0	EMP_FLEX_CREDITS	MLQO_VIEW
36	Q0	EMP_RETIREMENT	MLQ0_VIEW
36	Q1	EMP_WELFARE_PLAN	MLQ1_VIEW
36	Q2	LEAVE_OF_ABSENCE	MLQ2_VIEW

NA	RDB	DIDX	DIDX_VIEW
36	Q3	EMP_PLAN_SERVICE	MLQ3_VIEW
36	Q4	EMP_DEFERRED_PLAN	MLQ4_VIEW
36	Q5	EMP_PLAN_CONTRIB	MLQ5_VIEW
36	Q6	PENSION_BENEFIT	MLQ6_VIEW
36	Q7	PENSION_PROJCTION	MLQ7_VIEW
36	Q8	EMP_PLAN_COVERAGE	MLQ8_VIEW
36	Q9	EMP_PLAN_VESTING	MLQ9_VIEW
36	QA	TS_FUND_ALLOCATION	MLQA_VIEW
36	QB	TS_FUND_ACCUM	MLQB_VIEW
36	QC	TS_FUND_ACTIVITY	MLQC_VIEW
36	QD	TS_FUND_TRANSFER	MLQD_VIEW
36	QE	DC_CONTRIBUTION	MLQE_VIEW
36	QF	TS_FUND_BALANCE_1	MLQF_VIEW
36	QG	TS_FUND_BALANCE_2	MLQG_VIEW
36	QH	TS_FUND_SHARE	MLQH_VIEW
36	QI	DB_PLAN_ACCUM	MLQI_VIEW
36	QJ	DB_ACCT_BALANCE	MLQJ_VIEW
36	QK	DB_ACCT_ACTIVITY	MLQK_VIEW
36	QL	DC_PLAN_ACCUM	MLQL_VIEW
36	QM	DC_ACCT_ACTIVITY	MLQM_VIEW
36	QN	DC_ACCT_TRANSFER	MLQN_VIEW
36	QP	DC_ACCT_BALANCE_1	MLQP_VIEW
36	QQ	DC_ACCT_BALANCE_2	MLQQ_VIEW
36	QR	AVG_DEFERRAL_PCT	MLQR_VIEW
36	QS	BENEFICIARY_PCT	MLQS_VIEW
36	QT	FSA_ACCT_BALANCE	MLQT_VIEW
36	QU	FSA_CLAIM	MLQU_VIEW
36	QV	HIGHLY_PAID_DEF_1	MLQV_VIEW
36	QW	HIGHLY_PAID_DEF_2	MLQW_VIEW
36	QX	FINAL_AVG_EARNINGS	MLQX_VIEW
36	QY	COBRA_QUALIFY_EVNT	MLQY_VIEW
36	QZ	J_S_BENEFIT_WAIVER	MLQZ_VIEW
36	R0	SHARE_DISTRIBUTION	MLR0_VIEW
36	R0	TEMP_LIVING_EXP	MLRO_VIEW
36	R1	SHARE_WITHDRAWAL	MLR1_VIEW
36	R2	SHARE_ACCT_BALANCE	MLR2_VIEW
36	R3	STOCK_CASH_BALANCE	MLR3_VIEW

NA	RDB	DIDX	DIDX_VIEW
36	R4	SAVINGS_BOND	MLR4_VIEW
36	R5	ALT_COMP_TOTALS	MLR5_VIEW
36	RA	EMP_ELIGIBILITY	MLRA_VIEW
36	RD	DISCIPLINE_ACTION	MLRD_VIEW
36	RJ	RELOCATION_1	MLRJ_VIEW
36	RK	RELOCATION_2	MLRK_VIEW
36	RL	RELOCATION_3	MLRL_VIEW
36	RM	HOUSE_HUNTING_EXP	MLRM_VIEW
36	RN	MOVING_EXPENSE	MLRN_VIEW
36	RP	SHIPPING_EXP	MLRP_VIEW
36	RQ	CLOSING_COST_EXP	MLRQ_VIEW
36	RR	BRIDGE_LOAN	MLRR_VIEW
36	RS	POSITION_ASSIGNMT	MLRS_VIEW
36	RT	AUTH_TIME_OFF	MLRT_VIEW
36	RU	UNAUTH_TIME_OFF	MLRU_VIEW
36	T0	EMP_CLASS_REG	MLT0_VIEW
36	T1	EMP_TRAIN_REQ	MLT1_VIEW
36	T2	EMP_CLASS_RESULT	MLT2_VIEW
36	T3	EMP_COURSE_OBJ	MLT3_VIEW
36	T4	EMP_TRAIN_SALARY	MLT4_VIEW
36	T5	EMP_CLASS_COST	MLT5_VIEW
36	TB	ISSUED_BADGE	MLTB_VIEW
36	TS	SCHEDULE_ASSIGNMNT	MLTS_VIEW
36	VA	ABSENCE	MLVA_VIEW
36	VE	EEO_4_EXEMPTIONS	MLVE_VIEW
36	VG	GRIEVANCE	MLVG_VIEW
36	WA	IMAGE_INFORMATION	MLWA_VIEW
36	WF	EMPLOYEE_CONTACT	MLWF_VIEW
36	YA	EMP_ROE_1	MLYA_VIEW
36	YB	EMP_ROE_2	MLYB_VIEW
36	YC	EMP_ROE_3	MLYC_VIEW
36	YD	EMP_ROE_4	MLYD_VIEW
36	YE	EMP_ROE_5	MLYE_VIEW
36	Z0	PROFESSIONAL_ASSOC	MLZO_VIEW
36	Z1	FORMAL_EDUCATION	MLZ1_VIEW
36	Z2	TUITION_REIMBURSMT	MLZ2_VIEW
36	Z3	EMP_TRAIN_COURSE	MLZ3_VIEW

NA	RDB	DIDX	DIDX_VIEW
36	Z4	EMP_SKILL	MLZ4_VIEW
36	Z5	APPL_INTERVIEW	MLZ5_VIEW
36	Z6	PRIOR_EMPLOYMENT	MLZ6_VIEW
36	Z7	PHYSICAL_EXAM	MLZ7_VIEW
36	Z8	PHYSICAL_EXAM_RSLT	MLZ8_VIEW
36	Z9	APPL_PRE_TRANSFER	MLZ9_VIEW
36	ZA	EMPLOYEE_1	MLZA_VIEW
36	ZB	CITIZENSHIP	MLZB_VIEW
36	ZC	EMPLOYMT_ACTIVITY	MLZC_VIEW
36	ZD	JOB_ASSIGNMENT	MLZD_VIEW
36	ZE	BONUS	MLZE_VIEW
36	ZF	SALARY	MLZF_VIEW
36	ZG	PERFORMANCE_RATING	MLZG_VIEW
36	ZH	NON_MONETARY_PERQ	MLZH_VIEW
36	ZI	ASSIGNED_PROPERTY	MLZI_VIEW
36	ZJ	ASSIGNED_AUTO	MLZJ_VIEW
36	ZK	EXIT_INTERVIEW	MLZK_VIEW
36	ZL	DRIVERS_LICENSE	MLZL_VIEW
36	ZM	HEALTH_CONDITION	MLZM_VIEW
36	ZN	CERTIFICATION	MLZN_VIEW
36	ZP	PLANNED_SALARY	MLZP_VIEW
36	ZQ	SALARY_REVIEW	MLZQ_VIEW
36	ZR	EMP_LOCATION	MLZR_VIEW
36	ZS	SCHEDULED_APPRSL	MLZS_VIEW
36	ZT	MONETARY_PERQ	MLZT_VIEW
37	MP	PAY_PERIOD	MP_VIEW
39	F	F_OTHER_RECORD	F_VIEW
39	G	G_OTHER_RECORD	G_VIEW
39	W	W_OTHER_RECORD	W_VIEW
39	X	X_OTHER_RECORD	X_VIEW
40	40FN	FIELD_NAMES	Y40FN_VIEW
40	PR0	POSITION_HEADER	YPR0_VIEW
40	PR1	POSITION_CTL_BASIC	YPR1_VIEW
40	PR2	POSITION_FROM_DATA	YPR2_VIEW
40	PR3	POSITION_TO_DATA	YPR3_VIEW
40	PR5	POSITION_DEPT	YPR5_VIEW
40	PR7	POSITION_ACTUAL	YPR7_VIEW

NA	RDB	DIDX	DIDX_VIEW
40	PR8	POSITION_REQ	YPR8_VIEW
40	PR9	POSITION_INCUMBENT	YPR9_VIEW
40	PR9	POSITION_NARRATIVE	YPR4_VIEW
40	PRH	POSITION_CTRL_HDR	YPRH_VIEW
40	PRS	POSITION_CTL_SKILL	YPRS_VIEW
40	PRS	POSITION_SKILLS	YT0A05_VIEW
40	T!	ACCRUAL_SELECTION	YT_VIEW
40	T!ARA	ACCRUAL_ROUTINE	YT_ARA_VIEW
40	T!ARB	ACCRUAL_ROUTINE_B	YT_ARB_VIEW
40	T!ARC	ACCRUAL_ROUTINE_C	YT_ARC_VIEW
40	T*A	COURSE_DEVP_COST	YT_A_VIEW
40	T*C A	COORDINATOR	YT_C_A_VIEW
40	T*C B	COORDINATOR_B	YT_C_B_VIEW
40	T*C C	COORDINATOR_C	YT_C_C_VIEW
40	T*C D	COORDINATOR_D	YT_C_D_VIEW
40	T*C E	COORDINATOR_E	YT_C_E_VIEW
40	T*D A	COURSE_OFFERING	YT_D_A_VIEW
40	T*D B	COURSE_OFFERING_B	YT_D_B_VIEW
40	T*D C	COURSE_OFFERING_C	YT_D_C_VIEW
40	T*D D	COURSE_OFFERING_D	YT_D_D_VIEW
40	T*D E	COURSE_OFFERING_E	YT_D_E_VIEW
40	T*D F	COURSE_OFFERING_F	YT_D_F_VIEW
40	T*N A	COURSE_PROVIDER	YT_N_A_VIEW
40	T*N B	COURSE_PROVIDER_B	YT_N_B_VIEW
40	T*N C	COURSE_PROVIDER_C	YT_N_C_VIEW
40	T*N D	COURSE_PROVIDER_D	YT_N_D_VIEW
40	T*N E	COURSE_PROVIDER_E	YT_N_E_VIEW
40	T*P A	PROGRAM_SCHEDULE	YT_P_A_VIEW
40	T*P B	PROGRAM_SCHEDULE_B	YT_P_B_VIEW
40	T*P C	PROGRAM_SCHEDULE_C	YT_P_C_VIEW
40	T*P D	PROGRAM_SCHEDULE_D	YT_P_D_VIEW
40	T*P E	PROGRAM_SCHEDULE_E	YT_P_E_VIEW
40	T*P F	PROGRAM_SCHEDULE_F	YT_P_F_VIEW
40	T*R	COMPANY_XREF	YT_R_VIEW
40	T*S A	CLASS_SCHEDULE	YT_S_A_VIEW
40	T*S B	CLASS_SCHEDULE_B	YT_S_B_VIEW
40	T*S C	CLASS_SCHEDULE_C	YT_S_C_VIEW

NA	RDB	DIDX	DIDX_VIEW
40	T*S D	CLASS_SCHEDULE_D	YT_S_D_VIEW
40	T*S E	CLASS_SCHEDULE_E	YT_S_E_VIEW
40	T*T	TRAINING_REQUIRED	YT_T_VIEW
40	T*X	CANCEL_COURSE_BOOK	YT_X_VIEW
40	T*Y	CLASS_EVALUATION	YT_Y_VIEW
40	T*Z	COURSE_BOOKING	YT_Z_VIEW
40	T<AB	ABSENCE_EARN_CODE	YT_AB_VIEW
40	T<C2A	CREW_ROTATION_08_A	YT_C2A_VIEW
40	T<C2B	CREW_ROTATION_08_B	YT_C2B_VIEW
40	T<C2C	CREW_ROTATION_08_C	YT_C2C_VIEW
40	T<C3A	CREW_ROTATION_14_A	YT_C3A_VIEW
40	T<C3B	CREW_ROTATION_14_B	YT_C3B_VIEW
40	T<C3C	CREW_ROTATION_14_C	YT_C3C_VIEW
40	T<C3D	CREW_ROTATION_14_D	YT_C3D_VIEW
40	T<EC	TA_EARN_CODE	YT_EC_VIEW
40	T<P=	POLICY_ACTIVITY	YT_P_VIEW
40	T<PT	POLICY_TABLE	YT_PT_VIEW
40	T<S=	SCHEDULE_ACTIVITY	YT_S_VIEW
40	T<SP	SHIFT_PREMIUM	YT_SP_VIEW
40	T<ST	SCHEDULE_TABLE	YT_ST_VIEW
40	T0A01	POSITION_BASIC	YT0A01_VIEW
40	T0A02	POSITION_BASIC_02	YT0A02_VIEW
40	T0A03	POSITION_EVAL	YT0A03_VIEW
40	T0A04	POSITION_EVAL_CRIT	YT0A04_VIEW
40	T0A06	POSITION_MEMBERSHIP	YT0A06_VIEW
40	T0A07	POSITION_LICENSES	YT0A07_VIEW
40	T0A08	POSITION_EDUCATION	YT0A08_VIEW
40	T0A10	POSITION_DOC_REF	YT0A10_VIEW
40	T0A11	POSITION_REQ_EXP	YT0A11_VIEW
40	T0A12	POSITION_MISC_DATA	YT0A12_VIEW
40	T0A13	POSITION_REQ_TRAIN	YT0A13_VIEW
40	T0A50	POSITION_STATUS	YT0A50_VIEW
40	T0A51	POSITION_LOCATION	YT0A51_VIEW
40	T0A52	POSITION_FUND	YT0A52_VIEW
40	T0A53	POSITION_VEHICLE	YT0A53_VIEW
40	T0A54	POSITION_NEXT_REVW	YT0A54_VIEW
40	T0A55	POSITION_FTE	YT0A55_VIEW

NA	RDB	DIDX	DIDX_VIEW
40	T0A56	POSITION_COMPLEMNT	YT0A56_VIEW
40	T0B01	ORG_UNIT_BASIC	YT0B01_VIEW
40	T0B02	ORG_UNIT_LVL_NAME	YT0B02_VIEW
40	T0B03	ORG_UNIT_FTE	YT0B03_VIEW
40	T0B10	ORG_UNIT_DOC_REF	YT0B10_VIEW
40	T0B99	ORG_UNIT_DEF_NAME	YT0B99_VIEW
40	T0D01	JOB_BASIC	YT0D01_VIEW
40	T0D02	JOB_BASIC_02	YT0D02_VIEW
40	T0D03	JOB_EVALUATION	YT0D03_VIEW
40	T0D04	JOB_EVAL_CRIT	YT0D04_VIEW
40	T0D05	JOB_SKILLS	YT0D05_VIEW
40	T0D06	JOB_MEMBERSHIP	YT0D06_VIEW
40	T0D07	JOB_LICENSES	YT0D07_VIEW
40	T0D08	JOB_EDUCATION	YT0D08_VIEW
40	T0D09	JOB_NEXT_JOB	YT0D09_VIEW
40	T0D10	JOB_DOC_REF	YT0D10_VIEW
40	T0D11	JOB_REQ_EXP	YT0D11_VIEW
40	T0D13	JOB_REQ_TRAINING	YT0D13_VIEW
40	TA A	JOB_CODE	YTA__A_VIEW
40	TA B	JOB_CODE_B	YTA__B_VIEW
40	TBA	SALARY_GRADE_ANN	YTBA_VIEW
40	TBB	SALARY_GRD_PAY_PD	YTBB_VIEW
40	TBC	SALARY_GRADE_HRLY	YTBC_VIEW
40	TC A	JOB_EVAL_PROFILE	YTC__A_VIEW
40	TC B	JOB_EVAL_PROFILE_B	YTC__B_VIEW
40	TDC1	SALARY_INC_DEFN_1	YTDC1_VIEW
40	TDC2	SALARY_INC_DEFN_2	YTDC2_VIEW
40	TDC3	SALARY_INC_DEFN_3	YTDC3_VIEW
40	TDC4	SALARY_INC_DEFN_4	YTDC4_VIEW
40	TDR1	SALARY_INC_DEFN_5	YTDR1_VIEW
40	TDR2	SALARY_INC_DEFN_6	YTDR2_VIEW
40	TDR3	SALARY_INC_DEFN_7	YTDR3_VIEW
40	TDR4	SALARY_INC_DEFN_8	YTDR4_VIEW
40	TDT1	SALARY_INC_DEFN_9	YTDT1_VIEW
40	TDT2	SALARY_INC_DEFN_0	YTDT2_VIEW
40	TE	OCCUPATION_GROUP	YTE_VIEW
40	TF	ADJ_EMP_STATUS	YTF_VIEW

NA	RDB	DIDX	DIDX_VIEW
40	TG	SYSTEM_OPTIONS	YTG_VIEW
40	TH	SALARY_PLAN	YTH_VIEW
40	TI	SALARY_GRADE	YTI_VIEW
40	TJ A	PLAN_RETIRE_RULE	YTJ__A_VIEW
40	TJ B	PLAN_RETIRE_RULE_B	YTJ__B_VIEW
40	TK A	BENEFIT_PLAN	YTK__A_VIEW
40	TK B	BENEFIT_PLAN_B	YTK__B_VIEW
40	TL	PLAN_ELIGIBILITY	YTL_VIEW
40	TM	COVERAGE_COST	YTM_VIEW
40	TN A	PLAN_PARTICIPATE	YTN__A_VIEW
40	TN B	PLAN_PARTICIPATE_B	YTN__B_VIEW
40	TO	ACCUMULATOR_RULES	YTO_VIEW
40	TOA09	POSITION_NEXT_JOB	YT0A09_VIEW
40	TP	MASTER_PLAN	YTP_VIEW
40	TQ	ANNUITANT_FACTOR	YTQ_VIEW
40	TRA	PLAN_INTEREST_RATE	YTRA_VIEW
40	TRB	FUND_INTEREST_RATE	YTRB_VIEW
40	TRC	PLAN_ALLOC_METHOD	YTRC_VIEW
40	TRD	FUND_ALLOC_METHOD	YTRD_VIEW
40	TS	PLAN_EARN_DED_RULE	YTS_VIEW
40	TT	PLAN_OPT_ACTIVITY	YTT_VIEW
40	TU A	BREAK_IN_SVC_RUL	YTU__A_VIEW
40	TU B	BREAK_IN_SVC_RUL_B	YTU__B_VIEW
40	TV	DISCRIMINATION_TST	YTV_VIEW
40	TW A	PRIOR_YEAR_TOTAL	YTW__A_VIEW
40	TW B	PRIOR_YEAR_TOTAL_B	YTW__B_VIEW
40	TX A	EEO_ESTABLISHMNT	YTX__A_VIEW
40	TX B	EEO_ESTABLISHMNT_B	YTX__B_VIEW
40	TX C	EEO_ESTABLISHMNT_C	YTX__C_VIEW
40	TX D	EEO_ESTABLISHMNT_D	YTX__D_VIEW
40	TX E	EEO_ESTABLISHMNT_E	YTX__E_VIEW
40	TY	EEO_STATISTICS	YTY_VIEW
40	TZ	COVERAGE_COST_B	YTZ_VIEW
40	TZAX	HR_TABLE_CTRL	YTZAX_VIEW
40	TZAY	BENEFIT_TABLE_CTRL	YTZAY_VIEW
40	TZAZ	ACCRUAL_TABLE_CTRL	YTZAZ_VIEW
40	U1	FLEX_CREDIT_CALC	YU1_VIEW

NA	RDB	DIDX	DIDX_VIEW
40	U2	FLEX_PLAN_OPTS	YU2_VIEW
40	UDS1	NODE_CONTROL_TABLE	YUDS1_VIEW
40	UDS2	MACHINE_PARAMETERS	YUDS2_VIEW
40	UDS3	DISTRIB_ACCESS_LOG	YUDS3_VIEW
40	UDS4	DISTRIBUTION_RULES	YUDS4_VIEW
40	URT01	REQ_BASIC_DETAILS	YURT01_VIEW
40	URT11	REQ_CAND_BASIC	YURT11_VIEW
40	URT12	REQ_CAND_BASIC_2	YURT12_VIEW
40	WPFP	POSITION_BUDGET_PC	YPR6_VIEW

APPENDIX D

Operating System Codes

In This Appendix

Operating System Codes.....550
Database Operating Codes.....551

Operating System Codes

Operating System Codes are often required by The Solution Series to distinguish unique characteristics for your environment. For example, the program PULL uses Operating System Codes.

Manufacturer	Code	Environment	Counter Length
UNIX	MFE	UNIX Oracle	6
Windows	MFJ/ MFj	Windows SQL Server	6
Windows	MFe	Windows Oracle	6
IBM	OSR	z/OS DB2	4

Database Operating Codes

The Solution Series uses database operating codes to extract the appropriate database syntax to create the database.

Manufacturer	CBSV PULL Code	CASE Tool Code
Oracle	MFE/MFe	MF2ORA
SQL Server	MFJ/MFj	MF2SQL
DB2	OSR	5MRDBPGM0OS

APPENDIX E

Object Codes

In This Appendix

System Control Repository Object Codes.....554
Object Codes - Quick Solution 557

System Control Repository Object Codes

Object Codes are required for several Solution Series programs to select specific System Control Repository records for processing. Programs that require an Object Code are DISPLY, COPY, EDIT, PURGE, and EXPORT.

Not all records on FILE01 are accessible by using these programs. A complete list of records on FILE01 can be found later in this appendix.

Object	Object Description
A	A Records (Machine Parameters)
B	B Records (Expansion Records)
C	Option List Records (All)
C/C	Option List with Country Code
C/D	Option List Documentation
C/M	Option List Calculation Code
C/R	Option List Edits Code
C/V	Option List Values
D	Default Records—LDEFAULT
EAL	English Language Records
ECM	Context Menus
EPM	Position Administration Navigation
ETL	RDBMS View Names
EXT	PAYXTR/PAYMRG Select
F	Field Table Entries (All)
F/D	Field Table Documentation
F/V	Verbs
F1	Field Entry
FS	Field Security
FTM	Field Table Menu
FTX	Field Table Cross Reference
J	Journal Records
MCL	Client Data File Updates
MEV	Event Triggers
MML	MML Records
MMN	GUI Records
P	P Records (All)
P/	P Records—Cyborg Scripting Language (English Language) Source
P-X	P Records—Except Object Records

Object	Object Description
P/C	P Records—Form Chaining Records
P/D	P Records—Hypertext Titles
P/E	P Records—Reload Messages
P/G	P Records—Cyborg Scripting Language (English Language) Source generated
P/H	P Records—PTF History
P/J	P Records—Sample JCL
P/K	P Records—Alt Lang Menu
P/L	P Records—Menu List
P/M	P Records—Documentation
P/N	P Records—Alt Lang Doc
P/Q	P Records—Alt Lang Error Message
P/R	P Records—Error Messages
P/S	P Records—Form Items Table
P/T	P Records—Transaction Data
P/W	P Records—Assembler Source
P/X	P Records—Object Code
PC	C12RPT—Organization Inclusion List Records
PD	RUNC12—Organization Report Scheduling Records
PE	RUNREP—Report Group Records
PI	Virtual Program Name
PR	Position Control Records
PX	Objects
PXH	Edit Heading
PXS	OBJ/ACT Security
Q	Alternate Key Records
QRY	Solution View Query Source
R	R Records
RPT	CSL Report Components
RQM	Solution View Query Specifications
RRM	Solution View Report Specifications
RS	Report Source (All)
RSM	Solution View Form Specifications
RT	Report Output Position/Totaling Records
RXM	Solution View Extract Specifications
SCR	Solution View Form Source

Object	Object Description
SRC	Cyborg Scripting Language (English Language) Source (All)
T	Table Records
U	Distributed Administration Records
V	V-Tables
W	Consultant Tables
X	User Tables
XRF	Solution View X-Ref. Records
XTR	Solution View Extract Source
Y	Security Records
Y/V	Security Violation Records
ZE	SQL Errors
ZL	Locked Records

Object Codes - Quick Solution

Use this Quick Solution to determine what functions are available for an object:

OBJECT	Object Description	OBJECT-KEY	Example	Pos	COPY	DISPLY	PURGE	EXPORT	EDIT
A	A Records Machine Parameters	Blank				D		X	E
B	B Records Expansion Records	Blank				D		X	E
C	Option list Records	Option list Name	HR09b, HR0= =	5	C	D	P	X	E
C/C	Option list with Country Code	Option list Name	1PP488=	6	C	D	P	X	E
C/D	Option list Documentation and Values	Option list Name	HR09b, HR0= =	5		D		X	E
C/M	Option list Calculation Code	Option list Name	BA31b, BA0= =	5		D		X	E
C/R	Option list Edits Code	Option list Name	BA31b, BA0= =	5		D		X	E
C/V	Option list Values	Option list Name	PP429, PR0= =	5		D		X	E
D	Default Records—LDEFAULT	Organization Control Number	999999	6		D	P	X	E
ECM	Context Menus	Blank				D		X	E
EPM	Position Management Navigation	Blank				D		X	E

OBJECT	Object Description	OBJECT-KEY	Example	Pos	COPY	DISPLY	PURGE	EXPORT	EDIT
ETL	RDBMS View Names					D		X	
EXT	PAYXTR/PAYMRG Select				C	D	P	X	E
F	Field Table Entries	Field Name	ANNUAL-SALARY	up to 20		D			E
F/D	Field Table Documentation	Field Name	ANNUAL-SALARY	up to 20		D		X	E
FS	Field Security	Field Name	ANNUAL-SALARY	up to 20		D			E
F/V	Verbs	Verb	FIND-ACTIVITY	up to 20		D		X	E
F1	Field Entry	Field Name	ANNUAL-SALARY	up to 20	C	D	P	X	E
FTM	Field Table Menu	Blank				D		X	E
FTX	Field Table Cross Reference	Blank				D		X	E
J	Journal Records	Blank					P	X	
MCL	FILECL Updates	Blank				D	P	X	
MMN	GUI Records	Blank				D	P	X	
P	P Records	Name of Program	1A-RPT	6	C	D	P	X	
P-X	P Records—Except Object Records	Name of Program	1A-RPT	6	C	D		X	

OBJECT	Object Description	OBJECT-KEY	Example	Pos	COPY	DISPLY	PURGE	EXPORT	EDIT
P/	P Records—Cyborg Scripting Language (English Language) Source	Name of Program	1A-RPT	6	C	D	P	X	E
P/C	P Records—Form Chaining Records	Name of Form Chain Series	NEWHRE, TERMS	up to 6	C	D	P	X	E
P/D	Hypertext Files	Names of Program	EF-SCR	6	C	D	P	X	E
P/E	P Records—Reload Messages	Name of Program	8-RPT, EE-SCR	6		D	P	X	E
P/G	Cyborg Scripting Language (English Language) Source generated	Name of Program	EF-SCR	6	C	D	P	X	E
P/H	PTF History	Name of Program	EF-SCR	6	C	D	P	X	E
P/J	P Records—Sample JCL	Name of Program or JCLxxx where xxx is the Operating System Code	REPORT, QUERY, JCLVAX	6	C	D	P	X	E
P/K	Alt Language Menu	Name of Program	PRMAIN	6	C	D	P	X	E
P/L	P Records—Menu List	Name of Menu	PRMAIN, MAINbb, Ba= = = =	6	C	D	P	X	E
P/M	P Records—Documentation	Name of Program	EE-SCR	6	C	D	P	X	E

OBJECT	Object Description	OBJECT-KEY	Example	Pos	COPY	DISPLY	PURGE	EXPORT	EDIT
P/N	Alt Language Doc.	Name of Program	EF-SCR	6	C	D	P	X	E
P/Q	Alt. Language Error Message	Name of Program	ERRSCR	6	C	D	P	X	E
P/R	P Records—Error Messages	ERRxxy where xx is the Module Code and y is the error type (R=Reject, W=Warning, M=Memo)	ERRHRW, ERRBAR, ERRPRM	6	C	D	P	X	E
P/S	Form Items Table	Name of Form Program	01-SCR	6	C	D	P	X	E
P/T	P Records—Test Data	Name of Test File	HRDEMO	6	C	D	P	X	E
P/W	P Records—Assembler Source	Name of Program	CYBWCI	6	C	D	P	X	E
P/X	P Records—Object Code	Name of Program	1A-RPT	6	C	D	P	X	E
PC	C12RPT—Organization Inclusion List Records	Organization Control Number	999999	6	C	D	P	X	
PD	RUNC12—Organization Report Scheduling Records	Report Group Name	WEEKLY	up to 6	C	D	P	X	
PE	RUNREP—Report Group Records	Report Group Name	WEEKLY	up to 6	C	D	P	X	

OBJECT	Object Description	OBJECT-KEY	Example	Pos	COPY	DISPLY	PURGE	EXPORT	EDIT
PI	Variant Country Form Records	Name of Program	EF-SCR	6	C	D	P	X	E
PX	Objects	Blank				D		X	E
PXH	EDIT Headings	Blank				D		X	E
PXS	OBJ/ACT Security	Blank				D		X	E
Q	Alternate Key Records	Alternate Key or Phonetic Key	00, PE	2		D	P	X	E
QRY	Solution View Query Source	Name of Query	XINTRO	6	C	D	P	X	
R	R Records								
RPT	Report	Name of Report	1A-RPT	6	C		P	X	
RQM	Solution View Query Specifications	Name of Query	XINTRO	6	C	D	P	X	
RRM	Solution View Report Specifications	Name of Report	XINTRO	6	C	D	P	X	
RS	Report Source	Name of Report	1A-RPT	6	C	D	P	X	
RSM	Solution View Form Specifications	Name of Form	XMYSCR	6	C	D	P	X	
RT	Report Output Position/Totaling Records	First four positions of Report Name	1A-R	4	C	D	P	X	
RXM	Solution View Extract Specifications	Name of Extract	XINTXT	6	C	D	P	X	
SCR	Solution View Form Source	Name of Form	XMYSCR	6	C	D	P	X	

OBJECT	Object Description	OBJECT-KEY	Example	Pos	COPY	DISPLY	PURGE	EXPORT	EDIT
SRC	Cyborg Scripting Language (English Language) Source (all)								
T	Table Records	Table ID and Control Number	A9999, K9999	5		D		X	
XRF	Solution View X-Ref. Records								
XTR	Solution View Extract Source	Name of Extract	XINTXT	6	C	D	P	X	
Y	Security Records					D		X	E
Y/V	Security Violation Records					D	P	X	
ZE	SQL Errors								
ZL	Locked Records	Organization Control Number, Master Record Type, Master Record Key	999999M12345 67890 999999D 999999HTXb10 1	up to 17		D	P	X	

APPENDIX F

Record Key Structures

In This Appendix

System Control Repository (Control File) key structure(s) 564
Employee Database layout.....578
Employee Database key structure(s).....580

System Control Repository (Control File) key structure(s)

"A" records

The "A" records contain the machine control cards and pointer fields unique to each operating system platform. These machine parameters include the pointer and system control information.

Key Structure	
Column(s)	**Value**
1	A (literal)
2	Blank
3–12	A COMPUTER (literal) (First record only—subsequent records equal B followed by the matching tailor code and program name)
25–27	Operating system code of computer being used

Object	Object Description
A	A Records (Machine Parameters)

"B" records

The "B" records contain the Working Storage Expansion Parameters that are used when the CBSV programs are created. The working storage areas are defined the same way for both CBSVO and CBSVB. Over time, the areas will need to be expanded to accommodate the size of your company's Employee and Company information. The "B" records contain the information the system needs to expand these areas.

Key Structure	
Column(s)	**Value**
1	B (literal)
2–7	Sequence Number

Object	Object Description
B	B Records (Expansion Records)

"C" records

The "C" records contain the Option list values and description (value translation) for fields using a code scheme. These values are used to validate data input into specific fields.

Key Structure	
Column(s)	**Value**
1	C (literal)
2	Country Code
3–7	Option List Name
8–21	Code Value
22–24	Sequence Number

Object	Object Description
C	Option List
C/D	Option List Description
C/M	Option List Calculation Code
C/R	Option List Edits Code
C/V	Option List Values

"D" records

The "D" records contain defaults for form models which can be set up to contain pre-defined data. These are "compiled" into form-image records that reside on the System Control Repository.

Key Structure	
Column(s)	**Value**
1	D (literal)
2–7	Organization Control Number Value
8–23	Form Key Fields and Data Fields

"ECM" records

The "ECM" records contain a list of programs associated with the current form when using Position Administration.

Key Structure	
Column(s)	**Value**
1	E (literal)
2–3	CM (literal)
4–9	Current Program ID
10	Language Preference—Blank or "A"
11–12	Tie Breaker
13–24	Spaces

"EPM" records

The "EPM" records contain markers that indicate whether buttons on certain Position Administration forms are active or "grayed out".

Key Structure	
Column(s)	**Value**
1	E (literal)
2–3	PM (literal)
4–9	Current Program ID
10	Language indicator—blank or "A"
11	Button ID
12	Incumbent form flag
13–24	Spaces

"ETL" records

The "ETL" records contain information from the Relational Table Name Elements form.

Key Structure	
Column(s)	**Value**
1	E (literal)
2–3	TL (literal)
4–7	Option list Value
8–24	Blanks

"EXT" records

The "EXT" records contain additional extract data requirement records.

Key Structure	
Column(s)	**Value**
1	E (literal)
2–3	XT (literal)
4–5	Payroll Processing Group (future use)
6–24	Table Name or ALL

"F" records

The "F" records contain the data dictionary, called the Field Name Table. All data fields are defined here with their associated characteristic code and documentation. Each must have a unique name which is part of the Key to the Field Name record. Data Dictionary items include verbs, reserved words, fields, and file definitions.

Key Structure	
Column(s)	**Value**
1	F (literal)
2	Blank
3–22	Name of field, reserved word, file or verb
23–24	Sequence Number/Code

Object	Object Description
F	Field Table Entries
F/D	Field Table Documentation
F/S	Field Security
F/V	Verbs
F1	Field Entry
FTM	Field Table Menu
FTX	Field Table Cross Reference

"MCL" records

The "MCL" records contain the updates needed for the Client Data File.

Key Structure	
Column(s)	**Value**
1–3	MCL (literal)
4–11	Date (ccyymmdd)
12–15	Time (hhmm)
16–19	Session number
20–23	Transaction number

"MML" records

The "MML" records contain checklists.

Key Structure	
Column(s)	**Value**
1–3	MML (literal)
4–9	Checklist unique ID
10	Type (blank = normal checklist, "D" = option dialog)
11–13	Sequence number
14–19	Name of the CSL form program

"MMN" records

The "MMN" records contain the system menus that are placed into the menu bar.

Key Structure	
Column(s)	**Value**
1–3	MMN (literal)
4	Language Indicator (P=primary, A=alternate, B=Bitmap)
5–10	1st level sub menu number
11–13	2nd level sub menu number

"P" records

The "P" records contain all source, object, documentation, error messages, and so forth for Cyborg Scripting Language forms, reports, and utilities that reside on the System Control Repository (Control File; FILE01) as program records.

Key Structure	
Column(s)	**Value**
1	P (literal)
2	Blank
3–8	File name
9	Record type
10–14	Sequence number
15	Sequence code

Object	**Object Description**
P	P Records
P–X	P Records—Except Object Records
P/	P Records—Cyborg Scripting Language source
P/E	P Records—Reload messages
P/H	P Records—Change history
P/J	P Records—ample JCL
P/L	P Records—Menu List
P/M	P Records—Documentation
P/R	P Records—Error message
P/T	P Records—Test data
P/W	P Records—Assembler source
P/X	P Records—Object code
RPT	Report
RS	Report source

Record Types	
Value	**Description**
Blank	Cyborg Scripting Language Source Code
A	Temporary use (P-RSEQ)
C	Form chain
D	Hypertext titles (version 3)
E	Reload messages
G	CSL source

Record Types	
H	PTF history
J	Sample Control Records and JCL
K	Alternate language menu
L	Menu list records
M	Documentation records
N	Alternate language documentation
Q	Alternate language error messages
R	Messages (Reject/Warning/Memo)
S	FormBuilder records
T	Demonstration (Test) data records
W	Assembler Code
X	Object Code

"PC" records

Organization Inclusion List records are used to specify which reports are to be produced for each organization on your Employee Database. The C12RPT form is an optional form that will contain a list of valid reports for each organization. The REPORT program assumes all reports are valid for every organization unless the "PC" (C12RPT Form) records are set up.

Key Structure	
Column(s)	**Value**
1–2	PC
3–8	Organization Control Number
9–14	Report Code
15	Blank
16–23	SECURITY verb

Object	Object Description
PC	Organization Inclusion List Records

"PD" records

Restricted Organization Report Scheduling Records are optional records, which are used to define which organizations are to be included in reporting, per the "PE" record.

Key Structure	
Column(s)	**Value**
1–2	PD
3–8	Report Group Name
9–14	Organization Control Number
15–24	Organization Name

Object	Object Description
PD	Restricted Organization Report Scheduling Records

"PE" records

Report Group records are used to schedule reports. They must have a six-character file name that indicates the report job. "PE" records are created through the Report Group Activities form and contain a list of reports to be run together. Some reports may require special dates or other parameters.

Header Record

Key Structure	
Column(s)	**Value**
1–2	PE
3–8	Report Group Name
9–23	blanks
24–65	Report Group Title
66–69	Operator ID or blanks

Key Structure	
Column(s)	**Value**
1–2	PE
3–8	Report Group Name
9–14	Report Code
15–35	Report Parameters (ALLOCATE-AREA)

Object	Object Description
PE	Report Group Records

"PI" records

The "PI" records contains the name of the form to execute when variant country forms are being used. This allows a constant form name to be used regardless of the country.

Key Structure	
Column(s)	**Value**
1–2	PI
3–8	Name of the CSL form program
9	Country code

Object	Object Description
PI	Variant country form

"PM" records

The "PM" records are created by the POSTIT program and contain the message, sender, and receiver operator IDs. The READIT program displays the message and deletes the working copy. Once used, there will always be the PM records for each operator ID sending with the last messages sent.

Key Structure	
Column(s)	**Value**
1–2	PM
3–6	Sender's or receiver's operator ID
7	Message indicator
8–12	Date sent or received

"PP" records

The "PP" records contain individual user default options such as which organization to display when signing on and the default menu to use. They are created by the Operator Options (MYOPTS) form.

Key Structure	
Column(s)	**Value**
1–2	PP
3–6	Operator ID

"PR" records

The "PR" records are Position Control Table records, which are used to access Position Control records.

Key Structure	
Column(s)	**Value**
1–2	Position control table ID
3–24	Position control table key fields

Object	Object Description
PR	Position control records
PX	Object security records

"Q" records

Alternate Key Records are index pointers created using the Master Record Key and other field information. These pointers allow the System Control Repository to access Employee Database records when a Query (online report) is executed.

Key Structure	
Column(s)	**Value**
1	Q (literal)
2–3	Key code
4–22	Key data
23–24	Duplicate Key indicator

Object	Object Description
Q01	Social Security Number
Q02	Employee Name
QID	Employee ID
QPE	Phonetic Keys

"R" records

The "R" records are Report Format Records. When batch report source code is compiled, "R" records are created on the System Control Repository.

Key Structure	
Column(s)	**Value**
1	R (literal)
2	Blank
3–7	Report Code and Type
8–9	Report Record Type

Object	Object Description
R	Report format records

"RFM" records

The "RFM" records have a dual purpose. They contain the quick-reference menus used by WRITER and, for each employee and company segment, they contain the RDBMS table name.

Key Structure	
Column(s)	**Value**
1–3	RFM
4–5	Application indicator
6–7	Pointer number
8–9	Module code
10–11	Segment code

Object	Object Description
FTM	Field name table menu

"RFT" records

These records work in conjunction with the "RFM" records and also have a dual purpose. They define the fields to be displayed on each quick reference menu for WRITER and specify if the field is to be defined to the RDBMS. A single field with numerous field definitions such as NAME, EMPLOYEE-NAME, EMPLOYEE-NAME-10, and so forth will all be available for WRITER, but only EMPLOYEE-NAME is tagged as a relational database field.

Key Structure	
Column(s)	**Value**
1–3	RFT
4–5	Pointer number
6–7	Module code
8–9	Segment code
10–12	Blank
13–15	Displacement
16–18	Sequence number

Object	**Object Description**
FTX	Field name table cross-reference

"RQM", "RRM", "RSM", and "RXM" records

These are Solution View Specification records created when WRITER is used to write a query (RQM), report (RRM), form (RSM), or extract (RXM). These records allow users to change their program with WRITER and have their original entries display.

Key Structure	
Column(s)	**Value**
1–3	RQM, RRM, RXM or RSM
4–9	Query Report Name (File name)
10	Record Type
11–13	Segment and Segment Code
14	Sequence Number
15–24	Field name

"RT" records

Report Output Position/Totaling Records are used to define output detail and total parameters for a report. Information on these records is used to obtain Field Name Table definitions for printing field data on the report.

Key Structure	
Column(s)	**Value**
1–2	RT
3–7	Report Code and Type
8–9	Sequence Number
10–28	Field Name

Object	Object Description
RT	Report Output Position/Totaling

"T", "U", "W", and "X" records

Table Records contain static company information displayed for an employee record based on a code present on the Master Record. Records beginning with a T or U are delivered. W and X records are user/consulting created tables. The best way to view table records is to execute the table form in Inquiry mode.

Key Structure	
Column(s)	**Value**
1–2	Table ID
3–24	Table Key fields (varies by table)

Object	Object Description
T	Delivered table records
U	Delivered table records
W	Consulting table records
X	User table records

"Y" records

Security records contain the security access for each individual sign-on sequence, as well as any security violations. Security Records have an encrypted key structure and are discussed in the Security Manual.

Object	Object Description
Y	Security Records
Y/V	Security Violation Records

"Z" records

The "Z BACKUP" or "Z BACKEM" records are written whenever the BACKUP or BACKEM programs are run and contain the date and time of the back up. The output is then used to run a DEMO01 to create a new FILE01. BACKUP is the version 3 PC version and BACKEM the mainframe version.

Key Structure	
Column(s)	**Value**
1–2	Z
3–8	"BACKUP" for version 3 PC DOS; "BACKEM" for all others

"ZE" records

These are RDBMS error records. A ZE record is written whenever an error or informational message is encountered during execution of the DML statements by CBSV.

Key Structure	
Column(s)	**Value**
1–2	ZE
3–8	Organization Control Number

"ZL" records

These are temporary system generated records which cause a company or employee record to be locked to other users during an update process. This prevents multiple users from updating the same record at the same time.

Key Structure	
Column(s)	**Value**
1–2	ZL
3–8	Organization Control Number
9	Employee database record type

Object	Object Description
ZL	Locked Records

Employee Database layout

The first three characters are the three-byte binary record length. The first records stored in the Employee Database are always the P4CALC Report Generators.

The next records in the Employee Database are:

Record	Use
xxxxxx	Six-byte organization value (Organization Control Number).
xxxxxxD	Company records.
xxxxxxF	Company level "Other" records—internal use only: xxxxxxFB batch records for time entry xxxxxxFFK adjustments xxxxxxFFT used with time entry xxxxxxG Company level "Other" records—User
xxxxxxHTX	Tax Authority records.
xxxxxxM	Employee records. The ten-position employee number follows the "M".
xxxxxxW	Company level "Other" records—internal use only.
xxxxxxX	Company level "Other" records—User.
ZH	Created by Solution View, Time and Attendance, or Position Administration only, as needed. Key is session ID and a field name.
Z1/Z2	Created by secondary "Window" display feature within the GUI.
ZI	IS/WAS audit records for re-engineered forms (except transaction records).
ZN	Scratch area storage records. This record is deleted by the GOODBY program. Format is ZNsssspppppppnnnnn, where: ssss session number pppppp program name nnnnn P-E-PLACE value of pointer 44 at the time the SAVE-SCRATCH macro was issued
ZQ	Online pay calculation records PAY-CP.
ZR	Report viewing records. The rest of the key is OPID and three-digit VIEW sequence number.
ZV	Batch time entry records.
ZX	Executable code.
ZY	Session records. Created and restored on subsequent transactions by CYB88O. CYB90O updates this record before every form transaction.

Record	Use
ZZ	Form capture audit for non-Solution Series-ized forms and transaction forms.
ZZA	Online transactions for payroll.

Employee Database key structure(s)

Report Generator records

Report Generators reside first on the Employee Database and are stored in executable form only. Although Report Generators are used by the Payroll Process, they are maintained on the Employee Database for the purpose of performing an online pay calculation.

Key Structure	
Column(s)	**Value**
1–3	Binary record length
4–9	Report Generator Name

Company records

Company records contain information on the company name and address, company HEDs, control levels, pay frequencies, and pay run parameters.

Key Structure	
Column(s)	**Value**
1–3	Binary record length
4–9	Organization Control Number
10	Record Type (D)
11–31	Blanks

Company "Other" records

Record Type can "F" or "G" for other records that follow the company header.

Key Structure	
Column(s)	**Value**
1–3	Binary record length
4–9	Organization Control Number
10	Record Type (Various)
11–35	Key data

Tax records

Tax records (Record Type "H") contain the tax body data used to calculate the deductions for the pay cycle.

Key Structure	
Column(s)	**Value**
1–3	Binary record length
4–9	Organization Control Number
10	Record Type (H)
11–13	TX_
14–20	Tax Body ID

Employee records

Employee records follow the corresponding company records for the Organization Control Number on the Employee Database. The information contained in the Employee Records includes name and address, labor split, HEDs, taxes, and human resources data.

Key Structure	
Column(s)	**Value**
1–3	Binary record length
4–9	Organization Control Number
10	Record Type (M)
11–20	Employee Number
21–22	History Unique (Binary or 99)

Employee "Other" records

Record Type can "W" or "X" for other records that follow employee records.

Key Structure	
Column(s)	**Value**
1–3	Binary record length
4–9	Organization Control Number
10	Record Type (Various)
11–35	Key data

Online Pay Calc records

These are informational records created by the O4CALC program when the Calculate Pay form is executed. There are three ZQ records created for the Calculate Pay form. These are reused within the session, so only the last calculation is displayed. The three records created contain:

Record 1—Input fields from the Calculate Pay form.

Record 2—Card stack created from the Calculate Pay form data—Batch Card, Payroll Run Process Control form data, Timecard.

Record 3—Results of the calculation, for display.

Key Structure	
Column(s)	**Value**
1–3	Binary record length
4–5	ZQ
6–9	Session Number

Executable Code records

Executable code from the System Control Repository is copied to the Employee Database for each program executed online or in batch. This allows for faster processing.

Key Structure	
Column(s)	**Value**
1–3	Binary record length
4–6	ZX
7–12	Program Name
13	Sequence number (tie breaker)

Session records

The first record is the Session Index Record. This record is used to assign new session numbers when a user signs on to the system. There are other session records, one to a session, displaying the last form executed in the session. When the area directly after the Operator ID is blank it indicates the session was used for a batch job.

Key Structure	
Column(s)	**Value**
1–3	Binary record length
4–5	ZY
6–9	Session Number
10–13	Operator ID

Audit records

Audit records are form "snap shots" of information entered in online sessions.

Key Structure	
Column(s)	**Value**
1–3	Binary record length
4–5	Code ZI or ZZ
6–9	Session Number
10–13	Audit Record Number (within the session)

Code	Description
ZZA	Active time entries or adjustments
ZZB	Cancelled time entries or adjustments

Time Entry/Adjustment Transaction records

Time Entry and Adjustment Transaction ("ZZA" records) are written to the Employee Database whenever a time entry or adjustment form is entered. These records used in the pay cycle, and are written to FILE10 by PAYXTR.

Key Structure	
Column(s)	**Value**
1–3	Binary record length
4–6	ZZA
7–12	Organization Control Number
13–16	Session Number
17–20	Audit Record Number (within session)

APPENDIX G

System Files

In This Appendix

Online System Files.....586

Online System Files

File Name Assignment	Organization	Media	Input/Output	Record Size	Purpose
FILE01	Random	Disk	Input/Output	80	Control File
FILE02	Random	Disk	Input/Output	Variable (3060 max)	Master File
FILE03	Sequential	Printer	Output	132	Audit/Report/Message Print File (Form Code 1)
FILE04	Sequential	Reader	Input	80	Control Records File
FILE05	Sequential	Disk	Input	80	Data Input File
FILE06	Random	Disk	Output	80	Installation Control File
FILE07	Random	Disk	Output	Variable (3060 max)	Installation Master File
FILE08	Random	Disk	Input/Output	Variable (727 max)	Replication Holding File
FILE09	Random	Disk	Output	Variable (727 max)	Installation Replication Holding File
FILE10	Sequential	Disk/Tape	Output	80	Data Output File
FILE11	Sequential	Disk/Tape	Input	256	Payroll Process Batch Master File
FILE12	Sequential	Disk/Tape	Output	256	Payroll Process Batch Master File
FILE13	Sequential	Disk/Tape	Input	256	Payroll Process Batch Master File
FILE14	Sequential	Disk	Input	150	Report Extract Input File
FILE15	Sequential	Disk	Output	150	Report Extract Output File
FILE17	Sequential	Printer	Output	132	Alternate Print File (Form Code 2)
FILE18	Sequential	Printer	Output	132	Alternate Print File (Form Code 3)
FILE19	Sequential	Printer	Output	132	Alternate Print File (Form Code 4)
FILE20	Sequential	Disk	Input/Output	Variable (636 max)	Replication Packet File—target
FILE21	Sequential	Disk	Input/Output	Variable (846 max)	Replication Packet File—source
FILE23	Random	Disk	Input/Output	512	User Defined File

File Name Assignment	Organization	Media	Input/Output	Record Size	Purpose
FILE24	Sequential	Disk	Input	Variable (3060 max)	User Defined File
FILE25	Sequential	Disk	Output	Variable (3060 max)	User Defined File
FILE30	Sequential	Disk	Output	320	Savings Bond File
FILE31	Sequential	Disk	Output	132	Check Print
FILE32	Sequential	Disk	Output	561	COBRA
FILE36	Sequential	Disk	Output	1024	Data mart Extract File
FILE38	Sequential	Disk	Output	240	Savings Bond Diskette File
FILE42	Sequential	Disk	Output	1030	VETS 100
FILE51	Sequential	Disk	Output	Variable (6015 max)	Server Events

APPENDIX H

Payroll Process Files

In This Appendix

Payroll Process Files.....590

Payroll Process Files

File Name Assignment	Organization	Media	Input/Output	Record Size (bytes)	Purpose
P05RDR	Sequential	Disk/Tape	Input	80	Reader File
P05IN	Sequential	Disk/Tape	Input	118	Recycle File/Valid Transactions
P05OUT	Sequential	Disk/Tape	Output	118	Recycle File/Valid Transactions
P05T80	Sequential	Disk/Tape	Input/Output	80	Transactions File
P05T81	Sequential	Disk/Tape	Input	80	Transactions File
H20IN	Sequential	Disk/Tape	Input	256	Optional Batch Master File
P20IN	Sequential	Disk/Tape	Input	256	Batch Master File
P20OUT	Sequential	Disk/Tape	Output	256	Batch Master File
P40IN/ P40IN1	Sequential	Disk/Tape	Input	200	Report Extract File
P40OUT/ P40OUT1	Sequential	Disk/Tape	Output	200	Report Extract File
PRINTn	Sequential	Printer/Disk	Output	132	Report Output File (PRINT1, PRINT2, PRINT3, PRINT4, PRINTU, PRINTV, and so forth)
CYBMST	Sequential	Disk/Tape	Input	80	Master Library
FILE1	Sequential	Disk/Tape	Output	80	Member Extract File
FILE24	Sequential	Disk/Tape	Output	80	Updated Master Library

APPENDIX I

Naming Conventions

In This Appendix

About this section 592
Field names 593
Program naming convention 594
Cyborg Scripting Language (English Language) verb names 595
Module codes 596
Table codes 597
Alternate Keys 598
Option list names 599
Employee segment codes 600
Company segment codes 601
Other records 602
Error message numbers 603
File numbers 604
Country codes 605

About this section

This section contains naming conventions for the following areas:

- Field names
- Program names
- Cyborg Scripting Language (English Language) verb names
- Module codes
- Table codes
- Alternate Keys
- Option list names
- Employee segment codes
- Company segment codes
- "Other" records
- Error message numbers
- File numbers
- Country codes

Field names

The following tables identify naming standards:

Group	Specific Information
General Requirements	1–18 characters, 0–9, A–X, and - First character must be A–Z. Characters 19 and 20 must not be used for DB2 compatibility.
Product Release Standards	First character must not be "X". Final three characters must not be "-Xx" where "x" is any other character. Must be assigned by the Naming Administrator.
Consulting Standards	First character must not be "X". Final three characters must be "_Xx" where "x" is any other character.
Customer Standards	First character must be "X".

Program naming convention

Group	Specific Information
General Requirements	1–6 characters, 0–9, A–Z, and . ^ ~ @ ! - First character may not be @ or - Fifth and sixth characters must be "PT" for report extract Fifth and sixth characters must not be "PT" if not a report extract Fifth and sixth characters must be a "P" and a space for report output Fifth and sixth characters must not be a "P" and a space if not report output
Product Release Standards	First character must not be "X" ~ must not be used @ must only be used to denote country subroutine (for example, "@US" for United States, "@CA" for Canada, "@AS" for Asia, "@AU" for Australia, "@UK" for United Kingdom, "@SA" for South America and Caribbean) Must be assigned by the Naming Administrator
Consulting Standards	First character must not be "X" ~ must be used within name No other special character may be used
Customer Standards	First character must be "X" No other special characters may be used

Cyborg Scripting Language (English Language) verb names

Group	Specific Information
General Requirements	1–20 characters, A–Z, 0–9, and -
Product Release Standards	First character must not be "X" Final three characters must not be " -Xx" where "x" is any other character Must be assigned by the Naming Administrator
Consulting Standards	First character must not be "X" Final three characters must be " -Xx" where "x" is any other character
Customer Standards	First character must be "X"

Module codes

Group	Specific Information
General Requirements	Two characters First character must be alphabetic
Product Release Standards	First character must not be "X" Second character must be alphabetic Must be assigned by the Naming Administrator
Consulting Standards	First character must not be "X" Second character must be numeric
Customer Standards	First character must be "X"

Table codes

Group	Specific Information
General Requirements	2–4 characters, except = and _ First character must be "P", then "R" or "T–X"
Product Release Standards	First characters must be "PR" (position control), "T", "U", or "V" Must be assigned by the Naming Administrator
Consulting Standards	First character must be "W"
Customer Standards	First character must be "X"

Alternate Keys

Group	Specific Information
General Requirements	2 characters, 0–9, A–Z
Product Release Standards	Two numerical or two alphabetical characters Must be assigned by the Naming Administrator
Consulting Standards	Alphabetic followed by numeric
Customer Standards	Numeric followed by alphabetic

Option list names

Group	Specific Information
General Requirements	4 or 5 characters First two characters must be a module code Fifth character may be a space, "9", or "Y"
Product Release Standards	Fourth character must be numeric Must be assigned by the Naming Administrator
Consulting Standards	Fourth character must be A–L
Customer Standards	Fourth character must be M–Z

Employee segment codes

Group	Specific Information
General Requirements	2 characters, 0–9, A–Z L segment-type; pointer 36
Product Release Standards	First character may not be A–N Must be assigned by the Naming Administrator. **If the first character is an "O" or a "P" positions 69 and 70 should not be used. These positions are reserved and used by P4CALC.**
Consulting Standards	First character must be A–K
Customer Standards	First character must be "L", "M", or "N". **If the first character is an "L", "M", or "N", positions 69 and 70 should not be used. These positions are reserved and used by P4CALC.**

Company segment codes

Group	Specific Information
General Requirements	2 characters, 0–9, A–Z C segment-type; pointer 23
Product Release Standards	First character must not be "B" or M–Z Must be assigned by the Naming Administrator
Consulting Standards	First character must be M–Z
Customer Standards	First character must be "B"

Other records

Group	Specific Information
General Requirements	Data type of "F", "G", or "W" 2 character table code, "FD", "GD", "WB", or "ZZ" 2 character key prefix 0–9, A–Z
Product Release Standards	Data type must be "F" or "W" 2 character table code must be "FD", "WB", or "ZZ" 2 character key prefix must not begin with "C" Must be assigned by the Naming Administrator
Consulting Standards	Data type must be "F" or "W" 2 character table code must be "FD", "WB", or "ZZ" First character of key must be "C"
Customer Standards	Data type must be "G" or "X" 2 character table code must be "GD" 2 character key prefix as desired

Error message numbers

Group	Specific Information
General Requirements	3 characters First character must be 0–9, A–Z Second and third characters must be numeric
Product Release Standards	First character must be numeric Must be assigned by the Naming Administrator
Consulting Standards	First character must be A–L
Customer Standards	First character must be M–Z

File numbers

Group	Specific Information
General Requirements	2 digits
Product Release Standards	Must be 01–22, 30–84 Must be assigned by the Naming Administrator
Consulting Standards	Must be 85–99
Customer Standards	Must be 23–29

Country codes

Group	Specific Information
General Requirements	1 character 0–9, A–Z
Product Release Standards	Must be 0–9, A–T Must be assigned by the Naming Administrator
Consulting Standards	Must be U–W
Customer Standards	Must be X–Z

APPENDIX J

Report Quick Reference

In This Appendix

Introduction 608
Batch Layout (BATCHL) 610
FILE02 Records (RECSIZ) 612
L Segment Delete Report (LD-RPT) 614

Introduction

This section provides a quick reference guide to the reports covered in this documentation.

Batch Layout (BATCHL)

The Batch Layout report is used as the basis for writing a conversion program to load static data into The Solution Series. It lists the entry fields found on each form in the system. It provides form-image records, field lengths, and any comments associated with each entry field for each select form. You can request reports for one or several forms.

Fields

Information reported includes:

Report Field Name and Description

- **From**—The start position of the field.
- **To**—The end position of the field.
- **Field Name**—The name of the field in the Field Name Table.
- **Length**—The number of positions the field occupies.
- **Format/Edit**—Field type.

For more information on this program, refer to **Data Conversion and Load** *(on page 163).*

See also:

- Generating a Batch Layout Report ***(on page 182)***

To learn how to request a Batch Layout report for a given form.

- Loading static data using BATCHL transactions ***(on page 184)***

To learn how to directly update the Employee Database with Batch Layout transaction records.

- ***Loading cumulative data using batch Payroll transactions***

To learn how to merge cumulative data into the Employee Database through a pay merge.

Batch Layout (BATCHL) Example

Batch Layout Report for Pending Plan Enrollment/De-Enrollment

Change mode regular display 90-SCR layout for United States

From	To	Field Name	Length	Comments	Format/Edit
1	8	Program Literal	008	P CONTRL	Constant
9	14	Task Number	006	T00010	Constant
15	15	Filler	001	Space	Constant
16	16	Comm-Cancel	001	Space	Constant
17	22	Company Number	006	999999	Alphanumeric
23	28	Program Field	006	90-SCR	Constant
29	29	Code-1	001	Space	Constant
30	30	Code-2	001	Space	Constant
31	40	Key Field	010		Alphanumeric
41	55	Additional Key	015		Alphanumeric
56	58	PLAN-ID-RA	003		Alphanumeric
59	68	SUSPENSE-DATE	010		
69	69	SCREEN-CODE2-OPTS	001		PP66
70	74	CALC-ACTION-DATE	010	Pos 001-005	
75	75	Continuation-Ind	001	*	Constant
1	8	Program Literal	008	P CONTRL	Constant
9	14	Task Number	006	T00020	Constant
15	15	Filler	001	Space	Constant
16	20	CALC-ACTION-DATE	010	Pos 006-010	
21	21	CALC-ACTION-CODE	001		BA44
22	31	SPECIAL-DATE	010		
32	32	SCREEN-OPTION-1	001		Alphanumeric
33	33	SCREEN-OPTION-2	001		Alphanumeric

CSSS <0026((999999(BATCHL((90-SCR (CR)11:08:46 08-23 XXXX

FILE02 Records (RECSIZ)

The FILE02 Records report displays the keys, sizes, and types of records on the Employee Database (Master File; FILE02). These figures are used as input to the Employee Area and Company Area Expansion worksheets. These worksheets are used to determine whether or not the Employee and Company working-storage areas need to be expanded.

By default, the report shows the largest company and largest employee records on file. If you enter the value DETAIL in the KEY field on the control record, the report displays the key, size, and type of every record that resides on the Employee Database (Master File; FILE02).

Fields

Information reported includes:

Report Field Name

- **Largest Employee Record**—Size of the largest employee record
- **Maximum Employee Record**—Maximum allowable size for an employee record
- **Largest Company Record**—Size of the largest company record
- **Maximum Company Record**—Maximum allowable size for a company record

For more information on this utility, refer to **Managing Working Storage** *(on page 311).*

See also:

■ Determining if expansion is required for employee and company areas ***(on page 326)***

To learn how to identify the largest employee and company records on the database.

FILE02 Records (RECSIZ) Example

```
FILE02 RECORDS REPORT



LARGEST EMPLOYEE RECORD: 999999  1975        5,030
MAXIMUM EMPLOYEE RECORD:                    24,958

LARGEST COMPANY RECORD:  999999              6,161
MAXIMUM COMPANY RECORD:                     32,192
```

L Segment Delete Report (LD-RPT)

The L Segment Delete Report processes the parameters previously entered on the L Segment Delete Set-Up form and, based on the parameter entered on the parameter form, will either delete the indicated L segment (Human Resources/Personnel) records or provide a preview listing of what will be deleted.

Execute this report using the standard REPORT program sort (1,60,A), and RTPRNT process. The file03 output from the RTPRNT process will contain your report, if requested.

Before executing the LD-RPT, be sure to make a backup of your current Employee Database. Once the L segments are deleted, they cannot be recovered unless you restore to the Employee Database used prior to the report run.

You must execute this report on the same calendar day that you specify L segments to be deleted on the L Segment Delete Set-Up form.

Fields

Information reported includes:

Report Field Name

- **Segment Code**—The segment that is (or will be) deleted.
- **# of Occurrences**—The number of occurrences that were (or will be) deleted.
- **Retention Date**—Segment occurrences before this date were(or will be) deleted.

Parameters

- **Preview**—You will be able to preview the effect of the deletion before the actual deletion takes place (so you may decide to keep the L segment in tact).
- **Delete**—The deletion will occur and the resulting report will list the segments you deleted.
- **Delete NoList**—The deletion will occur and the report will not provide a record of the deletion.

L Segment Delete Report (LD-RPT) - Example

```
CORPORATION  99    ACME MANUFACTURING     L-SEGMENT DELETION REPORT     REPT    FILE VERSION 00  PAGE     1
DIVISION     9999  PRODUCTION CTL 1-2            PREVIEW RUN            LD-R    TIME 13:55       DATE 05-19-2004


 -*-*- RECOMMEND FILE BACKUP PRIOR TO DELETION OF L-SEGMENTS -*-*-


DELETE CRITERIA:       SEGMENT CODE       **
                       # OF OCCURENCES    00
                       RETENTION DATE     01-01-2004
```

APPENDIX K

Program and Utility Quick Reference

In This Appendix

Introduction - Program and Utility Quick Reference 620
Apply overrides to master COBOL source (PULLUP) 621
Backup System Control Repository (BACKEM) 622
Batch Layout Facility (BATCHL) 623
Build Field Name Cross Reference (F-XREF) 624
Build Phonetic and/or Employee ID Keys (KEY-PE) 625
Build relational database structures (RDBPGM0) 626
Build the Client Data File (CSSSBLD) 627
CBSVB (CBSVB) 628
CBSVBT (CBSVBT) 629
CBSVO (CBSVO) 630
CBSVOT (CBSVOT) 631
Change Control Facility - Maintenance Input (MAINTI) 632
Change Control Facility - Maintenance Output (MAINTO) 633
Copy international option lists (ICCOPY) 634
Copy variant form table records for a country (VSCOPY) 635
Correct invalid data on a P20 file (RDBPGM4) 636
Create control records and extract payroll data for Sybase (RDBPGMX) 637
Create control records and update Sybase Employee Database (RDBPGMM) 638
Create LDEFAULTS D Records (SETUPS) 639
Create new Employee Database (FILE07) 640
Create tables, indexes, and views (RDBPGM1) 641
CYB88x (CYB88) 642
CYB89x (CYB89) 643
CYB90x (CYB90) 644
Delete Phonetic and Employee ID Alternate Keys (DEL-PE) 645
Delete selected records (PURGE) 646
Delete the AREA size record (DEL-ZX) 647
Display Employee Database records (DSP02) 648
Display Employee Database Record Keys (RECSIZ) 649
Display System Control Repository Records (DSP01) 650
Employee Migration Utility (LOADHR) 651
Execute a DOS command from a file (DOSPRE) 652
Execute control records on the System Control Repository (F04F01) 653
Expand Areas in CBSV Programs (EXPAND) 654
Export Client Data File Items (MAKECL) 655
Extract and compile payroll programs (P9CNVT) 656
Extract online COBOL programs (PULL) 657
Extract System Control Repository Records (EXPORT) 658
Get Screen Appearance Table (GETSAT) 660
Identify table synchronization problems (RDBPGM2) 661
List programs in memory (INCORE) 662
Option List Display/Report (CDLIST) 663

Process batch jobs that require security authorization (BATRUN) 664
Purge object code from the Employee Database (PRG02X).....665
Purge Organizations from the Employee Database (PRGC12).....666
Put Screen Appearance Table (PUTSAT).....667
QUERY Alternate Key Build (KEY-00) 668
QUERY Alternate Key Delete (KEYDEL) 669
Rebuild a particular index record on the Employee Database (FIXIDX).....670
Rebuild all index records on the Employee Database (INDEXS).....671
Remove ZX (executable code) records from the Employee Database (ZX-DEL).....672
Report Extract (REPORT).....673
Report on table space size (RDBPGM3) 674
Report Print (RTPRNT).....675
Sort Extract Records (SORT) 676
Restore System Control Repository (DEMO01).....677
Resynchronize the System Control Repository and relational tables (POPF01).....678
Returning Control to FILE01 (F01F04).....679
Submit batch jobs (SUBMIT).....680
Suspend record lock handling (NOLOCK).....681
Unlock a system lock record (UNLOCK).....682
Unlock Menu records (FIXMMN).....683
Update the Client Data File (UPDTCL) 684
View a Specified Type of System Control Repository Record (DISPLY) 685
View online output from Query record (VIEW).....686

Introduction - Program and Utility Quick Reference

This section provides a quick reference guide to frequently used utilities and programs.

Apply overrides to master COBOL source (PULLUP)

This utility is used to apply COBOL override code to the master COBOL source when executing an Extract System Programs (PULL) operation. The program is used in place of PULL when the overrides are to become permanent records in the COBOL source.

Note: *THIS PROGRAM IS FOR INTERNAL USE ONLY. Clients using this program must exercise EXTREME CAUTION. We cannot support COBOL programs that have been permanently changed with user overrides.*

Backup System Control Repository (BACKEM)

This utility makes a sequential copy of the System Control Repository.

☞ *For more information on this utility, refer to* **Using the Backup and Restore Utilities** *(on page 237).*

See also:

■ ***Running the Backem utility***
To learn how to backup the System Control Repository

Batch Layout Facility (BATCHL)

The Batch Layout Facility (BATCHL) produces the Batch Layout Report, which lists the entry fields found on each form in the system. The Batch Layout Report provides screen-image records, field lengths, and any comments associated with each entry field for each selected form. You can request reports for one or several forms.

☞ *For more information on this program, refer to* **Data Conversion and Load** *(on page 163).*

See also:

- Generating a Batch Layout Report ***(on page 182)***
  To learn how to request a Batch layout report for a given form
- Loading static data using BATCHL transactions ***(on page 184)***
  To learn how to directly update the Employee Database with Batch Layout transaction records
- ***Loading cumulative data using BATCHL Payroll transactions***
  To learn how to merge cumulative data into the Employee Database through a pay merge

Build Field Name Cross Reference (F-XREF)

This utility builds the RFT records from the RFM records.

See also:

- "RFM" records ***(on page 574)***
  To learn more about the purpose of RFM records
- "RFT" records ***(on page 575)***
  To learn more about the content of RFT records

Build Phonetic and/or Employee ID Keys (KEY-PE)

This utility is used to build phonetic and Employee ID Alternate Keys by Organization. This program can be run in batch or online using Query.

☞ *For additional information, refer to* **Maintaining Cross-Reference Keys** *(on page 255).*

See also:

- Maintaining Phonetic and Employee ID Keys ***(on page 266)***
  To learn how to rebuild phonetic and/or employee ID keys.
- Deleting and recreating Alternate keys - online JBLDAKY ***(on page 913)***
  To learn how to rebuild phonetic and/or employee ID keys using a UK online administration script.

Build relational database structures (RDBPGM0)

The CASE tool program used to build the relational database structures and data manipulation language (DDL) statements.

☞ *For a detailed description of the CASE tool, refer to* **Data Structures and Processing Modes** *(on page 47).*

Note: This program is only applicable if you are using the relational version of the system.

Build the Client Data File (CSSSBLD)

This program builds the Client Data File using the output file (FILE10) from the Export Client File program.

☞ *For more information on this program, refer to* **Maintaining the Client Data File** *(on page 225).*

See also:

- Rebuilding the Client Data File —— Online Method ***(see "Rebuilding the Client Data File - Online Method" on page 233)***

To learn how to rebuild the Client Data File on the client computer

CBSVB (CBSVB)

This is the batch program used to produce reports and to access or maintain The Solution Series files off-line.

☞ *For more information on this program, refer to* **Setting Up Environments** *(see "Installation Considerations" on page 77).*

CBSVBT (CBSVBT)

This is the trace version of the CBSVB batch program. The program includes diagnostics for debugging purposes.

☞ *For more information on this program, refer to* **Setting Up Environments** *(see "Installation Considerations" on page 77).*

CBSVO (CBSVO)

This online program allows real-time, interactive reading and updating of the two main Solution Series files; the System Control Repository and the Employee Database.

☞ *For more information on this program, refer to* **Setting Up Environments** *(see "Installation Considerations" on page 77).*

CBSVOT (CBSVOT)

This is the trace version of the CBSVO online program. The program includes diagnostics for debugging purposes.

☞ *For more information on this program, refer to* **Setting Up Environments** *(see "Installation Considerations" on page 77).*

Change Control Facility - Maintenance Input (MAINTI)

This utility applies maintenance transactions to the System Control Repository. The maintenance transactions can be from an EXPORT or from a Maintenance Output (MAINTO).

See also:

- ***Applying a Cyborg Scripting Language temporary fix***
  To learn how to use the Change Control Facility to apply a fix to CSL code
- ***Applying a FormBuilder fix***
  To learn how to use the Change Control Facility to apply a fix to forms
- Loading in FILE01 records - online JMAINTI ***(on page 916)***
  To learn how to apply maintenance transactions using a UK administration script
- Running MAINTI, including automatic RELOAD step - online JMNTREL ***(on page 918)***
  To learn how to apply maintenance transactions using a UK administration script

Change Control Facility - Maintenance Output (MAINTO)

This utility compares a Sequential Input File (FILE05) to the random System Control Repository (FILE01) to produce a list of records that have been added, changed, or deleted.

Output is written to the output file (FILE10). Modified records can be used for re-applying to the System Control Repository using the Maintenance Input (MAINTI) utility. The Maintenance Output (MAINTO) utility is used to gather and re-apply user modifications when a new version or update of the system is released.

See also:

- ***Creating a Difference File (MAINTO)***
  To learn how to use the Maintenance Out utility
- Utilities for customization ***(on page 116)***
  To learn how to create a differences file
- Backup considerations for change control ***(on page 240)***
  To learn the role MAINTO plays in tracking change control
- Comparing FILE01 to delivered DEMO0105 - online JMAINTO ***(on page 917)***
  To learn how to use a UK administration script to compare a Sequential Input File (FILE05) to the random System Control Repository (FILE01) to produce a list of records that have been added, changed, or deleted

Copy international option lists (ICCOPY)

This utility copies selected or all option list records for a particular country from the System Control Repository. As part of this copying process, the option list records are copied with a replacement country code.

The copied records are written to the output file (FILE10), which can be viewed or edited using an appropriate file maintenance utility. The records are then loaded into the system using the Maintenance Input (MAINTI) utility.

You can run this utility only in batch, except for the users of the PC version of The Solution Series, who can run it in batch or execute it online.

Copy variant form table records for a country (VSCOPY)

This utility copies selected or all variant form table records for a particular country from the System Control Repository. As part of this copying process, the country code held on the table records is replaced with the specified country code. The copied records are written to the output file (FILE10).

This utility may be useful if you are establishing a new country on your System Control Repository.

This utility can be used to copy the specified country's variant form table record for a selected form program or for all programs for which these table records exist for the country.

Correct invalid data on a P20 file (RDBPGM4)

This program is used for correcting invalid data (date and decimal) on a P20 file. It is used for upgrading from versions prior to 2.0 of The Solution Series.

Note: *This program is only applicable if you are using the relational version of the system.*

☞ *For additional information on this utility, refer to* **Setting Up Environments** *(see "Installation Considerations" on page 77).*

See also:

- Correcting invalid data ***(on page 93)***

To learn how to correct invalid data on a P20 file

Create control records and extract payroll data for Sybase (RDBPGMX)

The program used in the NEWXTR job stream to create control records for the Sybase Bulk Copy Process (BCP) and extract data from the Employee Database (Master File; FILE02) for payroll processing.

☞ *For more information on this program, refer to* **Performance Tuning for Relational Databases** *(on page 355).*

Note: This program is only applicable if you are using the relational version of the system.

Create control records and update Sybase Employee Database (RDBPGMM)

The program used in the NEWMRG job stream to create control records for the Sybase Bulk Copy Process (BCP) to update the Employee Database (Master File; FILE02) after payroll processing.

☞ *For more information on this program, refer to* **Performance Tuning for Relational Databases** *(on page 355).*

Note: This program is only applicable if you are using the relational version of the system.

Create LDEFAULTS D Records (SETUPS)

The Create LDEFAULTS D Records utility builds LDEFAULTS model information as System Control Repository D records. These D records provide default values for certain L segment (Human Resources/Personnel) form fields whenever the form field is left blank. This operation saves time and unnecessary keystrokes for entering data into fields that usually is the same for all employees (for example, Country Code). If a user does not want to accept the defaults, he or she need only make an entry in the field. A user entry takes precedence over the default entry.

The Create LDEFAULTS D Records utility must be executed each time new LDEFAULTS model forms are established, modified, or deleted. If the Create LDEFAULTS D Records utility is not run when appropriate, it could result in an inactive LDEFAULTS or invalid default data.

Create new Employee Database (FILE07)

FILE07 is a batch-only program that enables you to create an Employee Database (Master File; FILE02) from scratch without using P4CALC, the batch payroll processing program.

The program opens a FILE07, copies object code from the Control File (FILE01) to it, and then closes the file.

Sites that do not run Payroll Administration can use FILE07 to create a first-time Employee Database (Master File). Rename the FILE07 output file FILE02. Then access the Add a New Company form to add Organizations to the Employee Database.

Create tables, indexes, and views (RDBPGM1)

This program, generated by the CASE tool (RDBPGM0) contains the data definition language (DDL) statements to create tables, indexes, and views.

Note: This program is only applicable if you are using the relational version of the system.

☞ *For more information on this program, refer to the relational section of the installation guide for your Solution Series version.*

CYB88x (CYB88)

CYB88x is an English Language program that performs the following tasks:

- Manages session number information.
- Restores portions of working storage.
- Assigns the default Organization (Company; Control 1-2) displayed.
- Sets the maximum number of lines on a report page.
- Sets the Production Version switch to on or off.

CYB89x (CYB89)

CYB89x is an English Language program that loads pointer definitions into working storage.

When you sign on to the system, CYB89x attempts to locate the pointer table on the Employee Database (Master File; FILE02).

If the pointer table is not found, CYB89x copies them from the System Control Repository (Control File; FILE01) into a single table on the Employee Database (Master File; FILE02).

Processing is then more efficient because less I/O is required to read one table

CYB90x (CYB90)

The English Language program CYB90x acts as the operating system for the computer. CYB90x reads the Command Line (or control record) and turns control over to the requested English Language application or utility program. When the English Language program is finished, control is passed back to the CYB90x program.

Delete Phonetic and Employee ID Alternate Keys (DEL-PE)

The DEL-PE program is used to delete all phonetic and employee ID alternate Keys used by the PHONET and LOOKUP programs. DEL-PE may be executed online or in batch mode.

☞ *For additional information, refer to* **Maintaining Cross-Reference Keys** *(on page 255).*

See also:

- Maintaining Phonetic and Employee ID Keys ***(on page 266)***

To learn how to delete phonetic and/or employee ID keys

Delete selected records (PURGE)

This utility deletes selected records, of a specified object type, from the System Control Repository (Control File; FILE01). The system verifies deletion of a record before the actual purge is performed, allowing you to cancel the purge.

See also:

- Using the record delete (PURGE) utility ***(on page 140)***

To learn how to purge a System Control Repository object

Delete the AREA size record (DEL-ZX)

This program deletes the ZXCYB88W record for the PC-LAN version of The Solution Series or the ZXCYB88M record for all non-PC platforms.

A new record, ZXCYB88W or ZXCYB88M as appropriate, will be created on the Employee Database the next time the COBOL programs are executed.

☞ *For more information on this utility, refer to* **Managing Working Storage** *(on page 311).*

See also:

- Expanding employee (Area2) and/or company (Area4) work areas ***(on page 327)***

To learn how to delete the AREA size record

Display Employee Database records (DSP02)

This utility is used to view the first 76 positions of records in the Employee Database. The system displays the records based on a part KEY field entry. To view all records, you can specify START as your KEY field entry. Several CODE-2 field options are provided that enable you to display the second E segment.

☞ *For more information on this utility, refer to* **Managing Working Storage** *(on page 311).*

Display Employee Database Record Keys (RECSIZ)

This is a batch report program that displays the keys, sizes, and types of records on the Employee Database.

By default, the RECSIZ report shows the largest company and largest employee records on file. If you enter the value DETAIL in the KEY field on the control record, the report displays the key, size, and type of every record that resides on the Employee Database.

☞ *For more information on this utility, refer to* **Managing Working Storage** *(on page 311).*

See also:

- Determining if expansion is required for employee and company areas ***(on page 326)***
  To learn how to identify the largest employee and company records on the database
- Launching the FILE02 Record Sizing Report - online JRECSIZ ***(on page 920)***
  To learn how to use a UK administration script to run the RECSIZE report

Display System Control Repository Records (DSP01)

DSP01 is a listing program that lets you view records in the System Control Repository (Control File; FILE01).

You can view all System Control Repository records except security records (object Y) and object code records (object P/X). However, this program does provide a count of the total number of object code records on the System Control Repository.

The system displays System Control Repository records based on a partial KEY field entry. To view all records (except security and object code records), you can specify START as your KEY field entry.

See also:

- Displaying System Control Repository records (DSP01 ***(see "Displaying System Control Repository records" on page 71))***

To learn how to display records in the System Control Repository

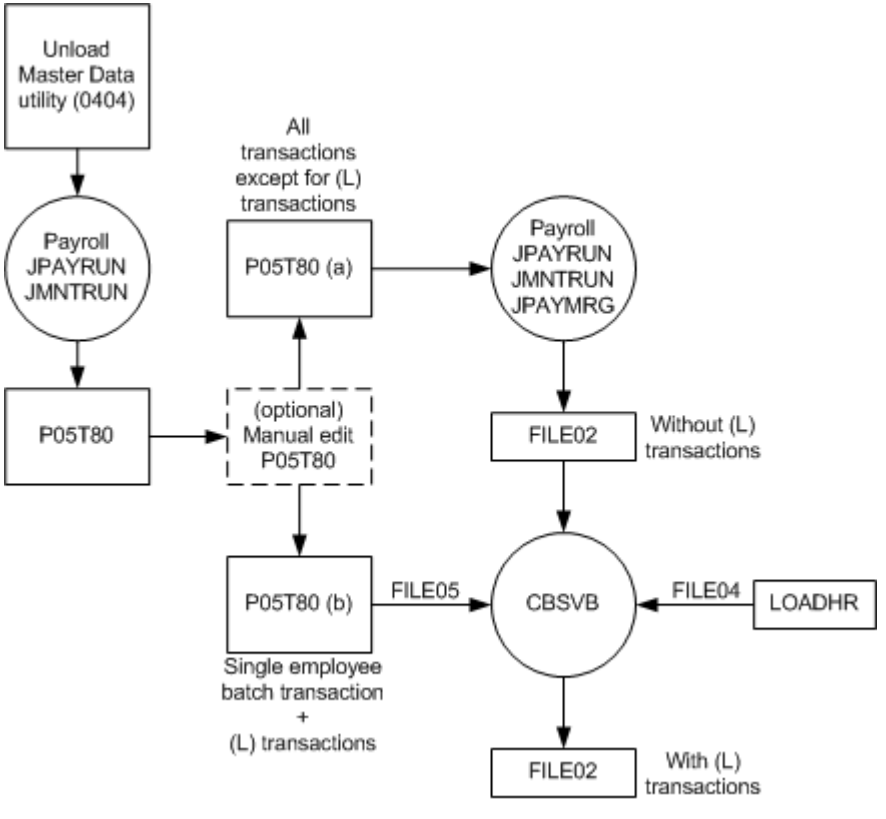
- Using the List Control file Records (DSP01) utility ***(on page 138)***

To list any of the records on FILE01 except security and object code records

Employee Migration Utility (LOADHR)

The LOADHR utility loads employee L segment transactions created by the Unload Master Data utility (0404). If you change hardware platforms, LOADHR helps in migrating employee data from platform to platform. Also, you can use it to recover any old employee data from the P20 file.

The LOADHR job is not delivered so you must create it manually. Modify an existing job so that FILE04 executes LOADHR and FILE05 reads the P05T80(b) file (as shown below). If you choose not to split the P05T80, then all of the L segment transactions will reject on the Payroll Transaction Load report and all of the non L segment transactions will show up as bypassed on the LOADHR report. The following diagram outlines how to take the (0404) output and load it into your desired environment:



Note: Refer to the Payroll Reports and Balancing manual for more information on (0404).

Execute a DOS command from a file (DOSPRE)

The DOSPRE program is used by the PC Solution module only. DOSPRE allows you to execute a DOS command from a file of predefined DOS commands.

The DOS commands must reside in a T-type P-EDIT file. The file name is then indicated in the Key field of the DOSPRE Control Record.

When executed, the DOSPRE command turns control over to DOS and displays the predefined DOS command file. The desired DOS command is then chosen from the list in the file.

Execute control records on the System Control Repository (F04F01)

This program enables you to process FILE04 control records instead of System Control Repository records. This means that you can use control records to update the Employee Database.

While F04F01 executes both online and in batch, run it in batch mode to specify several control records.

☞ *For more information on this utility, refer to* **Running Report Options** *(on page 273).*

See also:

- Setting up the job streams for SUBMIT and VIEW ***(on page 298)***

To learn how to use control records to update the Employee Database

Expand Areas in CBSV Programs (EXPAND)

The Expand Areas in CBSV Programs form enables you to increase the size of working storage. When you access this form, you can specify new sizes for Areas 2 through 4 of working storage.

☞ *For more information on this utility, refer to* **Managing Working Storage** *(on page 311).*

See also:

- Expanding "Payroll-only" areas ***(on page 334)***
  To learn how to used the EXPAND transaction for Payroll-only areas
- Expanding employee (Area2) and/or company (Area4) work areas ***(on page 327)***
  To learn how to expand employee and company work areas

Export Client Data File Items (MAKECL)

This program extracts option list values, field definitions, form security, and PC menu records from the System Control Repository and writes them to the sequential FILE10. FILE10 is then used by CSSSBLD, to construct the Client Data File (FILECL32).

If the System Control Repository resides on a machine other than a PC, the output of MAKECL must be downloaded to the client PC. Additionally, it must be sorted on the first 24 positions, after it is downloaded, if the host or server machine uses the EBCIDIC character set, for example, IBM mainframe.

☞ *For more information on this program, refer to* **Maintaining the Client Data File** *(on page 225).*

See also:

- Rebuilding the Client Data File ***(see "Rebuilding the Client Data File - Online Method" on page 233)***

To learn how to use the MAKECL program to rebuild a Client Data File

Extract and compile payroll programs (P9CNVT)

P9CNVT is the batch payroll source library management program. It performs the following functions:

- Extracts report generators, COBOL programs, and subroutines from CYBMST, including any overrides.
- Creates FILE1 during the extract from CYBMST.
- FILE1 is an 80-character output file, which contains either program source code to be used by a compiler or Report Generator source code to be read by P2EDIT as P05T80 or P05T81.
- Writes a diagnostic report, PRINT1, during the extract and update.

Extract online COBOL programs (PULL)

This utility is a batch-only program that extracts the system program specified in a FILE04 control record from the sequential FILE05. PULL is executed by jobstream JPULL. Basically, the PULL program is used to extract customized/tailored program source code from the CBSV file (the master source code file in sequential format). It is used to extract source code for CBSVO/CBSVOT/CBSVB/CBSVBT. Current users who are upgrading to a new release, changing the size of working storage, or performing maintenance can use PULL to extract these programs.

Note: The jobstream name varies by platform. New source code is also extracted to activate new files (FILE23/24/25) or apply PTFs.

☞ *For additional information on this utility, refer to* **Identifying Problems and Applying Temporary Fixes** *(on page 205) and* **Managing Working Storage** *(on page 311).*

See also:

- Applying a temporary fix ***(on page 223)***
  To learn how to extract COBOL source code
- Expanding employee (Area2) and/or company (Area4) work areas ***(on page 327)***
  To learn how to extract the COBOL programs to include the new AREA2-BOTH and AREA4-BOTH values

Extract System Control Repository Records (EXPORT)

The Extract System Control Repository Records utility extracts all or selected records, of a specified object (record) type, from the System Control Repository. It writes these records to the output file (FILE10), which you may then view, manipulate, or print using your system utilities.

When running EXPORT the FILE04 control transaction specifies what is wanted; FILE10 will contain the actual records which have been exported.

The control record on FILE04 has the following syntax:

In these positions	Enter
23–28	EXPORT
31–40	object code

There follows some Windows FILE04 examples:

To export Quarterly UQ table records:

```
  1         2         3         4         5
12345678901234567890123456789012345678901234567890123456789
P EXPORTJ00100        EXPORT  U  Q
```

To export a CSL program

```
  1         2         3         4         5
12345678901234567890123456789012345678901234567890123456789
P EXPORTJ00100        EXPORT  P/ 40SCR
```

To export the Field Name Table records

```
  1         2         3         4         5
12345678901234567890123456789012345678901234567890123456789
P EXPORTJ00100        EXPORT  FTM
```

This utility is similar to the View a Specified Type of System Control Repository Record utility (DISPLY). Whereas this utility is a batch program that produces an output file of the selected records; the View a Specified Type of System Control Repository Record utility shows selected records online.

☞ *For more information on this utility, refer to* **Customization** *(on page 107) and* **Performance Tuning for Relational Databases** *(on page 355).*

See also:

- ***Rebuilding the relational database***
  To learn how to extract the first line of the F records and the RFM records.
- Converting dynamic SQL to static SQL ***(on page 362)***
  To learn how to extract records from the Field Name Table.

- Object Codes ***(on page 553)***

For a list of object codes.

- Exporting FILE01 items - online JEXPORT (+params) ***(on page 915)***

To learn how to export FILE01 items using a UK administration script.

Get Screen Appearance Table (GETSAT)

A Solution Series program that copies the internal Screen Appearance Table for a specific screen to an SAT file that can be edited using ScreenMaker. The Screen Appearance Table is obtained from the English Language program code (object P/S) in the Control File (FILE01).

☞ *For additional information on GETSAT, refer to* **Customization** *(on page 107).*

Identify table synchronization problems (RDBPGM2)

This program is used to determine what synchronization problems exist between the database tables and the Employee Database.

Note: *This program is only applicable if you are using the relational version of the system.*

☞ *For additional information on this utility, refer to* **Setting Up Environments** *(see "Installation Considerations" on page 77).*

See also:

- Determining what synchronization errors exist ***(on page 92)***

To learn how to identify synchronization problems

List programs in memory (INCORE)

This utility lists the entries in the Program Table (Pointer 17). The Program Table contains information about the programs that currently reside in memory (up to 31 at one time), such as their names, length, and position. The entries in the Program Table change as new programs are accessed, replacing those programs in memory.

Note: *When a user modifies a program and executes RELOAD to compile it, only that user immediately receives the new version in memory. Other users who have the old version of the program in memory do not receive the new version automatically. The system must first replace the old version of the program with the new version.*

Option List Display/Report (CDLIST)

This program provides an inquiry-only scrolling list (online) or a printed report (batch) of all or selected option lists.

Code values and/or documention and/or calculations may be selected.

The following steps describe how to run CDLIST in batch.

1. Determine if there is a job created to run CDLIST. If so, go to Step 5.
2. In the runs directory or the JCL library, copy the JMAINTI job to a file called JCDLIST.
3. Using a text editor (for example, EDIT or vi), search for and replace all "MAINTI" references with "CDLIST".
4. Save the file JCDLIST.
5. Edit FILE04 to put "CDLIST" (do not type the quotation marks) starting in position 23 and starting in position 31 the code of the option list(s) you want to review.

   For example, enter "HR05" in positions 31 through 35 for option list HR05.

   Note: To list all Human Resources module code option lists, enter "HR===". "=" is a wildcard symbol.

6. Save the changes made in Step 5.
7. Submit or run this job uisng the production FILE01 and FILE02.

The report comes out on FILE03 and lists the option lists in alphabetical order.

FILE05 and FILE10 do not need to be present.

To list option lists of more than one name requires that multiple control cards (FILE04 input) be defined.

The following is an example where three control cards are used:

```
ECHO                999999CDLIST  HR0=                > ..\work\CDLIST.04
ECHO                999999CDLIST  BA===               >> ..\work\CDLIST.04
ECHO                999999CDLIST  PR019               >> ..\work\CDLIST.04
```

The first example will produce a listing of all HR option lists beginning with "0".

The second example will produce a listing of all Benefit option lists.

The third example will produce a specific option list, PR019.

Process batch jobs that require security authorization (BATRUN)

This program is used to process batch jobs that require security authorization.

The authorization is established by your supervisor or Security Officer using the Setting up a Batch Security Record (P-WORD) form. The BATRUN program searches the security file for a batch security record that matches your Operator-ID and the batch password that was entered on the P-WORD form.

Security is checked and then the actual file of Control Records is executed. Once security is passed, the batch password and security authorization are overlaid with a run date and time.

To re-run the job, a new Password must be set-up using P-WORD.

Purge object code from the Employee Database (PRG02X)

This utility deletes specified executables from the Employee Database. This utility is useful when you are applying custom changes to the system.

See also:

- Synchronizing the executables ***(on page 252)***

To learn how to synchronize the executables on the system Control Repository and the Employee Database

Purge Organizations from the Employee Database (PRGC12)

This utility allows you to purge company and employee test data from the Employee Database.

HR-only clients can not use P2EDIT/P4CALC to perform this task.

PRGC12 allows this task to be performed online.

PRGC12 tests to ensure that the organization value is "99" before deleting records from the Employee Database. Currently, all test organization values are "99".

Put Screen Appearance Table (PUTSAT)

A method of displaying data that can include graphics (such as boxes, buttons, and rectangles) as well as text on the computer screen.

☞ *For additional information, refer to* **Customization** *(on page 107).*

QUERY Alternate Key Build (KEY-00)

This utility builds (and rebuilds) Alternate Key records that supply data for your Query programs. It is important to keep your Alternate Key records current. Set up a schedule (biweekly or monthly) for rebuilding these records. As delivered, KEY-00 creates Alternate Key records by organization for each Master Record on file.

☞ *For additional information, refer to* **Maintaining Cross-Reference Keys** *(on page 255).*

See also:

- Maintaining QUERY Alternate Keys ***(on page 264)***

To learn how to rebuild Alternate Keys

QUERY Alternate Key Delete (KEYDEL)

This utility deletes Alternate Key records from the System Control Repository by Alternate Key type and organization. Once the records are deleted, new Alternate Key records can be (re)built using KEY-00 (or a renamed KEY-00 program).

☞ *For additional information, refer to* **Maintaining Cross-Reference Keys** *(on page 255).*

See also:

- Maintaining Query Alternate Keys ***(on page 264)***

To learn how to delete Alternate Keys

Rebuild a particular index record on the Employee Database (FIXIDX)

This program rebuilds a particular index record on the Employee Database for a relational table.

Note: *This program is only applicable if you are using the relational version of the system.*

☞ *For more information on this program, refer to* **Synchronizing Relational Tables and Indexes** *(on page 339).*

See also:

- Rebuilding individual Employee Database index records online ***(on page 351)***

To learn how to run the INDEXS utility online

Rebuild all index records on the Employee Database (INDEXS)

This program rebuilds all index records on the Employee Database for relational tables.

Note: This program is only applicable if you are using the relational version of the system.

☞ *For more information on this program, refer to* **Synchronizing Relational Tables and Indexes** *(on page 339).*

See also:

- ***Rebuilding all Employee Database index records***
  To learn how to run the INDEXS utility online

Remove ZX (executable code) records from the Employee Database (ZX-DEL)

This program is used to remove all ZX (executable code) records from the Employee Database so that the system is forced to extract a new copy from the System Control Repository.

See also:

- Executing PRG02X or ZX-DEL in batch ***(on page 253)***

To learn how to delete all executable code (ZX) records from the Employee Database

Report Extract (REPORT)

This program creates report extract records by executing each of the report programs included in a specified Report Group Schedule. To run this program, you execute CBSVB or CBSVBT with a control record as FILE04.

☞ *For more information on this program, refer to* **Running Report Options** *(on page 273).*

See also:

- Initiating a report run in batch ***(on page 296)***
  To learn how to create extract records
- Consolidated reporting ***(on page 286)***
  To learn how to create extract records for a consolidated report
- Roll-up reporting ***(on page 287)***
  To learn how to create extract records for a roll-up report

Report on table space size (RDBPGM3)

This program reports the number of entries per segment/table for a P20 file. It provides information to be used in sizing relational database tables and tablespaces. It sums the number of bytes for each table and the associated index, reporting the sums by record type and table space. The number of bytes does not include any overhead requirements for any specific database.

Note: *This program is only applicable if you are using the relational version of the system.*

☞ *For additional information on this utility, refer to* **Setting Up Environments** *(see "Installation Considerations" on page 77).*

See also:

- Initiating a report run in batch ***(on page 296)***

To learn how to run the RTPRNT program

Report Print (RTPRNT)

This program reads the sorted extract records (FILE14), reformats and writes them to either FILE03 or one of the alternate print files (FILE17, 18, or 19). To run this program, you execute CBSVB or CBSVBT with a control record as FILE04.

☞ *For more information on this program, refer to* **Running Report Options** *(on page 273).*

Sort Extract Records (SORT)

This program prepares the extracted report records for the final Report Print (RTPRNT) step. The SORT:

- sorts each record based on the sort key.
- writes the sorted report extract records to FILE14. This file will be read into the Report Print (RTPRNT) step.

☞ *For more information on this program, refer to* **Running Report Options** *(on page 273).*

See also:

■ Initiating a report run in batch ***(on page 296)***
To learn how to run the SORT program

Restore System Control Repository (DEMO01)

This utility creates a random System Control Repository from a sequential backup file delivered with the system.

☞ *For more information on this utility, refer to* **Using the Backup and Restore Utilities** *(on page 237).*

See also:

- Running the Restore System Control Repository utility ***(on page 250)***

To learn how to restore the System Control Repository from a sequential backup

Resynchronize the System Control Repository and relational tables (POPF01)

This program resynchronizes the System Control Repository and its associated relational tables.

Note: *This program is only applicable if you are using the relational version of the system.*

☞ *For more information on this program, refer to* **Synchronizing Relational Tables and Indexes** *(on page 339).*

See also:

- Synchronizing the System Control Repository and the relational tables ***(on page 347)***
  To learn how to run the POPF01 utility

Returning Control to FILE01 (F01F04)

This program passes control from F04F01 online processing to normal online processing. For example, if you want users to be able to execute test data in a tutorial or other online documentation, you specify control records that execute F04F01.

However, you must return the user to the text after the control records are processed. Therefore, end any F04F01 online processing with a control record that executes F01F04. Note, however, that an F01F04 control record is not required in batch processing.

Submit batch jobs (SUBMIT)

This program enables you to submit batch jobs. It tells the system to run a query or a report. You can direct the output records to a print file or to the Employee Database for online viewing.

If you direct the output records to the Employee Database, the ROUTER batch subroutine is automatically invoked.

The online records, ZR records, are temporary, and are deleted when the Employee Database is rebuilt. To avoid space problems, you should limit SUBMIT processing to low-volume reports and queries.

☞ *For more information on this program, refer to* **Running Report Options** *(on page 273).*

Suspend record lock handling (NOLOCK)

The NOLOCK program allows you to suspend normal lock record (ZL) processing while using BATCHL-format transactions to update a large number of records via a batch execution of CBSVB.

Each time the CBSVB program is initiated, lock records are processed during FILE02 record updates. The first execution of NOLOCK suspends this activity, and a second execution of NOLOCK during a batch run causes lock record processing to revert to the standard mode.

Note: This program must not be used in a batch run if concurrent online access via CBSVO is possible.

Unlock a system lock record (UNLOCK)

The UNLOCK utility unlocks a system-lock record. This emergency program is only used in the rare instance of an abend (abnormal end) condition.

Once you access a company, employee, or tax record, the system temporarily "locks" that record on FILE01. Other users can read the locked record, but cannot update it until the system releases or "unlocks" it.

If an abend occurs, the record is retained locked on FILE01 and is referred to as a ZL record. You use the Command Entry dialog with the UNLOCK program to release the record. You must specify the record key of the record to be unlocked.

Unlock Menu records (FIXMMN)

Occasionally, the menu records will lock up when more than one person attempts to edit them. When this occurs, run the Unlock Menu records program.

Run this program by selecting:

When the process has completed a "--Menu Editor In Process Flag Reset--" message is displayed.

Update the Client Data File (UPDTCL)

This program updates the currently active Client Data File (FILECL) with any changes posted to the System Control Repository since the most recent sign-on involving this specific Client Data File.

☞ *For more information on this program, refer to* **Maintaining the Client Data File** *(on page 225).*

See also:

- Updating the Client Data file ***(on page 232)***

To learn how to update the client Data File on the client computer

View a Specified Type of System Control Repository Record (DISPLY)

This utility is used to view a specified type of System Control Repository (Control File; FILE01) record. Records can be viewed online or in a printed report.

See also:

- Using the online DISPLY utility ***(on page 137)***

To display a System Control Repository object

View online output from Query record (VIEW)

This program enables you to view online the output from the Requesting Reports and Queries Online (SUBMIT) program.

You can display the first or last 80 positions of a report or query record. You can page up or down in a report or query. However, when you display the last printed page of output, the system prevents you from returning to a previous page.

☞ *For more information on this program, refer to* **Running Report Options** *(on page 273).*

APPENDIX L

Online Pay Document Printer Interface

In This Appendix

About the Online Pay Document Printer Interface 688
Interface file.....689
Using the Online Pay Document Print Facility.....699

About the Online Pay Document Printer Interface

Any payment calculated and created on the Calculate Pay For: form may have a pay document printed by using the online pay document print facility. This must occur within a session with a number currently residing on your Master File.

For example, you cannot use the online pay document print facility to print pay documents after a maintenance run because your session number is reset to 0001 after the maintenance run. The pay documents must be printed before the run.

Interface file

The online pay document print facility creates an interface file (FILE31) that may be downloaded to a PC which is connected to a printer.

The created interface file consists of 15 records for each pay document.

Each record is 132 bytes long. These records do not contain carriage control characters.

Defining FILE 31

Because pay document formats and printer specifications can vary, we provide only a generic interface via the online pay document print facility.

Once FILE31 is created, you must map the file for your printer and pay document format.

You must add FILE31 to your current online command stream before you can use this facility. The records in FILE31 must be defined as 132-byte records without carriage control characters.

CICS considerations

If you are running Payroll Administration in a CICS environment, the output file (FILE31) should be established as an ESDS VSAM file.

Recreating FILE31

If you require the capability to recreate a FILE31 output file, add your organization's reprint security logic to the online pay document print facility's Cyborg Scripting Language (CSL) program beginning at line 20160.

FILE31 record layouts

After FILE31 has been created, it must be mapped to your pay document format and printer specifications before printing.

The output in FILE31 consists of 15 records for each payment. Each record is 132 bytes long.

Record layouts follow.

Record number 01

Field Length	From	To	Description	Field Type
30	01	30	Employee Name (last, first middle)	A
3	31	33	Spaces	S
11	34	44	Social Security Number (999-99-999)	A
4	45	48	Spaces	S
8	49	56	Period end date	D
1	57	57	Space	S

Field Length	From	To	Description	Field Type
8	58	65	Check number	N
55	66	120	Spaces	S
8	121	128	Check number	N
4	129	132	Spaces	S

A = Alphanumeric
D = Date (MM/DD/YY)
S = Space(s)
L = Literal
N2 = Numeric with 2 decimal places
N4 = Numeric with 4 decimal places
NP = Protected numeric (*******.99)
N = Numeric with no decimal places

Record number 02

Field Length	From	To	Description	Field Type
2	01	02	Control-1	A
4	03	26	Control-2	A
4	07	10	Control-3	A
4	11	14	Control-4	A
4	15	18	Control-5	A
4	19	22	Control-6	A
5	23	27	spaces	S
4	28	31	Operator-ID	A
2	32	33	spaces	S
10	34	43	Employee number	A
2	44	34	spaces	S
9	46	54	Hourly Rate or Pay Period Salary	N4/N2
2	55	56	spaces	S
2	57	58	Federal Exemptions	N
2	59	60	spaces	S
2	61	62	State Exemptions	N
59	63	121	spaces	S
8	122	129	Check date	D
3	130	132	spaces	S

A = Alphanumeric
D = Date (MM/DD/YY)
S = Space(s)
L = Literal
N2 = Numeric with 2 decimal places
N4 = Numeric with 4 decimal places
NP = Protected numeric (*******.99)
N = Numeric with no decimal places

Records numbers 03, 04, 09, 12, 13, 14

Field Length	From	To	Description	Field Type
14	01	14	Earning Description	A
6	15	20	Current Hours	N2
10	21	30	Current Amount	N2
12	31	42	YTD Amount	N2
14	43	56	Tax/Deduction Description	A
10	57	66	Current Amount	N2
12	67	78	YTD Amount	N2
54	79	132	Spaces	S

A = Alphanumeric
D = Date (MM/DD/YY)
S = Space(s)
L = Literal
N2 = Numeric with 2 decimal places
N4 = Numeric with 4 decimal places
NP = Protected numeric (*******.99)
N = Numeric with no decimal places

Record number 5

Field Length	From	To	Description	Field Type
14	01	14	Earning Description	A
6	15	20	Current Hours	N2
10	21	30	Current Amount	N2
12	31	42	YTD Amount	N2
14	43	56	Tax/Deduction Description	A
10	57	66	Current Amount	N2
12	67	78	YTD Amount	N2
1	79	79	space	S
30	80	109	Employee Name (First M. Last)	A
23	110	132	spaces	S

A = Alphanumeric
D = Date (MM/DD/YY)
S = Space(s)
N2 = Numeric with 2 decimal places
N4 = Numeric with 4 decimal places
NP = Protected numeric (*******.99)

L = Literal N = Numeric with no decimal places

Record number 6

Field Length	From	To	Description	Field Type
14	01	14	Earning Description	A
6	15	20	Current Hours	N2
10	21	30	Current Amount	N2
12	31	42	YTD Amount	N2
14	43	56	Tax/Deduction Description	A
10	57	66	Current Amount	N2
12	67	78	YTD Amount	N2
1	79	79	space	S
30	80	109	Employee Name (First M. Last)	A
3	110	112	spaces	S
8	113	120	Net Pay Amount - Dollars ($999,999)	N
7	121	127	* * (asterisk, 5 spaces, asterisk)	L
2	128	129	Net Pay Amount - Cents (99)	N
3	130	132	* (asterisk followed by 2 spaces)	L

A = Alphanumeric N2 = Numeric with 2 decimal places

D = Date (MM/DD/YY) N4 = Numeric with 4 decimal places

S = Space(s) NP = Protected numeric (*******.99)

L = Literal N = Numeric with no decimal places

Record number 7

Field Length	From	To	Description	Field Type
14	01	14	Earning Description	A
6	15	20	Current Hours	N2
10	21	30	Current Amount	N2
12	31	42	YTD Amount	N2
14	43	56	Tax/Deduction Description	A
10	57	66	Current Amount	N2
12	67	78	YTD Amount	N2
1	79	79	space	S
30	80	109	Address line 2	A
23	110	132	spaces	S

A = Alphanumeric
D = Date (MM/DD/YY)
S = Space(s)
L = Literal
N2 = Numeric with 2 decimal places
N4 = Numeric with 4 decimal places
NP = Protected numeric (*******.99)
N = Numeric with no decimal places

Record number 8

Field Length	From	To	Description	Field Type
14	01	14	Earning Description	A
6	15	20	Current Hours	N2
10	21	30	Current Amount	N2
12	31	42	YTD Amount	N2
14	43	56	Tax/Deduction Description	A
10	57	66	Current Amount	N2
12	67	78	YTD Amount	N2
1	79	79	space	S
30	80	109	Address Line 3	A
23	110	132	spaces	S

A = Alphanumeric
D = Date (MM/DD/YY)
S = Space(s)
L = Literal
N2 = Numeric with 2 decimal places
N4 = Numeric with 4 decimal places
NP = Protected numeric (*******.99)
N = Numeric with no decimal places

Record number 10

Field Length	From	To	Description	Field Type
14	01	14	Earning Description	A
6	15	20	Current Hours	N2
10	21	30	Current Amount	N2
12	31	42	YTD Amount	N2
14	43	56	Tax/Deduction Description	A
10	57	66	Current Amount	N2
12	67	78	YTD Amount	N2
1	79	79	space	S
53	80	132	Net pay amount spelled out	A

A = Alphanumeric
D = Date (MM/DD/YY)
S = Space(s)
L = Literal
N2 = Numeric with 2 decimal places
N4 = Numeric with 4 decimal places
NP = Protected numeric (*******.99)
N = Numeric with no decimal places

Record number 11

Field Length	From	To	Description	Field Type
14	01	14	Earning Description	A
6	15	20	Current Hours	N2
10	21	30	Current Amount	N2
12	31	42	YTD Amount	N2
14	43	56	Tax/Deduction Description	A
10	57	66	Current Amount	N2
12	67	78	YTD Amount	N2
1	79	79	space	S
53	80	132	Net pay amount spelled out (overflow)	A

A = Alphanumeric
D = Date (MM/DD/YY)
S = Space(s)
L = Literal
N2 = Numeric with 2 decimal places
N4 = Numeric with 4 decimal places
NP = Protected numeric (*******.99)
N = Numeric with no decimal places

Record number 15

Field Length	From	To	Description	Field Type
14	01	14	Earning Description	A
6	15	20	Current Hours	N2
10	21	30	Current Amount	N2
12	31	42	YTD Amount	N2
14	43	56	Tax/Deduction Description	A
10	57	66	Current Amount	N2
12	67	78	YTD Amount	N2
54	79	132	space	S

A = Alphanumeric
D = Date (MM/DD/YY)
S = Space(s)
L = Literal
N2 = Numeric with 2 decimal places
N4 = Numeric with 4 decimal places
NP = Protected numeric (*******.99)
N = Numeric with no decimal places

Using the Online Pay Document Print Facility

When your command procedure has been changed, you may use the online pay document print facility.

After you have created a payment using the Calculate Pay For: form (PAY-CP), follow these steps to print the pay document.

1. Type PAYPRT in the Screen field in the Enter a command dialog box.
2. Type the Recon Number used to create the payment in the Add'l Key field.
3. Click OK or press Enter.
   The ON-LINE CHECK PRINT FACILITY form returns
4. Press Enter again to create the output file.
   The form returns a "Complete" message indicating that the pay document has been written to FILE31.

APPENDIX M

Analyzing and Editing the Difference File

In This Appendix

Introduction 702
Usage 703
MAINTO file record types 704
MAINTO file record type examples 705
Notes 713

Introduction

This section discusses analyzing and editing the difference file.

The difference file is generated when you run the Change Control Facility Maintenance Output (MAINTO), which compares your current System Control Repository with the delivered sequential System Control Repository (DEMO0105) for the same version.

The difference file contains records of changes you have made to the System Control Repository on your current software release.

You must analyze the difference file and reconcile its contents with the delivered sequential DEMO0105.

Usage

An output listing is produced in FILE10, which you can then use to locate areas of customized code. For example, when you are migrating to version 5 from version 3, your MAINTO input files would include the delivered version 3 sequential DEMO0105 and your production version 3 System Control Repository.

You will edit the file before running the MAINTI jobstream. The edited difference file contains the changes you want to carry forward to the next version of the System Control Repository. It is input to the step that includes the MAINTI jobstream.

Column 80 of each line in this report will contain a change code that indicates the type of difference between the original System Control Repository and the customized System Control Repository. Each record relates to the sequential DEMO0105.

The possible indicator codes are:

Blank	The record was added to your production System Control Repository. The record does not exist on the delivered sequential DEMO0105.
A	The record was added to your production System Control Repository. The record does not exist on the delivered sequential DEMO0105.
C	The record is present on your production System Control Repository and the delivered sequential DEMO0105. The record's contents has changed from the delivered sequential DEMO0105.
D	The record was deleted from your production System Control Repository. The record is present on the delivered sequential DEMO0105.

Program temporary fixes (PTFs) will also display in your MAINTO output. These are identified by the PTF number in positions 76–79. Disregard these lines; the PTFs have already been applied to the delivered version 5 code.

Output example:

```
    1         2         3         4         5         6         7         8
1...5....0....5....0....5....0....5....0....5....0....5....0....5....0....5....0
F BENEFIT-MAX-AGE     B4enter 650000.                                          C
F RETRO-START         B2format.                                                A
F RM-BEGIN-DATE       A4WRITER process.                                        D
B042750/B/  01    FILE24-RECORD.                                          5003
B042760/B/   05    FILLER          PIC X(512).                            5006C
C043000/C/+I   05      COMM-U              PIC(X)     VALUE `_'.          5007D
.
.
.
```

MAINTO file record types

This section addresses the various types of records in the difference file.

Partition the difference file into separate files by record type, especially for option list (C), field name (F), table (T), and program (P) records.

After editing the files, you can run the JMAINTI jobstream for each of these difference files and check the results in FILE03 after each execution.

The following chart describes the various types of records in the difference file and advises you whether to retain or delete them.

Security records are not addressed here.

MAINTO file record type examples

Record Type Code - Pos. 1	Record Scndry Type Code	Function	Example	Likely Action	Reason	Notes
A		Machine Parameter	·····2····7·····8 1·····5····2·····0 A.A.COMPUTER...PC...T2.5...C	Delete	delivered and controlled	For T&A only users (no PR, HR, and so forth), sign on, using EDIT, change H3.0 to T3.0
B		Working Storage Expansion	·····2·····8 1·····2·····0 B.000803-24...24656.....C	Delete	delivered	Execute 3.0 EXPAND form with values from current version
C		Option list Records	·····8 1·····0 C.PR07.007000003.....A	Retain	These records have been added for your application of the system	See Note 1.
Cn	n (Pos. 2)	Option list with Country Code	·····8 1·····0 C0PR07.007000003.....A	Retain	Country specific option list records added for your application of the system	"n" in Pos. 2 denotes a one position numeric country code. See also Note 1.
D		HRM System Default	·····8 1·····0 D010001.....A	Retain	HR default data for your application	Pos. 2–7 contain the records C-1-2. Delete D999999 records.

Record Type Code - Pos. 1	Record Scndry Type Code	Function	Example	Likely Action	Reason	Notes
ETL		Relational Table View & Elements	.....8 1.....0 ETLX100.....A	Retain	Contains table record view name	Defined on VIEWNM form
EXT		PAYXTR/ PAYMRG table data selection record	.....8 1.....0 EXT00ALL.....D	Retain	Specifies data to be extracted for payrun	See ***Performance Tuning for Relational Databases*** (on page 355).
F		Field Table	.....6.....8 1.....5.....0 FCONTROL-3...PR01Y.....C	Retain custom field tables. Delete non-customized field tables		See Note 2.
J		Trans-action Log Records	.....1.....8 1.....7.....0 J970808...01000101-SCR.....A	Delete	Used to restore Master File data in case of system failure	
MCL		Client Data File (versions 4.0+ FILECL32, version 3 FILECL) Updates	.....2.....8 1.....5.....0 MCL199708080830...C PR07.. A	Delete	Client Data File is rebuilt at time of upgrade	See ***Maintaining the Client Data File*** (on page 225).

Record Type Code - Pos. 1	Record Scndry Type Code	Function	Example	Likely Action	Reason	Notes
MEVTF		Communication event	.....8 1.....0 MEVTF40 - SCR000001CNNNFL	Retain	Provides customized comm. event	
MML		Universal Checklist Record	.....8 1.....0 MML499999 00YXXTEST	Retain	Migrate checklist records to new release	
MMN		GUI Menu Records	.....2.....8 1.....5.....0 MMNP3...NH-SCR...H05&Ne....A	Retain	Provides customized GUI menus	
MMNB		GUI Menu bitmaps		Delete		
P	space (Pos. 9)	Cyborg Scripting Language (EL) Source	.....1.....8 1.....0.....0 P.XGGSCR.00100..ZDELETE-...A	Retain		See Note 3.
P	C, D, J, K, L, M, N, Q, R, S, T, or W (Pos. 9)			Retain		See Note 3.
P	E (Pos. 9)	RELOAD messages	.....8 1.....0 P.XGGSCRE...RELOAD IS OK...A	Delete	Regenerated through JMAINTI/ JRELOAD process	

Record Type Code - Pos. 1	Record Scndry Type Code	Function	Example	Likely Action	Reason	Notes

P	G (Pos. 9)	CSL (EL) Source Generated	`.....8`
			`1.....0`
			`P.XGGSCRG000000...SET.SCR..A`
				Delete	Regenerated through JMAINTI/ JRELOAD process	

P	H (Pos. 9)	PTF History	`1.....` `P.HHISCRH52100..PTF.ST25210.`	Delete	Not applicable to new release	Identifies P record changes that are PTFs.

P	X (Pos. 9)	Object Code	`.....2.....8`
			`1.....1.....0`
			`P.XGGSCRX...55.RECORDS.....A`
				Delete	Regenerated through JMAINTI/ JRELOAD process	

P	+ (Pos. 3)	Calculation option list source code	`.....8`
			`1.....0`
			`P.+BA14..01990.IF.BA-TYP...A`
				Delete	Regenerated through JMAINTI/ JRELOAD process	

P	<CTRLRT (Pos. 3-9)	SUBMIT & VIEW data records	`.....2.....8`
			`1.....3.....0`
			`P.<CTRLRTUSERA...SECSET....A`
				Delete	Regenerated by user on SUBMIT form	

P	<REFERT (Pos. 3-9)	Solution View X-Ref Records	`.....8`
			`1.....0`
			`P.<REFERTLN7..0DXDESC.....A`
				Retain	Used with Solution View on user segments	

P	<UNREP	85-RPT RGMSTR parameter	`.....8`
			`1.....0`
			`P<UNREP...`
				Delete	Reenter new 85-RPT parameter at run time	

Record Type Code - Pos. 1	Record Scndry Type Code	Function	Example	Likely Action	Reason	Notes
P	<userID JT	Process Monitor		Delete	The record is regenerated at the next execution of an RRG	
PC		Organiza-tion inclusion list	.....8 1.....0 PC0100011A-RPT.....A	Retain	Specifies valid reports for an organization	
PD		Organiza-tion Report Scheduling Records	.....8 1.....0 PDHRTABL010001.....A	Retain	Specifies organization (s) for a report schedule	
PE		Report Group Records	.....8 1.....0 PEWEEKLY85-RPT.....A	Retain	Establishes report schedule records	
PI		Variant Country Form	.....2.....8 1.....5.....0 PIXGGSCR1..XGG@CA.....A	Retain		
PM		POSTIT/ READIT messages	.....2.....8 1.....0.....0 PMUSER0970809...Lunch.at...A	Depends on your require-ments.		

Record Type Code - Pos. 1	Record Scndry Type Code	Function	Example	Likely Action	Reason	Notes
PP		User Options	.....3.....8 1.....0.....0 PPUSER...999999.....A	Retain	Operator ID defaults	MYOPTS
PR		Position Control	.....8 1.....0 PR000131000.....A	Retain	Contains data for application of Position Control module	See Note 4.
Q	XX (Pos. 2-3)	Alternate Key	.....2.....8 1.....3.....0 QPE...99010001SMITH,.SAMA..A	Delete	Regenerated by cross reference key rebuild	"XX" denotes alphanumeric 0–9 and A–Z. See ***Maintaining Cross-Reference Keys*** (on page 255).
R		Report Format Control	.....8 1.....0 R.XUSR23001EMPLOYEE.....A	Delete	Regenerated through JMAINTI/ JRELOAD process	
RFM		Field Table Menu	.....2.....8 1.....5.....0 RFM1699QRUSER...Operator.. A	Retain	User quick reference menu; also stores relational table names	

Record Type Code - Pos. 1	Record Scndry Type Code	Function	Example	Likely Action	Reason	Notes

RFT		Field Table Cross Reference	`.....2.....8`
			`1.....5.....0`
			`RFT36USN8...XDATE1.....A`
				Retain; or delete and run F-XREF after JMAINTI		

RQM		Solution View Query spec	`.....8`
			`1..4.....0`
			`RQMXSVQRYDLZFANNUAL-SALARY.A`
				Retain	Contains Solution View query specification records	Solution View query pgm. Name is in pos. 4–9 (for example, XSVQRY). See also Note 5.

RRM		Solution View Report spec	`.....8`
			`1..4.....0`
			`RRMXSVR01DEER..EMPLOYEE-N..A`
				Retain	Contains Solution View report specification records	Solution View report pgm. Name is in positions 4–7 plus constant PT (for example, XSVRPT). See also Note 5.

RSM		Solution View Form spec	`.....8`
			`1..4.....0`
			`RSMXSVSCRE0FF.EMPLOYEE-NA..A`
				Retain	Contains Solution View form specification records	Solution View form pgm. Name is in positions 4–9 (for example, XSVSCR). See also Note 5.

RT		Report Output Position/ Totaling	`.....8`
			`1..4.....0`
			`RTXSVR001EMPLOYEE-NUMBER...A`
				Retain	Contains print and totaling records for custom P record reports.	Report pgm. Name is in positions 4–7; constant PT (for example XSVRPT) is implied. See also Note 4.

Record Type Code - Pos. 1	Record Scndry Type Code	Function	Example	Likely Action	Reason	Notes
RXM		Solution View Extract spec	.....8 1..4.....0 RXMXSVX00DEE..EMPLOYEE-NU..A	Retain	Contains Solution View extract specification records	Solution View extract pgm. Name is in positions 4–7 plus constant XT (for example, XSVXXT). See also Note 5.
T, U, W, and X		Table	.....8 1.....0 TAxxxx.....A	Retain		See note 4.
ZE		Relational Database Error	.....6.....8 1.....2.....0 ZE999999...LZF203L31.....A	Delete	Informative records only	See ***Data Structures and Processing Modes*** (on page 47).
ZL		Locked Records	.....8 1.....0 ZL999999D.....A	Delete	System generated, temporary records	

Notes

1. You must identify your custom option lists and your changes to delivered option lists.

Refer to **Naming Conventions** *(on page 591) for more information.*

2. You must identify your custom fields and your changes to delivered fields.

   It may have been necessary to customize field table names. Three examples of this follow:
   - Edit Routines—Positions 55–60 contain a custom field edit routine.
   - Option list Name—Positions 65–69 contain a option list name other than what was delivered.
   - Field Security—Positions 77–78 contain a field security code.

Note: Non-customized field names are those changed as a result of a Program Temporary Fix (PTF).

Refer to **Naming Conventions** *(on page 591) for more information.*

3. If your customized P records do not conform to naming conventions, you must identify customizations to delivered P records and determine whether to migrate those changes to the newer version.
   - The resequencing of P records may be required.
   - Delivered changes (for example PTF) are deleted. Positions 76–79 contain a PTF (for example, 5210 refers to ST25210).
   - Please test the affected form/program. If you identify a problem, please contact National Telephone Support for further assistance.

Refer to **Naming Conventions** *(on page 591) for more information.*

4. You must identify the various table records you have added to the system. T records are in the format TX, where "X" denotes the constants A–V, X–Z, "!", "*", and "<". U records contain a "1" or "2" in position 2. W and X records contain a space in position 2.
5. P and RT records, which are used for programs created using Solution View, may be deleted from the difference file.

Note: If you delete the P and RT records, each Solution View program must be RELOADed from the initial Solution View form.

APPENDIX N

Disk Requirements Worksheets

In This Appendix

Introduction 716
Table 1 717
Table 2 718
Table 3 719
Table 4 720
Table 5 725
Table 6 726

Introduction

The tables below show an example for an Oracle database of the overhead space required for each of the tables.

To calculate the space required, multiply the average row length by the number of occurrences for each table.

To calculate the overhead space required for each of the indexes, multiply the number of rows in each table by 15%.

Table 1

VIEW	TABLE	# OF ATTR	AVG BYTES/ROW	AVG ROW LENGTH
D	COMPANY	30	356	389
DB	CO_EARN_DED_RULE	31	221	255
DCAF	PAY_PROCESS_OPT	40	127	170
DCAG	PAY_STUB_MESSAGE1	3	73	79
DCAH	PAY_STUB_MESSAGE2	3	73	79
DCAJ	PAY_FREQUENCY	23	272	298
DCAK	GL_ACCOUNT_NBRS	9	84	96
DCAL	PAY_DOC_PRINT	6	93	102
DCAM	COMPANY_ROE	10	63	76
DD	PAYROLL_REPT_DEFN	18	33	54
DIDX	DIDX	4	204	211
TABLE 1				
TABLE 5 INDEXES				
TABLE 1 TOTAL				

Table 2

VIEW	TABLE	# OF ATTR	AVG BYTES/ROW	AVG ROW LENGTH
F	F_OTHER_RECORD	5	86	94
G	G_OTHER_RECORD	5	86	94
W	W_OTHER_RECORD	6	86	95
X	X_OTHER_RECORD	6	86	95
TABLE 2				
TABLE 4 INDEXES				
TABLE 2 TOTAL				

Table 3

VIEW	TABLE	# OF ATTR	AVG BYTES/ROW	AVG ROW LENGTH
H	TAX_SPECIFICATION	41	758	802
H4	TAX_TABLE_DEFN	23	456	482
H5	TAX_TABLE_BRACKET	9	148	160
HIDX	HIDX	5	204	212
TABLE 3				
TABLE 3 INDEXES				
TABLE 3 TOTAL				

Table 4

VIEW	TABLE	# OF ATTR	AVG BYTES/ROW	AVG ROW LENGTH
MEE	EMPLOYEE	28	107	138
MEEA	EMPLOYEE_PAYMT	17	196	216
MEEB	EMPLOYEE_TRANSFER	8	84	95
MF	NAME_ADDRESS	9	158	170
MG	PAY_ALLOCATIONS	10	86	99
MH	EMP_EARN_DED	28	381	412
MIDX	MIDX	5	204	212
MJ	EMP_TAX_DED	52	827	882
MLO1	DEPENDENT	12	102	117
MLO2	DEPENDENT_EMPLYR	6	79	88
MLO3	DEPENDENT_INSUR	9	75	87
MLO4	EMRGY_CONTACT	7	79	89
MLO5	EMRGY_CONTACT_ADDR	7	79	89
MLO6	EMRGY_PHYSICIAN	7	79	89
MLO7	EMRGY_PHYS_ADDR	7	79	89
MLO8	EEO_6	10	39	52
MLOA	BENEFICIARY	11	101	115
MLOB	BENEFICIARY_ADDR	6	79	88
MLOC	BENEFICIARY_CITY	6	54	63
MLOD	COVERED_DEPENDENTS	21	74	98
MLOF	APPLICANT	12	112	127
MLOG	APPLCNT_REFERENCE	11	101	115
MLOH	APPLCNT_REF_ADDR	8	97	108
MLOI	JOB_APPLIED_FOR	16	113	132
MLOJ	WORK_PREFERENCES	21	168	192
MLOZ	EMP_FLEX_PLN_CR_PR	14	167	184
MLPB	V80_INSURANCE	14	150	167
MLPC	V80_MED_COVERAGE	11	60	74
MLPD	V80_BENEFIT	18	209	230
MLPH	SALARY_CHANGE	19	239	261
MLPM	EMP_INCUMBENCY	19	156	178
MLPQ	CAN_EMP_EQUITY	11	57	71

VIEW	TABLE	# OF ATTR	AVG BYTES/ROW	AVG ROW LENGTH
MLPR	V80_INJURY_DISABLE	15	117	135
MLQ0	EMP_RETIREMENT	13	70	86
MLQ1	EMP_WELFARE_PLAN	13	76	92
MLQ2	LEAVE_OF_ABSENCE	10	51	64
MLQ3	EMP_PLAN_SERVICE	14	68	85
MLQ4	EMP_DEFERRED_PLAN	14	63	80
MLQ5	EMP_PLAN_CONTRIB	20	171	194
MLQ6	PENSION_BENEFIT	16	118	137
MLQ7	PENSION_PROJCTION	15	225	243
MLQ8	EMP_PLAN_COVERAGE	12	123	138
MLQ9	EMP_PLAN_VESTING	9	69	81
MLQA	TS_FUND_ALLOCATION	16	211	230
MLQB	TS_FUND_ACCUM	17	191	211
MLQC	TS_FUND_ACTIVITY	15	111	129
MLQD	TS_FUND_TRANSFER	11	59	73
MLQE	DC_CONTRIBUTION	14	134	151
MLQF	TS_FUND_BALANCE_1	14	182	199
MLQG	TS_FUND_BALANCE_2	14	168	185
MLQH	TS_FUND_SHARE	11	116	130
MLQI	DB_PLAN_ACCUM	16	190	209
MLQJ	DB_ACCT_BALANCE	13	181	197
MLQK	DB_ACCT_ACTIVITY	8	71	82
MLQL	DC_PLAN_ACCUM	16	190	209
MLQM	DC_ACCT_ACTIVITY	14	110	127
MLQN	DC_ACCT_TRANSFER	9	57	69
MLQO	EMP_FLEX_CREDITS	17	191	211
MLQP	DC_ACCT_BALANCE_1	13	181	197
MLQQ	DC_ACCT_BALANCE_2	13	181	197
MLQR	AVG_DEFERRAL_PCT	13	184	200
MLQS	BENEFICIARY_PCT	21	226	250
MLQT	FSA_ACCT_BALANCE	14	166	183
MLQU	FSA_CLAIM	15	167	185
MLQV	HIGHLY_PAID_DEF_1	19	131	153
MLQW	HIGHLY_PAID_DEF_2	11	35	49
MLQX	FINAL_AVG_EARNINGS	9	93	105
MLQY	COBRA_QUALIFY_EVNT	15	96	114

VIEW	TABLE	# OF ATTR	AVG BYTES/ROW	AVG ROW LENGTH
MLQZ	J_S_BENEFIT_WAIVER	14	90	107
MLR0	SHARE_DISTRIBUTION	14	128	145
MLR1	SHARE_WITHDRAWAL	18	138	159
MLR2	SHARE_ACCT_BALANCE	11	115	129
MLR3	STOCK_CASH_BALANCE	14	128	145
MLR4	SAVINGS_BOND	9	51	63
MLR5	ALT_COMP_TOTALS	11	151	165
MLRA	EMP_ELIGIBILITY	10	57	70
MLRD	DISCIPLINE_ACTION	10	50	63
MLRJ	RELOCATION_1	13	200	216
MLRK	RELOCATION_2	13	200	216
MLRL	RELOCATION_3	21	209	233
MLRM	HOUSE_HUNTING_EXP	17	273	293
MLRN	MOVING_EXPENSE	16	251	270
MLRO	TEMP_LIVING_EXP	17	253	273
MLRP	SHIPPING_EXP	19	262	284
MLRQ	CLOSING_COST_EXP	17	236	256
MLRR	BRIDGE_LOAN	14	174	191
MLRS	POSITION_ASSIGNMT	9	103	115
MLRT	AUTH_TIME_OFF	14	228	245
MLRU	UNAUTH_TIME_OFF	8	96	107
MLT0	EMP_CLASS_REG	9	38	50
MLT1	EMP_TRAIN_REQ	8	32	43
MLT2	EMP_CLASS_RESULT	18	96	117
MLT3	EMP_COURSE_OBJ	25	84	112
MLT4	EMP_TRAIN_SALARY	9	55	67
MLT5	EMP_CLASS_COST	20	154	177
MLTB	ISSUED_BADGE	9	78	90
MLTS	SCHEDULE_ASSIGNMNT	9	80	92
MLVA	ABSENCE	15	99	117
MLVE	EEO_4_EXEMPTIONS	6	46	55
MLVG	GRIEVANCE	13	97	113
MLWA	IMAGE_INFORMATION	8	100	111
MLWF	EMPLOYEE_CONTACT	10	106	119
MLYA	EMP_ROE_1	12	107	122
MLYB	EMP_ROE_2	13	108	124

VIEW	TABLE	# OF ATTR	AVG BYTES/ROW	AVG ROW LENGTH
MLYC	EMP_ROE_3	14	198	215
MLYD	EMP_ROE_4	10	122	135
MLYE	EMP_ROE_5	6	98	107
MLZ1	FORMAL_EDUCATION	13	163	179
MLZ2	TUITION_REIMBURSMT	18	250	271
MLZ3	EMP_TRAIN_COURSE	21	153	177
MLZ4	EMP_SKILL	15	73	91
MLZ5	APPL_INTERVIEW	10	82	95
MLZ6	PRIOR_EMPLOYMENT	11	110	124
MLZ7	PHYSICAL_EXAM	15	71	89
MLZ8	PHYSICAL_EXAM_RSLT	15	78	96
MLZ9	APPL_PRE_TRANSFER	18	140	161
MLZA	EMPLOYEE_1	16	118	137
MLZB	CITIZENSHIP	17	103	123
MLZC	EMPLOYMT_ACTIVITY	18	92	113
MLZD	JOB_ASSIGNMENT	11	103	117
MLZE	BONUS	12	94	109
MLZF	SALARY	19	250	272
MLZG	PERFORMANCE_RATING	17	123	143
MLZH	NON_MONETARY_PERQ	9	82	94
MLZI	ASSIGNED_PROPERTY	9	82	94
MLZJ	ASSIGNED_AUTO	12	119	134
MLZK	EXIT_INTERVIEW	9	103	115
MLZL	DRIVERS_LICENSE	10	75	88
MLZM	HEALTH_CONDITION	17	61	81
MLZN	CERTIFICATION	9	47	59
MLZO	PROFESSIONAL_ASSOC	7	44	54
MLZP	PLANNED_SALARY	17	176	196
MLZQ	SALARY_REVIEW	10	86	99
MLZR	EMP_LOCATION	15	85	103
MLZS	SCHEDULED_APPRSL	10	86	99
MLZT	MONETARY_PERQ	10	94	107
MP	PAY_PERIOD	7	89	99

VIEW	TABLE	# OF ATTR	AVG BYTES/ROW	AVG ROW LENGTH
TABLE 4				
TABLE 2 INDEXES				
TABLE 4 TOTAL				

Table 5

VIEW	TABLE	# OF ATTR	AVG BYTES/ROW	AVG ROW LENGTH
NEE	EMPLOYEE_LH	29	111	143
NEEA	EMPLOYEE_PAYMT_LH	18	200	221
NF	EMP_NAME_ADDR_LH	6	72	81
NG	EMP_LOCATION_LH	11	90	104
NH	LABOR_HIS_EARN_DED	7	86	96
NIDX	NIDX	6	204	213
NJ	LABOR_HIS_TAX_DED	13	203	219
NLG1	LABOR_DIST_SPLIT1	5	88	96
NLG2	LABOR_DIST_SPLIT2	5	88	96
NLG3	LABOR_DIST_SPLIT3	5	88	96
QEE	EMPLOYEE_MM	29	111	143
QEEA	EMPLOYEE_PAYMT_MM	18	200	221
QF	EMP_NAME_ADDR_MM	10	162	175
QG	EMP_LOCATION_MM	11	90	104
QH	EMP_EARN_DED_MM	29	385	417
QIDX	QIDX	6	204	213
QJ	EMP_TAX_DED_MM	53	831	887
TABLE 5				
TABLE 1 INDEXES				
TABLE 5 TOTAL				

Table 6

VIEW	TABLE	# OF ATTR	AVG BYTES/ROW	AVG ROW LENGTH
UDS1	NODE_CONTROL_TABLE	5	28	36
UDS2	MACHINE_PARAMETERS	3	6	12
UDS3	DISTRIB_ACCES_LOG	7	78	88
UDS4	DISTRIBUTION_RULES	5	23	31
URT01	REQ_BASIC_DETAILS	15	91	109
URT11	REQ_CAND_BASIC	12	70	85
URT12	REQ_CAND_BASIC_2	7	72	82
Y40FN	FIELD_NAMES	19	161	183
YPR0	POSITION_HEADER	10	18	31
YPR1	POSITION_CTL_BASIC	16	93	112
YPR2	POSITION_FROM_DATA	8	62	73
YPR3	POSITION_TO_DATA	8	62	73
YPR4	POSITION_NARRATIVE	5	75	83
YPR5	POSITION_DEPT	17	122	142
YPR6	POSITION_BUDGET_PC	12	144	159
YPR7	POSITION_ACTUAL	13	181	197
YPR8	POSITION_REQ	14	117	134
YPR9	POSITION_INCUMBENT	15	101	119
YPRH	POSITION_CTRL_HDR	3	35	41
YPRS	POSITION_CTL_SKILL	15	63	81
YT	ACCRUAL_SELECTION	14	72	89
YT_A	COURSE_DEVP_COST	5	82	90
YT_AB	ABSENCE_EARN_CODE	11	74	88
YT_ARA	ACCRUAL_ROUTINE	19	269	291
YT_ARB	ACCRUAL_ROUTINE_B	11	211	225
YT_ARC	ACCRUAL_ROUTINE_C	8	145	156
YT_C_A	COORDINATOR	5	62	70
YT_C_B	COORDINATOR_B	9	62	74
YT_C_C	COORDINATOR_C	6	63	72
YT_C_D	COORDINATOR_D	11	60	74
YT_C_E	COORDINATOR_E	11	60	74
YT_C2A	CREW_ROTATION_08_A	28	83	114

VIEW	TABLE	# OF ATTR	AVG BYTES/ROW	AVG ROW LENGTH
YT_C2B	CREW_ROTATION_08_B	31	64	98
YT_C2C	CREW_ROTATION_08_C	11	24	38
YT_C3A	CREW_ROTATION_14_A	28	83	114
YT_C3B	CREW_ROTATION_14_B	31	64	98
YT_C3C	CREW_ROTATION_14_C	31	64	98
YT_C3D	CREW_ROTATION_14_D	26	54	83
YT_D_A	COURSE_OFFERING	8	74	85
YT_D_B	COURSE_OFFERING_B	23	149	175
YT_D_C	COURSE_OFFERING_C	20	74	97
YT_D_D	COURSE_OFFERING_D	21	119	143
YT_D_E	COURSE_OFFERING_E	17	104	124
YT_D_F	COURSE_OFFERING_F	7	73	83
YT_EC	TA_EARN_CODE	6	56	65
YT_N_A	COURSE_PROVIDER	4	66	73
YT_N_B	COURSE_PROVIDER_B	8	64	75
YT_N_C	COURSE_PROVIDER_C	4	54	61
YT_N_D	COURSE_PROVIDER_D	10	64	77
YT_N_E	COURSE_PROVIDER_E	10	64	77
YT_P	POLICY_ACTIVITY	27	462	492
YT_P_A	PROGRAM_SCHEDULE	15	62	80
YT_P_B	PROGRAM_SCHEDULE_B	15	62	80
YT_P_C	PROGRAM_SCHEDULE_C	15	62	80
YT_P_D	PROGRAM_SCHEDULE_D	15	62	80
YT_P_E	PROGRAM_SCHEDULE_E	14	61	78
YT_P_F	PROGRAM_SCHEDULE_F	4	64	71
YT_PT	POLICY_TABLE	15	129	147
YT_R	COMPANY_XREF	3	50	56
YT_RP	ROSTER_QUERY_PARMS	6	84	93
YT_S	SCHEDULE_ACTIVITY	27	462	492
YT_S_A	CLASS_SCHEDULE	16	155	174
YT_S_B	CLASS_SCHEDULE_B	18	184	205
YT_S_C	CLASS_SCHEDULE_C	17	161	181
YT_S_D	CLASS_SCHEDULE_D	16	86	105
YT_S_E	CLASS_SCHEDULE_E	7	75	85
YT_SP	SHIFT_PREMIUM	22	158	183
YT_ST	SCHEDULE_TABLE	13	126	142

VIEW	TABLE	# OF ATTR	AVG BYTES/ROW	AVG ROW LENGTH
YT_T	TRAINING_REQUIRED	6	26	35
YT_X	CANCEL_COURSE_BOOK	18	124	145
YT_Y	CLASS_EVALUATION	19	88	110
YT_Z	COURSE_BOOKING	18	124	145
YT0A01	POSITION_BASIC	12	92	107
YT0A02	POSITION_BASIC_02	7	75	85
YT0A03	POSITION_EVAL	8	93	104
YT0A04	POSITION_EVAL_CRIT	8	78	89
YT0A05	POSITION_SKILLS	15	63	81
YT0A06	POSITION_MEMBERSHIP	7	73	83
YT0A07	POSITION_LICENSES	7	73	83
YT0A08	POSITION_EDUCATION	8	77	88
YT0A09	POSITION_NEXT_JOB	7	75	85
YT0A10	POSITION_DOC_REF	8	90	101
YT0A11	POSITION_REQ_EXP	8	74	85
YT0A12	POSITION_MISC_DATA	12	65	80
YT0A13	POSITION_REQ_TRAIN	7	75	85
YT0A50	POSITION_STATUS	8	50	61
YT0A51	POSITION_LOCATION	9	61	73
YT0A52	POSITION_FUND	11	110	124
YT0A53	POSITION_VEHICLE	10	95	108
YT0A54	POSITION_NEXT_REVW	8	78	89
YT0A55	POSITION_FTE	9	127	139
YT0A56	POSITION_COMPLEMNT	8	105	116
YT0B01	ORG_UNIT_BASIC	11	83	97
YT0B02	ORG_UNIT_LVL_NAME	6	69	78
YT0B03	ORG_UNIT_FTE	9	127	139
YT0B10	ORG_UNIT_DOC_REF	8	90	101
YT0B99	ORG_UNIT_DEF_NAME	6	69	78
YT0D01	JOB_BASIC	11	91	105
YT0D02	JOB_BASIC_02	8	85	96
YT0D03	JOB_EVALUATION	8	93	104
YT0D04	JOB_EVAL_CRIT	8	78	89
YT0D05	JOB_SKILLS	8	82	93
YT0D06	JOB_MEMBERSHIP	7	73	83
YT0D07	JOB_LICENCES	7	73	83

VIEW	TABLE	# OF ATTR	AVG BYTES/ROW	AVG ROW LENGTH
YT0D08	JOB_EDUCATION	8	77	88
YT0D09	JOB_NEXT_JOB	7	75	85
YT0D10	JOB_DOC_REF	8	90	101
YT0D11	JOB_REQ_EXP	8	74	85
YT0D13	JOB_REQ_TRAINING	7	75	85
YTA__A	JOB_CODE	14	94	111
YTA__B	JOB_CODE_B	12	79	94
YTBA	SALARY_GRADE_ANN	12	152	167
YTBB	SALARY_GRD_PAY_PD	13	174	190
YTBC	SALARY_GRADE_HRLY	12	173	188
YTC__A	JOB_EVAL_PROFILE	23	267	293
YTC__B	JOB_EVAL_PROFILE_B	10	98	111
YTDC1	SALARY_INC_DEFN_1	13	152	168
YTDC2	SALARY_INC_DEFN_2	14	153	170
YTDC3	SALARY_INC_DEFN_3	19	284	306
YTDC4	SALARY_INC_DEFN_4	19	284	306
YTDR1	SALARY_INC_DEFN_5	13	152	168
YTDR2	SALARY_INC_DEFN_6	14	153	170
YTDR3	SALARY_INC_DEFN_7	19	284	306
YTDR4	SALARY_INC_DEFN_8	19	284	306
YTDT1	SALARY_INC_DEFN_9	13	152	168
YTDT2	SALARY_INC_DEFN_0	14	153	170
YTE	OCCUPATION_GROUP	8	24	35
YTF	ADJ_EMP_STATUS	24	51	78
YTG	SYSTEM_OPTIONS	19	30	52
YTH	SALARY_PLAN	8	66	77
YTI	SALARY_GRADE	11	120	134
YTJ__A	PLAN_RETIRE_RULE	15	76	94
YTJ__B	PLAN_RETIRE_RULE_B	14	50	67
YTK__A	BENEFIT_PLAN	16	70	89
YTK__B	BENEFIT_PLAN_B	14	48	65
YTL	PLAN_ELIGIBILITY	23	87	113
YTM	COVERAGE_COST	14	138	155
YTN__A	PLAN_PARTICIPATE	17	110	130
YTN__B	PLAN_PARTICIPATE_B	15	63	81
YTO	ACCUMULATOR_RULES	40	51	94

VIEW	TABLE	# OF ATTR	AVG BYTES/ROW	AVG ROW LENGTH
YTP	MASTER_PLAN	22	68	93
YTQ	ANNUITANT_FACTOR	18	281	302
YTRA	PLAN_INTEREST_RATE	9	123	135
YTRB	FUND_INTEREST_RATE	8	103	114
YTRC	PLAN_ALLOC_METHOD	16	115	134
YTRD	FUND_ALLOC_METHOD	12	68	83
YTS	PLAN_EARN_DED_RULE	16	141	160
YTT	PLAN_OPT_ACTIVITY	29	77	109
YTU__A	BREAK_IN_SVC_RUL	25	228	256
YTU__B	BREAK_IN_SVC_RUL_B	15	122	140
YTV	DISCRIMINATION_TST	16	148	167
YTW_A	PRIOR_YEAR_TOTAL	8	125	136
YTW_B	PRIOR_YEAR_TOTAL_B	9	147	159
YTX__A	EEO_ESTABLISHMNT	12	65	80
YTX__B	EEO_ESTABLISHMNT_B	7	65	75
YTX__C	EEO_ESTABLISHMNT_C	7	69	79
YTX__D	EEO_ESTABLISHMNT_D	9	126	138
YTX__E	EEO_ESTABLISHMNT_E	10	148	161
YTY	EEO_STATISTICS	19	301	323
YTZ	COVERAGE_COST_B	9	68	80
YTZAX	HR_TABLE_CTRL	13	55	71
YTZAY	BENEFIT_TABLE_CTRL	14	61	78
YTZAZ	ACCRUAL_TABLE_CTRL	3	17	23
YU1	FLEX_CREDIT_CALC	19	46	68
YU2	FLEX_PLAN_OPTS	18	47	68
ZCSC12	CODESET_C12	8	75	86
ZCSUNV	CODESET	6	75	84
TABLE 6 TOTAL				
TABLE 7 TOTAL				
TABLE 0 TOTAL				

APPENDIX O

The Payroll BATCH Transaction

In This Appendix

Introduction 732
How the BATCH Transaction Works.....733
BATCH transaction layout 734
BATCH transaction fields 735
Optional balancing feature.....739

Introduction

This section introduces the BATCH transaction, which is used exclusively during the payroll run process to identify the organization to which subsequent transactions are to be applied.

You can use this transaction to balance employee time entry, earnings, deductions, and adjustment transactions.

You can also use this transaction to apply organization, miscellaneous, and tax specification record transactions to all organizations on the Sequential Master File (P20IN).

Prerequisites

Before you can perform the tasks in this section, the following prerequisites must be established.

- The Solution Series must be installed
- Organization-level information is established
- You must be familiar with the concepts covered in the Implementation Essentials documentation

How the BATCH Transaction Works

The first record read by the Transaction Editor Program (P2EDIT) from the Reader File (P05RDR) is considered a BATCH transaction.

The BATCH transaction controls the accessing of alternate input files and other batch processing functions.

The BATCH transaction precedes each batch of transactions submitted to the system during a payroll or maintenance run. This transaction identifies the organization to which accompanying transactions belong.

Updates can be made during the run to organization, employee, and tax specification records, or to report generator programs.

Transactions are grouped in batches. You may include as many transactions in a batch as you wish, with these restrictions:

- Each batch must be segregated by organization. You must place a new BATCH transaction identifying the new company before each batch of transactions for a company.
- You cannot combine employee transactions with organization or tax transactions in the same batch. A batch may contain employee information only or organization and/or tax information only.

BATCH transaction layout

The following example shows BATCH transaction layout and fields:

```
         1         2         3         4         5         6         7         8
1...5....0....5....0....5....0....5....0....5....0....5....0....5....0....5....0
aaaaabbbbbbccccdefghhijkkkkllllllllmmmmmmnnnnnnooooooppppppqqqqqqrrrrrrrrssssssss
```

The following chart describes each of the fields:

Layout ID	Field Name	Required field?	Positions	Number of positions
a	BATCH (literal string)	Yes	1-5	5
b	Organization Number	Yes	6-11	6
c	Batch Number	Yes	12-15	4
d	Validate Only	No	16	1
e	Modify Controls	Yes	17	1
f	Recycle File Input	*	18	1
g	Alternate Input Files	*	19	1
h	Version Number	*	20-21	2
i	Recon Run	*	22	1
j	space	No	23	1
k	Card count	No	24-27	4
l	Regular hours	No	28-34	7
m	Overtime hours	No	35-40	6
n	Hours One	No	41-46	6
o	Hours Two	No	47-52	6
p	Hours Three	No	53-58	6
q	Hours Four	No	59-64	6
r	Regular rate/amount	No	65-72	8
s	Overtime rate/amount	No	73-80	8

* These fields are only used on the BATCH transaction.

BATCH transaction fields

Detailed descriptions of each field in the BATCH transaction are provided in this section.

BATCH (positions 1-5)

Type the literal string, BATCH, in this field.

Organization Number (positions 6-11)

Type the Organization Number to which the following batch of transactions belongs.

Type 999999 in this field when the following conditions apply:

- you want to apply each of the transactions to every organization (for example, tax specification records or W transactions)
- you want to add or replace report generator programs
- you are submitting payment (check) reconciliation (ER) transactions or P6 transactions

Note: You must establish an organization as valid in the Company Validation Table (RPT20) before submitting transactions for it.

Batch Number (positions 12-15)

Except for three predefined values, this field is defined by you to specify the person, terminal, or station responsible for preparing or submitting the batch of transactions, or the department or other identification that the transactions represent. For example, you could enter the department number for which time-entry transactions are being submitted.

The three predefined values are important components of the BATCH transaction. When these values are used, their transactions are referred to as the BATCH STOP, BATCH SUM, and BATCH TAX transactions:

- STOP
  The STOP value designates the end of a particular batch. No further transaction processing occurs in this batch, processing continues to the next batch.

- SUM
  The SUM value produces a batch summary page with a total of all batches since the previous SUM entry. If only one SUM entry is entered at the end of the batch (that is, it is the last transaction), a grand total of all batches is produced.

- TAX
  The TAX value updates taxes and other organization-level records. It causes the P2EDIT program to write out each transaction once for each organization on the Sequential Master File, as defined in the Organization Validation Table (RPT20).

This Batch Number may be used only with Organization 999999, and it must be followed by organization transactions only.

Transactions submitted with a BATCH TAX transaction do not appear on the Payroll Audit Trail (0101) report.

Test organizations are not included in this process.

If you are updating tax specification records for a single organization, use a BATCH transaction with the Organization Number and any value other than TAX in the Batch Number field.

It is possible to update selected organizations with a BATCH transaction. You can group organizations by applying a code to their RPT20 entries and adding that code to the fourth position of the Batch Number field, after the value TAX.

To use this feature, you must modify the Organization Validation Table (RPT20).

Do not use a value of 1 or 2 for this purpose.

Validate Only (position 16)

This field allows you to validate transactions without updating the Sequential Master File. You can use the following values:

- blank - Apply transactions in this batch to the Sequential Master File.
- Y - Validate this batch of transactions, but do not write them to the output Valid Transactions File.

Modify Controls (position 17)

An entry in this field specifies whether the batch contains employee information only or organization and/or tax information. You can use the following values:

- blank - contains employee data
- Y - contains non-employee data

The Payroll Run Process Control (AE) transaction may be included in either an employee or organization batch.

Recycle File Input (position 18)
Alternate Input Files (position 19)
Version Number (position 21-21)
Recon Run (position 22)

These fields are components of the BATCH transaction. They are used for several payroll processing procedures.

space (position 23)

This field is reserved for future use, so you must leave it blank.

The remaining fields in the BATCH transaction are optional. They are used to balance the field contents of the transactions in a batch. Several of these fields have more than one purpose.

You may enter figures which are used to total fields on time-entry, adjustment, and on employee earning or deduction (H) transactions. This feature requires you to separate these different types of transactions into individual batches.

An out-of-balance message is printed on the Transaction Load report if any of the figures entered do not match the ones accumulated by the payroll run process.

Card Count (positions 24-27)

Enter the total number of transactions in this batch. This number must include the BATCH transaction, but not the optional BATCH STOP transaction.

Regular Hours (positions 28-34)

For Time Entry Format 1 and Format 2 transactions, enter the total number of hours in this field from the .

For employee earning (H) transactions, enter the total of the Amount/Pct field on the Employee Earnings and Deductions form.

Overtime Hours (positions 35-40)

For Time Entry Format 1 transactions, enter the total number of hours in the Overtime Hrs field.

For Time Entry Format 2 transactions, enter the total number of hours in the OT Hrs field.

For employee earning (H) transactions, enter the total of the Amount/Pct field on the Employee Earnings and Deductions form.

Hours 1 (position 41-46)

For Time Entry Format 2 transactions, enter the total number of hours in the Hrs 1 field.

For employee earning (H) transactions, enter the total of the Amount One field on the Employee Earnings and Deductions form.

Hours 2 (position 47-52)

For Time Entry Format 2 transactions, enter the total number of hours in the Hrs 2 (62-HOURS-2) field.

For employee earning (H) transactions, enter the total of the Amount Two (AMOUNT-TWO) field.

Hours 3 (position 53-58)

For Time Entry Format 2 transactions, enter the total number of hours in the Hrs 3 field.

For employee deduction (H) transactions, enter the total of the Amount/Pct field on the Employee Earnings and Deductions form.

Hours 4 (positions 59-64)

For Time Entry Format 2 transactions, enter the total number of hours in the Hrs 4 field.

For employee deduction (H) transactions, enter the total of the One-time Amt field on the Employee Earnings and Deductions form.

Regular Rate/Amount

This field may be used to enter the total for any of the following three fields:

- For all Time Entry Format 1 transactions, enter the Regular Rt/Amt.
- For all Time Entry Format 2 transactions, enter the Amount.
- For all employee deduction (H) transactions, enter the Amount One value from the Employee Earnings and Deductions form.

Overtime Rate/Amount

These fields may be used to enter the total for any of the following three fields:

- For all Time Entry Format 1 transactions, Overtime Rt/Amt (12-OT-RATE)
- For all Time Entry Format 2 transactions, Amount (62-AMOUNT)
- For all employee deduction (H) transactions, Net Pay (KC-NET-PAY)

Optional balancing feature

BATCH transactions may also be used to provide totals for the contents of the transactions in each batch by placing the expected totals in the defined fields in the BATCH transaction.

The system accumulates the corresponding amounts from the transactions following the BATCH transaction until it encounters the next BATCH transaction. Then it compares the accumulated totals to the totals you entered.

The Transaction Load report prints the totals accumulated by the system, your totals, and any differences.

The batch balancing feature writes the transactions it processes to the output Valid Transactions File even when the batch is found to be out-of-balance.

☞ *Refer to the Payroll Reports and Balancing manual for more information about the Transaction Load report.*

APPENDIX P

BATCH Transaction Layouts

In This Appendix

About This Section 742
Conversion and Update Transactions 745
Time Entry and Adjustment Transactions.....759
The X Transaction 780

About This Section

This section provides the layout for company and employee batch transactions. These transactions update the Sequential Master File through the P2EDIT program.

Transactions presented here are separated by category. They are:

Conversion and Update Transactions

These transactions are used to convert data into The Solution Series format or to update or delete company and employee records.

Time Entry and Adjustment Transactions

These transactions are more frequently used to pay employees through time entries or to make adjustments through specific adjustment entries.

Functional and Subsystem Transactions

These transactions are used to enter information into functional programs and subsystems. Programs and subsystems also create these transactions. This category includes W records.

If applicable, the equivalent form(s) used to enter data online is listed for each transaction. A form's fields and related documentation should be reviewed before creating transactions. Some online forms include parts of, or more than, one transaction.

A batch layout and explanatory chart is provided in this section for each transaction. The chart contains the following information:

- layout ID
- form field label
- field name from field name table (Entries not in all capital letters are not fields on the Field Name Table.)
- column positions
- number of positions
- input length
- type (where A = alphanumeric, N = numeric, and D = date)

Transaction codes

Code	Form(s)
X<space>	No forms - all purpose maintenance
A8	Company Earnings form (A8-SCR) Company Deductions form (A8-SCR)
AA	Company Name And Address form (AA-SCR)
AB	Company Name And Address form (AA-SCR)
AC	Company Name And Address form (AA-SCR)
AD	Company Name And Address form (AA-SCR)
AE	Payroll Run Process Control form (AE-SCR)

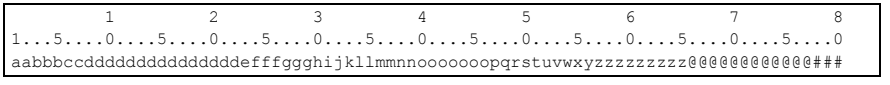
Code	Form(s)
AF	Company Options form (AF-SCR) Payment Document Print Options - Part 1 form (PD1SCR)
AG	Payment Document Messages form (AG-SCR)
AH	Payment Document Messages form (AG-SCR)
AJ	Company Pay Frequencies form (AJ-SCR)
D<space>	Report Requests form (DD-SCR)
T1	Tax Specification Information form (T1-SCR)
T2	Tax Specification Information form (T1-SCR)
T3	Tax Specification Information form (T1-SCR)
T4	Tax table Definition form (T4-SCR)
T5	Employee Tax Record Maintenance form (T5-SCR)
E<space>	Employee Information form (EF-SCR) Set Up A New Employee form (NHSCR)
F1	Employee Name And Address form (FF-SCR) Employee Information form (EF-SCR)
F2	Employee Name And Address form (FF-SCR) Employee Information form (EF-SCR)
G<space>	Payroll Home Location/Pay Allocations form (GG-SCR)
H<space>	Employee Earnings And Deductions form (HH-SCR) Direct Deposit Information form (H9-SCR) Employee Earnings And Deductions form (HH-SCR) Employee Pay Rate Or Salary form (H1-SCR)
J<space>	Employee Tax record Maintenance form (JJ-SCR)
1<variable>	Time Entry Transaction Format 1 Time Entry - Full Override form (TCFSCR) Time Entry Format 1 form (TCISCR) Rolling Time entry Format 1 form (TCRSCR) Time Entry Edit Format 1 form (TC1EDT) Time Entry Edit - Partial Format 1 form (TCFEDT)
2<variable>	Time Entry Transaction – Format 2 Time Entry Format 2 form (TC2SCR) Time Entry Edit format 2 form (TC2EDT)
KA	Manual Payment form (KA-SCR)
KB	Manual Adjustments form (KB-SCR)
KC	Manual Payment form (KA-SCR) Manual Adjustments form (KB-SCR)
KD	Tax Adjustments form (KD-SCR)
KF	FICA-OASDI/Total Pay Adjustment form (KF-SCR)
KG	Tax Adjustment - Alternate form (KG-SCR)

Code	Form(s)
KH	FICA-HI Adjustments form (KH-SCR)
KL	Earnings Adjustments With Labor form (KL-SCR)
BATCH	Time-Entry Batch Balancing form (BA-SCR)
ER	Payment Reversal/Clearing form (ER-SCR)
PE	Pay Period-End Maintenance form (PE-SCR)
WL	WL Record Maintenance form (WL-SCR)

Conversion and Update Transactions

A8 Transaction - Earnings

Company Earnings form (A8-SCR)



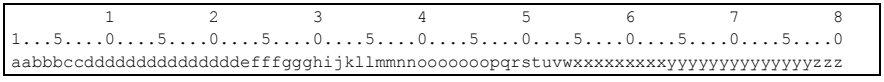
Layout ID	Form Field Label	Field Name from Field Name Table	Position	Number of Positions	Type (A, N, D)
a	none	the literal A8	1 - 2	2	A
b	HED	COMPANY-HED-NUMBER	3 - 5	3	N
c	Category	EARNING-CATEGORY-CD	6 - 7	2	N
d	Description	HED-NAME	8 -22	15	A
e	Pay On Vacation Pay	VACATION-FLAG-CODE	23	1	N
f	Permanent Order	PERMANENT-ORDER	24- 26	3	N
g	Temporary Order	TEMPORARY-ORDER	27 -29	3	N
h	TE-2 Hours	TC-2-HOURS	30	1	N
i	TE-2 Amt	TC-2-AMOUNT	31	1	N
j	FLSA Calc Use *	EARNINGS-RATE-FLSA	32	1	N
k	Tax Frequency	FREQUENCY-FOR-TAX-CD	33	1	A
l	Frequency	EARNING-FREQUENCY-CD	34 -35	2	N
m	Taxability	EARNING-TYPE-CODE	36 -37	2	N
n	Calc Method	EARNING-METHOD-CODE	38- 39	2	N
o	Amount/Percent	EARNING-AMOUNT/PCT	40 -46	7	N
p	Auto Setup	AUTOMATIC-SETUP-CODE	47	1	A
q	Period Table	PERIOD-TABLE-CODE	48	1	N
r	Add Total Hrs	ADD-TOTAL-HOURS-CODE	49	1	N
s	Show on HED Register	HED-REGISTER	50	1	A
t	Timing	HED-TIMING-CODE	51	1	A
u	Pretax Type	HED-TAX-FLAG-CODE	52	1	N
v	Accrual Optn	ACCRUAL-OPTION-CODE	53	1	A
w	Shift Differential	SHIFT-DIFF-CODE	54	1	A
x	Earn Bucket	CE/H-EARNINGS-BUCKET	55	1	N
y	Hourse Accum**?**	CE/H-HOURS-ACCUMULAT	56	1	N

Layout ID	Form Field Label	Field Name from Field Name Table	Position	Number of Positions	Type (A, N, D)
z	none	spaces	57-65	9	n/a
@	GL Account	GL-ACCOUNT	66-77	12	A
#	none	spaces	78-80	3	n/a

*Note: * converts to Overtime Fctr for earning 003*

A8 Transaction - Deductions

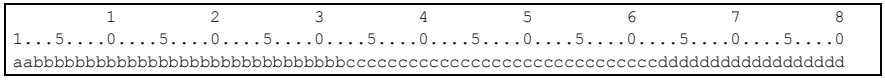
Company Deductions form (A8-SCR)



Layout ID	Form Field Label	Field Name from Field Name Table	Positions	Number of Positions	Type (A, N or D)
a	none	the literal A8	1 - 2	2	A
b	HED	COMPANY-HED-NUMBER	3 - 5	3	N
c	Category	DEDUCT-CATEGORY-CODE	6 - 7	2	N
d	Description	HED-NAME	8 - 2	15	A
e	Deduct From Vacation	VACATION-FLAG-CODE	23	1	N
f	Permanent Order	PERMANENT-ORDER	24 - 26	3	N
g	Temporary Order	TEMPORARY-ORDER	27- 29	3	N
h	none	TC-2-HOURS	30	1	N
I	none	TC-2-AMOUNT	31	1	N
j	none	EARNINGS-RATE-FLSA	32	1	N
k	Recover Rule	ARREARS-OVERRIDE-CD	33	1	A
l	Frequency	DEDUCTION-FREQ-CODE	34 - 35	2	N
m	Arrears Rule	DEDUCTION-ARREARS-CD	36 - 37	2	N
n	Calc Method	DEDUCTION-METHOD-CD	38 - 39	2	N
o	Amount/Percent	DEDUCTION-AMOUNT/PCT	40 - 46	7	N
p	Auto Setup	AUTOMATIC-SETUP-CODE	47	1	A
q	Period Table	PERIOD-TABLE-CODE	48	1	N
r	Add Total Hours	ADD-TOTAL-HOURS-CODE	49	1	N
s	Show on HED Register	HED-REGISTER	50	1	A
t	Timing	HED-TIMING-CODE	51	1	A
u	Pretax Type	HED-TAX-FLAG-CODE	52	1	N
v	none	space	53	1	A
w	Recovery Amt	ARREAR-RECORD-CD	54	1	A
x	none	spaces	55 - 65	11	n/a
y	GL Account	GL-ACCOUNT	66 - 77	12	A
z	none	spaces	78-80	3	n/a

AA Transaction

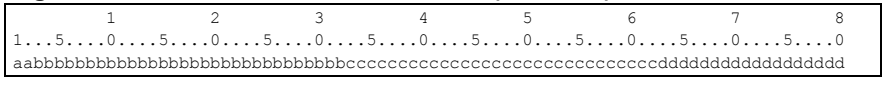
Organization Name And Address form (AA-SCR)



Layout ID	Form Field Label	Field Name from Field Name Table	Position	Number of Positions	Type (A, N or D)
a	none	the literal AA	1 - 2	2	A
b	Org level 1 Name	COMPANY-NAME	3 - 32	30	A
c	Org level 2 Name	COMPANY-NAME-2	33 - 62	30	A
d	none	spaces	63 - 80	18	n/a

AB Transaction

Organization Name And Address form (AA-SCR)



Layout ID	Form Field Label	Field Name from Field Name Table	Position	Number of Positions	Type (A, N or D)
a	none	the literal AB	1 - 2	2	A
b	Address	COMPANY-ADDRESS	3 - 32	30	A
c	none	COMPANY-ADDRESS-2	33 - 62	30	A
d	none	spaces	63 - 80	18	n/a

AC Transaction

Organization Name And Address form (AA-SCR)

```
          1         2         3         4         5         6         7         8
1...5....0....5....0....5....0....5....0....5....0....5....0....5....0....5....0
aabbbbbbbbbbbbbbbbbbbbbbbbccccddddddddddddddddddddddddddddddddddddddddddddddddd
```

Layout ID	Form Field Label	Field Name from Field Name Table	Position	Number of Positions	Type (A, N or D)
a	none	the literal AC	1 - 2	2	A
b	City/State	COMPANY-CITY/STATE	3 - 27	25	A
c	ZIP Code	COMPANY-ZIP-CODE	28 - 32	5	N
d	none	spaces	33 - 80	48	n/a

AD Transaction

Organization Name And Address form (AA-SCR)

```
          1         2         3         4         5         6         7         8
1...5....0....5....0....5....0....5....0....5....0....5....0....5....0....5....0
aabbbbbbbbbbbbccccccccccccddddddddddddeeeeeeeeeeeeffffffffffffgggggggggggghhhhhh
```

Layout ID	Form Field Label	Field Name from Field Name Table	Position	Number of Positions	Type (A, N or D)
a	none	the literal AD	1 - 2	2	A
b	Org	CONTROL-1-NAME	3 - 14	12	A
c	OL2	CONTROL-2-NAME	15 - 26	12	A
d	PL3	CONTROL-3-NAME	27 - 38	12	A
e	PL4	CONTROL-4-NAME	39 - 50	12	A
f	PL5	CONTROL-5-NAME	51 - 62	12	A
g	PL6	CONTROL-6-NAME	63 - 74	12	A
h	none	spaces	75 - 80	6	n/a

AF Transaction

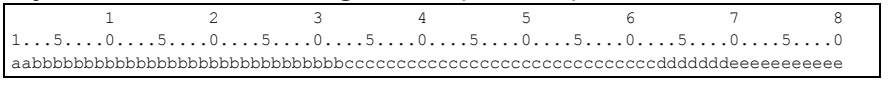
Company Options (AF-SCR) and Payment Document Print Options - Part 1 (PD1SCR) forms

```
          1         2         3         4         5         6         7         8
1...5....0....5....0....5....0....5....0....5....0....5....0....5....0....5....0
aabbccccccccdefghijkklmnoppqqrstuuuuuuuuuvwxyzABCDEFGHIIIIIIJKKKKKKKKKKKKKKKKKK
```

Layout ID	Form Field Label	Field Name from Field Name Table	Position	Number of Positions	Type (A, N or D)
a	none	the literal AF	1 - 2	2	A
b	Bank Code	BANK-CODE	3 - 4	2	A
c	none	spaces	5 - 12	8	n/a
d	FLSA Method	FLSA-METHOD-CODE	13	1	A
e	Pay Reconciliation	PAY-RECONCILIATION	14	1	A
f	Default Unemploymnt	DEF-UNEMPLOY-CODE	15	1	N
g	Retain History	RETAIN-HISTORY-CODE	16	1	N
h	Print Tax Tables	PRINT-TAX-CODE	17	1	A
i	Build Online	BUILD-ONLINE	18	1	A
j	Overtime Shift	OVERTIME-SHIFT-CODE	19	1	A
k	Company Category	COMPANY-CATEGORY	20 - 21	2	A
l	Pay Raise Split	PAY-RAISE-SPLIT-CODE	22	1	A
m	Default Pay Freq	DEF-PAY-FREQ-CODE	23	1	N
n	Clear All Frequency	CLEAR-ALL-FREQ-CODE	24	1	A
o	Report Frequency	REPORT-FREQ-CODE	25	1	A
p	Labor	DROP-LABOR	26 - 27	2	N
q	Hist	DROP-HISTORY	28 - 29	2	N
r	Country	COUNTRY-CODE	30	1	N
s	No Pay Warning	NO-PAY-WARNING-CODE	31	1	A
t	Clear Then Adjust	CLEAR-THEN-ADJUST	32	1	A
u	Routing Number	ROUTING-NUMBER	33 - 41	9	N
v	Org	CHECK-OPT01	42	1	A
w	PL2	CHECK-OPT02	43	1	A
x	PL3	CHECK-OPT03	44	1	A
y	PL4	CHECK-OPT04	45	1	A
z	PL5	CHECK-OPT05	46	1	A
A	PL6	CHECK-OPT06	47	1	A

AG Transaction

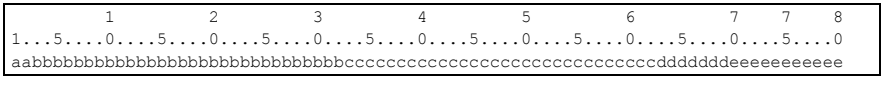
Payment Document Messages form (AG-SCR)



Layout ID	Form Field Label	Field Name from Field Name Table	Position	Number of Positions	Type (A, N or D)
a	none	the literal AG	1 - 2	2	A
b	Company Message 1	MESSAGE-LINE-1-A	3 - 32	30	A
c	More Message 1	MESSAGE-LINE-1-B	33 - 62	30	A
d	End Msg	MESSAGE-LINE-1-C	63 - 69	7	A
e	none	spaces	70 - 80	11	n/a

AH Transaction

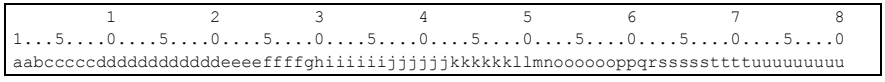
Payment Document Messages form (AG-SCR)



Layout ID	Form Field Label	Field Name from Field Name Table	Position	Number of Positions	Type (A, N, or D)
a	none	the literal AH	1 - 2	2	A
b	Company Message 2	MESSAGE-LINE-2-A	3 - 32	30	A
c	More Message 2	MESSAGE-LINE-2-B	33 - 62	30	A
d	End Msg	MESSAGE-LINE-2-C	63 - 69	7	A
e	none	spaces	70 - 80	11	n/a

AJ Transaction

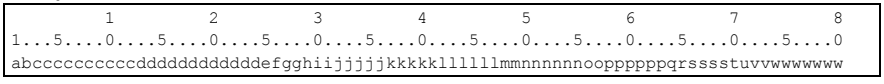
Company Pay Frequencies form (AJ-SCR)



Layout ID	Form Field Label	Field Name from Field Name Table	Position	Number of Positions	Type (A, N, or D)
a	none	the literal AJ	1 - 2	2	A
b	Frequency ID	FREQUENCY-IDENTIFIER	3	1	A
c	none	spaces	4 - 8	5	n/a
d	Frequency	FREQUENCY	9 - 20	12	A
e	Annualization	ANNUALIZATION-FACTOR	21 - 24	4	N
f	Period Length	NUMBER-OF-WEEKS	25 - 28	4	N
g	none	PERIODS-PAID	29	1	N
h	New Period	NEW-PERIOD	30	1	A
i	Payment Date	PAYMENT-DATE	31 - 36	6	D
j	Anniversary Date	ANNIVERSARY-DATE	37 - 42	6	D
k	Period-end Date (current)	PERIOD-DATE	43 - 48	6	D
l	Period Number (current)	PERIOD-NUMBER	49 - 50	2	N
m	Pay Cycle (current)	PAY-CYCLE	51	1	N
n	Deduction Cycle (current)	DEDUCTION-CYCLE	52	1	N
o	Period-end Date (previous)	SAVE-PERIOD	53 - 58	6	D
p	Period Number (previous)	SAVE-NUMBER	59- 60	2	N
q	Pay Cycle (previous)	SAVE-PAY	61	1	N
r	Deduction Cycle (previous)	SAVE-DEDUCTION	62	1	N
s	Actual Hours	ACTUAL-HOURS	63 - 67	5	N
t	Labor Percent	LABOR-PERCENTAGE	68 - 71	4	N
u	none	spaces	72 - 80	9	n/a

E Transaction

Employee Information* (EF-SCR) and Set Up A New Employee (NH-SCR) forms



Layout ID	Form Field Label	Field Name from Field Name Table	Position	Number of Positions	Type (A, N, or D)
a	none	the literal E	1	1	A
b	none	space	2	1	n/a
c	Employee Nbr	EMPLOYEE-NUMBER	3 - 12	10	A
d	Soc Security	SOCIAL-SECURITY-NBR	13 - 24	12	A
e	Frequency	PAY-FREQUENCY-CODE	25	1	A
f	Payment Type	PAYMENT-CODE	26	1	N
g	FLSA Status	STATUS-CODE	27 - 28	2	A
h	Sex	SEX-CODE	29	1	A
i	Race	RACE-CODE	30 - 31	2	A
j	Union	UNION-CODE	32 - 36	5	A
k	Workers Comp Code	WORKERS-COMP-CODE	37 - 41	5	A
l	Birth	BIRTH-DATE	42 - 47	6	D
m	none	EMPLOYMENT-CODE	48 - 49	2	A
n	Employment	EMPLOYMENT-DATE	50 - 55	6	D
o	none	TERMINATION-CODE	56 - 57	2	A
p	Termination	DATE-OF-TERMINATION	58 - 63	6	D
q	Normal Shift	SHIFT-CODE	64	1	N
r	Split Type	SPLIT-CODE	65	1	N
s	none	JOB-CATEGORY-CODE	66 - 69	4	A
t	User Field	USER-FIELD-E	70	1	A
u	none	FAIR-LABOR-CODE	71	1	A
v	Auto Pay Override	PERIOD-OVERRIDE	72 - 73	2	N
w	none	spaces	74 - 80	7	n/a

*Note: *Form Field Labels reference this form only.*

F1 Transaction

Warning: When address information is entered on the Employee Information form (EF-SCR) or the Employee Name and Address form (FF-SCR), LVF (name) and LVH (city/state) segments are automatically created.

If you add or modify employee information via a BATCH F1 or F2 transaction directly into P2EDIT, these segments will not be created or modified.

Employee Name And Address* (FF-SCR) and Employee Information (EF-SCR) forms

```
          1         2         3         4         5         6         7         8
1...5....0....5....0....5....0....5....0....5....0....5....0....5....0....5....0
aabbbbbbbbbbcccddddddddddddddddddddddddddddddddddeeeeeeeeeeeeeeeeeeeeeeeeeeeeeffffff
```

Layout ID	Form Field Label	Field Name from Field Name Table	Position	Number of Positions	Type (A, N, or D)
a	none	the literal F1	1 - 2	2	A
b	none	EMPLOYEE-NUMBER	3 - 12	10	A
c	Name Code	NAME-CODE	13 - 15	3	N
d	Name	NAME	16 - 45	30	A
e	Address	ADDRESS	46 - 75	30	A
f	none	spaces	76 - 80	5	n/a

*Note: *Form Field Labels reference this form only.*

F2 Transaction

Warning: When address information is entered on the Employee Information form (EF-SCR) or the Employee Name and Address form (FF-SCR), LVF (name) and LVH (city/state) segments are automatically created.

If you add or modify employee information via a BATCH F1 or F2 transaction directly into P2EDIT, these segments will not be created or modified.

Employee Name And Address* (FF-SCR) and Employee Information (EF-SCR) forms

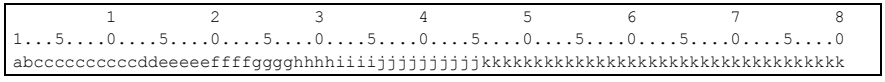
```
          1         2         3         4         5         6         7         8
1...5....0....5....0....5....0....5....0....5....0....5....0....5....0....5....0
aabbbbbbbbbbcccddddddddddddddddddddddddddddddeeeeeeeeeeeeeeeeeeeeeeeeeffffggggg
```

Layout ID	Form Field Label	Field Name from Field Name Table	Position	Number of Positions	Type (A, N, or D)
a	none	the literal F2	1 - 2	2	A
b	none	EMPLOYEE-NUMBER	3 - 12	10	A
c	Name Code (from corresponding F1 transaction)	NAME-CODE	13 - 15	3	N
d	none	ADDRESS-2	16 - 45	30	A
e	City/State	CITY-STATE	46 - 70	25	A
f	ZIP	ZIP-CODE	71 - 75	5	N
g	none	spaces	76 - 80	5	n/a

*Note: *Form Field Labels reference this form only.*

G Transaction

Payroll Home Location/Pay Allocations form (GG-SCR)



Layout ID	Form Field Label	Field Name from Field Name Table	Position	Number of Positions	Type (A, N, or D)
a	none	the literal G	1	1	A
b	none	space	2	1	n/a
c	none	EMPLOYEE-NUMBER	3 - 12	10	A
d	Allocation Number	LOCATION-NUMBER	13 - 14	2	N
e	Percent Allocated	LOCATION-PERCENT	15 - 19	5	N
f	PL3	CONTROL-3-CODE	20 - 23	4	A
g	L4	CONTROL-4-CODE	24 - 27	4	A
h	L5	CONTROL-5-CODE	28 - 31	4	A
i	L6	CONTROL-6-CODE	32 - 35	4	A
j	Function	FUNCTION-CODE	36 - 45	10	A
k	none	spaces	46 - 80	35	n/a

H Transaction - Deductions

Employee Earnings And Deductions* (HH-SCR) and Direct Deposit Information (H9-SCR) forms

```
          1         2         3         4         5         6         7         8
1...5....0....5....0....5....0....5....0....5....0....5....0....5....0....5....0
abccccccccccdddeeffgghhhhhhhhijjjjjjjkllllllmnnnnnnnnooooooopppppppppqqrrrrrrrrrrrss
```

Layout ID	Form Field Label	Field Name from Field Name Table	Position	Number of Positions	Type (A, N, or D)
a	none	the literal H	1	1	A
b	none	space	2	1	n/a
c	none	EMPLOYEE-NUMBER	3 - 12	10	A
d	HED	HED-NUMBER	13 - 15	3	N
e	Frequency	FREQUENCY-CODE	16 - 17	2	N
f	Type	TYPE-CODE	18 - 19	2	N
g	Calc Method	METHOD-CODE	20 - 21	2	A
h	Amount/Pct	AMOUNT/PERCENT	22 - 28	7	N
i	Start Method	START-CODE	29	1	N
j	Start Value	START-FIELD	30 - 35	6	N
k	Stop Method	STOP-CODE	36	1	A
l	Stop Value	STOP-FIELD	37 - 42	6	N
m	One-time Rule	ONE-TIME-CODE	43	1	N
n	One-time Amt	ONE-TIME-AMOUNT	44 - 50	7	N
o	Amount One	AMOUNT-ONE	51 - 57	7	N
p	Amount Two	AMOUNT-TWO	58 - 65	8	N
q	Code	USER-CODE	66 - 67	2	A
r	Number	USER-NUMBER	68 - 78	11	A
s	none	spaces	79 - 80	2	n/a

*Note: *Form Field Labels reference this form only.*

H Transaction - Earnings

Employee Earnings And Deductions* (HH-SCR) and Employee Pay Rate Or Salary (H1-SCR) forms

```
          1         2         3         4         5         6         7         8
1...5....0....5....0....5....0....5....0....5....0....5....0....5....0....5....0
abccccccccccdddeeffgghhhhhhhhijjjjjjjkllllllmnnnnnnnnooooooopppppppppqqrrrrrrrrrrrss
```

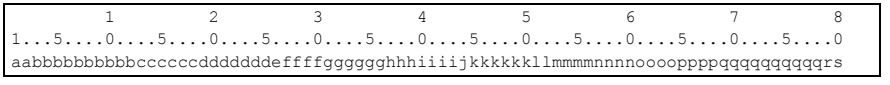
Layout ID	Form Field Label	Field Name from Field Name Table	Position	Number of Positions	Type (A, N, or D)
a	none	the literal H	1	1	A
b	none	space	2	1	n/a
c	none	EMPLOYEE-NUMBER	3 - 12	10	A
d	HED	HED-NUMBER	13 - 15	3	N
e	Frequency	FREQUENCY-CODE	16 - 17	2	N
f	Type	TYPE-CODE	18 - 19	2	N
g	Calc Method	METHOD-CODE	20 - 21	2	A
h	Amount/Pct	AMOUNT/PERCENT	22 - 28	7	N
i	Start Method	START-CODE	29	1	N
j	Start Value	START-FIELD	30 - 35	6	N
k	Stop Method	STOP-CODE	36	1	A
l	Stop Value	STOP-FIELD	37 - 42	6	N
m	One-time Rule	ONE-TIME-CODE	43	1	N
n	One-time Amt	ONE-TIME-AMOUNT	44 - 50	7	N
o	Amount One	AMOUNT-ONE	51 - 57	7	N
p	Amount Two	AMOUNT-TWO	58 - 65	8	N
q	Code	USER-CODE	66 - 67	2	A
r	Number	USER-NUMBER	68 - 78	11	A
s	none	spaces	79 - 80	2	n/a

*Note: *Form Field Labels reference this form only.*

Time Entry and Adjustment Transactions

Format 1 Time Entry Transaction

Time Entry - Full Override form (TCFSCR)



Layout ID	Form Field Label	Field Name from Field Name Table	Position	Number of Positions	Type (A, N, or D)
a	Entry Function Code	12-CARD-CODE	1 - 2	2	N
b	none	EMPLOYEE-NUMBER	3 - 12	10	N
c	Regular - Hours	12-REGULAR-HOURS	13 - 18	6	N
d	Regular - Rate/Amt	12-REGULAR-RATE	19 - 25	7	N
e	Overtime - Code	12-OT-CODE	26	1	N
f	Overtime - Hours	12-OT-HOURS	27 - 30	4	N
g	Overtime - Rate/Amt	12-OT-RATE	31 - 36	6	N
h	HED Override - HED	12-HED-NBR	37 - 39	3	N
i	Other Overrides - Date	12-PERIOD-DATE	40 - 43	4	D
j	Tax Overrides/Deduction Adjs - Tax Code	12-TAX-TYPE	44	1	A
k	Tax Overrides/Deduction Adjs - Tax Code	12-LOCAL-CODE	45 - 50	6	A
l	Tax Overrides/Deduction Adjs - Type or State	12-STATE-CODE	51 - 52	2	A
m	Location Overrides 3	CONTROL-3-CODE	53 - 56	4	A
n	Location Overrides 4	CONTROL-4-CODE	57 - 60	4	A
o	Location Overrides 5	CONTROL-5-CODE	61 - 64	4	A

Layout ID	Form Field Label	Field Name from Field Name Table	Position	Number of Positions	Type (A, N, or D)
p	Location Overrides 6	CONTROL-6-CODE	65 - 68	4	A
q	Location Overrides - Function	FUNCTION-CODE	69 - 78	10	A
r	Other Overrides - Shift	12-SHIFT	79	1	N
s	Other Overrides - Deduct	12-DEDUCTION-CYCLE	80	1	N

Format 1 time entry Transaction - (TCISCR)

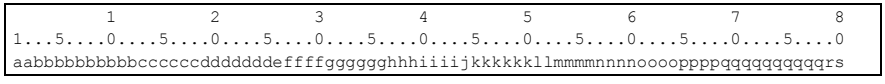
Time Entry Format 1 form (TCISCR)

```
          1         2         3         4         5         6         7         8
1...5....0....5....0....5....0....5....0....5....0....5....0....5....0....5....0
aabbbbbbbbbbccccccddddddeffffgggggghhhiiiijkkkkkkllmmmmnnnnooooppppqqqqqqqqqrs
```

Layout ID	Form Field Label	Field Name from Field Name Table	Position	Number of Positions	Type (A, N, or D)
a	FC	12-CARD-CODE	1 - 2	2	N
b	Employee Number	EMPLOYEE-NUMBER	3 - 12	10	A
c	Regular - Hours	12-REGULAR-HOURS	13 - 18	6	N
d	Regular - Rt/Amt	12-REGULAR-RATE	19 - 25	7	N
e	Overtime - CD	12-OT-CODE	26	1	N
f	Overtime - Hrs	12-OT-HOURS	27 - 30	4	N
g	Overtime - Rt/Amt	12-OT-RATE	31 - 36	6	N
h	HED	12-HED-NBR	37 - 39	3	N
i	Date - MM-DD	12-PERIOD-DATE	40 - 43	4	D
j	n/a	12-TAX-TYPE	44	1	A
k	n/a	12-LOCAL-CODE	45 - 50	6	A
l	n/a	12-STATE-CODE	51 - 52	2	A
m	PL3	CONTROL-3-CODE	53 - 56	4	A
n	L4	CONTROL-4-CODE	57 - 60	4	A
o	L5	CONTROL-5-CODE	61 - 64	4	A
p	L6	CONTROL-6-CODE	65 - 68	4	A
q	n/a	FUNCTION-CODE	69 - 78	10	A
r	SC	SHIFT-CODE	79	1	N
s	DC	DEDUCTION-CYCLE	80	1	N

Format 1 Time Entry Transaction

Rolling Time entry Format 1 form (TCRSCR)



Layout ID	Form Field Label	Field Name from Field Name Table	Position	Number of Positions	Type (A, N, or D)
a	FC	12-CARD-CODE	1 - 2	2	N
b	n/a	EMPLOYEE-NUMBER	3 - 12	10	A
c	Regular - Hours	12-REGULAR-HOURS	13 - 18	6	N
d	Regular - Rt/Amt	12-REGULAR-RATE	19 - 25	7	N
e	Overtime - CD	12-OT-CODE	26	1	N
f	Overtime - Hrs	12-OT-HOURS	27 - 30	4	N
g	Overtime - Rt/Amt	12-OT-RATE	31 - 36	6	N
h	HED	12-HED-NBR	37 - 39	3	N
i	Date - MM-DD	12-PERIOD-DATE	40 - 43	4	D
j	n/a	12-TAX-TYPE	44	1	A
k	n/a	12-LOCAL-CODE	45 - 50	6	A
l	n/a	12-STATE-CODE	51 - 52	2	A
m	PL3	CONTROL-3-CODE	53 - 56	4	A
n	PL4	CONTROL-4-CODE	57 - 60	4	A
o	PL5	CONTROL-5-CODE	61 - 64	4	A
p	PL6	CONTROL-6-CODE	65 - 68	4	A
q	Function	FUNCTION-CODE	69 - 78	10	A
r	SC	SHIFT-CODE	79	1	N
s	DC	DEDUCTION-CYCLE	80	1	N

Format 1 Time Entry Transaction - (TC1EDT)

Time Entry Edit Format 1 form (TC1EDT)

```
          1         2         3         4         5         6         7         8
1...5....0....5....0....5....0....5....0....5....0....5....0....5....0....5....0
aabbbbbbbbbbccccccddddddeffffgggggghhhiiiijkkkkkkllmmmmnnnnooooppppqqqqqqqqqrs
```

Layout ID	Form Field Label	Field Name from Field Name Table	Position	Number of Positions	Type (A, N, or D)
a	FC	12-CARD-CODE	1 - 2	2	N
b	n/a	EMPLOYEE-NUMBER	3 - 12	10	A
c	Regular - Hours	12-REGULAR-HOURS	13 - 18	6	N
d	Regular - Rt/Amt	12-REGULAR-RATE	19 - 25	7	N
e	Overtime - CD	12-OT-CODE	26	1	N
f	Overtime - Hrs	12-OT-HOURS	27 - 30	4	N
g	Overtime - Rt/Amt	12-OT-RATE	31 - 36	6	N
h	HED	12-HED-NBR	37 - 39	3	N
i	Date - MM-DD	12-PERIOD-DATE	40 - 43	4	D4
j	Local - T	12-TAX-TYPE	44	1	A
k	Local - Code	12-LOCAL-CODE	45 - 50	6	A
l	St - Tx	12-STATE-CODE	51 - 52	2	A
m	PL3	CONTROL-3-CODE	53 - 56	4	A
n	PL4	CONTROL-4-CODE	57 - 60	4	A
o	PL5	CONTROL-5-CODE	61 - 64	4	A
p	PL6	CONTROL-6-CODE	65 - 68	4	A
q	Function	FUNCTION-CODE	69 - 78	10	A
r	SC	SHIFT-CODE	79	1	N
s	DC	DEDUCTION-CYCLE	80	1	N

Format 1 Time Entry Transaction - (TCFEDT)

Time Entry Edit - Partial Format 1 form (TCFEDT)

```
          1         2         3         4         5         6         7         8
1...5....0....5....0....5....0....5....0....5....0....5....0....5....0....5....0
aabbbbbbbbbbccccccddddddeffffgggggghhhiiiijkkkkkkllmmmmnnnnooooppppqqqqqqqqqrs
```

Layout ID	Form Field Label	Field Name from Field Name Table	Position	Number of Positions	Type (A, N, or D)
a	FC	12-CARD-CODE	1 - 2	2	N
b	n/a	EMPLOYEE-NUMBER	3 - 12	10	A
c	Regular - Hours	12-REGULAR-HOURS	13 - 18	6	N
d	Regular - Rt/Amt	12-REGULAR-RATE	19 - 25	7	N
e	Overtime - CD	12-OT-CODE	26	1	N
f	Overtime - Hrs	12-OT-HOURS	27 - 30	4	N
g	Overtime - Rt/Amt	12-OT-RATE	31 - 36	6	N
h	HED	12-HED-NBR	37 - 39	3	N
i	Date - MM-DD	12-PERIOD-DATE	40 - 43	4	D
j	n/a	12-TAX-TYPE	44	1	A
k	n/a	12-LOCAL-CODE	45 - 50	6	A
l	n/a	12-STATE-CODE	51 - 52	2	A
m	PL3	CONTROL-3-CODE	53 - 56	4	A
n	PL4	CONTROL-4-CODE	57 - 60	4	A
o	PL5	CONTROL-5-CODE	61 - 64	4	A
p	PL6	CONTROL-6-CODE	65 - 68	4	A
q	n/a	FUNCTION-CODE	69 - 78	10	A
r	SC	SHIFT-CODE	79	1	N
s	DC	DEDUCTION-CYCLE	80	1	N

Format 2 Time Entry Transaction - (TC@SCR andTC2EDT)

```
         1         2         3         4         5         6         7         8
1...5....0....5....0....5....0....5....0....5....0....5....0....5....0....5....0
aabbbbbbbbbbccccdeeeeffffgggghhhhiiiijjjjjjkkkkkkllmmmmnnnnooooppppqqqqqqqqqrs
```

Layout ID	Form Field Label	Field Name from Field Name Table	Position	Number of Positions	Type (A, N, or D)
a	FC	62-CARD-CODE	1 - 2	2	N
b	none	EMPLOYEE-NUMBER	3 - 12	10	A
c	Reg Hours	62-REGULAR-HOURS	13 - 17	5	N
d	C D	62-OT-CODE	18	1	N
e	OT Hrs	62-OT-HOURS	19 - 22	4	N
f	Hrs 1	62-HOURS-1	23 - 26	4	N
g	Hrs 2	62-HOURS-2	27 - 30	4	N
h	Hrs 3	62-HOURS-3	31 - 34	4	N
i	Hrs 4	62-HOURS-4	35 - 38	4	N
j	Hourly Rate	62-RATE	39 - 44	6	N
k	Amount	62-AMOUNT	45 - 50	6	N
l	St Tx	12-STATE-CODE	51 - 52	2	A
m	CTL3	CONTROL-3-CODE	53 - 56	4	A
n	CTL4	CONTROL-4-CODE	57 - 60	4	A
o	CTL5	CONTROL-5-CODE	61 - 64	4	A
p	CTL6	CONTROL-6-CODE	65 - 68	4	A
q	Function	FUNCTION-CODE	69 - 78	10	A
r	S C	SHIFT-CODE	79	1	N
s	H G	62-GROUP	80	1	N

*Note: *Form Field Labels reference this form only.*

KA Transaction

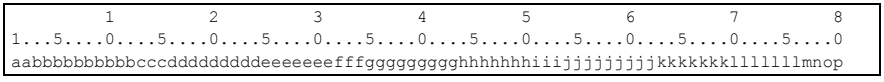
Manual Payment form (KA-SCR)

```
         1         2         3         4         5         6         7         8
1...5....0....5....0....5....0....5....0....5....0....5....0....5....0....5....0
aabbbbbbbbbbccccccddddddeeeeeeffffffffgggggghhhhhhhhhiiiiijjjjjjjjjkkkkkkkklmno
```

Layout ID	Form Field Label	Field Name from Field Name Table	Position	Number of Positions	Type (A, N, or D)
a	none	the literal KA	1 - 2	2	A
b	none	EMPLOYEE-NUMBER	3 - 12	10	A
c	FICA HI	KA-MEDCARE-WITHHELD	13 - 18	6	N
d	EE-Paid SDI	KA-DISABILITY	19 - 24	6	N
e	none	spaces	25 - 30	6	n/a
f	Federal	KA-FEDERAL-WITHHELD	31 - 39	9	N
g	FICA OASDI	KA-FICA	40 - 45	6	N
h	State	KA-STATE-WITHHELD	46 - 54	9	N
i	EE-Paid SUI	KA-STATE-UNEMPLOY	55 - 59	5	N
j	City	KA-CITY-TAX	60 - 68	9	N
k	County	KA-COUNTY-TAX	69 - 76	8	N
l	none	space	77	1	n/a
m	Action	ACTION-CODE	78	1	A
n	To-date	TO-DATE-CODE	79	1	N
o	Batch	BATCH-CODE	80	1	A

KB Transaction

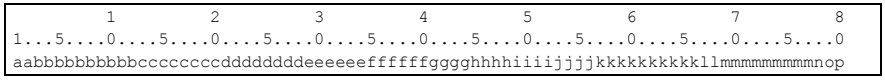
Manual Adjustments form (KB-SCR)



Layout ID	Form Field Label	Field Name from Field Name Table	Position	Number of Positions	Type (A, N, or D)
a	none	the literal KB	1 - 2	2	A
b	none	EMPLOYEE-NUMBER	3 - 12	10	A
c	HED	HED-NUMBER	13 - 15	3	N
d	Amount	HED-AMOUNT-L/H	16 - 24	9	N
e	Hours	HED-HOURS-CUR	25 - 31	7	N
f	HED	HED-NUMBER	32 - 34	3	N
g	Amount	HED-AMOUNT-L/H	35 - 43	9	N
h	Hours	HED-HOURS-CUR	44 - 50	7	N
i	HED	HED-NUMBER	51 - 53	3	N
j	Amount	HED-AMOUNT-L/H	54 - 62	9	N
k	Hours	HED-HOURS-CUR	63 - 69	7	N
l	none	spaces	70 - 76	7	n/a
m	P C	PLUG-CODE	77	1	A
n	A C	ACTION-CODE	78	1	A
o	T C	TO-DATE-CODE	79	1	N
p	B C	BATCH-CODE	80	1	A

KC Transaction

Manual Payment (KA-SCR) and Manual Adjustments* (KB-SCR) forms



Layout ID	Form Field Label	Field Name from Field Name Table	Position	Number of Positions	Type (A, N, or D)
a	none	the literal KC	1 - 2	2	A
b	none	EMPLOYEE-NUMBER	3 - 12	10	A
c	Net Pay	KC-NET-PAY	13 - 20	8	N
d	Check Number	KC-CHECK-NBR	21 - 28	8	A
e	Period Date	KC-PERIOD-END-DATE	29 - 34	6	D
f	Payment Date	KC-CHECK-DATE	35 - 40	6	D
g	PL3	CONTROL-3-CODE	41 - 44	4	A
h	PL4	CONTROL-4-CODE	45 - 48	4	A
i	PL5	CONTROL-5-CODE	49 - 52	4	A
j	PL6	CONTROL-6-CODE	53 - 56	4	A
k	Function	FUNCTION-CODE	57 - 66	10	A
l	Bank Code	KC-BANK-CODE	67 - 68	2	A
m	Routing Code	KC-ROUTING-CODE	69 - 77	9	A
n	Action Code	ACTION-CODE	78	1	A
o	To-date Code	TO-DATE-CODE	79	1	N
p	Batch Code	BATCH-CODE	80	1	A

*Note: *Form Field Labels reference this form only.*

KD Transaction

Tax Adjustments form (KD-SCR)

```
          1         2         3         4         5         6         7         8
1...5....0....5....0....5....0....5....0....5....0....5....0....5....0....5....0
aabbbbbbbbbbccccccddddddddeeeeeeeeeffffffffgggggggggghhhhhhhiiiiijjjjjjkkkklmn
```

Layout ID	Form Field Label	Field Name from Field Name Table	Position	Number of Positions	Type (A, N, or D)
a	none	the literal KD	1 - 2	2	A
b	none	EMPLOYEE-NUMBER	3 - 12	10	A
c	Tax ID	KD-TAX-BODY	13 - 19	7	A
d	Work Wages	KD-WORK-WAGES	20 - 28	9	N
e	Resident Wages	KD-RESIDENT-WAGES	29 - 37	9	N
f	Taxable Wages	KD-TAXABLE-WAGES	38 - 46	9	N
g	Tax Amount	KD-TAX-AMOUNT	47 - 55	9	N
h	Taxable UI Wgs	KD-UNEMPLOY-WAGES	56 - 62	7	N
i	Disab	KD-DISABILITY	63 - 67	5	N
j	Gross UI Wgs	KD-PREMIUM	68 - 73	6	N
k	Weeks Worked	KD-WEEKS	74 - 77	4	N
l	Action Code	ACTION-CODE	78	1	A
m	To-date Code	TO-DATE-CODE	79	1	N
n	Batch Code	BATCH-CODE	80	1	A

KF Transaction

FICA-OASDI/Total Pay Adjustment form (KF-SCR)

```
         1         2         3         4         5         6         7         8
1...5....0....5....0....5....0....5....0....5....0....5....0....5....0....5....0
aabbbbbbbbbbccccccccddddddddeeeeeeeeeffffffffgggggggggghhhhhhhhhiiiiiiiiijjklm
```

Layout ID	Form Field Label	Field Name from Field Name Table	Position	Number of Positions	Type (A, N, or D)
a	none	the literal KF	1 - 2	2	A
b	none	EMPLOYEE-NUMBER	3 - 12	10	A
c	Employer Wages	KF-EMPLOYER-WAGES	13 - 21	9	N
d	Employee Wages	KF-EMPLOYEE-WAGES	22 - 30	9	N
e	Gross Wages	KK-GROSS-WAGES	31 - 39	9	N
f	Employer OASDI	KF-EMPLOYER-FICA	40 - 48	9	N
g	Employee OASDI	KF-EMPLOYEE-FICA	49 - 57	9	N
h	none	prior employer employee wages (*)	58 - 66	9	N
i	none	prior employer - employee tax	67 - 75	9	N
j	none	spaces	76 - 77	2	n/a
k	Action Code	ACTION-CODE	78	1	A
l	To-date Code	TO-DATE-CODE	79	1	N
m	Batch Code	BATCH-CODE	80	1	A

*Note: * Common Paymaster ONLY - see Payroll Codes Tax Manual*

KG Transaction

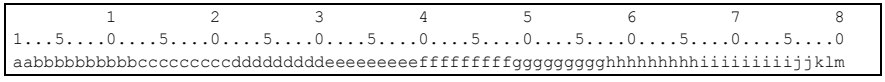
Tax Adjustment - Alternate form (KG-SCR)

```
          1         2         3         4         5         6         7         8
1...5....0....5....0....5....0....5....0....5....0....5....0....5....0....5....0
aabbbbbbbbbbccccccddddddddeeeeeeeeffffffffggggggggghhhhhhhhiiiiiijjjjjjjjkkkklmn
```

Layout ID	Form Field Label	Field Name from Field Name Table	Position	Number of Positions	Type (A, N, or D)
a	none	the literal KG	1 - 2	2	A
b	none	EMPLOYEE-NUMBER	3 - 12	10	A
c	Tax ID	KG-TAX-BODY	13 - 19	7	A
d	Work Wages	KG-WORK-WAGES	20 - 27	8	N
e	Resident Wages	KG-RESIDENT-WAGES	28 - 35	8	N
f	Taxable Wages	KG-TAXABLE-WAGES	36 - 43	8	N
g	Tax Amount	KG-TAX-AMOUNT	44 - 51	8	N
h	Taxable UI Wgs	KG-UNEMPLOY-WAGES	52 - 59	8	N
i	Disab	KG-DIABILITY	60 - 65	6	N
j	Gross UI Wgs	KG-PREMIUM	66 - 73	8	N
k	Weeks Worked	KG-WEEKS	74 - 77	4	N
l	Action Code	ACTION-CODE	78	1	A
m	To-date Code	TO-DATE-CODE	79	1	N
n	Batch Code	BATCH-CODE	80	1	A

KH Transaction

FICA-HI Adjustments form (KH-SCR)

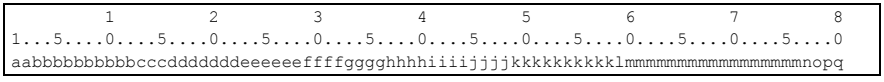


Layout ID	Form Field Label	Field Name from Field Name Table	Position	Number of Positions	Type (A, N, or D)
a	none	the literal KH	1 - 2	2	A
b	none	EMPLOYEE-NUMBER	3 - 12	10	A
c	Employer Wages	KH-EMPLOYER-WAGES	13 - 21	9	N
d	Employee Wages	KH-EMPLOYEE-WAGES	22 - 30	9	N
e	none	spaces	31 - 39	9	n/a
f	Employer HI	KH-EMPLOYER-FICA	40 - 48	9	N
g	Employee HI	KH-EMPLOYEE-FICA	49 - 57	9	N
h	none	prior employer - employee wages (*)	58 - 66	9	N
i	none	prior employer - employee tax	67 - 75	9	N
j	none	spaces	76 - 77	2	n/a
k	Action Code	ACTION-CODE	78	1	A
l	To-date Code	TO-DATE-CODE	79	1	N
m	Batch Code	BATCH-CODE	80	1	A

Note: (*) Common Paymaster ONLY - see Payroll Tax Codes Manual

KL Transaction

Earnings Adjustments With Labor form (KL-SCR)



Layout ID	Form Field Label	Field Name from Field Name Table	Position	Number of Positions	Type (A, N, or D)
a	none	the literal KL	1 - 2	2	A
b	none	EMPLOYEE-NUMBER	3 - 12	10	A
c	HED Nbr	KL-HED-NBR	13 - 15	3	N
d	Amount	KL-AMOUNT	16 - 22	7	N
e	Hours	KL-HOURS	23 - 28	6	N
f	Date	KL-PERIOD-DATE	29 - 32	4	N
g	PL3	CONTROL-3-CODE	33 - 36	4	A
h	PL4	CONTROL-4-CODE	37 - 40	4	A
i	PL5	CONTROL-5-CODE	41 - 44	4	A
j	PL6	CONTROL-6-CODE	45 - 48	4	A
k	Function	FUNCTION-CODE	49 - 58	10	A
l	Shift	SHIFT-CODE	59	1	A
m	none	spaces	60 - 76	17	n/a
n	Adj Tax	PLUG-CODE	77	1	A
o	A C	ACTION-CODE	78	1	A
p	T C	TO-DATE-CODE	79	1	N
q	B C	BATCH-CODE	80	1	A

AE Transaction

Payroll Run Process Control form (AE-SCR)

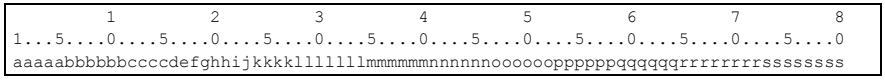
```
         1         2         3         4         5         6         7         8
1...5....0....5....0....5....0....5....0....5....0....5....0....5....0....5....0
aabcdeeeeeefgghiiiiiiiiiiiiijjjjjjkkkkllllmnnnnnnopqrsssssstuvwxxxxxxyzABCCCCCCDEF
```

Layout ID	Form Field Label	Field Name from Field Name Table	Position	Number of Positions	Type (A, N, or D)
a	none	the literal AE	1 - 2	2	A
b	Clear To-Date	CLEAR-TO-DATE	3	1	N
c	Reporting Type	REPORT-GENERATE	4	1	N
d	Purge Rule	PURGE-TERMINATE	5	1	N
e	Run Date	RUN-DATE	6 - 11	6	D
f	Run Type	RUN-TYPE	12	1	N
g	Version Number	VERSION-NUMBER	13 - 14	2	N
h	Print Update	PRINT-UPDATE	15	1	N
i	Report Select	REPORT-SELECTS	16 - 27	1 x 12	N
j	User Date	USER-DATE	28 - 33	6	D
k	User Field	USER-FIELD	34 - 37	4	A
l	none	spaces	38 - 40	3	n/a
m	Frequency	FREQUENCY-IDENTIFIER	41	1	A
n	Payment Date	PAYMENT-DATE	42 - 47	6	D
o	New Period	NEW-PERIOD	48	1	A
p	Pay Cycle	PAY-CYCLE	49	1	N
q	Deduction Cycle	DEDUCTION-CYCLE	50	1	N
r	Frequency	FREQUENCY-IDENTIFIER	51	1	A
s	Payment Date	PAYMENT-DATE	52 - 57	6	D
t	New Period	NEW-PERIOD	58	1	A
u	Pay Cycle	PAY-CYCLE	59	1	N
v	Deduction Cycle	DEDUCTION-CYCLE	60	1	N
w	Frequency	FREQUENCY-IDENTIFIER	61	1	A
x	Payment Date	PAYMENT-DATE	62 - 67	6	D
y	New Period	NEW-PERIOD	68	1	A
z	Pay Cycle	PAY-CYCLE	69	1	N
A	Deduction Cycle	DEDUCTION-CYCLE	70	1	N
B	Frequency	FREQUENCY-IDENTIFIER	71	1	A
C	Payment Date	PAYMENT-DATE	72 - 77	6	D

Layout ID	Form Field Label	Field Name from Field Name Table	Position	Number of Positions	Type (A, N, or D)
D	New Period	NEW-PERIOD	78	1	A
E	Pay Cycle	PAY-CYCLE	79	1	N
F	Deduction Cycle	DEDUCTION-CYCLE	80	1	N

BATCH Transaction

Time-Entry Batch Balancing form (BA-SCR)



Layout ID	Form Field Label	Field Name from Field Name Table	Position	Number of Positions	Type (A, N, or D)
a	none	the literal BATCH	1 - 5	5	A
b	none	CONTROL-1-2	6 - 11	6	A
c	Batch Identifier	BATCH-NUMBER	12 - 15	4	A
d	none	VALIDATE-ONLY	16	1	A
e	none	MODIFY-CONTROLS	17	1	A
f	none	RECYCLE-FILE-INPUT	18	1	A
g	none	ALTERNATE-INPUT-FILES	19	1	A
h	none	VERSION-NUMBER	20 - 21	2	N
i	none	RECON-RUN	22	1	A
j	none	space	23	1	n/a
k	Batch Balance Count	CARD-COUNT	24 - 27	4	N
l	Regular Total-Hours	REGULAR-HOURS	28 - 34	7	N
m	Overtime Total-Hours	OVERTIME-HOURS	35 - 40	6	N
n	One	HOURS-ONE	41 - 46	6	N
o	Two	HOURS-TWO	47 - 52	6	N
p	Three	HOURS-THREE	53 - 58	6	N
q	Four	HOURS-FOUR	59 - 64	6	N
r	Regular Total-Rate/Amount	REGULAR-AMOUNT/RATE	65 - 72	8	N
s	Overtime Total-Rate/Amount	OVERTIME-AMOUNT/RATE	73 - 80	8	N

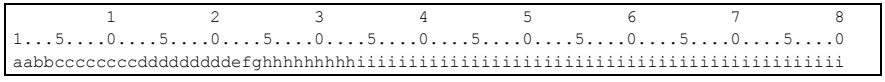
Report Requests form (DD-SCR)

```
          1         2         3         4         5         6         7         8
1...5....0....5....0....5....0....5....0....5....0....5....0....5....0....5....0
abccccdefghijklmnopppqrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr
```

Layout ID	Form Field Label	Field Name from Field Name Table	Position	Number of Positions	Type (A, N, or D)
a	none	the literal D	1	1	A
b	none	space	2	1	n/a
c	Report Code	REPORT-CODE	3 - 6	4	A
d	Report Select	REPORT-SELECT	7	1	A
e	Adjustments Plus	REPORT-PLUS	8	1	N
f	Adjustments Minus	REPORT-MINUS	9	1	N
g	Adjustments Manual	REPORT-MANUAL	10	1	N
h	To-date Amounts Current	REPORT-CURRENT	11	1	N
i	To-date Amounts Month	REPORT-MONTH	12	1	N
j	To-date Amounts Quarter	REPORT-QUARTER	13	1	N
k	To-date Amounts Year	REPORT-YEAR	14	1	N
l	Data Types Company Level	REPORT-COMPANY	15	1	N
m	Data Types Tax Tables	REPORT-TAX	16	1	N
n	Data Types Labor Record	REPORT-LABOR	17	1	N
o	Data Types Other Record	REPORT-OTHER	18	1	N
p	User Field	USER-D-FIELD	19 - 22	4	A
q	Extra Copy	EXTRA-COPY-CODE	23	1	A
r	none	spaces	24 - 80	56	n/a

ER Transaction

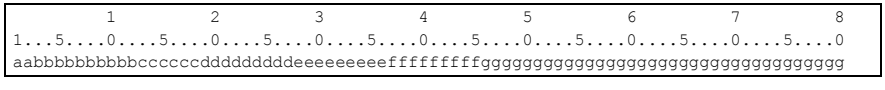
Payment Reversal/Clearing form (ER-SCR)



Layout ID	Form Field Label	Field Name from Field Name Table	Position	Number of Positions	Type (A, N, or D)
a	none	the literal ER	1 - 2	2	A
b	Bank Code	ER-BANK-CODE	3 - 4	2	A
c	Recon Number	ER-RECON-NUMBER	5 - 12	8	N
d	Net Payment Amount	ER-PAYMENT-AMOUNT	13 - 21	9	N
e	Recon Clear Option	ER-RECON-CLEAR-CODE	22	1	A
f	To-date Rule	ER-TO-DATE-CODE	23	1	N
g	Adjust Batch Code	ER-ADJ-BATCH-CODE	24	1	A
h	Routing Number	ER-ROUTING-NUMBER	25 - 33	9	N
i	none	spaces	34 - 80	47	n/a

PE Transaction

Pay Period-End Maintenance form (PE-SCR)



Layout ID	Form Field Label	Field Name from Field Name Table	Position	Number of Positions	Type (A, N or D)
a	none	the literal PE	1 - 2	2	A
b	none	EMPLOYEE-NUMBER	3 - 12	10	A
c	Pay Period End Date	PERIOD-TABLE	13 - 18	6	N
d	Period HED Amount	PERIOD-AMOUNT	19 - 27	9	N
e	Period HED Hours	PERIOD-HOURS	28 - 36	9	N
f	Period Weeks Worked	PERIOD-WEEKS	37 - 45	9	N
g	none	spaces	46 - 80	35	n/a

WL Transaction

WL Record Maintenance form (WL-SCR)

```
          1         2         3         4         5         6         7         8
1...5....0....5....0....5....0....5....0....5....0....5....0....5....0....5....0
aabbccccccccccccccccccccccddddddddddddddddddddddddddeeeeeeeeeeeeeeeeeeeeeeeeef
```

Layout ID	Form Field Label	Field Name from Field Name Table	Position	Number of Positions	Type (A, N, or D)
a	none	the literal WL	1 - 2	2	A
b	Table Type	WL-TABLE	3 - 4	2	A
c	Table Key	WL-KEY	5 - 27	23	A
d	Field 1	WL-FIELD-1	28 - 53	26	A
e	Field 2	WL-FIELD-2	54 - 79	26	A
f	none	DELETE-CODE	80	1	A

The X Transaction

The X transaction allows you to update a variety of fields as well as delete a group of related fields or records using a single input form.

Updating records using the X transaction

Use the X transaction to update any static field in any employee's master, history, or labor records as well as some fields in the company header record. To update fields in employee records, the X transactions must be run in an employee batch job and those used to update a company header record must be run in a company batch job. For company header records, enter "COMPANY" in columns 3-9 of the X card. You cannot use an X transaction to update fields 149 and 150 or fields 117 through 124 in any type of employee record. These fields can only be adjusted up or down.

The X transaction is the only transaction that can be used to change an employee's Social Security Number or Social Insurance Number.

FIELD NUMBER (190)

FIELD NUMBER (190) is three (3) numeric digits in columns 13 - 15 of the X card. Enter the number of the field to be updated.

IDENTIFIER (327)

IDENTIFIER (327) is one to seven (7) characters in columns 16 - 22 of the X card. This field is only required when the FIELD NUMBER to be updated occurs more than once in the record. Enter the value of the field, left justified, that differentiates one occurrence from another (the IDENTIFIER).

For employee fields requiring an IDENTIFIER, the IDENTIFIER field immediately follows the EMPLOYEE NUMBER in the transaction used to add the field to the employee's record. The following table lists the commonly updated employee fields and their IDENTIFIERS.

Fields	Identifier
070-085	None required
087-091	ADDRESS CODE (Field 086)
379, 380	
387, 388	
093-098	SPLIT NUMBER (Field 092)
03-112	TAX TYPE and NUMBER (Fields 101 and 102)
131-144	HED NUMBER (Field 130)
383-385	PERIOD DATE (Field 382)

For company fields requiring an IDENTIFIER, the IDENTIFIER field immediately follows the card code in the transaction used to add the field to the company record. The following table lists the company fields that can be updated and their IDENTIFIERS.

Fields	Identifier
301-320	None required
389-394	None required
User defined	Required if using stacking
359-364	AK IDENTIFIER (Field 358)
152-162, 343	REPORT CODE (Field 151)

FIELD CONTENTS (328)

FIELD CONTENTS (328) is up to 30 characters in columns 23 - 52 of the X card.

Enter the new value of the field using the same number of columns (beginning with column 23) as the field occupies in the transaction used to add the field to the master file.

MASTER NUMBER (145)

MASTER NUMBER (145) is four characters in columns 53 - 56 of the X card. This field is required when updating a labor or history master record. It must match the MASTER NUMBER for that record.

The MASTER NUMBER of a history record is located on the Payment Reconciliation report (report generator 1C1C) following the EMPLOYEE'S NUMBER. The MASTER NUMBER of a labor record does not appear on any of the standard reports; a new report generator must be written to list this field.

Warning: The MASTER NUMBER assigned to a history or labor record will not necessarily remain constant. If some history and labor records are purged from the master file, the remaining history and labor records will be given new MASTER NUMBERS. Always use the most recent report to look up a MASTER NUMBER.

Deleting records using the X transaction

Use the X transaction to delete a group of related fields from an employee's record or from the company header record. You can also delete an employee's permanent master record, a history record, or a labor record. To delete fields in employee records or to delete the employee record, the X transactions must be run in an employee batch job and those used to delete company fields must be run in company batch job. The EMPLOYEES' NUMBERS must be entered in columns 3-12 of the X card.

- To delete company fields, enter "COMPANY" in columns 3-9 of the X card.
- To clear (zero or blank fill) a field, place a zero (0) in column 23 to clear a numeric field or place a # in column 23 to clear an alphanumeric or date field.
- To delete a WA, WC, WH, or WL record, enter a transaction that contains the identical key (columns 3-27) and a "D" in column 80.
- In general to delete an item that may have multiple occurrences, such as an employee HED, you must enter the FIELD NUMBER of the field immediately "to the right" of the IDENTIFIER.

Following are examples of various types of deletions you can perform using the X transaction. In all cases, the value "DELETE" must be entered in columns 23-28, and the FIELD NUMBER entry must be as shown in the example.

Deleting an employee permanent master record

The following procedure will physically drop the employee's permanent master record, including all amount fields, from the master file. Use this procedure only if the employee was set up erroneously. When you use this procedure to drop an employee's record, government reports can no longer be produced for that employee.

The following example deletes the permanent master record of employee 1234.

```
         1         2         3         4         5         6         7
1...5....0....5....0....5....0....5....0....5....0....5....0....5....0....5...9
X       1234070       DELETE
```

None of the employee's history or labor records will be deleted.

Note: If the employee is terminating employment, do not use the above example. Instead you must place a date in the employee's TERMINATION DATE field.

Deleting employee history or labor records

To delete an employee's history or labor record enter the MASTER NUMBER (Field 145) of the history or labor record in columns 53-56. The MASTER NUMBER of a history record is located on the Payment Reconciliation report (Report Generator 1C1C) following the EMPLOYEE'S NUMBER. The MASTER NUMBER of a labor record does not appear on any of the standard reports. A new generator would have to be written to list this field.

Fill out the X card as shown in the example that follows:

```
         1         2         3         4         5         6         7
1...5....0....5....0....5....0....5....0....5....0....5....0....5....0....5...9
X       1234070       DELETE                        0001
```

Warning: The MASTER NUMBER assigned to a history or labor record will not necessarily remain constant. If some history and labor records are purged from the master file, the remaining history and labor records will be given new MASTER NUMBERS. Always use the most recent report to look up a MASTER NUMBER.

Deleting an employee HED

If one or more HEDs are no longer used you can delete them from all employees' records that use them.

Note: Before using this transaction read the description of report generator 9H9H, Delete Unused Employee HEDs/Tax Records. This report generator deletes inactive earning, deduction, and tax records for an employee.

In the following example HED 005 is deleted from employee 1234's record. The FIELD NUMBER must be "131".

```
         1         2         3         4         5         6         7
1...5....0....5....0....5....0....5....0....5....0....5....0....5....0....5...9
X       1234131005    DELETE
```

Important: An employee HED should not be deleted if the earnings or deductions has any amount in the month-to-date, quarter-to-date, or year-to-date fields because the employee's record will then be out of balance.

Deleting employee taxes

In the following example CITY 1 is deleted from employee 1234's record. The FIELD NUMBER must be "103".

```
         1         2         3         4         5         6         7
1...5....0....5....0....5....0....5....0....5....0....5....0....5....0....5...9
X       12341034CITY 1DELETE
```

Important: An employee tax body should not be deleted if it has amounts in any of the month-to-date, quarter-to-date, or year-to-date fields because the employee's record will then be out of balance and the various government reports will be wrong.

Deleting report requests

Delete a report request (D Card) if the report is no longer used. The FIELD NUMBER must be "152". In the following example report ABAB is deleted.

```
         1         2         3         4         5         6         7
1...5....0....5....0....5....0....5....0....5....0....5....0....5....0....5...9
X  COMPANY  152ABAB   DELETE
```

APPENDIX Q

Pay Document Program Setup

In This Appendix

About This Section 786
Pay document formats 787
Format code chart 788
Format descriptions 789
Pay document contents 793
Entering report requests 795
Extracting pay document formats 796

About This Section

This section contains information describing the available pay document formats that may be used to issue pay stubs and checks or deposit advices to your employees.

The Payroll Administration programs that support these formats are:

- Pay Document - Check and Pay Stub (6868)
- Pay Document - Deposit Advice and Pay Stub (6767)

Pay document formats

Nine different formats are available for producing pay documents. Each format is available for both checks and deposit advices.

Each format has unique characteristics designed to meet customer needs, such as:

- position of check or deposit advice and pay stub
- number of earning and deduction detail lines
- heat-seal format

In the following descriptions, the term *pay document* refers to the check or deposit advice and pay stub.

Format code chart

The following chart contains The Payroll Administration-Form Solutions code for each pay document format and a brief description of the format. A **C** at the end of a code designates a check and a **D** designates a deposit advice.

Code	Description
SC\SD	Side-by-side, pay document on right
XSC\XSD	Expanded side-by-side, pay document on right
OC\OD	Pay document over stub
UC\UD	Pay document under stub
LUC\LUD	Pay document under stub, formatted to display up to 99,999,999.99
XUC\XUD	Pay document under expanded stub
XLUC\XLUD	Pay document under expanded stub, formatted to display up to 99,999,999.99
CC\CD	C-fold, heat seal, pay document under stub
HC\HD	Side-by-side, heat seal, pay document on right
XHC\XHD	Expanded side-by-side, heat seal, pay document on right
MC\MD	Self mailer, pay document under stub

Format descriptions

SC/SD Side-by-side, pay document on right

This is a side-by-side format with the pay stub on the left.

The form prints:

- six lines per inch
- 21 lines with 20 lines of physical print detail
- 132 characters wide

A print lineup character prints on the second line of the pay document in position 132.

On the pay stub, the maximum number of earning and deduction detail lines is 12, with the 13th line reserved for Other and the 14th for Total or Net Pay.

This is an expanded side-by-side format with the pay stub on the left.

The form prints:

- eight lines per inch
- 44 lines with 43 lines of physical print detail
- 132 characters wide

A print lineup character prints on the third line of the pay document in position 132.

On the pay stub, the maximum number of earning and deduction detail lines is 25, with the 26th line reserved for Other and the 27th for Total or Net Pay.

OC/OD Pay Document over Pay Stub

This is a pay document-over-pay-stub format.

The form prints:

- six lines per inch
- 42 lines with 41 lines of physical print detail, 21 lines for the pay stub, and 20 lines for the face of the pay document
- 83 characters wide

A print lineup character prints on the second line in position 85.

The maximum number of earning and deduction detail lines is 12, with the 13th line reserved for Other and the 14th line for Total or Net Pay.

UC/UD Pay Document under Pay Stub

This is a pay document-under-pay-stub format.

The form prints:

- six lines per inch
- 42 lines with 41 lines of physical print detail, 20 lines for the pay stub and 21 lines for the face of the pay document
- 83 characters wide

A print lineup character prints on the second line in position 85.

The maximum number of earning and deduction detail lines is 12, with the 13th line reserved for Other and the 14th line for Total or Net Pay.

LUC/LUD Pay Document under Pay Stub

This is a pay document-under-pay-stub format that allows the printing of amounts up to 99,999,999.99.

The form prints:

- six lines per inch
- 42 lines with 41 lines of physical print detail, 20 lines for the pay stub and 21 lines for the face of the pay document
- 83 characters wide

A print lineup character prints on the second line in position 85.

The maximum number of earning and deduction detail lines is 12, with the 13th line reserved for Other and the 14th line for Total or Net Pay.

XUC/XUD Expanded Pay Document under Pay Stub

This is an expanded pay document-under-pay-stub format.

The form prints:

- six lines per inch
- 66 lines with 65 lines of physical print detail, 44 lines for the pay stub and 21 lines for the face of the pay document.
- 83 characters wide

A print lineup character prints on the second line in position 85.

The maximum number of earning and deduction detail lines is 33, with the 34th line reserved for Other and the 35th line for Total or Net Pay.

XLUC/XLUD Expanded Pay Document under Pay Stub

This is an expanded pay document-under-pay-stub format that allows the printing of amounts up to 99,999,999.99.

The form prints:

- six lines per inch
- 66 lines with 65 lines of physical print detail, 44 lines for the pay stub and 21 lines for the face of the pay document.
- 83 characters wide

A print lineup character prints on the second line in position 85.

The maximum number of earning and deduction detail lines is 33, with the 34th line reserved for Other and the 35th line for Total or Net Pay.

CC/CD C-fold, Heat Seal

This is a C-fold heat-seal format.

The form prints:

- six lines per inch
- 66 lines with 65 lines of physical print detail, 44 lines for the pay stub and 21 lines for the face of the pay document
- 83 characters wide

A print lineup character prints on the second line in position 85.

The maximum number of earning and deduction detail lines is 18, with the 19th line reserved for Other and the 20th line for Total or Net Pay.

XHC/XHD Expanded Side-by-side, Heat Seal

This is an expanded side-by-side heat-seal format.

The form prints:

- eight lines per inch
- 44 lines with 43 lines of physical print detail
- 132 characters wide

A print lineup character prints on the fifth line in position 132.

The maximum number of earning and deduction detail lines is 22, with the 23rd line reserved for Other and the 24th line for Total or Net Pay.

MC/MD Self-mailer

This is an expanded pay document-under-pay-stub format.

The form prints:

- six lines per inch
- 44 lines with 43 lines of physical print detail, 22 lines for the pay stub and 21 lines for the face of the pay document
- 95 characters wide

A print lineup character prints on the second line in position 92.

The maximum number of earning and deduction detail lines is 12, with the 13th line reserved for Other and the 14th line for Total or Net Pay.

HC/HD Side-by-side, Heat Seal

This is a side-by-side heat-seal format.

The form prints:

- at eight lines per inch
- 34 lines with 33 lines of physical print detail
- 132 characters wide

A print lineup character prints on the fifth line in position 132.

The maximum number of earning and deduction detail lines is 12, with the 13th line reserved for Other and the 14th line for Total or Net Pay.

Pay document contents

Standard information

The blocks of information on pay documents are:

- Employee name and address on the face of the check or deposit advice
- Net pay and payment date
- Pay stub descriptive data
- Employee name, number, Social Security number
- Period-end date
- Employee's department
- hourly rate or pay period salary
- Earning detail
- Deduction detail
- Pay document number

Optional information

Options for printing additional information allow you to customize your pay documents to satisfy your particular reporting needs.

- Pay stub message
  You can type a one-line or two-line message to appear on each pay stub. This is done through the Payment Document Messages form. The message is automatically deleted after the payroll is processed.
- Additional pay document information
  You may specify certain additional information to print on pay documents, through the Payment Document Print Options - Part 1 and Payment Document Print Options - 2 forms. This additional information is briefly described in the following section.

Briefly, the options allow:

- Printing additional line of distribution information containing Organization level 1 and 2 and Payroll level 3 through 6 and Function information. This line prints above the name and address area on the face of the check or deposit advice.
- Printing a maximum of five header lines on the face of the check or deposit advice. A common use for these lines is to print a pay-through message for those organizations located in states that require checks to be either drawn on or honored by a local bank.
- Designating which Department Source (control level) to print in the Dept area on the pay stub.
- Identifying a maximum of three vacation earnings, which are accumulated and reported as available vacation hours. Information on current year vacation hours and carryover vacation hours could be totaled and printed on the pay document.
- Identifying a maximum of three sick earnings, which are accumulated and reported as employee's available sick hours. The year-to-date total amounts for earning and deduction items with no current amount is reported with a description of Other Earnings or Other Deductions.

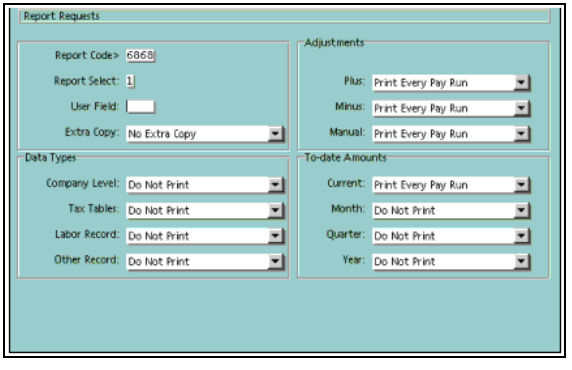
- Not printing either an earning or a deduction detail line if the current period amount is equal to 0 (zero). The year-to-date total amounts for earning and deduction items with no current amount is reported with a description of Other Earnings or Other Deductions.
- Printing the Period Begin Date on the pay stub, an option required by some states.

Perform a test run to verify that all optional data is printed as specified on the Payment Document Print Options forms.

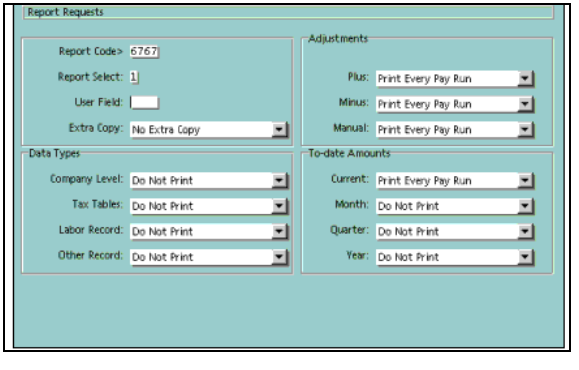
Entering report requests

To request pay documents, you enter the report numbers 6767 and 6868 in the Report Code field on the Report Requests (DD-SCR) form. Make these entries before you run your first payroll.

The Report Requests form below shows the entries required to generate the pay documents for check and pay stub.



The next Report Requests form shows the entries required to generate the pay documents for deposit advice.



Extracting pay document formats

To load the appropriate code for the specific pay document format being implemented, you must extract report generators 6767 and 6868 from CYBMST using a specific set of parameters for the format you are using.

The necessary extract parameter records for each pay document format are listed here.

Extract parameter records for Format SC/SD

```
        1    1    2    2    3    3    4    4    5    5    6    6
....5....0....5....0....5....0....5....0....5....0....5....0....5
P9CNVT                  AHJ
   ** R.SRT67
   999999
   ** R.RPT67
   999999
   ** R.SRT68
   999999
   ** R.RPT68
   999999
```

Extract parameter records for Format XSC/XSC

```
        1    1    2    2    3    3    4    4    5    5    6    6
....5....0....5....0....5....0....5....0....5....0....5....0....5
P9CNVT                  ZHJ
   ** R.SRT67
   999999
   ** R.RPT67
   999999
   ** R.SRT68
   999999
   ** R.RPT68
   999999
```

Extract Parameter Records for Format OC/OD

```
        1    1    2    2    3    3    4    4    5    5    6    6
....5....0....5....0....5....0....5....0....5....0....5....0....5
P9CNVT                  DIJ
   ** R.SRT67
   999999
   ** R.RPT67
   999999
   ** R.SRT68
   999999
   ** R.RPT68
   999999
```

Extract Parameter Records for Format UC/UD

```
         1    1    2    2    3    3    4    4    5    5    6    6
....5....0....5....0....5....0....5....0....5....0....5....0....5
P9CNVT                   RIJ
   ** R.SRT67
   999999
   ** R.RPT67
   999999
   ** R.SRT68
   999999
   ** R.RPT68
   999999
```

Extract Parameter Records for Format LUC/LUD

```
         1    1    2    2    3    3    4    4    5    5    6    6
....5....0....5....0....5....0....5....0....5....0....5....0....5
P9CNVT FMJ
   ** R.SRT67
   999999
   ** R.RPT67
   999999
   ** R.SRT68
   999999
   ** R.RPT68
   999999
```

Extract Parameter Records for Format XUC/XUD

```
         1    1    2    2    3    3    4    4    5    5    6    6
....5....0....5....0....5....0....5....0....5....0....5....0....5
P9CNVT                   PIJ
   ** R.SRT67
   999999
   ** R.RPT67
   999999
   ** R.SRT68
   999999
   ** R.RPT68
   999999
```

Extract Parameter Records for Format XLUC/XLUD

```
         1    1    2    2    3    3    4    4    5    5    6    6
....5....0....5....0....5....0....5....0....5....0....5....0....5
P9CNVT LMJ
   ** R.SRT67
   999999
   ** R.RPT67
   999999
   ** R.SRT68
   999999
   ** R.RPT68
   999999
```

Extract Parameter Records for Format CC/CD

```
         1    1    2    2    3    3    4    4    5    5    6    6
....5....0....5....0....5....0....5....0....5....0....5....0....5
P9CNVT                   EIJ
   ** R.SRT67
   999999
   ** R.RPT67
   999999
   ** R.SRT68
   999999
   ** R.RPT68
   999999
```

Extract Parameter Records for Format HC/HD

```
         1    1    2    2    3    3    4    4    5    5    6    6
....5....0....5....0....5....0....5....0....5....0....5....0....5
P9CNVT                   QHK
   ** R.SRT67
   999999
   ** R.RPT67
   999999
   ** R.SRT68
   999999
   ** R.RPT68
   999999
```

Extract Parameter Records for Format XHC/XHD

```
         1    1    2    2    3    3    4    4    5    5    6    6
....5....0....5....0....5....0....5....0....5....0....5....0....5
P9CNVT                   GHK
   ** R.SRT67
   999999
   ** R.RPT67
   999999
   ** R.SRT68
   999999
   ** R.RPT68
   999999
```

Extract Parameter Records for Format MC/MD

```
         1    1    2    2    3    3    4    4    5    5    6    6
....5....0....5....0....5....0....5....0....5....0....5....0....5
P9CNVT                   UIJ
   ** R.SRT67
   999999
   ** R.RPT67
   999999
   ** R.SRT68
   999999
   ** R.RPT68
   999999
```

APPENDIX R

Laser Check Printing

In This Appendix

About This Section 802
Technical considerations for printing laser checks 803
Stub-over Pay Document (UC/UD and LUC\LUD) transaction layouts 804
Extended Stub-over Pay Document (XUC/XUD and XLUC\XLUD) Transaction Layouts 811

About This Section

This section contains information about printing paychecks to a laser printer. Pay document formats are provided that can be easily modified to use for laser printing. These are:

- Stub-over Pay Document
  The UC/UD format (or LUC/LUD format to print larger amounts) creates 14 lines of earning and deduction detail.

- Extended Stub-over Pay Document
  The XUC/XUD format (or XLUC/XLUD format to print larger amounts) creates 35 lines of earning and deduction detail.

Technical considerations for printing laser checks

The payroll batch print program, P5PRNT, creates the standard PRINTU and PRINTV output files from the payroll run. Establish these files within your job command stream, but do not define them with carriage control characters.

To create the proper laser check format, you must make changes specific to the pay document. Include the appropriate overrides as shown below for the pay document format that you are using. If you do not use these overrides, the files created will be formatted for an impact style printer. This will create interface problems.

Overrides to Stub-over Pay Document (UC/UD or LUC/LUD) format

Add "88" in position 46, as indicated below:

```
         1         2         3         4         5         6         7         8
1...5....0....5....0....5....0....5....0....5....0....5....0....5...0....5....0
   ** R.SRT67
   999999
   ** R.RPT67
   R6670901207112060150 47                    88     00141010510784807332012
   R767106*     MODIFIED TO PRODUCE LASER CHECKS
   999999
   ** R.SRT68
   999999
   ** R.RPT68
   R6680821207112060150 47                    88     00141010510784807332012
   R768100*     MODIFIED TO PRODUCE LASER CHECKS
   999999
```

Overrides to the Extended Stub-over Pay Document (XUC/XUC or XLUC/XLUD) format

Add "88" in position 46, as indicated below:

```
         1         2         3         4         5         6         7         8
1...5....0....5....0....5....0....5....0....5....0....5....0....5....0....5....0
   ** R.SRT67
   999999
   ** R.RPT67
   R6670881207112060150 47                    88     00119010270782407332012
   R767106*     MODIFIED TO PRODUCE LASER CHECKS
   999999
   ** R.SRT68
   999999
   ** R.RPT68
   R6680801207112060150 47                    88     00119010270782407332012
   R768100*     MODIFIED TO PRODUCE LASER CHECKS
   999999
```


Stub-over Pay Document (UC/UD and LUC\LUD) transaction layouts

The interface for this format consists of 42 records for each payment.

Each record is 132 bytes long and is written either to PRINTU (checks) or PRINTV (deposit advices).

Record Number 01

Field Length	From	To	Description	Field Type
20	01	20	spaces	Space(s)
10	21	30	Employee Number	Alphanumeric
01	31	31	space	Space(s)
30	32	61	Employee Name (Last, First M)	Alphanumeric
01	62	62	space	Space(s)
11	63	73	Social Security Number	Alphanumeric
01	74	74	space	Space(s)
08	75	82	Period End Date (MM/DD/YY)	Date (MM/DD/YY)
02	83	84	space	Space(s)
01	85	85	H (Line-Up Skew)	Alphanumeric
47	86	132	spaces	Space(s)

Record Number 02

Field Length	From	To	Description	Field Type
132	01	132	spaces	Space(s)

Record Number 03

Field Length	From	To	Description	Field Type
20	01	20	spaces	Space(s)
08	21	28	Payment Date	Date (MM/DD/YY)
01	29	29	space	Space(s)
08	30	37	Hourly Rate/Pay Period Salary	Numeric with 2 decimal places or Numeric with 4 decimal places
01	38	38	space	Space(s)
04	39	42	Department	Alphanumeric

Field Length	From	To	Description	Field Type
01	43	43	space	Space(s)
08	44	51	Vacation Hours Balance	Numeric with 2 decimal places
01	52	52	space	Space(s)
08	53	60	Sick Hours Balance	Numeric with 2 decimal places
14	61	74	space	Space(s)
08	75	82	Period Begin Date	Date (MM/DD/YY)
50	83	132	spaces	Space(s)

Record Number 04

Field Length	From	To	Description	Field Type
132	01	132	spaces	Space(s)

Record Numbers 05 through 18

Field Length	From	To	Description	Field Type
01	01	01	spaces	Space(s)
15	02	16	Earnings Description	Alphanumeric
01	17	17	space	Space(s)
07	18	24	Current Hours	Numeric with 2 decimal places
01	25	25	space	Space(s)
09	26	34	Current Dollars	Numeric with 2 decimal places
01	35	35	space	Space(s)
10	36	45	Year-To-Date Dollars	Numeric with 2 decimal places
01	46	46	space	Space(s)
15	47	61	Tax/Deduction Description	Alphanumeric
01	62	62	space	Space(s)
09	63	71	Current Tax/Deduction Amount	Numeric with 2 decimal places
01	72	72	space	Space(s)
10	73	82	Year-To-Date Tax/Deduction Amt	Numeric with 2 decimal places
50	83	132	spaces	Space(s)

Record Numbers 05 through 18 for LUC\LUD format

Field Length	From	To	Description	Field Type
01	01	01	spaces	Space(s)
14	02	15	Earnings Description	Alphanumeric
13	16	28	Current Dollars	Numeric with 2 decimal places
13	29	41	Year-To-Date Dollars	Numeric with 2 decimal places
01	42	42	space	Space(s)
14	43	56	Tax/Deduction Description	Alphanumeric
13	57	69	Current Tax/Deduction Amount	Numeric with 2 decimal places
13	70	82	Year-To-Date Tax/Deduction Amt	Numeric with 2 decimal places
50	83	132	spaces	Space(s)

Record Number 19

Field Length	From	To	Description	Field Type
09	01	09	spaces	Space(s)
67	10	76	Pay Document Message Line 1	Alphanumeric
56	77	132	spaces	Space(s)

Record Number 20

Field Length	From	To	Description	Field Type
09	01	09	spaces	Space(s)
67	10	76	Pay Document Message Line 2	Alphanumeric
56	77	132	spaces	Space(s)

Record Number 21

Field Length	From	To	Description	Field Type
132	01	132	spaces	Space(s)

Record Number 22

Field Length	From	To	Description	Field Type
17	01	17	spaces	Space(s)
30	18	47	Optional Pay Document Header #1	Alphanumeric
85	48	132	spaces	Space(s)

Record Number 23

Field Length	From	To	Description	Field Type
17	01	17	spaces	Space(s)
30	18	47	Optional Pay Document Header #2	Alphanumeric
85	48	132	spaces	Space(s)

Record Number 24

Field Length	From	To	Description	Field Type
17	01	17	spaces	Space(s)
30	18	47	Optional Pay Document Header #3	Alphanumeric
25	48	72	spaces	Space(s)
08	73	80	Pay Document Number (Check Number)	Numeric with no decimal places
52	81	132	spaces	Space(s)

Record Number 25

Field Length	From	To	Description	Field Type
17	01	17	spaces	Space(s)
30	18	47	Optional Pay Document Header #4	Alphanumeric
85	48	132	spaces	Space(s)

Record Number 26

Field Length	From	To	Description	Field Type
17	01	17	spaces	Space(s)
30	18	47	Optional Pay Document Header #5	Alphanumeric
85	48	132	spaces	Space(s)

Record Number 27

Field Length	From	To	Description	Field Type
82	01	82	Net Pay in Words	Alphanumeric
50	83	132	spaces	Space(s)

Record Number 28

Field Length	From	To	Description	Field Type
132	01	132	spaces	Space(s)

Record Number 29 for UC\UD format

Field Length	From	To	Description	Field Type
41	01	41	spaces	Space(s)
08	42	49	Payment Date	Date (MM/DD/YY)
05	50	54	spaces	Space(s)
09	55	63	Net Pay Amount	Protected Numeric (*******99)
69	64	132	spaces	Space(s)

Record Number 29 for LUC\LUD format

Field Length	From	To	Description	Field Type
41	01	41	spaces	Space(s)
08	42	49	Payment Date	Date (MM/DD/YY)
04	50	53	spaces	Space(s)
10	54	63	Net Pay Amount	Protected Numeric (********99)
69	64	132	spaces	Space(s)

Record Numbers 30 through 32

Field Length	From	To	Description	Field Type
132	01	132	spaces	Space(s)

Record Number 33

Field Length	From	To	Description	Field Type
11	01	11	spaces	Space(s)
02	12	13	Org level 1	Alphanumeric
04	14	17	Org level 2	Alphanumeric
04	18	21	Payroll level 3	Alphanumeric
04	22	25	Payroll level 4	Alphanumeric
04	26	29	Payroll level 5	Alphanumeric
04	30	33	Payroll level 6	Alphanumeric
10	34	43	Function	Alphanumeric
89	44	132	spaces	Space(s)

Record Number 34

Field Length	From	To	Description	Field Type
11	01	11	spaces	Space(s)
30	12	41	Employee Name (First M. Last)	Alphanumeric
91	42	132	spaces	Space(s)

Record Number 35

Field Length	From	To	Description	Field Type
11	01	11	spaces	Space(s)
30	12	41	Address Line #1	Alphanumeric
91	42	132	spaces	Space(s)

Record Number 36

Field Length	From	To	Description	Field Type
11	01	11	spaces	Space(s)
30	12	41	Address Line #2	Alphanumeric
91	42	132	spaces	Space(s)

Record Number 37

Field Length	From	To	Description	Field Type
11	01	11	spaces	Space(s)
30	12	41	Address Line #3	Alphanumeric
91	42	132	spaces	Space(s)

Record Numbers 38 through 42

Field Length	From	To	Description	Field Type
132	01	132	spaces	Space(s)

Extended Stub-over Pay Document (XUC/XUD and XLUC\XLUD) Transaction Layouts

The interface for this format consists of 66 records for each payment.

Each record is 132 bytes long and is written either to PRINTU (checks) or PRINTV (deposit advices).

The transaction layouts for the XUC/XUD format are below.

Record Number 01

Field Length	From	To	Description	Field Type
20	01	20	spaces	Space(s)
10	21	30	Employee Number	Alphanumeric
01	31	31	space	Space(s)
30	32	61	Employee Name (Last, First M)	Alphanumeric
01	62	62	space	Space(s)
11	63	73	Social Security Number (999-99-9999)	Alphanumeric
01	74	74	space	Space(s)
08	75	82	Period End date (MM/DD/YY)	Date (MM/DD/YY)
02	83	84	space	Space(s)
01	85	85	H (Line-Up Skew)	Alphanumeric
47	86	132	spaces	Space(s)

Record Number 02

Field Length	From	To	Description	Field Type
132	01	132	spaces	Space(s)

Record Number 03

Field Length	From	To	Description	Field Type
20	01	20	spaces	Space(s)
08	21	28	Payment Date	Date (MM/DD/YY)
01	29	29	space	Space(s)
08	30	37	Hourly Rate/Pay Period Salary	Numeric with 2 decimal places or Numeric with 4 decimal places

Field Length	From	To	Description	Field Type
01	38	38	space	Space(s)
04	39	42	Department	Alphanumeric
01	43	43	space	Space(s)
08	44	51	Vacation Hours Balance	Numeric with 2 decimal places
01	52	52	space	Space(s)
08	53	60	Sick Hours Balance	Numeric with 2 decimal places
14	61	74	space	Space(s)
08	75	82	Period Begin Date	Date (MM/DD/YY)
50	83	132	spaces	Space(s)

Record Number 04

Field Length	From	To	Description	Field Type
132	01	132	spaces	Space(s)

Record Numbers 05 through 39 for XUC\XUD format

Field Length	From	To	Description	Field Type
01	01	01	spaces	Space(s)
15	02	16	Earnings Description	Alphanumeric
01	17	17	space	Space(s)
07	18	24	Current Hours	Numeric with 2 decimal places
01	25	25	space	Space(s)
09	26	34	Current Dollars	Numeric with 2 decimal places
01	35	35	space	Space(s)
10	36	45	Year-To-Date Dollars	Numeric with 2 decimal places
01	46	46	space	Space(s)
15	47	61	Tax/Deduction Description	Alphanumeric
01	62	62	space	Space(s)
09	63	71	Current Tax/Deduction Amount	Numeric with 2 decimal places
01	72	72	space	Space(s)
10	73	82	Year-To-Date Tax/Deduction Amt	Numeric with 2 decimal places
50	83	132	spaces	Space(s)

Record Numbers 05 through 39 for XLUC\XLUD format

Field Length	From	To	Description	Field Type
01	01	01	spaces	Space(s)
14	02	15	Earnings Description	Alphanumeric
13	16	28	Current Dollars	Protected Numeric (********99)
13	29	41	Year-To-Date Dollars	Protected Numeric (********99)
01	42	42	spaces	Space(s)
14	43	56	Tax/Deduction Description	Alphanumeric
13	57	69	Current Tax/Deduction Amount	Protected Numeric (********99)
13	70	82	Year-To-Date Tax/Deduction Amount	Protected Numeric (********99)

Record Number 40

Field Length	From	To	Description	Field Type
132	01	132	spaces	Space(s)

Record Number 41

Field Length	From	To	Description	Field Type
09	01	09	spaces	Space(s)
67	10	76	Pay Document Message Line 1	Alphanumeric
56	77	132	spaces	Space(s)

Record Number 42

Field Length	From	To	Description	Field Type
09	01	09	spaces	Space(s)
67	10	76	Pay Document Message Line 2	Alphanumeric
56	77	132	spaces	Space(s)

Record Number 43

Field Length	From	To	Description	Field Type
132	01	132	spaces	Space(s)

Record Number 44

Field Length	From	To	Description	Field Type
132	01	132	spaces	Space(s)

Record Number 45

Field Length	From	To	Description	Field Type
17	01	17	spaces	Space(s)
30	18	47	Optional Pay Document Header #1	Alphanumeric
85	48	132	spaces	Space(s)

Record Number 46

Field Length	From	To	Description	Field Type
17	01	17	spaces	Space(s)
30	18	47	Optional Pay Document Header #2	Alphanumeric
85	48	132	spaces	Space(s)

Record Number 47

Field Length	From	To	Description	Field Type
17	01	17	spaces	Space(s)
30	18	47	Optional Pay Document Header #3	Alphanumeric
85	48	132	spaces	Space(s)

Record Number 48

Field Length	From	To	Description	Field Type
17	01	17	spaces	Space(s)
30	18	47	Optional Pay Document Header #4	Alphanumeric
25	48	72	spaces	Space(s)
08	73	80	Pay Document Number (Check Number)	Numeric with no decimal places
52	81	132	spaces	Space(s)

Record Number 49

Field Length	From	To	Description	Field Type
17	01	17	spaces	Space(s)
30	18	47	Optional Pay Document Header #5	Alphanumeric
85	48	132	spaces	Space(s)

Record Number 50

Field Length	From	To	Description	Field Type
132	01	132	spaces	Space(s)

Record Number 51

Field Length	From	To	Description	Field Type
82	01	82	Net Pay in Words	Alphanumeric
50	83	132	spaces	Space(s)

Record Number 52

Field Length	From	To	Description	Field Type
132	01	132	spaces	Space(s)

Record Number 53

Field Length	From	To	Description	Field Type
41	01	41	spaces	Space(s)
08	42	49	Payment Date	Date (MM/DD/YY)
05	50	54	spaces	Space(s)
09	55	63	Net Pay Amount	Protected Numeric (*******99)
69	64	132	spaces	Space(s)

Record Numbers 54 through 56

Field Length	From	To	Description	Field Type
132	01	132	spaces	Space(s)

Record Number 57

Field Length	From	To	Description	Field Type
11	01	11	spaces	Space(s)
02	12	13	Org level 1	Alphanumeric
04	14	17	Org level 2	Alphanumeric
04	18	21	Payroll level 3	Alphanumeric
04	22	25	Payroll level 4	Alphanumeric
04	26	29	Payroll level 5	Alphanumeric
04	30	33	Payroll level 6	Alphanumeric
10	34	43	Function	Alphanumeric
89	44	132	spaces	Space(s)

Record Number 58

Field Length	From	To	Description	Field Type
11	01	11	spaces	Space(s)
30	12	41	Employee Name (First M. Last)	Alphanumeric
91	42	132	spaces	Space(s)

Record Number 59

Field Length	From	To	Description	Field Type
11	01	11	spaces	Space(s)
30	12	41	Address Line #1	Alphanumeric
91	42	132	spaces	Space(s)

Record Number 60

Field Length	From	To	Description	Field Type
11	01	11	spaces	Space(s)
30	12	41	Address Line #2	Alphanumeric
91	42	132	spaces	Space(s)

Record Number 61

Field Length	From	To	Description	Field Type
11	01	11	spaces	Space(s)

Field Length	From	To	Description	Field Type
30	12	41	Address Line #3	Alphanumeric
91	42	132	spaces	Space(s)

Record Numbers 62 through 66

Field Length	From	To	Description	Field Type
132	01	132	spaces	Space(s)

APPENDIX S

Error and Warning Messages

In This Appendix

Error handling....820
Error and Warning Messages for Batch Payroll System Reports....822
Graphical User Interface (GUI) informational and error messages....837
Database error and informational messages....839
CAS Error Messages (Windows)....840
Troubleshooting the CAS daemon (UNIX)....852
Synchronization error messages....856
Import Wizard error and warning messages....858
Distributed Administration error messages....862

Error handling

An Error Logging and Display facility (E.L.D) logs and communicates errors from SQL, COBOL, and other 3rd party tools. Once the ZE errors are logged to FILE02, the E.L.D. facility performs a rollback if necessary, and either terminates, or returns to the paragraph from which it was invoked. The E.L.D. facility is utilized for relational and non-relational systems, since not all errors are relational in origin. This solution provides for error severity level validation, which allows users to continue in the event of a non fatal error. There are two categories of errors:

- Reject
- Terminal

Rejects are those errors that are informational and allow the user the ability to continue working (for example, COMMIT FORCED BY SQL LIMIT).

Terminal errors indicate a failure during processing, and ultimately abort the process or transaction. These errors are recorded on FILE02 for evaluation.

A batch utility, DSPERR, formats error information to FILE03. The ZE errors on FILE02 remain until they are cleared during a PAYMRG 171 process. Execute the DSPERR utility in the background as follows:

INPUT	FILE01 FILE02 FILE04	System Control Repository Employee Database Control Record File
OUTPUT	FILE03	Error Log File
EXECUTE	CBSVB	

The control record on FILE04 has the following syntax:

Positions	Enter	Description
23-28	DSPERR	program name

The layout of the ZE record is as follows:

```
Date> aaaaaaaa  Time> bbbbbbbb  ccc Session> dddd  Break> ee

 Organization: ffffff             Last FILE01 Key: ggggg
 Record Type: h                   Program: iiiiii
 Employee No: jjjjjjjjjj          File Status: kk
 Master No: llll                  Cyborg Error: mmmmmm
 Segment ID: n  ooooooooooooooo   Paragraph: pppppppppppppppppppppppp
 User ID: qqqqqqqqqqqqqqqqqq      SQL Error: rrrrrr

 Error Message: sssssssssssssssssssssssssssssttttttttttttttttttttttttttttttt
 uuuuuuuuuuuuuuuuuuuuuuuuuuuuuuuvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvv
wwwwwwwwwwwwwwwwwwwwwwwwwwwwwwwxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
 yyyyyyyyyyyyyyyyyyyyyyyyyyyyyyyzzzzzzzzzzzzzzzzzzzzzzzzzzzzzz
 !!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
 ###############################$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$
```


Informational error messages encountered during execution of DML statements by CBSV programs are still written as ZE records on the System Control Repository (FILE01). The error messages are reported and deleted using ZE-PRT or are displayable via DSP01. The layout of the ZE record is as follows:

Columns	Contents
01-02	ZE
03-22	Organization Control Number (Control 1-2), Employee Number, Labor/History Number
23-24	Sequence Number
25-38	Time and Date
40-43	User Code
46-51	Program/Form Name
52-55	Table Name
56-61	SQLCODE
62-74	Seqment Key

Error and Warning Messages for Batch Payroll System Reports

This section contains a list of every message that may be printed on the batch payroll system reports. These messages are generally associated with error conditions encountered in the content of Payroll BATCH transactions, as processed by the payroll batch processing programs.

When a message description includes a field name, it is referring to the field name in a transaction.

These messages are printed on reports during a payroll or maintenance run.

The reports that supply you with messages are:

- Transaction Load
- Payroll Audit Trail
- Audit Trail Warnings
- Master File Status

Introduction

This appendix contains a description and resolution for every message that may be printed on the batch payroll system reports. These messages are generally associated with error conditions encountered in the content of Payroll BATCH transactions, as processed by the payroll batch processing programs. When a message description includes a field name, it is referring to the field name in a transaction as described in the Batch Transaction Layouts appendix in the Technical Administration documentation.

These messages are printed on reports during a payroll or maintenance run. The reports that supply you with messages are:

- Transaction Load
- Payroll Audit Trail
- Audit Trail Warnings
- Master File Status

Transaction Load Report Messages

During the payroll process, the P2EDIT program verifies the contents of all fields for all transactions for syntax errors. Any errors found are noted on the Transaction Load report. Usually the entire transaction is rejected when an error is found.

You should review the Transaction Load report for error messages. If you find any error messages, you may:

- Continue processing and update the file. The rejected transactions have been dropped, and you must re-enter them on a later run.
- Correct the errors and rerun as necessary.

Address Code Invalid - Trans Rejected
Type a correct name code value and resubmit the transaction. The name code value must be in the range of 001 - 999.

Bad Fld Nbr
Type a corrected field number and resubmit the transaction.

Bad HED Nbr
Type the correct earning or deduction number and resubmit the transaction. The number must be in the range of 001 - 500 for earnings or 501 - 999 for deductions.

Check Amounts Differ - Trans Rejected
This message applies to the ER transaction. The net pay amount that cleared the bank is different from the amount issued by the system. Investigate the error and enter a corrected ER transaction.

Check Nbr Not Outstanding - Trans Rejected
This applies to the ER transaction. The recon number was not issued by the system. Investigate the error and submit an ER transaction to clear the payment.

Error in BATCH Trans - Batch Rejected
An error in the BATCH transaction has forced the rejection of this transaction. Check the error shown next to the BATCH transaction to determine the error. Correct the BATCH transaction and rerun.

Error in Trans - Entire Trans Rejected
See other error messages related to this transaction, correct them, and rerun.

Error - Missing data in Transaction
The transaction does not contain any data beyond the identifier.

HED Number Invalid - Transaction Rejected
The earning or deduction number is invalid. Correct and resubmit the transaction.

Identifier Invalid - 1st Tax Body Rejected
The tax type or tax number (or both) is incorrect. Make corrections in positions 13-46 and resubmit the transaction.

Identifier Invalid - 2nd Tax Body Rejected
The tax type or tax number (or both) is incorrect. Make corrections in positions 47-80 of the transaction and resubmit it.

Incorrect
The field listed did not pass the edit rules for the field or for the field within the company. Check the Payroll Audit Trail.

Invalid Adjustment Code - Trans Rejected
Position 77, 78, or 79 of an adjustment transaction is incorrect. Correct the error and resubmit the transaction.

Invalid Delete Identifier - Trans Rejected

An X transaction is being used to delete a field and the field number being used for deleting is not a key field. Correct and resubmit the transaction.

Invalid Employee Nbr - Trans Rejected

The employee number in positions 3-12 of the transaction is invalid. Correct and resubmit the transaction.

Invalid Field Number - Trans Rejected

The field number in positions 13-15 of the transaction is invalid. Correct and resubmit the transaction.

☞ *Refer to the Sample Field Table appendix in the Using Report Generator documentation for a list of valid field numbers.*

Invalid Identifier - This Entry Rejected

An AE transaction has been entered with one of the frequency identifiers left blank. Resubmit the transaction with the frequency entered.

Invalid Identifier - Trans Rejected

The frequency identifier on an AJ transaction is blank. Correct the entry and resubmit the transaction.

Invalid Table or Bracket - Trans Rejected

The table (position 10) or the bracket (positions 11-12) is invalid. Verify the tax update, correct the entry, and resubmit the transaction.

Invalid Transaction Code - Trans Rejected

The transaction code in positions 1-2 is incorrect. Correct the entry and resubmit the transaction.

☞ *Refer to the Batch Transaction Layouts appendix in the Technical Administration documentation for a list of valid transaction codes.*

Master Number Invalid - Trans Rejected

A non-numeric value has been entered in columns 53 - 56 of an X transaction. All master numbers are in the range of 0001 - 9999. Correct the error and resubmit the transaction.

Missing BATCH Transaction - Trans Rejected

Either there was no BATCH transaction, or a BATCH transaction did not follow a BATCH STOP transaction. Correct and resubmit the affected transactions.

☞ *Refer to The Batch Transaction in the Technical Administration documentation for more information.*

Missing Report Code - Trans Rejected

The report format code or sort code is missing from positions 3-4. Correct and resubmit the group of sorts and formats.

More Than 9 S1 Trans - Trans Rejected

A sort code is being loaded with more than nine S1 transactions. Those over nine will be rejected.

Must Edit in BATCH999999 - Trans Rejected

All report formats, report sorts, and payment reconciliation transactions must be entered in a batch with a BATCH transaction containing a company value of all 9s (999999). Change the company (control 1-2) value and resubmit the transaction.

☞ *Refer to The Batch Transaction in the Technical Administration documentation for more information.*

Name Format

All name fields must be entered in the following format: LAST NAME comma space FIRST NAME. Correct the Name field (AB or F1 transaction) and resubmit the transaction.

Non Numeric

The value typed in the field shown is not a numeric value. See the field number and transaction positions associated with the message. Correct the error and resubmit the transaction.

Out of Sequence - Transaction Rejected

The R and S transactions must be entered in sequence on positions 5-7 and 77-80. The entire set of R and S transactions must be reloaded.

Past Column 80

The system's Field Number Table is incorrect. Contact your data processing department immediately. Do not continue to process!

See BATCH Modify Control - Trans Rejected

The Modify Controls field in position 17 of the BATCH transaction allows either employee or company transactions in a group, but not both. This transaction contradicts the option you entered in the BATCH transaction and must be re-entered in the correct group.

☞ *Refer to The Batch Transaction in the Technical Administration documentation for more information.*

Split Number Invalid - Trans Rejected

The allocation number entered on the G transaction is invalid. The allocation number must be in the range of 01 - 98.

Sort Format Not Loaded - Trans Rejected

An R0 transaction was encountered and was not preceded by a sort (S1 and S7), or the R0 did not have a sort name entered in positions 64 and 65. To correct this, enter a sort, or fill in the name of an existing sort in positions 64 and 65 of the R0 transaction.

Tax Type or Number Invalid - Tran Rejected

The tax type or tax number is incorrect. Correct the error and resubmit the transaction.

☞ *Refer to Activating Taxes in the Implementation Essentials documentation for more information on valid Tax Type and Number.*

Trans Rejected - See BATCH Transaction

This transaction is in conflict with a BATCH transaction option. Correct the transaction in error and resubmit it.

☞ *Refer to The Batch Transaction in the Technical Administration documentation for more information.*

Validate Only - BATCH Rejected

The validate only option in position 16 of the BATCH transaction was specified. Therefore, no transactions will be written from this batch. Look for other errors, because all other editing will still be done.

Payroll Audit Trail Messages

All transactions that pass the P2EDIT program's syntax check are passed to the P4CALC program. P4CALC verifies that data exists on the Sequential Master File to support the transactions. For example, P4CALC makes sure that an earning or deduction number found on a time entry exists for that company. Any rejects are noted on the Payroll Audit Trail report.

Note: Review this report during the payroll process and account for any reject messages before continuing. Depending on the severity of the reject message, you may find it necessary to rerun the payroll.

Bypass - History Not Run Since Paid

When using the H2 transaction's history updated option (position 15), this data cannot be updated.

☞ *Refer to Overview of the Batch Payroll System in the Technical Administration documentation for information about the H2 transaction.*

Bypass - This Control Not Being Paid

This time entry has been bypassed because this company was not paid. Check the Payroll Run Process Control form (AE-SCR) to determine the reason. Time entries processed for a company not being paid are written to the Recycle File and paid the next time the company is paid.

Bypass - This Frequency Not Paid

An option entered on the Payroll Run Process Control form (AE-SCR) determines the frequencies to be paid. This employee's pay frequency is not one of them. Verify the entry in the employee's Frequency field. The time entry will be written to the Recycle File and paid the next time the frequency is paid.

Entry Added - No Wages Adjusted

The earning had to be set up for this employee; see the No Wages Adjusted message later in this section.

Entry Added - Tax Type 1 Adjusted

The earning had to be set up for this employee; see the Tax Type 1 Wages Adjusted message later in this section.

No Wages Adjusted

The Adj Tax field of the Manual Payment (KA-SCR) form (or the Plug Code position 77 of the KB transaction) has specified that no federal, state, county, or city taxable wages fields are to be adjusted for this employee.

Not Loaded

The report shown on this line has not been loaded into the report working storage area on this run. This means it is not possible for this report to be produced on this run.

Reject - Address is Not Set Up

The address shown was not set up. Verify the identifier for the field in the F1 or F2 transaction. When adding a new name code, the Name field must be entered with the Address fields.

Reject - Bad Date, No Pay Calculated

The payment date on the Payroll Run Process Control form (AE-SCR) is missing. This company will not be paid on this run unless the payment date is entered. Also verify that all Previous/Save Period fields have been entered on the Company Pay Frequencies form (AJ-SCR).

Reject - Bad Employee Record

A defective employee record has been detected due to a missing segment or segments with incorrect lengths. The defective employee record is bypassed, no pay calculation or reporting is done, and the record is written to the P20OUT file.

Reject - Over 65/or blind tax levy table not found

During the calculation of protected pay for a garnished employee, the delivered tax levy protection table for a tax payer with blind and/or over age 65 exemptions could not be found.

Reject - Trans Failed Previous Edit

See the Transaction Load report for the nature of the error.

Reject - Control Ident Not Set Up

This earning or deduction has not been set up for the company. You must enter the earning or deduction number on either the Company Earnings or Company Deductions forms (A8-SCR).

Reject - Control Tax Body Not Set Up

The tax specification record is not set up on the file. Use the Tax Specification Information form (T1-SCR) or a T1 transaction to set up the tax record for the company.

Reject - Data Area is Full

This field cannot be added to the file.

☞ *Refer to Working with CYBMST in the Technical Administration documentation for instructions on expanding the data area.*

Reject - Duplicate Identifier Entry

One of the following has been entered during this run: more than one Ux, Vx or Wx transaction with the same key; more than one sort with the same Sort Code; or more than one format with the same Format Code and loaded with the same sort.

Reject - Emp. Number Already Used

The Social Security number may be entered on an E transaction only when adding a new employee. Entering the Social Security number on the E transaction indicates a new employee, and the employee number is already in use for another employee. All transactions for this employee have been rejected. Correct the employee number entry and resubmit the transactions.

Reject - Federal protection table not found

During the calculation of protected pay for a garnished employee, the delivered federal protection table for garnishments other than support or federal tax levy could not be found.

Reject - Federal tax levy active; this HED cannot be updated

There is a federal tax levy in effect for the employee. This HED cannot be updated while a federal tax levy is in effect.

Reject - Format is Too Large

The report format is too large to process.

☞ *Refer to Working with CYBMST in the Technical Administration documentation for instructions on expanding the Payer area.*

Reject - HED is Not Set Up

The earning or deduction is not set up for this employee. The Frequency field must be entered to establish an earning or deduction.

Reject - HED nnn - No A8 Transaction

(where nnn is the earning or deduction number)

This earning or deduction was not established for this company. You must set up the earning or deduction before you can enter any employee transactions.

Reject - HED nnn Not Added - Area Full

(where nnn is the earning or deduction number)

There is not enough room to add this earning or deduction.

☞ *Refer to Working with CYBMST in the Technical Administration documentation for instructions on expanding this area.*

Reject - HED nnn Verify FLSA OT

(where nnn is the earning or deduction number)

A negative time entry has caused a negative overtime premium amount. The time entry shown has been rejected. Correct the time entry and resubmit it if you are executing a payroll rerun.

Reject - Identifier Entry Not Set Up

Either the transaction shown on this line has not been submitted previously, or this type of adjustment cannot be used on a time entry.

Reject - Master Not on File

No record exists on the Master File for the employee. You must enter the Social Security number to establish a new employee.

Reject - No Matching Print Position

The Report Content field of a report specifies more items to be printed than are accounted for in the R5 transaction (the starting print positions).

Reject - Record Not on File

The record is not on the file. Verify the company and employee number to determine the existence of the record.

Reject - Rept mmmm Over Loop Limit, Adr. nnnnn

The report identified by mmmm was looping at relative address nnnn. The report has been disabled for the remainder of this company.

Reject - Split Number is not Set Up

The Location Information field cannot be established without entering the split percent for this split number.

☞ *Refer to the Technical Administration documentation for the G transaction layout.*

Reject - Standard tax levy table not found

During the calculation of protected pay for a garnished employee, the delivered tax levy protection table for a standard taxpayer could not be found.

Reject - Support table not found

During the calculation of a garnished employee's protected pay, the delivered support protection table could not be found.

Reject - Tax Body is Not Set Up

To establish a new tax record, you must complete the Tax Method Code field.

Reject - Unresolved Branch

The report sort or report format has a branch with no corresponding paragraph. Correct and reload the sort and format.

Reject - 99 Checks Already Written

An employee may receive no more than 99 payments on any one payroll run. If it is necessary to produce more than 99 payments for an employee, you must distribute the payments in multiple payroll runs.

Report AAAACalling Bad 5Gyy
Employee nnnnnnnnnnHED xxx CALLING BAD 5Gyy

(Where nnnnnnnnnn is the employee number, xxx is the earning or deduction number, and yy is the Method Code field entry, or AAAA is the report name and yy is the report generator routine.)

The earning, deduction, or report shown requires a report generator routine that is not loaded in the report area.

If the earning or deduction has been keyed incorrectly, correct it and rerun. Otherwise, contact your data processing department to have the generator routine loaded.

Report Area Full - Bypassed***

On the initial load of a generator, the report area is full.

☞ *Refer to Working with CYBMST in the Technical Administration documentation for information on expanding this area.*

Selected

The report listed on this line has been selected on the Report Requests form (DD-SCR).

Tax Type 1 Wages Adjusted

The Adj Tax field of the Manual Payment (KA-SCR) form (or the Plug Code position 77 of the KB transaction) has specified that only federal tax records are to be adjusted by this amount.

This Control 1-2 Added

The company shown on this line has been added to the Master File.

This Control 1-2 Deleted

The company shown on this line has been deleted from the Master File.

This Employee Added

The employee shown on this line has been added to the Master File.

This Employee Deleted

The employee shown on this line has been deleted from the Master File. No W-2 or other reports can be produced; any dollar and hours amounts are lost unless they were transferred to another company.

This Identifier Entry Added

The information shown on this line has been added to the Master File.

This Identifier Entry Deleted

The information shown on this line has been deleted from the Master File.

This Tax Body Added

The tax specification record shown on this line has been added to the Master File.

This Tax Body Deleted

The tax specification record shown on this line has been deleted from the Master File.

Audit Trail Warnings

Warning - Area Full, PD Entry Dropped

The employee area is full, and this run's period table entry cannot be added to the file for this employee.

☞ *Refer to Working with CYBMST in the Technical Administration documentation for instructions on expanding the employee area.*

Warning - Garnishment HED nnn will stop on MM/DD/YY

(Where nnn is the applicable deduction number)

This is a garnishment HED for a terminated employee. Garnishment HEDs must remain active for a specific length of time, based on order type, following an employee's last pay date. This HED will be turned off on the date specified.

Warning - Garnishments not allowed for XX

(Where XX is the state)

The state indicated does not allow employers to process garnishments of this type.

Warning - HED nnn Accrd Hrs

(where nnn is the applicable earning or deduction number)

The available figure for this earning or deduction has been exceeded.

Warning - HED nnn Has Been Set Up

(where nnn is the applicable earning or deduction number)

This earning or deduction was not set up for the employee, but it has been added automatically by this transaction. The default fields established for the company have been used to set up the earning or deduction.

Warning - HED nnn Ded-Insuf. NDI

(Where nnn is the applicable deduction number)

The employee has insufficient net disposable income (NDI) to cover the garnishment payment(s) due.

Warning - HED nnn DED – Insuff. Net Pay

(where nnn is the applicable deduction number)

This deduction, set up for arrears, was scheduled to be taken and could not be due to insufficient net pay.

Warning - Inactive Emp. Time Entry

A time entry has been submitted for an inactive employee. The employee either has an entry in the Termination Date field or an entry in the Period Override field to prevent pay. This is informational only; the time-entry transaction has been processed and the employee has been paid.

☞ *Refer to Employee Maintenance in the Using Payroll Admiistration documentation for more information.*

Warning - Input Version Number Is

The entry in the File Version Number field on the Payroll Run Process Control form (AE-SCR) does not match the version number entry on the BATCH transaction.

Warning - No Bracket For Tax Table

There is a T4 transaction with no corresponding T5 bracket entries.

Warning - No GRTSCR set for Garnishment Type XX

(Where XX is the Garnishment Type)

The Switching off Garnishments form (GRTSCR) is not set up for the terminated employee's garnishment HED. As a result, the stop date for the HED is calculated as '0'.

Warning - Negative Net Pay Zeroed Out

The employee's net pay is a negative amount and has been zeroed out, resulting in a zero check. Review the employee's earning, tax, and deduction (particularly arrears) information and make corrections. If the pay is to be rerun, correct the time entries as needed.

Warning: Neg. Pay Put Into Arrears

The employee's pay is a negative amount and HED 999 has put that amount into arrears. If this occurred in error, the entire payment may be reversed with the Payment Reversal form. If the negative pay is valid, it will be recouped the next time the employee receives positive net pay.

Warning - No Hours x - Regular Pay Used

(where x is either the Hours One, Hours Two, Hours Three, or Hours Four field on a Format 2 time entry)

No earning number has been assigned this field on the Company Earnings form (A8-SCR). The hours on this Format 2 time entry will be paid as regular, earning 001.

☞ *Refer to Time Entry Formats and the Function Code in the Using Payroll Administration documentation for more information on assigning fields for hours and amounts.*

Warning - No Money x - Regular Pay Used

(where x is either the Amount One or the Amount Two field on a Format 2 time entry)

No earning has been assigned this field on the Company Earnings form (A8-SCR). The amount on this Format 2 time entry will be paid as regular, earning 001.

☞ *Refer to Time Entry Formats and the Function Code in the Using Payroll Administration documentation for more information on assigning fields for hours and amounts.*

Warning - No Time Entry or HED 001 Pay

This employee's frequency is being paid; however, this employee is not. The entry in the No Pay Warning field on the second part of the Company Options form (A8-SCR) controls the printing of this message.

Warning - Not In Table, Area Fill

A W (other) record could not be loaded in because the area is full.

☞ *Refer to Working with CYBMST in the Technical Administration documentation for information on expanding the other area.*

Warning - Overtime For Exempt Employ.

Overtime has been entered for an employee who is set up as overtime exempt. See the Payment Code field on the Employee Information form (EF-SCR).

Warning - Shift HED Added

The earning or deduction for shift differential has been added to this employee's record.

Warning - Shift Method Code Not Valid

A shift differential earning must have a Calc Method field selection of Amt Per Reg Hour TE (14), Amt Per Total Hr TE (10), % Regular Gross TE (17), or % Total Gross on TE. Verify that the Employee Earnings And Deductions form (HH-SCR) for the employee, as well as the Company Earnings form (A8-SCR) for the company, both have Calc Method field selections of Amt Per Reg Hour TE (14), Amt Per Total Hr TE (15), % Regular Gross TE (16), or % Total Gross on TE (17).

Warning - Tax Area Full, Tax Not Used

The tax specification record could not be loaded into the tax area because the area is full. Employee tax was not withheld.

☞ *Refer to Working with CYBMST in the Technical Administration documentation for more information.*

Warning - Tax Body Not in Tax Area

The tax specification record is not in the tax area for this company. No taxes were withheld, since the tax record could not be found for this company.

☞ *Refer to Special Technical Features in the Implementation Essentials documentation for information on adding the tax.*

Warning - Tax Table Missing

The tax table or tax specification record for this employee is not set up in the company tax record. No taxes were withheld for the employee, since the necessary tax table was not found.

☞ *Refer to Activating Taxes in the Implementation Essentials documentation for information on loading the Tax Authority File.*

Warning - Tax nnnnnnn Added

(where nnnnnnn is the tax code)

The tax record has been set up for this employee due to the adjustment or time-entry adjustment shown.

Warning - Tax nnnnnnn Area Full

(where nnnnnnn is the tax code)

The tax specification record could not be added because the tax area is full. This message is given when a new tax authority is being added to the company and there is not enough room to load the entire record.

☞ *Refer to Working with CYBMST in the Technical Administration documentation for instructions on how to expand the tax area.*

Warning - This Tax Body Deleted

One of the following has occurred:

A T1 transaction was entered for this run with a pound sign (#) in position 80.

The Use Tax field has been blanked out from the online environment for a tax specification record that was on the Master File and it has been dropped.

One or more T transactions were entered this run for a tax specification record that is not on the Master File, but neither a Y nor an N was entered in position 80 of a T1 transaction.

Warning - This Time Card Bypassed

This time entry has been bypassed because the date is a future date. The time entry will be written to the Recycle File and will be paid when the date falls within the period end being paid.

Warning - This Time Card Cancelled

This time entry was cancelled by a corresponding time entry with a zero in position two of the Entry Function Code field.

Warning - Two KC Transactions

Two or more KC transactions have been entered, with pay document numbers, for the same adjustment.

XXXXXX Added

(where xxxxxx is the company ID)

During a merge operation the indicated company has been taken from the H20IN file, but there was no matching company on the Employee Database.

☞ *Refer to Special Processing Runs in the Technical Administration documentation for more information.*

XXXXXX Replaced

(where xxxxxx is the company ID)

During a merge operation the indicated company has been taken from the H20IN file, and there was a matching company on the Employee Database.

☞ *Refer to Special Processing Runs in the Technical Administration documentation for more information.*

Master File Status Report Messages

C1-2S EIN INVALID

The EIN on file for the company is invalid according to federal specifications.

SOCIAL SECURITY NUMBER MISSING

The employee's Social Security number is blank, all zeros, or all 9s.

SEX NOT M OR F

The employee's Sex field is not F or M.

EQUAL OPPORTUNITY CODE BAD

The employee's RACE is identified by a value less than 00 or greater than 05.

☞ *Refer to the Option List Quick Reference appendix in the Implementation Essentials documentation for valid options in Option list HR22.*

BIRTH DATE MISSING

The employee's Birth field is blank.

HIRE DATE MISSING

The employee's Employment field is blank.

SHIFT MISSING

The employee's Normal Shift field equals zero.

JOB CATEGORY BAD

The employee's Job Category is less than 01 or greater than 10.

☞ *Refer the Option List Quick Reference appendix in the Implementaion Essentials documentation for valid options in Option list HR01.*

NAME MISSING
The first five bytes of the employee's Name field are VOID, or the field is blank.

ADDRESS MISSING
The employee's Address fields (lines 1 and 2) are blank.

CITY/STATE MISSING
The first five bytes of the employee's City/State field are blanks.

ZIP CODE MISSING
The employee's ZIP field is blank.

CONTROLS 3-6 MISSING
The employee's Control 3 through Control 6 fields, inclusive, are blank.

SPLIT % NOT 100%
The total of the employee's Percent Allocated fields from all the employee's home location/pay allocations is not equal to 100%.

NORMAL RATE MISSING
The employee has a Payment Type value different from 1 and 4, but normal salary (earning 001) equals 00000000.

NORMAL HOURS MISSING
The employee's normal hours (earning 001) equals 0000000.

MTD FIGURES OUT OF BALANCE BY <number>
Employee earnings less deductions, less net pay, less taxes, does not equal zero (month-to-date).

QTD FIGURES OUT OF BALANCE BY <number>
Employee earnings less deductions, less net pay, less taxes, does not equal 0 (zero) (quarter-to-date).

YTD FIGURES OUT OF BALANCE BY <number>
Employee earnings less deductions, less net pay, less taxes, does not equal 0 (zero) (year-to-date).

Graphical User Interface (GUI) informational and error messages

The following are examples of some informational and error messages you may receive related to the GUI.

Where needed, a brief explanation of how to resolve them is included.

Status: Warning	Explanation
An error occurred during the process of copying or decompressing files.	
An error occurred previously for the specified file set.	
Compress function was unable to create output file in the target directory.	Check to make sure there is enough space available to copy the files and verify that security is not preventing your access to the directory.
Rebuild ZXCYB88T in progress, try again.	This message appears if the rebuild of the ZXCYB88T records is in process or the process did not complete normally. Run the RST88T Cyborg Scripting Language program in batch to clear the lockout.
Target directory is read-only and the files cannot be copied.	
The function was unable to allocate more memory needed to complete the file decompression process.	More memory is required to complete the installation.
The library file is incompatible with the InstallShield compressed library file format.	Some other unspecified error was encountered.
The Options specified were invalid.	Some other unspecified error was encountered.
The target drive is out of disk space and the process cannot continue.	Remove unnecessary files to make room for the application and try to install the product again.
This product cannot be installed on the floppy drive. Please select another directory.	
Unable to create directory. Please enter a valid path.	

Status: Warning	Explanation
Your Client Data File does not contain the field details that Form Builder needs because of your Profile settings. Have your Security Officer check the "Build field for Form Builder user" option for your profile. Then refresh your Client Data File.	The Security Officer has the option to include or exclude these records during the build of FILECL32.

Database error and informational messages

The following error and informational messages may be encountered while processing The Solution Series utilizing any relational database system:

Message	Explanation
Invalid Table Name	Create appropriate segment name and field name records using the EDIT program, then rebuild the database.
Key Overflow	The system allows 11250 bytes to store key information. This limit has been exceeded. Increase size and limit checks of the subscripts utilized.
Update Table Overflow	The system allows 750 segments on any individual record. This limit has been exceeded. Increase update table area and limit checks of subscripts utilized.
User Table Overflow	The system allows 99 user-defined segments during index recreation process. More than 99 user tables are present. Increase user table area.
Connect Failed With SQLCode - xxx	For those databases that require a connection; unable to connect to database. Review database manual for meaning of this message and take appropriate action.
Use Failed With SQLCode - xxx	The USE command failed. Review your database manual and take appropriate action.
Initial Select Failed With SQLCode - xxx	For databases that do not require a connection—indicates status of database access. Review your database manual and take appropriate action.
Index Error Corrected on Table	SELECT statement failure. No user action required.
Record Not Found on Table	SELECT statement failure. No user action required.

CAS Error Messages (Windows)

These are the error messages that may be written to the Windows event log by the Cyborg Application Service (CAS).

When a WIN32 error code is written to the event log, a brief explanation of the system call that produced the error and the context in which the call was made is provided.

Please refer to Microsoft's WIN32 SDK documentation for a more complete description of system calls.

The following messages may be displayed as a result of a failure to start a requested application, typically CBSVO or CYBIO. These messages will be displayed if either the CAS or the GUI application is incorrectly configured.

- **Service Error: Unknown Application Id** *application-id* [Errno: *error-code*]
- **Application** *application-id* **disabled!**
- **Application** [*application-id*] **Environment** [*environment-name*] **disabled!**
- **Service Error: Invalid definition entry** [Working Directory] *working-directory*
- **Service Error: Invalid definition entry** [Program Name] program-name

The following messages may be displayed as a result of a runtime error during a CAS session:

- **Invalid initial message type** "*message-class*/*message-type*"
- **Unsupported Version** <*message-version*>'
- **Unknown Message Type** <*message-type*>

Message	Condition
Connection has been forcibly closed by client	The client application has either specifically closed its end of the socket connection, or terminated before the CAS could return data.
Cyborg server disabled!	The CAS service has been disabled. The service can be re-enabled using the control panel applet.
Error: Application has shutdown! - Exit Code = *exit-code*	A server application has unexpectedly terminated. Exit-code is the value the server application returned operating system on exit.
Invalid Password	The password for the 'Cyborg' user is invalid.
Invalid Username/Password	An invalid user name/password has either been supplied by the client application or specified in the control panel applet.
Server Failed: Bad Poll Event notified! *[Error-code]*	The 'WaitForMultipleObjects' system call has failed. Error-code contains the WIN32 error code.
Server Failed: Creating pipe (1) [Errno:*error-code]*	An error occurred while attempting to create a named pipe to facilitate communication with the server application. Error-code is the return value of the WIN32 'CreateNamedPipe' system call.

Message	Condition
Server Failed: Creating pipe (2) [Errno:*error-code]*	An error occurred while attempting to open a named pipe for write access. Error-code is the return values of the WIN32 'CreateFile' system call.
Server Failed: Execute application process [Errno:*error-code]*	An error has occurred while attempting to launch a server application. Error-code is the return value of either the WIN32 'CreateProcess' or 'CreateProcessAsUser' system calls.
Server Failed: Reading pipe message (1) [Errno:*error-code]*	An error has occurred while reading data from a server application's named pipe. Error-code is the return value of the WIN32 'GetOverlappedResult' system call.
Server Failed: Reading pipe message (2) *[Errno:error-code]*	An error has occurred while reading the output of a server application's named pipe. Error-code is the return value of the WIN32 'ReadFile' system call.
Server Failed: Reading socket message (1) [Errno:*error-code]*	An error has occurred while reading data from the client application's socket. Error-code is the return value of the WIN32 'GetOverlappedResult' system call.
Server Failed: Reading socket message (2) [Errno:*error-code]*	An error has occurred while reading data from the client application's socket. Error-code is the return value of the WIN32 'ReadFile' system call.
Server Failed: Writing pipe message [Errno:*error-code]*	An error has occurred while writing data to a server application. Error-code is the return value of the WIN32 'WriteFile' system call.
Server Failed: Writing socket message [Errno:*error-code]*	An error has occurred while writing data to the client application's socket. Error-code is the return value of the WIN32 'WriteFile' system call.

The following messages may be displayed as a result of a failure to load the Windows sockets dynamic link library.

Error error-code on Socket DLL wsock32.dll Load – error-description

Error Code	Error Description
0	Insufficient memory
2	File not found
3	Path not found
5	Sharing/Network error
6	Separate data segment required
8	Out of memory
10	Invalid Windows version

The following is a list of possible communications-related error codes along with their extended explanations. Errors are listed in alphabetical order by error symbolic name.

WSAEACCES

(10013)

Permission denied.

An attempt was made to access a socket in a way forbidden by its access permissions. An example is using a broadcast address for sendto without broadcast permission being set using setsockopt(SO_BROADCAST).

Another possible reason for the WSAEACCES error is that when the **bind** function is called (on Windows NT 4 SP4 or later), another application, service, or kernel mode driver is bound to the same address with exclusive access. Such exclusive access is a new feature of Windows NT 4 SP4 and later, and is implemented by using the SO_EXCLUSIVEADDRUSE option.

WSAEADDRINUSE

(10048)

Address already in use.

Only one usage of each socket address (protocol/IP address/port) is normally permitted. This error occurs if an application attempts to **bind** a socket to an IP address/port that has already been used for an existing socket, or a socket that was not closed properly, or one that is still in the process of closing. For server applications that need to bind multiple sockets to the same port number, consider using **setsockopt** (SO_REUSEADDR). Client applications usually need not call bind at all - **connect** chooses an unused port automatically. When bind is called with a wildcard address (involving ADDR_ANY), a WSAEADDRINUSE error could be delayed until the specific address is committed. This could happen with a call to another function later, including connect, listen, WSAConnect, or WSAJoinLeaf.

WSAEADDRNOTAVAIL

(10049)

Cannot assign requested address.

The requested address is not valid in its context. This normally results from an attempt to **bind** to an address that is not valid for the local machine. This can also result from **connect**, **sendto**, **WSAConnect**, **WSAJoinLeaf**, or **WSASendTo** when the remote address or port is not valid for a remote machine (for example, address or port 0).

WSAEAFNOSUPPORT

(10047)

Address family not supported by protocol family.

An address incompatible with the requested protocol was used. All sockets are created with an associated address family (that is, AF_INET for Internet Protocols) and a generic protocol type (that is, SOCK_STREAM). This error is returned if an incorrect protocol is explicitly requested in the **socket** call, or if an address of the wrong family is used for a socket, for example, in **sendto**.

WSAEALREADY

(10037)

Operation already in progress.

An operation was attempted on a non-blocking socket with an operation already in progress - that is, calling **connect** a second time on a non-blocking socket that is already connecting, or canceling an asynchronous request (WSAAsyncGetXbyY) that has already been canceled or completed.

WSAECONNABORTED

(10053)

Software caused connection abort.

An established connection was aborted by the software in your host machine, possibly due to a data transmission time-out or protocol error.

WSAECONNREFUSED

(10061)

Connection refused.

No connection could be made because the target machine actively refused it. This usually results from trying to connect to a service that is inactive on the foreign host—that is, one with no server application running.

WSAECONNRESET

(10054)

Connection reset by peer.

An existing connection was forcibly closed by the remote host. This normally results if the peer application on the remote host is suddenly stopped, the host is rebooted, or the remote host used a hard close (see **setsockopt** for more information on the SO_LINGER option on the remote socket). This error may also result if a connection was broken due to keepalive activity detecting a failure while one or more operations are in progress. Operations that were in progress fail with WSAENETRESET. Subsequent operations fail with WSAECONNRESET.

WSAEDESTADDRREQ

(10039)

Destination address required.

A required address was omitted from an operation on a socket. For example, this error is returned if **sendto** is called with the remote address of ADDR_ANY.

WSAEFAULT

(10014)

Bad address.

The system detected an invalid pointer address in attempting to use a pointer argument of a call. This error occurs if an application passes an invalid pointer value, or if the length of the buffer is too small. For instance, if the length of an argument which is a SOCKADDR structure is smaller than the size of (SOCKADDR).

WSAEHOSTDOWN

(10064)

Host is down.

A socket operation failed because the destination host is down. A socket operation encountered a dead host. Networking activity on the local host has not been initiated. These conditions are more likely to be indicated by the error WSAETIMEDOUT.

WSAEHOSTUNREACH

(10065)

No route to host.

A socket operation was attempted to an unreachable host. See WSAENETUNREACH.

WSAEINPROGRESS

(10036)

Operation now in progress.

A blocking operation is currently executing. Windows Sockets only allows a single blocking operation to be outstanding per task (or thread), and if any other function call is made (whether or not it references that or any other socket) the function fails with the WSAEINPROGRESS error.

WSAEINTR

(10004)

Interrupted function call.

A blocking operation was interrupted by a call to **WSACancelBlockingCall**.

WSAEINVAL

(10022)

Invalid argument.

Some invalid argument was supplied (for example, specifying an invalid level to the **setsockopt** function). In some instances, it also refers to the current state of the socket—for instance, calling **accept** on a socket that is not listening.

WSAEISCONN

(10056)

Socket is already connected.

A connect request was made on an already connected socket. Some implementations also return this error if **sendto** is called on a connected SOCK_DGRAM socket (For SOCK_STREAM sockets, the *to* parameter in **sendto** is ignored), although other implementations treat this as a legal occurrence.

WSAEMFILE

(10024)

Too many open files.

Too many open sockets. Each implementation may have a maximum number of socket handles available, either globally, per process, or per thread.

WSAEMSGSIZE

(10040)

Message too long.

A message sent on a datagram socket was larger than the internal message buffer or some other network limit, or the buffer used to receive a datagram was smaller than the datagram itself.

WSAENETDOWN

(10050)

Network is down.

A socket operation encountered a dead network. This could indicate a serious failure of the network system (that is, the protocol stack that the Windows Sockets .dll runs over), the network interface, or the local network itself.

WSAENETRESET

(10052)

Network dropped connection on reset.

The connection has been broken due to keep-alive activity detecting a failure while the operation was in progress. It can also be returned by **setsockopt** if an attempt is made to set SO_KEEPALIVE on a connection that has already failed.

WSAENETUNREACH

(10051)

Network is unreachable.

A socket operation was attempted to an unreachable network. This usually means the local software knows no route to reach the remote host.

WSAENOBUFS

(10055)

No buffer space available.

An operation on a socket could not be performed because the system lacked sufficient buffer space or because a queue was full.

WSAENOPROTOOPT

(10042)

Bad protocol option.

An unknown, invalid or unsupported option or level was specified in a **getsockopt** or **setsockopt** call.

WSAENOTCONN

(10057)

Socket is not connected.

A request to send or receive data was disallowed because the socket is not connected and (when sending on a datagram socket using **sendto**) no address was supplied. Any other type of operation might also return this error—for example, **setsockopt** setting SO_KEEPALIVE if the connection has been reset.

WSAENOTSOCK

(10038)

Socket operation on non-socket.

An operation was attempted on something that is not a socket. Either the socket handle parameter did not reference a valid socket, or for **select**, a member of an fd_set was not valid.

WSAEOPNOTSUPP

(10045)

Operation not supported.

The attempted operation is not supported for the type of object referenced. Usually this occurs when a socket descriptor of a socket cannot support this operation, for example, trying to accept a connection on a datagram socket.

WSAEPFNOSUPPORT

(10046)

Protocol family not supported.

The protocol family has not been configured into the system or no implementation for it exists. Has a slightly different meaning to WSAEAFNOSUPPORT, but is interchangeable in most cases, and all Windows Sockets functions that return one of these specify WSAEAFNOSUPPORT.

WSAEPROCLIM

(10067)

Too many processes.

A Windows Sockets implementation may have a limit on the number of applications that may use it simultaneously. **WSAStartup** may fail with this error if the limit has been reached.

WSAEPROTONOSUPPORT

(10043)

Protocol not supported.

The requested protocol has not been configured into the system, or no implementation for it exists. For example, a **socket** call requests a SOCK_DGRAM socket, but specifies a stream protocol.

WSAEPROTOTYPE

(10041)

Protocol wrong type for socket.

A protocol was specified in the **socket** function call that does not support the semantics of the socket type requested. For example, the ARPA Internet UDP protocol cannot be specified with a socket type of SOCK_STREAM.

WSAESHUTDOWN

(10058)

Cannot send after socket shutdown.

A request to send or receive data was disallowed because the socket had already been shut down in that direction with a previous **shutdown** call. By calling shutdown a partial close of a socket is requested, which is a signal that sending or receiving or both have been discontinued.

WSAESOCKTNOSUPPORT

(10044)

Socket type not supported.

The support for the specified socket type does not exist in this address family. For example, the optional type SOCK_RAW might be selected in a **socket** call, and the implementation does not support SOCK_RAW sockets at all.

WSAETIMEDOUT

(10060)

Connection timed out.

A connection attempt failed because the connected party did not properly respond after a period of time, or the established connection failed because the connected host has failed to respond.

WSATYPE_NOT_FOUND

(10109)

Class type not found.

The specified class was not found.

WSAEWOULDBLOCK

(10035)

Resource temporarily unavailable.

This error is returned from operations on non-blocking sockets that cannot be completed immediately, for example **recv** when no data is queued to be read from the socket. It is a non-fatal error, and the operation should be retried later. It is normal for WSAEWOULDBLOCK to be reported as the result from calling **connect** on a non-blocking SOCK_STREAM socket, since some time must elapse for the connection to be established.

WSAHOST_NOT_FOUND

(11001)

Host not found.

No such host is known. The name is not an official host name or alias, or it cannot be found in the database(s) being queried. This error may also be returned for protocol and service queries, and means the specified name could not be found in the relevant database.

WSA_INVALID_HANDLE

(OS dependent)

Specified event object handle is invalid.

An application attempts to use an event object, but the specified handle is not valid.

WSA_INVALID_PARAMETER

(OS dependent)

One or more parameters are invalid.

An application used a Windows Sockets function that directly maps to a Win32 function. The Win32 function is indicating a problem with one or more parameters.

WSAINVALIDPROCTABLE

(OS dependent)

Invalid procedure table from service provider.

A service provider returned a bogus procedure table to WS2_32.dll. (Usually caused by one or more of the function pointers being NULL.)

WSAINVALIDPROVIDER

(OS dependent)

Invalid service provider version number.

A service provider returned a version number other than 2.0.

WSA_IO_INCOMPLETE

(OS dependent)

Overlapped I/O event object not in signaled state.

The application has tried to determine the status of an overlapped operation that is not yet completed. Applications that use WSAGetOverlappedResult (with the *fWait* flag set to FALSE) in a polling mode to determine when an overlapped operation has completed get this error code until the operation is complete.

WSA_IO_PENDING

(OS dependent)

Overlapped operations will complete later.

The application has initiated an overlapped operation that cannot be completed immediately. A completion indication will be given at a later time when the operation has been completed.

WSA_NOT_ENOUGH_MEMORY

(OS dependent)

Insufficient memory available.

An application used a Windows Sockets function that directly maps to a Win32 function. The Win32 function is indicating a lack of required memory resources.

WSANOTINITIALISED

(10093)

Successful WSAStartup not yet performed.

Either the application has not called **WSAStartup** or **WSAStartup** failed. The application may be accessing a socket that the current active task does not own (that is, trying to share a socket between tasks), or WSACleanup has been called too many times.

WSANO_DATA

(11004)

Valid name, no data record of requested type.

The requested name is valid and was found in the database, but it does not have the correct associated data being resolved for. The usual example for this is a host name -> address translation attempt (using **gethostbyname** or **WSAAsyncGetHostByName**) which uses the DNS (Domain Name Server), and an MX record is returned but no A record — indicating the host itself exists, but is not directly reachable.

WSANO_RECOVERY

(11003)

This is a non-recoverable error.

This indicates some sort of non-recoverable error occurred during a database lookup. This may be because the database files (for example, BSD-compatible HOSTS, SERVICES, or PROTOCOLS files) could not be found, or a DNS request was returned by the server with a severe error.

WSAPROVIDERFAILEDINIT

(OS dependent)

Unable to initialize a service provider.

Either a service provider's DLL could not be loaded (LoadLibrary failed) or the provider's WSPStartup/NSPStartup function failed.

WSASYSCALLFAILURE

(OS dependent)

System call failure.

Returned when a system call that should never fail does. For example, if a call to WaitForMultipleObjects fails or one of the registry functions fails trying to manipulate the protocol/name space catalogs.

WSASYSNOTREADY

(10091)

Network subsystem is unavailable.

This error is returned by **WSAStartup** if the Windows Sockets implementation cannot function at this time because the underlying system it uses to provide network services is currently unavailable. Users should check:

- That the appropriate Windows Sockets DLL file is in the current path.
- That they are not trying to use more than one Windows Sockets implementation simultaneously. If there is more than one WINSOCK DLL on your system, be sure the first one in the path is appropriate for the network subsystem currently loaded.
- The Windows Sockets implementation documentation to be sure all necessary components are currently installed and configured correctly.

WSATRY_AGAIN

(11002)

Nonauthoritative host not found.

This is usually a temporary error during host name resolution and means that the local server did not receive a response from an authoritative server. A retry at some time later may be successful.

WSAVERNOTSUPPORTED

(10092)

WINSOCK.DLL version out of range.

The current Windows Sockets implementation does not support the Windows Sockets specification version requested by the application. Check that no old Windows Sockets .dll files are being accessed.

WSAEDISCON

(10094)

Graceful shutdown in progress.

Returned by **WSARecv** and **WSARecvFrom** to indicate that the remote party has initiated a graceful shutdown sequence.

WSA_OPERATION_ABORTED

(OS dependent)

Overlapped operation aborted.

An overlapped operation was canceled due to the closure of the socket, or the execution of the SIO_FLUSH command in **WSAIoctl**.

Troubleshooting the CAS daemon (UNIX)

CAS installation error messages

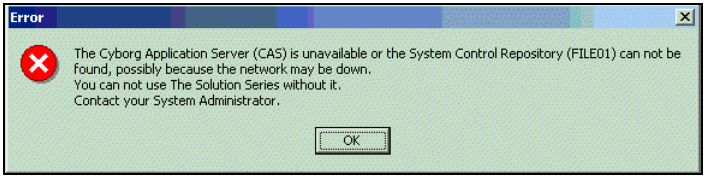
If the expected output is not displayed when starting CAS, then check the following error message table for a possible solution and then re-execute the `cas` script.

Shell	Error	Problem	Solution
bourne korn c	cas: execute permission denied ksh: cas: cannot execute cas: Permission denied.	The cas script does not have executable permissions	At the operating system command prompt, enter: chmod u+x cas
bourne korn c	cybservd: execute permission denied ksh: cybservd: cannot execute cybservd: Permission denied.	The cybservd binary does not have executable permissions	At the operating system command prompt, enter: chmod u+x cybservd
bourne korn c	cas: not found ksh: cas: not found cas: Command not found.	The cas script is not in the: /cyborghome/app/ server directory	Change to the /cyborghome/app/server directory, and verify that the cas script exists by using ls cas.
bourne korn c	cybservd: not found ksh: cybservd: not found cybservd: Command not found.	The cybservd binary is not in the /cyborghome/ app/server directory	Change to the /cyborghome/app/server directory, and verify that cybservd exists by using ls cybservd.
bourne korn c	cybservd: Port 9888 is already in use by another process Cyborg Application Server version 1.04 terminated.	Other pre-existing software might already be configured to use this port and could be conflicting with CAS	You must change the port used by CAS by editing the /etc/services file. The administrator is responsible to ensure that each GUI client knows that CAS is no longer at 9888 but rather some other port.
		The CAS daemon is already running	Verify that the CAS daemon is running by using the following command: casmgr -isrunning

Shell	Error	Problem	Solution
bourne korn c	If you use the following command: ps -ef | grep cybservd and no processes are found	The cybservd process has aborted	Enable tracing of the CAS session immediately upon startup, so that all system error and trace messages will be sent to the trace file. To enable tracing at startup, edit the cas script. Add '-t' to the last command in the file. You must then log in as root and execute the script cas. After the process again aborts, examine the trace file using viewlogmsg to determine the reason for the process abort.
bourne korn c	cyborg: No such user on local machine	The Cyborg user has not been created	You must create the Cyborg user 'cyborg' in the operating system.

Client installation error messages

If the following error occurs:



Try one of the following:

Problem	Solution
The server is not a valid machine.	Correct the 'Host' field in the Connection Editor for the environment in question. The server will differ from installation to installation.
The server exists but the port is not a valid number.	Correct the 'Port' field in Connection Editor for the environment in question. The port number is listed in the /etc/services file on the server under the service name of 'cyborg'. The recommended value is 9888.
The server exists but is not the correct machine.	Use the Connection Editor to examine the connection properties and ensure that the listed server host is the machine on which CAS is running.

Problem	Solution
The server is correct but the port is incorrect.	Use Connection Editor to examine the connection properties and ensure that the port is correct. The port is usually 9888.
CAS is not started.	Make sure that CAS is running on the server. To launch CAS, log in as root and execute the script cas.

CAS Manager messages

Following is a list of messages you may encounter from the CAS Manager.

Additional error messages: command line parsing

Message	Condition
casmgr: Invalid switch invalidswitch	Invalid switch on command line
casmgr: Missing colon for invalidswitch	Missing colon for any switch that requires an argument
casmgr: Value required after invalidswitch	No argument after any switch except -password that requires an argument (see note below table for -password)
casmgr: Bad number invalidnumber	A badly-formed number is given where a number is expected
casmgr: Too many passwords specified	Two or more passwords on command line
casmgr: Too many commands specified	Two or more commands on command line
(Display the syntax for the command)	No arguments given on command line
casmgr: No command specified	No command on command line, but a password was specified

Note *It is not an error to omit the password after the* `-password` *switch. This situation corresponds to using the empty string as the password.*

Additional error messages: network I/O

Message	Condition
casmgr: Insufficient memory	Memory allocation failure
casmgr: CAS is not running on server, port nnnn.	CAS is not running on the current UNIX host at the TCP port specified in the /etc/services file under 'cyborg'
casmgr: Unable to send data to server	Write error while writing to socket
casmgr: Unable to receive data from server	Read error while reading from socket

Warning messages

Warning messages are printed by CAS Manager or standard output,but do not prevent the command from completing.

Message	Condition
casmgr: Warning: password not needed	Single password on command line, but a password is not needed by the command

Synchronization error messages

Following are potential error messages that indicate a synchronization problem between the System Control Repository and the relational database tables:

Message	Explanation	Recommended action
SC01D50R: FILE01 Delete bypassed, No RDBMS View Name	The Table record(s) could not be deleted from the System Control Repository or the RDBMS since no RDBMS View Name exists for this table.	Add or correct the entry into the Relational Table Name Elements (VIEWNM) form for this table record.
SC01D53R: FILE01 Delete bypassed, RDBMS delete failed	The Table record(s) could not be deleted from the System Control Repository since no corresponding row in the relational database table existed for this entry.	Run the Resynchronize the System Control Repository and relational tables (POPF01) program.
SC01T50R: FILE01 Rewrite bypassed, No RDBMS View Name	The Table record(s) could not be updated on the System Control Repository or the RDBMS since no RDBMS View Name exists for this table.	Add or correct the entry into the Relational Table Name Elements (VIEWNM) form for this table record.
SC01T53R: FILE01 Rewrite bypassed, RDBMS update failed	The Table record(s) could not be updated on the System Control Repository since no corresponding row in the relational database table existed for this entry.	Run the Resynchronize the System Control Repository and relational tables (POPF01) program.
SC01W50R: FILE01 Write bypassed, No RDBMS View Name	The Table record(s) could not be created on the System Control Repository or the RDBMS since no RDBMS View Name exists for this table.	Add or correct the entry into the Relational Table Name Elements (VIEWNM) form for this table record.
SC01W52R: FILE01 Write bypassed, RDBMS insert failed	The Table record(s) could not be created on the System Control Repository since a corresponding row in the relational database table existed for this entry, but no entry existed in the System Control Repository.	Run the Resynchronize the System Control Repository and relational tables (POPF01) program.

Message	Explanation	Recommended action
SC01G50R: FILE01 Delete OK, RDBMS Del fail, No RDBMS View Name	The Table record(s) has been deleted from the System Control Repository. However, the corresponding rows in the relational database table could not be deleted since no RDBMS View Name exists for this table.	Two tasks must be performed to correct this problem: 1. Add an entry into the Relational Table Name Elements (VIEWNM) form for this table record(s). 2. Run the Resynchronize the System Control Repository and relational tables (POPF01) program.
SC01G53R: FILE01 Delete OK, RDBMS delete failed	The Table record(s) has been deleted from the System Control Repository. However, the corresponding rows in the relational database did not exist, and therefore could not be deleted.	Run the Resynchronize the System Control Repository and relational tables (POPF01) program.

Import Wizard error and warning messages

Import Wizard error messages

Action Not Allowed
Please complete or cancel the import before attempting other actions.

Conversion Error
Your entry in the "Start Import from record" text box must be numeric.

Reenter a numeric-only value.

Delimiter Same As Qualifier
The Delimiter and the Qualifier selected are the same.

Please Choose another.

Form Not Found
The form defined in the Import Profile no longer exists [Form name].

The import cannot continue.

Import File Data Error
A data error was encountered on record [record number].

The error must be corrected before you can complete this process.

Import File Not Found
The import file cannot be found [filename]

The import cannot continue.

Import Wizard Error
The Import Wizard requires a display resolution greater than 640x480.

Change the resolution and then run the Import Wizard.

Invalid Import File
The Import Profile references a column in the import data file that does not exist.

Compare the data in the import file with the selections in the Import Profile and make necessary changes.

Invalid Start Record
An import cannot start from record 0.

The first record in an import file is record 1.

Key Fields Missing
One or more key fields on the form is missing data.

Either establish a relationship from data in your import file or manually enter it.

Logical Employee Model Not Found
There is no Logical Employee Model (LMODEL) for the selected Organization.

You must create one for the selected Organization or select an Organization that has a LMODEL before creating an Import Profile.

Organization and Employee not mapped

An organization must be mapped to a data column or chosen from the drop-down list.

Also, the employee must be mapped to a data column.

Organization not mapped

An organization must be mapped to a data column or chosen from the drop-down list.

Other Delimiter Invalid

0–9 and a–z are invalid delimiters.

Please enter a valid delimiter

Security access Failed

During import processing

You are not authorized to access the form to which data is being imported: [Form Name].

During validation

You are not authorized to access the employee or the Logical Employee Model (LMODEL) for the Import Profile.

Contact your Security Officer.

Start Record Out Of Range

The start record that you have specified is greater than the number of records in the import data file.

Unable To Run Form

The system is unable to run the required form.

Check that you are in the correct Organization or that someone is not locking the Logical Employee Model (LMODEL).

Import Wizard Import Log error messages

Employee not found in the Organization

The employee cannot be found in the Organization processed.

Record locked - Update bypassed

The record to be updated was in use by another user at the time of the update was occurring.

The import form does not contain any entry fields

This message will occur is the user has inquiry only security rights.

The form contains a different layout from when the import profile was created

This message can occur if the import profile was defined for a form that changes layout depending on data. For example, the Employee Salary Details (40-SCR) looked different if Position Administration is switched on.

You are not authorized to access this employee

You do not have security authorization to access the employee information.

Import Wizard warning messages

Cancel the Import Profile Wizard

A warning message that asks "Are you sure that you want to lose the changes you have made to this Import Profile?"

Form Does Not Match Import Profile

Fields that have been mapped from the Import Profile do not match those on the selected form.

The links will be removed.

Invalid Import File

Mapped items from the import file do not match fields on the form in the Import Profile.

The links will be removed.

Remove Import Profile

A warning message that asks "Are you sure you want to remove this Import Profile?"

Import Wizard informational messages

Invalid Alphanumeric

The import value has too many characters for the alphanumeric field.

Invalid Check Box Type

The import value is not a valid Yes or No type.

Invalid Date

1. The number of days added or subtracted from Today's date can not exceed 99.
2. The import value is not a valid date or Windows short date.

Invalid Employee ID

The import value is not a valid Employee ID; it must have between one and ten characters.

Invalid Name

1. The import value is not a valid name; it does not have a comma followed by a space.
2. The import value has too many characters for the name field.

Invalid Number

1. The import value is too large for the numeric field.
2. The import value has too many decimal places for the numeric field.
3. The import value is not numeric.

Invalid Option Button Value

The import value does not match the option button label or option list code.

Invalid Option List Value

The import value does not match a description or code in the option list.

Invalid Organization ID

The import value does not match a description or code in the Organization option list.

Invalid Position Management Table Value

1. Can not locate the Position Management control number for the Organization.
2. The import value does not match a description or code in the Position Management table.

Invalid Time

1. The import value is not a valid time format. Use the format: HH:MM where HH is hours (00-23) and MM is minutes (00-59).
2. The import value for hours is invalid. Hours must be within the range of 00 to 23.
3. The import value for minutes is invalid. Minutes must be within the range of 00 to 59.

Distributed Administration error messages

Selected FILE08 Display (DS8SEL)

The following message might occur while running this program:

Message	Meaning/Solution
File08 Selection Display Is Completed	All records have been displayed as per the selection parameters entered on the DS8SEL form.

Distributed Location NODE Control Table (DSNODE)

The following messages might occur while running this program:

Message	Meaning/Solution
DS-NODE-ID must be entered	A Node-ID is missing, and must be entered.
Machine Type must be entered	The Machine Type is missing, and must be entered.
Cannot delete TABLE, DSRULE TABLE exists	A "Z-DELETE" on the DSNODE form is being attempted and a corresponding DSRULE entry still exists for the node being removed. Action: Remove the DSRULE entry(-ies) before removing the DSNODE entry.

Distributed Access Log Table (DSRULE)

The following messages might occur while running this program:

Message	Meaning/Solution
Cannot Delete Table, DSRF02 table Exists	A "ZDELETE" on the DSRULE form is being attempted while a corresponding DSRF02 entry still exists for the node being removed. Action: Remove the DSRF02 entry (-ies) before removing the DSRF02 entry.
DSR-CONTROL-1-2 Not Found	The Control 1-2 entry on the DSRULE form is equal to SPACES or a non-existent Control 1-2. Action: Enter a Valid Control 1-2.
DSR-SUB-CNTRL-1-2 must be SPACES	The Sub Control 1-2 value must be SPACES.
DSR-DATE must be entered	The DSR-DATE on the DSRULE form must have a valid date. Action: Enter a valid date for the DSR-DATE.
DSR-REC-KEY must be SPACES	During the addition of a DSRULE entry, the DSR-REC-KEY field must be SPACES.

Message	Meaning/Solution
DSR-SEQ-NBR must be SPACES	During the addition of a DSRULE entry, the DSR-SEQ-NBR field must be SPACES.
DSR-NODE-ID not found	The Node-ID specified on the DSRULE form does not have a corresponding DSNODE entry. Action: Verify the Node-ID entered and adjust the DSNODE form if necessary.

Distribution Rules Table (DSRF02)

The following messages might occur while running this program:

Message	Meaning/Solution
DSF2F-SUB-CNTRL-1-2 must be SPACES	The Sub Control 1-2 value on the DSRF02 form must be SPACES.
DSF2-DSTRIB-RULE must be entered	A Distribution rule must be entered or selected when updating the DSRF02 form.
DS-NODE-ID not found	The Node ID specified on the DSRF02 form does not have a corresponding DSNODE entry. Action: Verify Node ID entered and adjust the form if necessary.
DSF2-CONTROL-1-2 not valid for NODE	The Control 1-2 entered on the DSRF02 form does not have a corresponding entry on the DSRULE form. Action: Verify Node ID and Control 1-2 values on the DSRF02 form and adjust the DSRULE form if necessary.

Packetizer (DSPACK)

The following messages might occur while running this program:

Message	Meaning/Solution
Invalid control record	Examine the P05RDR control record and compare to the explanations of the DSPACK control record in Performing Distributed Administration Operations.
Invalid record type	The P20 record being processed has an invalid record type. The valid record types are D, W, H, and M. Action: Investigate the employee being reported next to the error message and correct the record on FILE02.
Invalid segment type	The P20 record being processed has an invalid segment code. Action: Investigate the employee being reported next to the error message and correct the record on FILE02.

Message	Meaning/Solution
Unidentified segment code	The DSPACK program has determined that a segment on the P20 record cannot be found on the ZXCYB88T records. Action: Investigate the employee being reported next to the error message. Record the segment information and correct the record on FILE 02.
Premature end of file	The P20 file being processed does not have an end of file record. Action: Ensure that the proper P20 file is being utilized. Also, check to ensure that the PAYXTR, PAYRUN, and MNTRUN processes were successfully completed.
Is Out of Sequence	Missing records are present on the P20 file being processed. Action: Ensure that the proper P20 file is being utilized. Also, check to ensure that the PAYXTR, PAYRUN, and MNTRUN processes were successfully completed.
Record is Too Big	The record on the P20 file exceeds 64K. Action: If the record size is correct, then the DSPACK program must be changed to accommodate this large record.
Error Opening Files	The FILE04 being accessed cannot be found. Please check the script to ensure that the proper file is being accessed.

Replication Application (DSAPLY)

The following messages might occur while running this program:

Message	Meaning/Solution
Unexpected record encountered	The first record processed on FILE20 was not an F record (Batch Header). Action: Check the results of the DSRECV batch process which proceeded the execution of DSAPLY.
File has not been processed through DSRECV	Conversion switch on the F record is not equal to "N". This indicates that DSRECV was not executed. Action: Check to ensure that a prior DSRECV process has been run.
ADD Failed—Segment:____ Key:____. Segment already exists.	An attempt to add a new segment has occurred, but the segment already exists on FILE02. Action: Check the contents of the segment on the target enhancement and determine whether the update is required. If necessary, make the update on the target environment.
DELETE Failed for Segment:____ Key:____ Segment not found	An attempt to delete an existing segment has occurred, but the segment does not exist in the target environment.

Message	Meaning/Solution
Change failed for Segment:____ Key:____. Segment not found	An attempt to change an existing segment has occurred, but the segment does not exist in the target environment. Action: Add the segment to the new environment, but make sure the Distributed Administration is turned off during the addition of this segment, otherwise an add transaction will be sent back to the host site and cause a collision error.
FILE 02 Table Not Found for: Table:____	A segment being added, changed, or deleted was not found on the ZXCYB88T records. Action: Run F-XEF to rebuild the ZXCYB88T records. Also, make sure the data being added has field definitions set up to define the data being applied to the target environment.
Employee area full for Employee ____ in Organization ____	Action: Examine current Area 2 expansion values and expand this area in order for this employees activity to be applied to the target environment.
FILE 02 update failed for: ____ Activity Type:____	The DSAPLY program encountered a problem with performing the activity noted in the message. Research and reapply this data if necessary.
ADD operation failed for: ____ record already exists	An attempt is being made to add a new employee, company, and/or tax record, but the record already exists.
Change operation filed for: ____ record not found	An attempt is being made to change an existing employee, company, and/or tax record, but the record is not found on FILE02.
File update failed for: ____	A problem exists with FILE01 option lists and/or table maintenance. Verify that if the activity is an add transaction, the record does not already exist. If the activity represents a change or a delete, the record being applied must be present on the file.
Record count sent/processed does not match	The record count on the Z record on FILE20 does not match the number of records processed by DSAPLY. Action: Verify that the FILE20 has not been damaged or compromised.
DSAPLY encountered collision errors	This message indicates that there are collision errors included in this execution of DSAPLY.

Replication Distribution (DSTRIB)

The following messages might occur while running this program:

Message	Meaning/Solution
Invalid Run Option Found	The FILE04 parameter card has an invalid entry. Action:
No AA Computer Record Found	In order to run DSTRIB, FILE01 must have an AA record which identifies the type of environment DSTRIB is being executed on.

Message	Meaning/Solution
Error reading UDS1 table	The DSTRIB program could not find a DSNODE (UDS1) record for the Target Node being processed. Action: Check the DSNODE form to ensure an entry exists for the target node designated in the FILE 04 parameter card.
Incorrect batch password	The DSTRIB program has found that the password on the FILE04 parameter card does not match the password on the DSNODE table record for the target node. Action: Check the DSNODE form for the password of the target node and compare to the FILE 04 parameter card designation.
Error reading UDS2 table	The DSTRIB program could not find a machine table record for the Machine ID designated in the "AbA Computer" record. Action: Check the designation in the "AbA record" in the FILE01 and match against the current UDS2 records on FILE01.
Error reading UDS3 table	The DSTRIB program could not find a DSRULE (UDS3) record for the target node specified. Action: Check the DSRULE form to ensure at least one entry exists for the target node designated in the FILE04 parameter card.
Error reading RFT table	The DSTRIB program could not find any RFT records. Action: Run F-XREF to create RFT records.
ETL Table Overflow: ____	The number of ETL records exceeded 700. Action: Expand the ETL table in the DSTRIB program.
Error Reading ETL Table	The DSTRIB program could not find any ETL record. Action: Check FILE01 via DSP01 for ETL records. If they are not present, restore FILE01.
No Extract Record Found	The DSTRIB program found that there were no FILE08 records for the target node. No data was extracted for this execution of DSTRIB. Action: Check to make sure the desired target node is specified in the DSTRIB control card properly, saying "1st Record Not Batch Header". The DSTRIB program is utilizing FILE20 as input and has found that the first record on that FILE20 is not an F record. Action: Check to ensure that the proper FILE20 is being used.
2nd Record Not Packet Header	The DSTRIB program is using FILE20 as input. The second record FILE20 should be a Header Record (H), but it is not. Action: Check to ensure the proper FILE20 is being utilized.
Record Length Greater than 846	The DSTRIB program is attempting to write a FILE21 record greater than 846 characters in length. Action: Check the record displayed with this error message and verify the type of record being Distributed.

Message	Meaning/Solution
Error Opening File	The DSTRIB program cannot successfully open FILE01 and/or FILE08. Action: Check the script to ensure the correct FILE01 and/or FILE08 is being utilized.
Non-Numeric Record Length	The segment length on the FILE08/FILE20 record is not numeric. Action: Remove erroneous records from FILE08/FILE20 and rerun DSTRIB.
Invalid Record Type	The DSTRIB is using FILE20 as input and the record is being processed in the first position is not equal to A, C, D, F, H, or Z. Action: Remove the record being displayed with this error and rerun the DSTRIB program.
Error Searching RFT-TBL	The DSTRIB program could not find the RFT record for the detail record being processed.
Non-numeric Type 1 Value	The DSTRB program has found a numeric field and spaces. Action: Examine the record that is displayed with this error and verify all the numeric fields on this record. Correct the problem data on the host environment and rerun DSTRIB.
Unknown Char in Byte 35	The DSTRIB program has found an invalid sign byte on a numeric field. Action: Examine the record that is displayed with this error and verify the structure of this signed numeric field. Correct the problem data on the host environment and rerun DSTRIB.
Error Searching ETL-TBL	The DSTRIB program could not find the ETL record for the detail record being processed.Error recounting UDS3 TBL
Error recounting UDS3 TBL	The DSTRIB program was unable to update the target node's DSRULE records. Action: Check to ensure that DSRULE table records are present for the target node's Control 1-2 being processed.

Replication Management (DSCL08)

The following messages might occur while running this program:

Message	Meaning/Solution
Distrbution Solution is not active	Check the SCOPTS form and ensure that the Distributed Administration is checked as Active.
No Distribution has occurred	No DSRULE records are found on FILE01. Therefore, no deletion of FILE01 records will occur.

Replication Reception (DSRECV)

The following messages might occur while running this program:

Message	Meaning/Solution
Invalid Run Option Found	The FILE04 parameter card has an invalid entry. Action: Refer to Performing Distributed Administration Operations for the proper options to be used.
1st Record not Batch Header	The DSRECV program is utilizing FILE21 as input and has found that the first record on that file is not an F record. Action: Check to ensure that the proper FILE21 is being utilized and that there were no file transfer issues in regards to the movement of this file from the host environment to the local target environment.
2nd Record not Packet Header	The DSRECV program is using FILE21 as input. The second record on FILE21 should be a header record (H) but it is not. Action: Check to ensure that the proper FILE21 is being utilized and that there were no file transfer issues in regards to the movement of this file from the host environment to the local target environment.
Error Reading RFT Table	The DSRECV program could not find any RFT records. Action: Run F-XREF to create RFT records.
Error Reading ETL Table	The DSRECV program could not find any ETL records. Action: Check FILE01 via DSP01 for ETL records. If they are not present, restore FILE01.
Error Reading Next Record	The DSRECV program has attempted to read a record on FILE21, but was unsuccessful. Action: Check to ensure that there were no file transfer issues in regards to the movement of this file from the host environment to the local environment (target).
Error Opening File	The DSRECV program can not successfully open FILE01. Action: Check the script to ensure that the correct FILE01 is being utilized.
Non-Numeric Record Lengths	The segment length on the FILE21 record is not numeric. Action: Remove the erroneous record being displayed with this error message from FILE21.
Invalid Record Type	The DSRECV program is using FILE21 as input and the record being processed in the first position is not equal to A, C, D, F, H, or Z. Action: Remove the record being displayed with this error and rerun the DSRECV process.
Error Searching RPT-TBL	The DSRECV program could not find the RFT record corresponding to the detail record being processed by DSRECV.

Message	Meaning/Solution
Unknown Char in Byte 35	The DSRECV program has found an invalid sign byte on a numeric field. Action: Examine the record that is displayed with this error and verify the structure of this signed numeric field. Correct the problem data on the host environment and rerun DSTRIB and DSRECV.
Non-Numeric Value in Type 1	The DSRECV program has found a numeric field that contains a combination of numeric data and spaces. Action: Examine the record that is displayed with this error and verify all the numeric fields. Correct the problem data on the host environment, then rerun the DSTRIB and DSRECV.
Error Searching ETL-TBL	The DSRECV program could not find the ETL record for the FILE21 detail record being processed.
RFT Table Overflow ____	The number of RFT records exceeded 2400. Action: Expand the RFT Table in the DSRECV program.
ETL-Table Overflow ____	The number of ETL records exceeded 700. Action: Expand the ETL-TBL in the DSRECV program.
Non-Numeric Value in Comp	The DSRECV program has detected a new numeric character in the middle of a computational field. Action: Examine the record displayed with this error message and correct the data in the host environment. Rerun DSTRIB and DSRECV for the target node.
Incorrect Segment Length	The DSRECV program has determined that the segment length in the FILE21 record is incorrect. Action: Examine the record displayed with this error message and verify the segment length.

APPENDIX T

Machine Parameters

In This Appendix

Machine parameters.....872

Machine parameters

The machine parameter string begins in column 13 and must contain no blanks.

The program parameter is always placed in columns 26–28.

The computer name always starts in column 34.

IBM MAINFRAME -- OS

IBM Mainframe -- OS	Job/Script	Cols 13–25	Cols 26–28	Cols 34–80
	P2EDIT	O=	2	IBM–370.
(VSAM)/DB2	P4CALC	OPC=	4	IBM–370.
	P5PRNT	O=	5	IBM–370.
(VSAM)/DB2	P5QTR	OC=		IBM-370.
	P5W2PR	O=	5	IBM–370.
	P9CNVT	O=		IBM–370.
(ONLINE–VSAM–CICS)	04CALC	OP=	24C	IBM–370.
(ONLINE–DLI–CICS)	04CALC	OP=&	24C	IBM–370.

Sample record for IBM MAINFRAME - OS:

```
1         2         3         4         5         6         7         8
12345678901234567890123456789012345678901234567890123456789012345678901234567890
P2EDIT      O=          2       IBM-370.
P4CALC      OPC=        4       IBM-370.
P5PRNT      O=          5       IBM-370.
P5QTR       OC=                 IBM-370.
P5W2PR      O=          5       IBM-370.
P9CNVT      O=                  IBM-370.
```

Sample record for VSAM - CICS:

```
1         2         3         4         5         6         7         8
12345678901234567890123456789012345678901234567890123456789012345678901234567890
O4CALC      OP=         24C     IBM-370.
O4CALC      OP=&        24C     IBM-370.
```

MICRO-FOCUS COMPILER Net Express

UNIX	Job/Script	Cols 13–25	Cols 26–28	Cols 34–80
	P2EDIT	|ISEV@	2	MICRO-FOCUS.
	P4CALC	|ISEV@PC	4	MICRO-FOCUS.
	O4CALC	|ISEV@PCd	24	MICRO-FOCUS.
RELTNL	O4CALC	|ISEV@PCd&	24	MICRO-FOCUS.

UNIX	Job/Script	Cols 13–25	Cols 26–28	Cols 34–80
NTSQLSRV	O4CALC	ISEV@PCd&j	24	MICRO-FOCUS.
	P5PRNT	|ISEV@P	5	MICRO-FOCUS.
	P5W2PR	|ISEV@P	5	MICRO-FOCUS.
	P5QTR	|ISEV@C		MICRO-FOCUS.
	P9CNVT	|ISEV@	R	MICRO-FOCUS.

Sample record for MICRO-FOCUS COMPILER NetExpress (UNIX/WINDOWS):

```
1         2         3         4         5         6         7         8
12345678901234567890123456789012345678901234567890123456789012345678901234567890
P2EDIT      |ISEV@P      2       MICRO-FOCUS.
P4CALC      |ISEV@PC     4       MICRO-FOCUS.
O4CALC      |ISEV@PCd    24      MICRO-FOCUS.
O4CALC      |ISEV@PCd&   24      MICRO-FOCUS.
O4CALC      |ISEV@PCd&j  24      MICRO-FOCUS.
P5PRNT      |ISEV@P      5       MICRO-FOCUS.
P5W2PR      |ISEV@P      5       MICRO-FOCUS.
P9CNVT      |ISEV@       R       MICRO-FOCUS.
```

Optional Parameters

In addition to the necessary machine parameters in positions 13-25 of the Machine Parameter record, you may add the optional parameters listed in the following table.

Character	Description
+	Time is typed as hours and minutes on time entries. P2EDIT converts to hours and tenths.
-	Drop the code for the net-to-gross feature from P4CALC. This reduces the size of working storage and the program code.
F	Exclude Canadian tax code. This reduces the size of working storage and the program code.
$	Include the service bureau statistics code in all programs.
&	DB2/Oracle O4CALC (PAY-CP)
&j	SQL Server

APPENDIX U

Practice and Review Answers

In This Appendix

About this section 876
System Overview 877
Data Structures and Processing Modes 880
Setting Up Environments 884
Security Considerations 886
Customization 887
Data Conversion and Load 890
Migration to Production 893
Identifying Problems and Applying Temporary Fixes 895
Maintaining the Client Data File 896
Using the Backup and Restore Utilities 898
Maintaining Cross-Reference Keys 900
Running Report Options 902
Managing Working Storage 903
Synchronizing Relational Tables and Indexes 906
Performance Tuning for Relational Databases 907
Administering Reporting Administration 909

About this section

This section provides answers for the Apply the Concepts practices and Review of Questions Answered included at the end of each instructional chapter.

System Overview

Review of Questions Answered

1. What is eCyborg?

   eCyborg is a web-enabled "best-in-class" human resource management system (HRMS) offering comprehensive human resource management, payroll processing, time and attendance functionality, Web Client, a collaborative platform, Interactive Workforce, and Analytics.

2. What are the components of The Solution Series?

   There are application and data components.

   The Solution Series offers the following application components:

   - *Human Resources Administration*
   - *Payroll Administration*
   - *Time and Attendance Administration*
   - *Position Administration*
   - *Requisition Administration*
   - *Distributed Administration*
   - *Reporting Administration*

   The Solution Series contains the following data components:

   - *Database*
   - *Data dictionary*
   - *Application Programming Interfaces (APIs)*

3. How is the system organized?

   The Solution Series runs in both online and background processing modes.

   Online processing is the procedure of entering, viewing, or manipulating data through an interactive Solution Series session.

   When entering data online, data is updated in the database instantly. All verification is also performed instantly. If an error occurs, a corresponding message will be displayed with additional information.

   You can think of The Solution Series as having two types of background processing—background processing and payroll background processing.

- *Background processing is the procedure of grouping a number of tasks to be accomplished in a background mode. Processes are executed to read from or write to the online files—System Control Repository, Employee Database, and Client Data File.*
- *Payroll background processing calculates the payroll. In this mode, processing is run against a sequential Employee Database to reduce processing times.*

4. What programs, languages, and tools does the system use?

   Cyborg Scripting Language, COBOL, Report Generators and the CASE tool

   Online application programs (Human Resource, Payroll, Time and Attendance, and utilities) are coded in the Cyborg Scripting Language (CSL), our proprietary scripting language.

   Core programs (CBSVB, CBSV0, CBSVBT, CBSVOT, and CBSVRFT) delivered with the system are coded in COBOL.

   For users of the payroll process, there are COBOL programs also:

   P2EDIT

   P4CALC

   P5PRNT

   P9CNVT

   04CALC

   Report generators are used only in the background payroll process and online pay calculation.

   If you are using the relational version of The Solution Series, you will make use of the CASE tool, RDBPGM0. This COBOL program generates the data definition language (DDL) to define the relational database and tables (with associated indexes and views) from The Solution Series Field Name Table.

   In addition, it generates the data manipulation language (DML) to process the data within these tables. All generated DDL and DML use embedded, static SQL.

5. What security options are available?

   Security can be granted or denied, with view and update restrictions, by the following areas:

   - *application area*
   - *specific parts of the company*
   - *specific forms*
   - *specific data elements*
   - *specific values within a data element*

6. What customization options are available?

   The following customization options are available:

- *User interface utilities*
- *Option lists*
- *Application tables*
- *Tools—Solution View and FormBuilder*
- *Cyborg Scripting Language (our scripting language)*

7. What reporting options are available?

   The Solution Series *offers the following reporting options:*

   - *Online query and custom reporting*
   - *CSL reporting*
   - *Third-party reporting*

8. How is the system maintained and upgraded?

   Periodic updates, temporary fixes (PTFs), enhancements and bulletins are available from CUBBS. Utilities are also supplied with the software.

   Periodic updates and temporary fixes are distributed on our bulletin board (CUBBS).

   Between releases of The Solution Series, enhancements, and some bulletins, are released to meet customer needs. Depending upon the size of the bulletin, other distribution media may be used.

   Enhancements and bulletins obtained from the bulletin board generally contain the following files:

   - *Code file containing the actual code changes*
   - *Form Appearance Table (SAT) changes*
   - *Documentation file containing an explanation of the code changes*

   Temporary fixes, or PTFs, are resolutions to Problem Notifications (PNs). PTFs are distributed on the bulletin board.

   The Solution Series provides utilities for applying periodic updates, temporary fixes, and new releases. There are also utilities available for general maintenance, including backup utilities.

Data Structures and Processing Modes

Apply the concepts

1. What are the logical subdivisions of records called?

   The logical subdivisions of records are called segments. Each segment contains a particular type of information.

   They are sequentially ordered with a master record.

2. Give an example of a stacked segment.

   A stacked segment is a multiple-occurrence segment.

   Employee earnings and deductions are examples of segments that would occur multiple times during the course of a person's employment.

3. What are the components of a segment key?

   Each segment has a Segment ID of one character.

   Some multiple occurring segments have Segment Codes.

   Segment Keys further identify a particular segment occurrence. The Segment ID (and possibly Segment Code) is always a part of the Segment Key.

4. What are pointers and what purpose do they serve?

   The four main areas of working storage are subdivided into a number of work spaces. These work spaces are called "pointer spaces" or simply pointers.

   Segments are located by a pointer.

5. Define DDL and DML.

   DDL is data definition language which defines the relational database and tables with associated indexes and views.

   DML refers to the data manipulation language which is used to process the data within the relational tables.

6. What is "referential integrity" in relation to indexes?

   A collection of properties which should be possessed by data in a relational database.

   For example, in a table of family members, if we enter Ann as a spouse of Steve Austin, we should also enter Steve Austin as a spouse of Ann.

   Similarly, if we remove one end of the relationship we should also remove the other.

7. What is a database "view"?

   A program that allows a file to be read but not changed.

RDBPGM1 creates a view of each table it generates. In the software these views are used internally by CBSV, but you can create your own views of data using SQL.

8. Why should you use the naming convention when you modify or create tables, fields, and/or programs?

   To avoid overlaying an existing delivered program and/or to distinguish enhancements made to your system by our consultants or your own programming efforts, use the naming conventions described in Naming Conventions.

Review of Questions Answered

1. What are the major files used in the indexed version?

   The System Control Repository serves as the Control File for The Solution Series. In execution scripts, it is named FILE01. It specifies how you will process human resource and payroll data.

   The Employee Database serves as the Master File for The Solution Series.

2. What are the physical structures of those files?

   The System Control Repository uses an indexed sequential organization. Records are 80 bytes, fixed length.

   The physical record key is 24 bytes. It consists of a 1–3 position record type code and 21–23 additional characters of key information.

   The Employee Database uses an indexed sequential organization.

   Records are variable length, with a maximum length of 3060 bytes. The record key is 32 bytes, which follows a 3-byte record length.

3. What is the purpose of those files?

   The System Control Repository serves as the Control File for The Solution Series. In execution scripts, it is named FILE01. It specifies how you will process human resource and payroll data.

   The Employee Database serves as the Master File for The Solution Series. In execution scripts, it is named FILE02.

4. What record types do those files contain?

   The System Control Repository contains several record types.

   Some records have subsidiary record types. Each record type can be identified by a unique Object Code.

   The Employee Database contains several record types. Some records have subsidiary record types.

   Record Key Structures has a complete list of the Employee Database key record structures.

5. How do I display the contents of the System Control Repository?

To display the first 75 positions of the records within the System Control Repository use the Display Control File form (DSP01).

6. How do I display the contents of the Employee Database?

   To display the first 75 positions of the records within the Employee Database use the Display Application File form (DSP02).

7. How is the relational version organized?

   The relational and indexed versions of The Solution Series look identical to the end user. The relational version consists of the System Control Repository, the Employee Database, the CASE tool, and the physical database.

   All option lists and certain application tables stored in the System Control Repository are also stored as relational tables and views.

   In the relational version of Employee Database, company, tax, and employee data are stored in relational database tables. Each company and employee segment equates to a relational table. Stacked segments become multiple rows in a table.

   The CASE tool, RDBPGM0, is a delivered COBOL program that generates the data definition language (DDL) to define the relational database and tables (with associated indexes and views) from The Solution Series data dictionary. In addition, it generates the data manipulation language (DML) to process the data within these tables. All generated DDL and DML use embedded, static SQL.

   The physical database will be created during the installation of the system by the CASE tool, RDBPGM0.

8. What processing modes are used with the system?

   The Solution Series operates in two processing modes—online and background.

9. What required and optional files are used in online mode?

   The required online files are the System Control Repository (FILE01; Control File) and the Employee Database (Master File; FILE02).

   The optional files are the Audit/Report/Message Print File (FILE03), which is optional for the trace program, and User-defined files (FILE23, FILE24, FILE25).

10. What required and optional files are used in background mode?

    The required files used in the background processing mode are:

    - *System Control Repository (FILE01),*
    - *Employee Master database (FILE02)*
    - *Audit/Report/Message Print File (FILE03)*
    - *Runs Parameters (FILE04).*

    The optional background processing mode files are:

- *Input files (FILE05, FILE11, FILE13, FILE14, FILE24)*
- *Replication Holding file (FILE08)*
- *Output files (FILE06, FILE07, FILE10, FILE12, FILE15, FILE25)*
- *Alternate print files (FILE17, FILE18, FILE19)*
- *Check print file (FILE31)*
- *Savings bond and COBRA (FILE30, FILE32)*

Setting Up Environments

Review of Questions Answered

1. What preparation is involved for this installation?

   You must complete the following tasks to prepare for and set up your environments:

   - *Prepare your site's hardware and software for The Solution Series installation*
   - *Back up all installed files, saving the original environment*
   - *Set up the security sign-ons and Security Officer's profile*
   - *Modify the model execution scripts as needed*

2. What are the installation hardware and software requirements?

   Refer to your platform-specific installation guide or your Account Manager/Project Manager for specific software and system requirements.

3. Who does the installation?

   At your request, our installer will install the software for your new Solution Series application(s) or your own experienced staff may perform the installation.

4. What is installed?
   When the installation is complete, the following types of files and data will be installed on your system:

   - *Payroll files*
   - *Online/Background files*
   - *GUI files*
   - *Test data*
   - *Job Control Language*
   - *Relational database tables for System Control Repository and Employee Database; only installed if you have a relational database environment*

   The same files are used for all installations. The installation procedures change only if you are using a relational database.

5. How many environments need to be set up?

   We recommend that you set the following environments:

   - *Development*
   - *Test*
   - *Production*

   If you have an indexed sequential production system, you may only require two environments.

   If you operate The Solution Series on a relational database environment, we encourage you to set up an RDB test environment, in addition to the indexed sequential test

environment. This is because, once installation has been completed, RDB users must perform additional steps to create their database and populate tables.

6. What are the configuration options?

   For The Solution Series application(s) to operate, the programs need to know the location(s) of the these installed files:

   - *System Control Repository*
   - *Employee Database*

7. How are error messages to be handled?

   See **Setting Up Environments** *(see "Installation Considerations" on page 77), for a listing of error messages and corrective actions.*

8. Are there any modifications that should be made immediately following the installation?

   You will need to address the following issues soon after the installation is completed:

   - *Possible environments*
   - *System-wide defaults*
   - *Configuration options*
   - *Security sign-ons and the Security Officer Profile*
   - *Backups*
   - *Change control procedures*
   - *Modification of execution scripts*

9. What are the post-installation security issues?

   Who will need access to The Solution Series, what information they will require access to, and at what organizational level.

Security Considerations

Review of Questions Answered

1. How can security be applied to special areas in The Solution Series system?

   By assigning password, user codes and defining privileges or access rights security can be applied to specific areas of The Solution Series..

2. How many levels of security should be set up?

   There are three levels of security access—complete, inquiry only, and none.

   These levels apply to the company and employee information.

3. What are the responsibilities of the Security Officer?

   Security is established and maintained by an appointed employee in your company, referred to as the Security Officer.

   The Security Officer is the person responsible for maintaining the security hierarchy.

   The Security Officer's special operator ID permits unlimited access to the system, including all security features.

Customization

Review of Questions Answered

1. What customization options are allowed by The Solution Series system?

   Customizations can be put into the following categories:

   - *Navigation customization options*
   - *Other user interface customization options*
   - *Programming customization options (forms, reports, and so forth)*

2. What utilities are provided to assist with the customization?

   Many utilities are provided to help you customize your Solution Series applications.

   The following table describes the utilities.

   System Control Repository utilities

Utility	***Description***
COPY	*COPY is used to duplicate a specified System Control Repository record type to a new name. You must use the COPY prompt form to make your entries.*
DISPLY	*DISPLY is used to view a specified type of System Control Repository record online or in a printed report.*
DSP01	*DSP01 lets you view all record types in the System Control Repository except security and object code records (object P/X). DSP01 also provides a count of the total number of object code records for each module in the System Control Repository.*
EDIT	*The EDIT program is used to create and maintain the System Control Repository records.*
EXPORT	*EXPORT extracts all or selected records of a specified object (record) type from the System Control Repository. It writes these records to FILE10 that can be printed. EXPORT is a batch program that produces an output file of the selected records.*
GETSAT	*GETSAT copies the internal Screen Appearance Table for a specific form to a SAT file that can be edited using Formbuilder.*
Maintenance In (MAINTI)	*The Maintenance Input (MAINTI) utility is used to apply maintenance to the System Control Repository during installations, updates, and moving data from test environments to production. To execute MAINTI, you must provide a control record as FILE04 and the maintenance changes in FILE05.*

The EDIT utility is a full-form editor that is used to create and maintain System Control Repository records.

3. What standard naming conventions need to be applied in customizations?

   Before you begin customization of your Solution Series system, you need to be aware of established standards for naming the following types of records:

   - *Field names*
   - *Program names*
   - *Cyborg Scripting Language verb names*
   - *Module codes*
   - *Table codes*
   - *Alternate keys*
   - *Option list (codeset) names*
   - *Employee segment codes*
   - *Company segment codes*
   - *"Other" records*
   - *Error message numbers*
   - *File numbers*

   The naming standards have been categorized into four groups—general, product release, consulting, and customer. These standards apply to all current and future releases.

   Everyone should follow these standards; doing so will ensure a seamless implementation.

   A Naming Administrator keeps a current list of new programs, option lists, employee segments, company segments, and files requested for all offices, subsidiaries, and agents.

   All user-defined names for fields, programs, Cyborg Scripting Language verbs, and tables must begin with the letter "X".

☞ *Refer to* **Naming Conventions** *(on page 591) for additional information about naming conventions.*

4. What is the importance of adding an Organization Control Number to the Company Validation Table?

   This enables the P2EDIT program and the Calculate Pay (PAY-CP) form to recognize a company added online.

   Organization Control Numbers are added to the Company Validation Table using an override transaction.

5. What reporting considerations should be addressed?

   There are two types of reports delivered: report generator (RG) and Cyborg Scripting Language (CSL).

RG reports are only applicable to the Payroll application. Most of the standard reports produced from the batch payroll process are batch RG reports. These can be modified using the report generator (RG) language or by contracting with our consultants.

A number of CSL reports are delivered as part of the base system. You can modify any of these CSL reports, provided you have the proper security profile

In addition to modifying existing reports, you can also add new CSL reports designed to your specification.

It is recommended that any program that needs modification be copied and renamed. This ensures that delivered changes can be applied with a minimum of difficulty.

6. When should the system be backed up if customizations are made?

   Back up your system prior to and following any customization. We can help you recover your data if you follow the recommendations for backing up your data.

7. What additional customization considerations exist for relational customers?

   The Solution Series is delivered with numerous relational tables.

   If you need to store additional information, add a new segment (table), rather than modifying the delivered relational tables.

   If you do modify one of these tables, you must make your modifications first to the System Control Repository. The changes must then be exported as input to The Solution Series CASE tool (RDBPGM0).

Data Conversion and Load

Apply the concepts

Outline a process for verifying data loaded through the use of BATCHL and batch transactions.

Review all converted forms for a sampling of employees to ensure that the data loaded through BATCHLs loaded correctly. Check that dates and amounts and the placement of data on the forms is correct.

Remember that data entered via the batch layout method is validated in the same manner as if you keyed the information directly into the forms.

Also look at the FILE03 for any records that are in error.

For data that was loaded via batch input files to update the batch master file (P20), check the Transaction Load report for data that was not accepted by the edit program (P2EDIT).

Review the Payroll Audit Trail for errors.

Validate employee wage and to-date figures using the HEDs To-Date Inquiry form (HT-SCR) and the Taxes To-Date Inquiry (JT-SCR) form.

Review of Questions Answered

1. What kind of a data load process checklist is needed?

One that considers all the implications for your organization and projects. It should consider the four phases of the data conversion and load process

Areas of concern are:

- *Data to be extracted and converted*
- *History to be loaded, such as salary history*
- *Methods of extraction and conversion*
- *The data load method to use*
- *Quality and accuracy of data in the source system(s)*
- *Data ownership and responsibility for any pre-conversion clean-up*
- *Data duplication in two or more interfaced systems and which takes precedence if there are differences*
- *Comparison of duplicated data from two or more systems before and/or during the conversion process*
- *Minimum configuration conversion requirements*
- *Movement of data between hardware platforms during the conversion process*
- *Conversion of encoded data items to match The Solution Series requirements*
- *Application of cross-field validation rules during the data extraction process and reporting of errors*
- *Two part conversion for static data and cumulative data*
- *Program specification as a joint user/IT/Solution Series system task*

2. What are the data mapping tools available?

   The Batch Layout facility produces the Batch Layout Report, which lists the entry fields found on each form in the system.

   The Batch Layout Report provides form-image records, field lengths, and any comments associated with each entry field for each selected form. You can request reports for one or several forms.

   A number of tools (utilities) and reports are provided to assist you with data mapping.

   Some of these are:

Data Mapping Tools (Utilities and Reports)	***Description***
Field Table List (FTLIST)	*A utility that lets you view the field definitions online or produce a printout in batch mode. The online display is in a scrolling format. A batch run produces a printout with headings and page numbers.*
Field Table Menu (F-MENU)	*A utility that lets you view the attributes of the data fields on file in the Field Name Table in a user-friendly, menu-driven format.*
Label to Field Cross Reference (FLABEL)	*A form that provides a cross-reference between the field labels used on a form and their data dictionary field names.*
Segment Layout Report (SRTFLD/F-SEGM)	*A report that displays each segment's layout. See following example.*
Cross Reference Report (CROSSX/CROSSP)	*A report that cross-references all the fields and Cyborg Scripting Language verbs. See following example.*

3. What data conversion method(s) should I use and why?

   A manual conversion is practical if you have an aggressive production schedule (four months or less), 500 or fewer employees, or an adequate data entry staff available to enter the data.

   The amount of time it takes to enter data manually by a dedicated staff is dependent on the total number of employees, the amount of information to be added, and the number of staff devoted to the task.

   Automated conversion requires that you decide whether your data processing personnel or our consulting personnel will be responsible for writing the conversion program and applying the converted data to The Solution Series.

   The Solution Series can accept input data in the form of pre-formatted input records.

4. How do data types relate to data load methods?

Each data type must be converted using a specific conversion method.

These methods are:

For this data type	***Use this method***
Static data	*BATCHL transactions*
Cumulative ("To date") data	*Batch transactions*

Migration to Production

Review of Questions Answered

1. What does the preparation for migration to production consist of?

   Prior to moving your original production data from The Solution Series test environment to The Solution Series production environment, you should prepare a migration project task list, including work instructions for the migration.

2. What data needs to be moved to the new production environment?

   Your original production data from the test environment moves to the new production environment.

3. What utilities and reports are available to assist you in the migration?

   The audit trail reports:

   Audit Trail Control 1-2/Employee Order (ISWAS) report before the pay extract and verify any changes made to the online system.

   This report displays, in organization and employee order, the current field value (IS) and the previous field value (WAS).

   ISWASX extracts the audit records into a file (FILE15) that is sorted and used as input to the IS/WAS Audit Trail Report (ISWASP) utility program.

   ISWASP reads the sorted audit records (FILE14) and prints a current and prior field value listing for each session.

   Changes made by the eCyborg Interactive Workforce to information in The Solution Series appear on the IS/WAS audit report generated from The Solution Series.

   On this audit report the user making the changes is always the eCyborg Interactive Workforce and not the employee who made the change.

   The ESS *IS/WAS (ISWASE) audit report was designed to provide an audit trail for the eCyborg Interactive Workforce. This report shows the change made in the system and prints the name of the employee who made the change.*

4. What are the post-migration follow-up issues and tasks?

   After a large number of online transactions, such as option list (codeset) changes have been applied to the System Control Repository and the Client Data File has been updated accordingly, the Client Data File should be rebuilt.

   Rebuilding the Client Data File reorganizes its index file to improve the application's performance. It should also be rebuilt to correct any out-of-synchronization conditions that may have occurred.

   The Solution Series is delivered with the Production Version setting switch turned OFF. Once you have migrated to production, you may want to set this switch to ON.

Your Security Officer should test all levels of The Solution Series system security for proper functionality.

Customers using both the Payroll Administration and the Human Resources Administration will need to run a complete pay run in the production environment to ensure that the migration was successful.

5. What are the relational database issues to be addressed?

   Customers using the relational version of the system should also maintain a test environment, just as customers using the non-relational version should. This means having a separate instance of the database.

6. What issues need to be addressed by HR-only customers?

   All of the items in question 4 above but HR-only customers will not run a payroll. They need only set up a production environment and then move the System Control Repository and Employee Database into that environment.

Identifying Problems and Applying Temporary Fixes

Review of Questions Answered

1. What procedures are used to identify problems and notify us?

   When you identify a situation in which the system does not work as documented, you should communicate this to us by completing a Problem Notification (PN) form (these forms are supplied to customers by account managers and installation specialists), and submitting it to National Product Support (NPS).

   NPS reviews the problem, then submits the PN to the Problem Notification Coordinator.

   For tracking purposes, each PN is assigned a unique number. A technician will work with you on resolving the problem.

   If it is determined that a coding change is required, a program temporary fix (PTF) will be developed and distributed.

2. What types of temporary fixes are distributed?

   Program temporary fixes (PTFs) are resolutions to PNs. They are fixes applied temporarily until made part of the system by being included in an update bulletin, service pack, or upgrade.

   Temporary fixes fall into the following categories:

   - *COBOL fixes to the CBSVx programs*
   - *Cyborg Scripting Language fixes to English Language (CSL) programs*
   - *FormBuilder changes*
   - *COBOL fixes to the payroll programs*
   - *Report Generator fixes to the Report Generator programs*
   - *New versions of the GUI executable*

3. How are temporary fixes distributed?

   Temporary fixes are distributed on the bulletin board. You should have received instructions for using the bulletin board (CUBBS) as part of the installation process; if you have not, please contact us at 312.279.6000.

4. What is an override file?

   A file used to maintain COBOL or Report Generator changes to the system

Maintaining the Client Data File

Review of Questions Answered

1. What is the Client Data File?

   Customers using graphical user interfaces (GUI) for The Solution Series will make use of a Client Data File.

   This file contains duplicate information from the System Control Repository needed for editing and validating field data.

   Any changes made to the System Control Repository must be reflected in the Client Data File.

2. What impacts the Client Data File?

   Maintenance of the System Control Repository requires maintenance of the Client Data File.

   Much of the updating of the Client Data File will be handled automatically. Under certain circumstances, you will be required to manually maintain this file.

   All option list changes that are made using the Option List Editor immediately update the System Control Repository as well as the Client Data File being accessed by the user making the change.

3. How do you update the Client Data File?

   The Update Client Data File utility (UPDTCL) uses the Client Data File update records on the System Control Repository to update the Client Data File.

   You can execute the Update Client Data File utility in either of the following ways:

   - *Sign off and back on*
   - *Run the Update Client Data File utility while online*

   Every time you sign on to The Solution Series, the Update Client Data File utility automatically updates the currently active Client Data File with any changes posted to the System Control Repository since the most recent sign-on involving this specific Client Data File.

   The Update Client Data File program compares the date and time stamps on these two files and automatically synchronizes them.

4. When and how do you rebuild the Client Data File?

   You should rebuild the Client Data File when the following conditions occur:

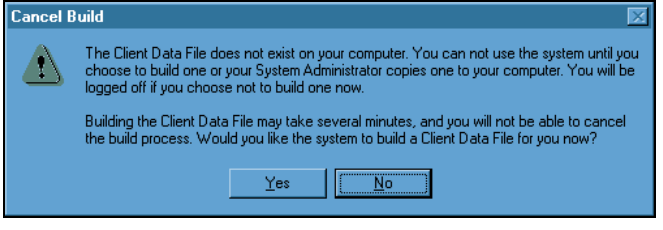
- *When an "out-of-sync" message is encountered. After an "out-of-sync" message appears, you must rebuild the Client Data File.*
- *After a large number of online transactions have been applied to the System Control Repository and the Client Data File has been updated.*

Note: Rebuilding the Client Data File will reorganize its index file. By doing so, you will improve the application's performance.

To rebuild the Client Data File with the minimum amount of data, use the steps below.

- *Sign off of The Solution Series*
- *Delete the Client Data File (FILECL32) using an operating system file utility*
- *Sign on to The Solution Series*

After entering your User ID and Password, the following dialog is displayed.



- *Click Yes to rebuild the Client Data File*

A dialog will display indicating the progress as the file is rebuilt.

To rebuild a complete Client Data File:

- *Run the Export Client File utility in batch*
- *Run the Build Client Data File utility*
- *If applicable, copy the rebuilt Client Data File into each users working directory for The Solution Series.*

Using the Backup and Restore Utilities

Review of Questions Answered

1. What should be considered in the backup and recovery plan?

   When developing a backup and recovery plan, customers on all platforms should keep the following in mind:

   - *A clean copy of the installed files, saving the original source code, should be maintained.*
   - *No logging facilities are provided.*
   - *No automatic backup and recovery facilities are provided.*

   Your backup and recovery plan should account for the potential of a failure. You should take a daily backup of the online files.

   At most sites, a Client Data File is maintained on each workstation. In the event of a hardware failure, a user can simply copy a current Client Data File from another user, if necessary.

   After installing The Solution Series, most clients make custom code changes. And, periodically, we distribute update bulletins.

   To be able to identify the custom code changes made at your site, you will need to have a backup of the original System Control Repository to compare to the current System Control Repository.

2. Why is it important to have a sequential backup of the system Control Repository?

   After creating a sequential backup of the System Control Repository using the Backup utility, you can use that sequential file in the restore process. The restore process creates a new random System Control Repository.

3. What facility is provided for creating a sequential backup of the System Control Repository?

   We provide a utility, BACKEM, for backing up the System Control Repository.

   If you are running version 3 on a PC platform, you must use BACKUP instead of BACKEM.

   Either utility creates a sequential backup file (FILE10) containing all records found in the System Control Repository.

4. What facility is provided for restoring from a sequential backup of the System Control Repository?

   To restore the System Control Repository from a sequential backup, you use the Restore System Control Repository (DEMO01) utility.

   This utility is run with an execution of CBSVB or CBSVBT.

5. What programs are used for backing up and restoring the Employee Database?

   To restore the System Control Repository from a sequential backup, you use the Restore System Control Repository (DEMO01) utility.

   This utility is run with an execution of CBSVB or CBSVBT.

6. What implications are there for users of the relational version of the system?

   The Relational Database Management system (RDBMS) is the primary repository of application data. Database backups are an important part of a comprehensive database protection strategy.

   In the relational version of The Solution Series, the System Control Repository contain information required for successful relational database processing. Consequently, customers should ensure that these files and the database are backed up together.

   In 5.1, the Employee Database no longer contains any permanent company, employee or tax information, all information is resident in relational database tables. For a prior release, the Employee Database contains the primary keys for accessing the data in the tables. Consequently, customers should ensure that these files and the database are backed up together.

7. What synchronization issue exists between the System Control Repository and the Employee Database?

   Object code for The Solution Series is stored on the System Control Repository as P/X records.

   To improve response time, a copy of the object code for these programs is copied to the Employee Database as ZX records.

   This occurs when a program is executed and the object code is not found on the Employee Database. Consequently, it is important that these two files have the same versions of the object code.

   When The Solution Series is running, it is the code on the Employee Database that is executed, not the code on the System Control Repository.

   If the results of processing are not as expected, determine if the code on the Employee Database is the most current.

Maintaining Cross-Reference Keys

Review of Questions Answered

1. What is a QUERY Primary Key?

   Keys provide direct QUERY access to your data within The Solution Series database.

   The QUERY Primary Keys are keys you use to direct your QUERY program to a record type.

   The QUERY Primary Keys require no maintenance and are immediately available to you.

2. What is an QUERY Alternate Key?

   The keys you use to access the employee master record in an order other than by primary key.

   QUERY Alternate Keys need to be maintained on a regular basis.

3. What is a Phonetic Key?

   The keys you use to access employee data using the phonetic spelling of an employee's last name.

   The maintenance of Phonetic Keys depends on how you have entered your employee data.

4. What is an Employee ID Key?

   These keys allow you to search for employees across organizations. This is a Workflow enablement feature.

5. How do you delete and rebuild QUERY Alternate Keys?

   Using the KEYDEL program, delete the Alternate Key records from the System Control Repository

   Rebuild the Alternate Key record from the System Control Repository using the KEY-00 program.

6. How do you delete and rebuild Phonetic and Employee ID Keys?

   Indicate the type of key to build on the second panel of the Company Options form (AF-SCR).

   You can choose Phonetic and/or Employee ID. The indicated keys will be built automatically for new or transferred employees.

   Save the form

   Using DEL-PE delete Phonetic/Employee ID Keys online.

Rebuild Phonetic/Employee ID Keys from the System Control Repository using the KEY-PE program.

7. What are the pre-defined QUERY Alternate Keys?

   The QUERY Alternate Keys pre-defined by The Solution Series are:

   - *01—Social Security Number*
   - *02—Employee Name*

8. What is the recommendation for maintenance of both the QUERY Alternate Keys and Phonetic Keys?

   We recommend that you set up a schedule for maintaining the QUERY Alternate Keys and for the Phonetic Keys.

   The following is an overall maintenance summary:

Keys	***Maintenance***
Alternate Keys	*Periodically purge records and rebuild using KEYDEL and KEY-00; execute in batch using Query Control Record in job stream.*
Phonetic Keys	*For online—no maintenance; are automatically created and/or updated for employee records added to the Employee Database.* *For batch from P4CALC—rebuild keys after employee records are added to the Employee Database using the DEL-PE and KEY-PE programs.*

Running Report Options

Review of Questions Answered

1. What is the role of the system administrator in reporting?

   Typically, end users determine which reports should be printed and when they should be printed. The system administrator ensures that the end users' needs are met by doing the following:

   - *Setting up control structures for running reports*
   - *Defining or modifying report job streams*
   - *Submitting report job streams*

2. What control structures need to be set up to administer reporting?

   The following structures are used for controlling the running of The Solutions Series reports:

   - *Report Group Activities(RGMSTR)*
   - *Valid reports for an organization (C12RPT) (optional)*

3. What is the flow of the batch report process?

   To initiate a report run in batch, you run three programs:

   - *Report Extract*
   - *Sort*
   - *Report Print*

4. What facilities are available for initiating and viewing reports and batch queries online?

   SUBMIT

   This program enables you to submit batch jobs. It tells the system to run a query or a report. You can direct the output records to a print file or to the Employee Database for online viewing.

   VIEW

   This program enables you to view online the output from the Requesting Reports and Queries Online (SUBMIT) program. The reports may then be printed or deleted.

5. What are consolidated and roll up reporting?

   Consolidated reports include employees in all or selected organizations.

   Roll-up reports include all employees with a common Org value, such as CS0001 or CS0002.

Managing Working Storage

Review of Questions Answered

1. What is the recommended approach for managing working storage?

   You must complete the following tasks to manage working storage:

   - *Determine if expansion of working storage is required for the online system employee and company areas.*
   - *Determine if expansion of working storage is required for the Payroll Processing COBOL programs.*
   - *Expand working storage for the online system employee and company areas.*
   - *Expand working storage for The Solution Series Payroll Processing COBOL programs.*
   - *Expand working storage for relational databases.*

   Taking a proactive approach to managing working storage areas means periodically monitoring their sizes and, if necessary, increasing them to accommodate the current data requirements of your organization.

   By doing so, you will avoid having to respond to out-of-space error messages such as "RECORD TOO LARGE" in The Solution Series or "EMPLOYEE AREA FULL-BYPASSED" from the Payroll Process Audit Trail report.

2. When should you check your working storage resources?

   In addition to periodic checks, you should check working storage resources in the following situations:

   Before a data load

   Before benefits enrollment

   Before implementing a new application module

3. What are The Solution Series areas that can be expanded?

   There are three categories of areas that can be expanded:

   - *Working storage areas that affect both the online system and Payroll Processing COBOL programs.*
   - *Working storage areas that affect only Payroll Processing COBOL programs.*
   - *Additional working storage areas that affect only relational database users.*

4. What are the Payroll Processing areas that can be expanded?

   The following table describes the areas of the Payroll Processing system that can be expanded:

Area	*Program(s)*	*Use*
RPT20	*P2EDIT/O4CALC*	*Transaction/Organization Inclusion List*
REPORT BATCH	*P4CALC*	*Loaded Report Generator Logic*
REPORT ONLINE	*O4CALC*	*5H5Z and Method Code Generators*
PAYER	*P4CALC/O4CALC*	*Company information*
TAX	*P4CALC*	*Tax Specification Data*
EMPLOYEE	*P4CALC/O4CALC*	*Employee Information*
AREAW	*P4CALC*	*WL Data*

5. How much working storage is delivered with the system?

   The system is delivered with maximized working storage areas.

   The following documents these working storage amounts/sizes:

Area	*Delivered size*
Employee (Area 2)	*24, 958*
Company (Area 4)	*32,192*

6. What areas should relational database customers consider expanding?

   Keys, individual record segments, and user-defined segments

7. Where do you find the size of working storage areas?

   The Payroll Audit Trail report shows the number of positions left in the P4CALC area.

   The program DSP02 shows the REPORT ONLINE area

8. How do you expand The Solution Series and Payroll Processing working storage areas?

   Calculate the expansion amounts by completing Step 2 of the Employee Area Expansion and the Company Area Expansion worksheets to calculate the employee area expand amount, and the company area expand amount, for The Solution Series and the Payroll Process.

   Expand the online system work areas by completing Step 3 of the Employee Area Expansion and the Company Area Expansion worksheets.

   Extract the COBOL programs to include the new AREA2-BOTH and AREA4-BOTH values.

   Expand the Payroll Process work areas by creating an override file containing the Expand transactions.

9. How do you extract COBOL source programs for The Solution Series and for Payroll Processing?

   You extract online system COBOL programs from the CBSV source file using the COBOL Extract (PULL) process. Once extracted, these programs must be compiled and linked using your standard processes.

   You extract source code for the Payroll Process COBOL from the C.P0PRGM file using the P9CNVT program. Once extracted, these programs must be compiled and linked using your standard processes.

Synchronizing Relational Tables and Indexes

Review of Questions Answered

1. How is the System Control Repository organized in the relational version and why is synchronization important?

   All option lists, certain application tables, and position control records stored in the System Control Repository are replicated in relational tables.

   Updates to the System Control Repository are reflected in the appropriate relational tables.

2. What program is used to synchronize the System Control Repository and the relational tables?

   Should a synchronization problem occur, you use the Build/Rebuild Control File Relational Tables (POPF01) program to synchronize the System Control Repository and its associated relational tables.

3. How is the Employee Database organized in the relational version and why is synchronization important?

   In the relational version of The Solution Series, company and employee data are stored in relational database tables. Each segment equates to a relational table.

   Updates to the Employee Database must be reflected in the relational tables or the database and the tables may be out of sync.

4. What programs are available to synchronize the Employee Database, the index table, and the relational tables?

   If you need to rebuild the database indexes for the Employee Database, two programs are provided.

Program	***Description***	***Run in***
INDEXS	*Fixes all index records.* *This program can be run for all or selected organizations.*	*Batch*
FIXIDX	*Fixes a particular record index.*	*Online (recommended)* *Batch*

Performance Tuning for Relational Databases

Review of Questions Answered

1. What is the difference between static and dynamic SQL?

   DDL and DML SQL statements are embedded in application programs and called static *SQL.*

   Dynamic SQL are SQL statements created by a program.

2. When is dynamic SQL generated?

   Dynamic SQL is generated when the New Form (NEWSCR) facility is used to create a new segment.

3. Why is static SQL more efficient than dynamic SQL?

   Static SQL statements are interpreted and converted during precompilation of the programs.

   Dynamic SQL is generally less efficient than static SQL since the interpretation and conversion of dynamic SQL statements occurs at run time, rather than during precompilation.

4. What methods are available to improve pay extract and pay merge processing run times?

   The Solution Series provides a method for improving pay extract and pay merge processing performance—selecting the data for a pay run.

   All relational database users can specify the table data that will be extracted by the Pay Extract program (PAYXTR) using Extract (EXT) records.

   You have three choices for how you run PAYXTR, as explained in the following table:

To	***Do this***
Have PAYXTR extract all table data. *Note: If you choose this option, no improvement in processing will occur.*	*Use the Extract (EXT) record as delivered.*
Have PAYXTR extract only the table data required for payroll processing.	*Delete the delivered Extract (EXT) record.*
Have PAYXTR extract only the table data required for payroll processing, plus table data you specify.	*Supply an Extract (EXT) record for each table (over and above those required for Payroll processing) whose data should be extracted by PAYXTR.*

5. If I want to improve pay extract and pay merge processing run times, can I still restrict the organizations in the run?

   The Pay Extract (PAYXTR) process has not changed. You can still extract all or selected organizations.

   If you are specifying certain organizations for processing, you must make that designation on the Selected Company Payroll Run Schedule form (PAYC12).

   Regardless of extracting all or selected organizations, the appropriate entry must be made in the pay extract control record (FILE04).

Administering Reporting Administration

Apply the Concepts

What are the two main types of extracts and what are the differences between them?

The core system extraction copies data from the System Control Repository and Employee Database and places the copied data in the Datamart Extract File.

The majority of the data is extracted using REPORT, while the Position Administration process (PA)--which is incompatible with REPORT--derives the Position Administration data.

The Labor and History extract is performed from the Batch Master File (P20) using the Report Generator routine, 7E7E (the data mart Labor and History Extract).

Review of Questions Answered

1. What are the three stages of the extraction/insertion process?

   Stage 1: Core system extraction

   Core system extraction is done using two different algorithms.

   The majority of the data is extracted using REPORT, while the Position Administration process, which is incompatible with REPORT, derives the Position Administration data.

   Stage 2: Split

   The data being output to The Data-mart Extract File (FILE36) is not in an appropriate form for the bulk loaders. This file therefore needs to be split into separate files after it has been sorted.

   Stage 3: Load

   The loading process is very simple. For each table file, a bulk loader is run that uses platform-specific configuration information found in a separate format file.

2. How do the Core System and Labor and History extractions differ?

   Labor and History extraction uses payroll-related processes rather than CBSV and the System Control Repository and Employee Database to extract Solution Series data. This is because the nature and location of Labor and History records, primarily contained within static data in the Batch Master File, make it very difficult to do otherwise.

   The static nature of most Labor and History records also leads to the other main difference from core system extraction. Since a company's Labor and History records build linearly with time, and once created hardly ever change except to add new ones, a strategy to incrementally extract only the newly created records is an absolute necessity.

Note: The incremental extract facility is a North American feature only.

3. What is a data mart?

   The data-mart is a relational database on the server that contains tables populated by the enhanced data. The Reporting Administration data mart consists of approximately 172 tables.

APPENDIX V

Running UK Online Administration Scripts

In This Appendix

Introduction to UK online scripts 912

Introduction to UK online scripts

The Process Confirmation - Adhoc Jobs (ADHOC) form allows you to launch a predefined subset of processes from The Solution Series. Only those jobs created specifically for use on this form and placed in a subdirectrory/folder called \Runs\Procmom on the server can be launched. Once launched, the scripts can be monitored, errors reviewed, and so forth by using the Process Monitor.

Important: At this time, the Process Confirmation - Adhoc Jobs (ADHOC) form and functionality is available ONLY on the UK Solution Series version 5.1 for UNIX and Windows platforms.

☞ *Refer to the Using Solution Series: Administrative Solutions and the Optimizing System Features documentation for more information about running the Process Monitor.*

The following scripts can be launched from the menu and run from the Process Monitor.

Supported job	Description
JBLDAKY	Delete and Recreate Alternate Keys
JDSPERR (RDB)(+parms)	Relational Message Report
JEXPORT (+ params)	Export FILE01 items
JMAINTI	Load FILE01 Records
JMAINTO	Compare FILE01 to delivered DEMO0105
JMNTREL	Run MAINTI, including automatic RELOAD step
JQUERY (+ params)	Run a QUERY against a single Org/C12
JRECSIZ	Run the FILE02 Record Sizing Report
JRELOAD	Run RELOAD
JRGEXT	Run an RG Extract
JRGUPD	Run an RG Update
JRSXRPT	Run a Full Reporting Admin Extract
JRSXRPTI**	Run an Incremental Reporting Admin Extract
JRUN (+ params)	Run a FILE04 Parameter File
JSTDTST	RUN THE STANDARD TEST
JSTEXT	Extract the Standard Test Data

(those with the 'params' in brackets require additional parameters to be added in the 'Parameters' field)

** This job is under construction and is not currently supported.

Deleting and recreating Alternate keys - online JBLDAKY

Important: At this time, the Process Confirmation - Adhoc Jobs (ADHOC) form and functionality is available ONLY on the UK Solution Series version 5.1 for UNIX and Windows platforms.

1. Access the Process Confirmation - Adhoc Jobs (ADHOC) form

Component: Development Tools
Process: System Operations
Task: Initiate Adhoc Process

2. Select the Job Name

Select the name of the job you wish to launch.

Job Name:	JBLDAKY
Export Key:	None
Parameters:	None
What it does:	Deletes all alternate keys (KEYDRH) that can be recreated, then runs a QUERY (QC-SUB) to create a file of valid Org/C12s against which KEY-00 is run under QUERY. FILE01 'Q' records will be created by KEY-00 with reference made to AF-SCR to determine QID and QPE requirements.
Inputs:	No user input required – Org/C12's will be auto-detected.
Outputs:	\USERS*opid*\KEYDEL.LIS \USERS*opid*\QC-GEN.LIS \USERS*opid*\KEY-00.LIS 'Q' records on FILE01

3. Confirm launch of the adhoc job

Select the checkbox to launch the Process Monitor and monitor the job's progress, as well as view and print the output.

4. Click Save or press Enter

Launching the Relational Message Report - online JDSPERR (RDB) (+parms)

Important: At this time, the Process Confirmation - Adhoc Jobs (ADHOC) form and functionality is available ONLY on the UK Solution Series version 5.1 for UNIX and Windows platforms.

1. Access the Process Confirmation - Adhoc Jobs (ADHOC) form

Component: Development Tools
Process: System Operations
Task: Initiate Adhoc Process

2. Select the Job Name

Select the name of the job you wish to launch. If you want to delete the messages, type "Y" in the parameters field.

Job Name:	JDSPERR (RDB) (+parms)
Export Key:	None
Parameters:	A 'Y' may be entered to delete the messages once output in this report. A blank parameter field will not delete these messages.
What it does:	This job is for relational users only – it generates a report of all system generated warning and error messages. These messages can be removed at the same time by use of the parameter field.
Inputs:	No user input required
Outputs:	\USERS*opid*\DSPERR.LIS

3. Confirm launch of the adhoc job

Select the checkbox to launch the Process Monitor and monitor the job's progress, as well as view and print the output.

4. Click Save or press Enter

Exporting FILE01 items - online JEXPORT (+params)

Important: At this time, the Process Confirmation - Adhoc Jobs (ADHOC) form and functionality is available ONLY on the UK Solution Series version 5.1 for UNIX and Windows platforms.

1. Access the Process Confirmation - Adhoc Jobs (ADHOC) form

Component: Development Tools
Process: System Operations
Task: Initiate Adhoc Process

2. Select the Job Name

Select the name of the job you wish to launch. Select an export key and any key-specific parameters.

Job Name:	JEXPORT (+params)
Export Key:	Select from option list SC03
Parameters:	Depends on the export key used. Commonly used Export Keys: "C " – Codeset (All) "P/R" – Error Messages "P-X" – P Records (No Obj) - EL Programs with related records (P/ , P/S, and so forth) "T " – Tables (+ U,V,W,X)
What it does:	EXPORT is run for the options you specify. The exported file is then available outside of The Solution Series.
Inputs:	User input required. Export can operate with "=" wildcards.
Outputs:	If an entry is found in the "Parameter" field then the exported file will be named using this parameter otherwise a default value of "Export" is used. \USERS*opid*\EXPORT.LIS with an accompanying \USERS*opid*\EXPORT.10 *or (for example)* \USERS*opid*\EF-@UK.LIS with an accompanying \USERS*opid*\EF-@UK.10

3. Confirm launch of the adhoc job

Select the checkbox to launch the Process Monitor and monitor the job's progress, as well as view and print the output.

4. Click Save or press Enter

Loading in FILE01 records - online JMAINTI

Important: At this time, the Process Confirmation - Adhoc Jobs (ADHOC) form and functionality is available ONLY on the UK Solution Series version 5.1 for UNIX and Windows platforms.

1. Access the Process Confirmation - Adhoc Jobs (ADHOC) form

Component: Development Tools
Process: System Operations
Task: Initiate Adhoc Process

2. Select the Job Name

Select the name of the job you wish to launch.

Job Name:	JMAINTI
Export Key:	None
Parameters:	None
What it does:	The MAINTI job is run to load FILE01 items using the standard MAINTI.04 and MAINTI.05 files and process. The imported records are then available within The Solution Series.
Inputs:	If no MAINTI.04 is supplied in the location specified below, a default FILE04 card with a single 'MAINTI' job is created in the \WORK directory. A MAINTI.05 file must be supplied in the location specified below. \USERS*opid*\MAINTI.04 (if supplied by the user) \WORK\MAINTI.04 (if above file is not found) \USERS*opid*\MAINTI.05
Outputs:	\USERS*opid*\MAINTI.LIS \DATA\RELOAD.10 (ready to run JRELOAD if required)

3. Confirm launch of the adhoc job

Select the checkbox to launch the Process Monitor and monitor the job's progress, as well as view and print the output.

4. Click Save or press Enter

Comparing FILE01 to delivered DEMO0105 - online JMAINTO

Important: At this time, the Process Confirmation - Adhoc Jobs (ADHOC) form and functionality is available ONLY on the UK Solution Series version 5.1 for UNIX and Windows platforms.

1. Access the Process Confirmation - Adhoc Jobs (ADHOC) form

Component: Development Tools
Process: System Operations
Task: Initiate Adhoc Process

2. Select the Job Name

Select the name of the job you wish to launch.

Job Name:	JMAINTO
Export Key:	None
Parameters:	None
What it does:	The MAINTO job is run to create a file of differences between the current FILE01 and the one supplied as \UPDATES\DEMO0105. This file of differences can then be reviewed before being loaded onto another environment/FILE01.
Inputs:	\UPDATES\DEMO0105 \DATA\FILE01
Outputs:	\USERS*opid*\MAINTO.LIS \USERS*opid*\MAINTO.10

3. Confirm launch of the adhoc job

Select the checkbox to launch the Process Monitor and monitor the job's progress, as well as view and print the output.

4. Click Save or press Enter

Running MAINTI, including automatic RELOAD step - online JMNTREL

Important: At this time, the Process Confirmation - Adhoc Jobs (ADHOC) form and functionality is available ONLY on the UK Solution Series version 5.1 for UNIX and Windows platforms.

1. Access the Process Confirmation - Adhoc Jobs (ADHOC) form

Component: Development Tools
Process: System Operations
Task: Initiate Adhoc Process

2. Select the Job Name

Select the name of the job you wish to launch.

Job Name:	JMNTREL
Export Key:	None
Parameters:	None
What it does:	This job does a combined MAINTI and RELOAD using the MAINTI.04 and MAINTI.05 files supplied to it. The MAINTI job will create a file for the RELOAD job to run.
Inputs:	Inputs (MAINTI): \USERS*opid*\MAINTI.04 \USERS*opid*\MAINTI.05 Inputs (RELOAD): (this step is only run when a RELOAD.10 file has been created by the MAINTI step) \DATA\RELOAD.10
Outputs:	Outputs (MAINTI): \USERS*opid*\MAINTI.LIS \DATA\RELOAD.10 Outputs (RELOAD): \USERS*opid*\RELOAD.LIS

3. Confirm launch of the adhoc job

Select the checkbox to launch the Process Monitor and monitor the job's progress, as well as view and print the output.

4. Click Save or press Enter

Running a QUERY against a single Org/C12 - online JQUERY (+params)

Important: At this time, the Process Confirmation - Adhoc Jobs (ADHOC) form and functionality is available ONLY on the UK Solution Series version 5.1 for UNIX and Windows platforms.

1. Access the Process Confirmation - Adhoc Jobs (ADHOC) form

Component: Development Tools
Process: System Operations

Task: Initiate Adhoc Process

2. Select the Job Name

Select the name of the job you wish to launch. Type the specific Organisation number (Control 1-2), followed by the quERY program name in the Parameters field.

Job Name:	JQUERY (+params)	
Export Key:	None	
Parameters:	Org/C12 followed by Query Program name	
What it does:	This job will run a requested Query program for the specific Org/C12 entered. (Does not support the entry of '999999' meaning all Org/C12s).	
Inputs:	\USERS*opid**queryname*.04	(auto-created)
Outputs:	\USERS*opid*\QUERY.LIS	
	\USERS*opid**queryname*.10	(if required by the query program entered)
	\USERS*opid**queryname*.15	(if required by the query program entered)
	\USERS*opid**queryname*.24	(if required by the query program entered)
	\USERS*opid**queryname*.25	(if required by the query program entered)
	\USERS*opid*\QUERY.10	(for possible subsequent use by JRUN)

3. Confirm launch of the adhoc job

Select the checkbox to launch the Process Monitor and monitor the job's progress, as well as view and print the output.

4. Click Save or press Enter

Launching the FILE02 Record Sizing Report - online JRECSIZ

Important: At this time, the Process Confirmation - Adhoc Jobs (ADHOC) form and functionality is available ONLY on the UK Solution Series version 5.1 for UNIX and Windows platforms.

1. Access the Process Confirmation - Adhoc Jobs (ADHOC) form

Component: Development Tools
Process: System Operations
Task: Initiate Adhoc Process

2. Select the Job Name

Select the name of the job you wish to launch.

Job Name:	JRECSIZ
Export Key:	None
Parameters:	None
What it does:	This job runs a FILE02 Record Sizing (RECSIZ) report and displays details of the largest employee record on file and the largest Org/C12 record on file. Details of the maximum permissible size for each are also shown.
Inputs:	No user input required
Outputs:	\USERS*opid*\RECSIZ.LIS

3. Confirm launch of the adhoc job

Select the checkbox to launch the Process Monitor and monitor the job's progress, as well as view and print the output.

4. Click Save or press Enter

Reloading FILE01 components - online JRELOAD

Important: At this time, the Process Confirmation - Adhoc Jobs (ADHOC) form and functionality is available ONLY on the UK Solution Series version 5.1 for UNIX and Windows platforms.

1. Access the Process Confirmation - Adhoc Jobs (ADHOC) form

Component:  Development Tools
Process: System Operations
Task:  Initiate Adhoc Process

2. Select the Job Name

Select the name of the job you wish to launch.

Job Name:	JRELOAD
Export Key:	None
Parameters:	None
What it does:	This job runs the RELOAD.10 FILE04 file found in the ..\DATA directory. This file of RELOAD requests is typically created automatically during the JMAINTI / JMNTREL processes. If the RELOAD.10 file is not found this job will stop and report an error.
Inputs:	\DATA\RELOAD.10
Outputs:	\USERS*opid*\RELOAD.LIS

3. Confirm launch of the adhoc job

Select the checkbox to launch the Process Monitor and monitor the job's progress, as well as view and print the output.

4. Click Save or press Enter

Extracting report generators - online JRGEXT

Important: At this time, the Process Confirmation - Adhoc Jobs (ADHOC) form and functionality is available ONLY on the UK Solution Series version 5.1 for UNIX and Windows platforms.

1. Access the Process Confirmation - Adhoc Jobs (ADHOC) form

Component: Development Tools
Process: System Operations
Task: Initiate Adhoc Process

2. Select the Job Name

Select the name of the job you wish to launch.

Job Name:	JRGEXT
Export Key:	None
Parameters:	None
What it does:	This job takes a user supplied P05RDR containing a list of required Report Generators and extracts those RGs from the CYBMST 'library' file. The extracted records are written to an external file.
Inputs:	\USERS*opid*\P05RDR \UPDATES\CYBMST
Outputs:	\USERS*opid*\RGEXT.LIS \WORK*opid*\RGDATA

3. Confirm launch of the adhoc job

Select the checkbox to launch the Process Monitor and monitor the job's progress, as well as view and print the output.

4. Click Save or press Enter

Updating report generator code in the RG file - online JRGUPD

Important: At this time, the Process Confirmation - Adhoc Jobs (ADHOC) form and functionality is available ONLY on the UK Solution Series version 5.1 for UNIX and Windows platforms.

1. Access the Process Confirmation - Adhoc Jobs (ADHOC) form

Component: Development Tools
Process: System Operations
Task: Initiate Adhoc Process

2. Select the Job Name

Select the name of the job you wish to launch.

Job Name:	JRGUPD	
Export Key:	None	
Parameters:	None	
What it does:	This job applies extracted Report Generator code to an RG file.	
Inputs:	\WORK*opid*\RGDATA	(usually from JRGEXT)
	\DATA\RGONLY.DAT	(the RGs are applied to this file)
Outputs:	\USERS*opid*\RGLOAD.LIS	
	\USERS*opid*\RGUPDATE.LIS	
	\DATA\RGONLY.OLD	(the original RGONLY.DAT file renamed)
	\DATA\RGONLY.DAT	(the RGs are applied to this file)

3. Confirm launch of the adhoc job

Select the checkbox to launch the Process Monitor and monitor the job's progress, as well as view and print the output.

4. Click Save or press Enter

Performing a full Reporting Administration extract - online JRSXRPT

Important: At this time, the Process Confirmation - Adhoc Jobs (ADHOC) form and functionality is available ONLY on the UK Solution Series version 5.1 for UNIX and Windows platforms.

1. Access the Process Confirmation - Adhoc Jobs (ADHOC) form

Component: Development Tools
Process: System Operations
Task: Initiate Adhoc Process

2. Select the Job Name

Select the name of the job you wish to launch.

Job Name:	JRSXRPT
Export Key:	None
Parameters:	None
What it does:	This job will launch the Reporting Admin (Full) Data mart data extract and load processes which will see a complete refresh of the data currently held in the data mart tables (with the exception of payroll costing and history data).
Inputs:	RSXSCR enabled extracts and the run-time parameter form for the RSXRPT report schedule on RGMSTR all control the data mart propagation processes. Data is extracted from The Solution Series online files and placed in a data warehouse (data mart). 3rd party tools such as Cognos can then be used to report on the data held in this data mart.
Outputs:	A data mart (as named in the JRSXRPT script) will be populated with the data extracted from the online system. The \TXT subdirectory will hold the files of data as extracted. Error logs will appear in \BCPERR and log files will appear in \LIST. SQL commands generated during this process will appear in \SQL.

3. Confirm launch of the adhoc job

Select the checkbox to launch the Process Monitor and monitor the job's progress, as well as view and print the output.

4. Click Save or press Enter

Performing an incremental Reporting Administration extract - online JRSXRPTI

Important: At this time, the online script for Incremental Reporting Administration Extract (JRSXRPTI) is under construction and is NOT functional.

Important: At this time, the Process Confirmation - Adhoc Jobs (ADHOC) form and functionality is available ONLY on the UK Solution Series version 5.1 for UNIX and Windows platforms.

1. Access the Process Confirmation - Adhoc Jobs (ADHOC) form

Component:  Development Tools
Process: System Operations
Task:  Initiate Adhoc Process

2. Select the Job Name

Select the name of the job you wish to launch.

Job Name:	JRSXRPTI
Export Key:	None
Parameters:	None
What it does:	This job will launch the Reporting Admin (Incremental) Data mart data extract and load processes which will see a complete refresh of the data currently held in the data mart tables (with the exception of payroll costing and history data).
Inputs:	RSXSCR enabled extracts and the run-time parameter form for the RA-RPT and RSXRPT report schedule on RGMSTR all control the data mart propagation processes. Data is extracted from The Solution Series FILE08 file of individual changes made and placed in a data warehouse (data mart). 3rd party tools such as Cognos can then be used to report on the data held in this data mart.
Outputs:	A data mart (as named in the JRSXRPTI script) will be populated with the data extracted from the online system. The \TXT subdirectory will hold the files of data as extracted. Error logs will appear in \BCPERR and log files will appear in \LIST. SQL commands generated during this process will appear in \SQL.

3. Confirm launch of the adhoc job

Select the checkbox to launch the Process Monitor and monitor the job's progress, as well as view and print the output.

4. Click Save or press Enter

Processing a FILE04 parameter file - online JRUN (+params)

Important: At this time, the Process Confirmation - Adhoc Jobs (ADHOC) form and functionality is available ONLY on the UK Solution Series version 5.1 for UNIX and Windows platforms.

1. Access the Process Confirmation - Adhoc Jobs (ADHOC) form

Component: Development Tools
Process: System Operations
Task: Initiate Adhoc Process

2. Select the Job Name

Select the name of the job you wish to launch. Type the name of the input file (FILE04) withouts a filename extension in the Parameters field.

Job Name:	JRUN (+params)
Export Key:	None
Parameters:	Enter a FILE04 filename minus extension
What it does:	This job will take a FILE04 from the users subdirectory and process it against The Solution Series. The FILE04 file can have any filename but must have a '.10' extension. This extension has been chosen to provide an automatic link for the outputs generated by some reports and queries. If a query is run using either QUESCR or the ADHOC function, or a report is run using RGMSTR then any FILE10 output in the 1st pass of CBSV will be copied to the users subdirectory (and is viewable in the report viewer) – jrun can then be used to run the file back in. The entered query name and the RGMSTR schedule name would therefore be entered in the parameter field.
Inputs:	\USERS*opid**parameter*.10 (as the FILE04) \USERS*opid**parameter*.05 (depending on program being run) \USERS*opid**parameter*.24 (depending on program being run) \USERS*opid**parameter*.25 (depending on program being run)

Outputs:	\USERS*opid*\jrun-out.10	(depending on program being run)
	\USERS*opid**parameter*.14	(depending on program being run)
	\USERS*opid**parameter*.15	(depending on program being run)
	\USERS*opid**parameter*.24	(depending on program being run)
	\USERS*opid**parameter*.25	(depending on program being run)

3. Confirm launch of the adhoc job

Select the checkbox to launch the Process Monitor and monitor the job's progress, as well as view and print the output.

4. Click Save or press Enter

Running the Standard Test - online JSTDTST

Important: At this time, the Process Confirmation - Adhoc Jobs (ADHOC) form and functionality is available ONLY on the UK Solution Series version 5.1 for UNIX and Windows platforms.

1. Access the Process Confirmation - Adhoc Jobs (ADHOC) form

Component: Development Tools
Process: System Operations
Task: Initiate Adhoc Process

2. Select the Job Name

Select the name of the job you wish to launch.

Job Name:	JSTDTST
Export Key:	None
Parameters:	None
What it does:	This job runs the batch Standard Test. JSTEXT should be run first.
Inputs:	\WORK\STDATA (created by JSTEXT)
Outputs:	\USERS*opid*\STTLOAD.LIS \USERS*opid*\STAUDIT.LIS \USERS*opid*\STCOMBREG.LIS

3. Confirm launch of the adhoc job

Select the checkbox to launch the Process Monitor and monitor the job's progress, as well as view and print the output.

4. Click Save or press Enter

Extracting the Standard Test data - online JSTEXT

Important: At this time, the Process Confirmation - Adhoc Jobs (ADHOC) form and functionality is available ONLY on the UK Solution Series version 5.1 for UNIX and Windows platforms.

1. Access the Process Confirmation - Adhoc Jobs (ADHOC) form

Component: Development Tools
Process: System Operations
Task: Initiate Adhoc Process

2. Select the Job Name

Select the name of the job you wish to launch.

Job Name:	JSTEXT
Export Key:	None
Parameters:	None
What it does:	This job extracts the batch Standard Test data ready for a run of the batch Standard Test via JSTDTST.
Inputs:	\UPDATES\CYBMST \DATA\GEN3.XTR
Outputs:	\USERS*opid*\STEXT.LIS \WORK\STDATA

3. Confirm launch of the adhoc job

Select the checkbox to launch the Process Monitor and monitor the job's progress, as well as view and print the output.

4. Click Save or press Enter

APPENDIX W

Report Generators

In This Appendix

5.2 Report Generators.....930

5.2 Report Generators

The following table lists the Report Generators (RGs) delivered with 5.2:

Generator	Name as listed on CYBMST	Generator Name	New/Changed
010A	R.RPT0A	PERMANENT CONSTANTS	
010G	R.RPT0G	VARIABLE CONSTANTS V1.0	
010O	R.RPT0O	WRKFLDS	
010P	R.RPT0P	PAY CONSTANTS	
0100	R.RPT00	ERRORS AND WARNINGS V1.1	
0100	R.RPT00F	ERREURS ET AVERTIS.1.0F	
0101	R.RPT01	PAYROLL AUDIT TRAIL V1.0	
0101	R.RPT01F	VÉRIFICATION - PAIE V1.1	
0103	R.RPT03	CONTROL HEADERS V3.01	Changed
0103	R.RPT03F	EN-TÊTES CONTRÔLE V2.00F	
0117	R.RPT17	EDIT ERROR MESSAGES 1.0	
0118	R.RPT18	ROUTINE NUMBERS 000-099	
0119	R.RPT19	ROUTINE NUMBERS 100-255	
0120	R.RPT20	DEFINE EDIT TABLES V1.0	Changed
0121	R.RPT21	FIELD NUMBERS 1-100	
0122	R.RPT22	FIELD NUMS 101-200 V1.0	
0123	R.RPT23	FIELD NUMS 201-300 V1.0	Changed
0124	R.RPT24	FIELD NUMBERS 301-400	
0125	R.RPT25	FIELD NUMBERS 401-500	
0126	R.RPT26	FIELD NUMBERS 501-600	
0127	R.RPT27	FIELD NUMBERS 601-700	
0128	R.RPT28	FIELD NUMBERS 701-800	
0129	R.RPT29	FIELD NUMS 801-900 V1.1	Changed
0202	R.RPT02	MASTER FILE PRINT V1.4	Changed
0202	R.RPT02F	DOSSIER MAÎTRE V1.01F	
0404	R.RPT04	UNLOAD MASTER DATA V1.20	Changed
0505	R.RPT05	ACCRUAL REPORT v1.01	
0505	R.RPT05F	RAPPORT ACCUMULÉ	
1C1C	R.RPT1C	PAY RECONCILIATION V1.01	
1C1C	R.RPT1CF	RAPPROCHEMENT DE PAIE 1F	
1H1H	R.RPT1H	HISTORY REPORT V1.2	Changed

Generator	Name as listed on CYBMST	Generator Name	New/Changed
1H1H	R.RPT1HF	RAPPORT HISTORIQUE PAIE	
1J1J	R.RPT1J	CORRECT CITY/ST FMT V1.0	Changed
1K1K	R.RPT1K	DUMMY GEN FOR 1J1J ADJS	
1L1L	R.RPT1L	LABOR REPORT 40.0	
1L1L	R.RPT1LC	LABOUR REPORT 40.0	
1L1L	R.RPT1LF	RAPPORT MAIN-D'OEUVRE 40	
1M1M	R.RPT1M	Flat Rate Tax Filing Rpt	
1S1S	R.RPT1S	SSA EVS INTERFACE V1.10	
1T1T	R.RPT1T	R1-SRC/R2-SCR RPT V1.00	
1Y1Y	R.RPT1Y	DELETE WLFDW2 DATA	
1Z1Z	R.RPT1Z	TAX ADJ FROM MEMO HEDS.	
2B2B	R.RPT2B	FLAG ACTIVE J'S v1.0	Changed
2C2C	R.RPT2C	OUTSTANDING RECON NBRS.	
2C2C	R.RPT2CF	NOS RAPPRO. EN CIRCUL.	
2F2F	R.RPT2F	0 FREQS.-TERM. EMPS. 2.0	Changed
2F2F	R.RPT2FF	FRÉQ.ZÉRO-CESSATION EMP	
2G2G	R.RPT2G	0 GARNS.-TERM. EMPS. 1.0	New
2H2H	R.RPT2H	HED'S-COMB REG LARGE	Changed
2H2H	R.RPT2HF	HED'S-COMB REG LARGE	Changed
2K2K	R.RPT2K	GARNISHMENTS ACTIONED	New
2L2L	R.RPT2L	PAYROLL SUMMARY REP V1.0	New
2M2M	R.RPT2M	MEMO HED'S	Changed
2M2M	R.RPT2M-COMREG	MEMO HED'S + COM REG	New
2M2M	R.RPT2MF	MÉMO REGISTRE HED GROSS	Changed
2M2M	R.RPT2MF+COMREG	MÉMO REGISTRE + COM REG	New
2P2P	R.RPT2P	PHILA TAX REPORT	
2R2R	R.RPT2R	PITTSBURGH TAX REPORT	
2S2S	R.RPT2S	WAGE SUPPLEMNTL RPT V1.1	Changed
2T2T	R.RPT2T	TAXES-COMB REGISTER V1.3	Changed
2T2T	R.RPT2TF	IMPÔTS-REGISTRE COM 1.0F	Changed
2U2U	R.RPT2U	FUI WAGES BY STATE	
2W2W	R.RPT2W	AUDIT TRAIL WARNINGS	
2W2W	R.RPT2WF	AVERTIS. VÉRIFI.PAIE	
2X2X	R.RPT2X	OUT OF BALANCE CHECK	
2X2X	R.RPT2XF	VÉRIF.HORS ÉQUILIBRE	

Generator	Name as listed on CYBMST	Generator Name	New/Changed
2222	R.RPT22	COMBINED REGISTER	Changed
2222	R.RPT22F	REGISTRE COMBINÉ	Changed
3U3U	R.RPT3U	Tax Arrears Report V1.0	New
4C4C	R.RPT4C	X CARDS-MANUAL RECON	
4L4L	R.RPT4L	SUMMARIZE LABOR V1.0	Changed
4L4L	R.RPT4LF	SOMMAIRE MAIN-D'OEUVRE	
4R4R	R.RPT4R	ER CARDS-MANUAL RECON	
4S4S	R.RPT4S	SUPPLEMENTAL WGS RPT 1.0	New
4W4W	R.RPT4W	NON-SUBMITTED W-4'S	
4X4X	R.RPT4X	MODIFY WITHHOLDING	
4040	R.RPT40	CREATE ER VOID(CARD)	
4141	R.RPT41	TRANSFER BASIC DATA V1.0	
4242	R.RPT42	TRANSFER AMOUNTS	
4245	R.RPT45	PAYROLL ER VOID(RECYCLE)	
4343	R.RPT43	HISTORY REVERSAL	
4646	R.RPT46	FOR. CURR. SCHED. V1.0	
4747	R.RPT47	COST CENTRE SUMM V1.0	
4848	R.RPT48	FOR. CURR. BY EMP V1.0	
4949	R.RPT49	ALL CURR BY EMP V1.0	
5G!A	R.RPT!A	CONSUMER ALASKA V1.0	New
5G!B	R.RPT!B	CONSUMER ARKANSAS V1.0	New
5G!C	R.RPT!C	MC !C FOR COLUMBIA V1.0	New
5G!D	R.RPT!D	MC !D FOR HAWAII V1.0	New
5G!E	R.RPT!E	MC !E FOR MO NE V1.0	New
5G!F	R.RPT!F	MC !F FOR NJ AND NY	New
5G!G	R.RPT!G	MC !G FOR ND SD TN V1.0	New
5G!H	R.RPT!H	MC !H FOR OREGON V1.0	New
5G!I	R.RPT!I	CONSUMER GARN RI V1.0	New
5G!J	R.RPT!J	CONSUMER GARN TN SD V1.0	New
5G!K	R.RPT!K	CONSUMER GARN MD OR 1.0	New
5G!L	R.RPT!L	CHILD SUPP CA V1.0	New
5G!M	R.RPT!M	CHILD SUPPCT V1.0	New
5G!N	R.RPT!N	CHILD SUPP NC V1.0	New
5G!O	R.RPT!O	MC !O FOR OREGON V1.0	New
5G!P	R.RPT!P	MC !P FOR RI V1.0	New
5G!Q	R.RPT!Q	WAGE ASSIGN ARIZONA V1.0	New

Generator	Name as listed on CYBMST	Generator Name	New/Changed
5G!R	R.RPT!R	NM CA MT SD VT VA V1.0	New
5G!S	R.RPT!S	WAGE ASSIGN COL. V1.0	New
5G!T	R.RPT!T	WAGE ASSIGN ILL. V1.0	New
5G!U	R.RPT!U	WAGE ASSIGN MASS V1.0	New
5G!V	R.RPT!V	WAGE ASSIGN NEW YORK 1.0	New
5G!W	R.RPT!W	WAGE ASSIGN RI WI V1.0	New
5G!X	R.RPT!X	WAGE ASSIGN W.VIR V1.0	New
5G!Y	R.RPT!Y	WAGE ASSIGN AZ WV V1.0	New
5G!Z	R.RPT!Z	MC !Z FOR WV V1.0	New
5G!1	R.RPT!1	WAGE ASSIGN !1 V1.0	New
5G+C	R.RPT+C	FEDERAL TAX LEVY	New
5G+D	R.RPT+D	SUPPORT LEVY	New
5G+E	R.RPT+E	OTHER LEVY	New
5GPC	R.RPTPC	GST M.C.	
5G1B	R.RPT1B	NAME FORMAT SUBRTN v003	
5G2L	R.RPT2L	2L2L SUBROUTINE V1.0	New
5G35	R.RPT35	BENEFITS ROUTINES	
5G4F	R.RPT4F	FRICK SUBROUTINE V1.00	
5G51	R.RPT51	FIPS POST. CODES v002	
5G6C	R.RPT6C		
5G6I	R.RPT6I	CH SUPPORT ACH TAPE V1.5	New
5G6R	R.RPT6RR	RECIPROCAL FLAG SETUP	
5G7B	R.RPT7B	RG TAX METHOD CODES V1.0	
5G7R	R.RPT7R	RECIP TAX OFFSETS V2.0	Changed
5G8A	R.RPT8A	ACCUMULATION M/C V1.04	
5G8B	R.RPT8B	MINIMUM CHECK M/C	
5G8C	R.RPT8C	INTEREST CALCULATION	
5G8G	R.RPT8G	GARNISHMENT M/C V1.03	
5G8Q	R.RPT8Q	HOURS WORKED M/C v001	
5G8R	R.RPT8R	RECIP TAX SETUP M/C V1.0	New
5G9A	R.RPT9A	WASH IND COMM 5 DEC RATE	
5G9E	R.RPT9E	DATE DRIVEN TC MC 38.0	
5G9K	R.RPT9K	ROUND NET PAY	
5G9W	R.RPT9W	HOURS WORKED M.C. V1.00	
5G9Y	R.RPT9Y	RATE X FACTOR M.C. V1.0	

Generator	Name as listed on CYBMST	Generator Name	New/Changed
5G97	R.RPT97	PC SORT BINARY	
5H5Z	R.RPT5Z	ON-LINE CSSS ROOT V1.04	Changed
5R5R	R.RPT5R	RECIP TAX OFFST RPT V1.0	New
5Z5Y	R.RPT5Y	BUILD RANDOM FILE	
5558	R.RPT58	ENDING BALANCES	
5558	R.RPT58F	SOLDE DE CLÔTURE	
5959	R.RPT59	BOND BALANCE REGISTER	
6A6A	R.RPT6A	ACH TAPE V1.4	
6B6B	R.RPT6B	CANADIAN DIRECT DEPOSIT	
6B6B	R.RPT6BF	DÉPÔT DIRECT CANADIEN	
6D6D	R.RPT6D	DIRECT DEPOSIT REG V1.2	Changed
6D6D	R.RPT6DF	REGISTRE DÉPÔT DIRECT	
6E6E	R.RPT6E	DIRDEP REG, BY PMNT DATE	
6E6E	R.RPT6EF	DÉP DIR RÉG,PAR DATE PMT	
6H6H	R.RPT6H	UPDT. L7O/LPO GARN V1.1	Changed
6I6I	R.RPT6I	ACH TAPE CH-SUP 5.2 V1.8	Changed
6K6K	R.RPT6K	DEP SLIP/COMB. REGISTER	Changed
6L6L	R.RPT6L	PAY DOC./COMB. REG. V1.2	
6R6R	R.RPT6R	CH SUPP ACH REG. V1.1	
6S6S	R.RPT6S	BILLING STATISTICS V1.0	
6262	R.RPT62	CANADIAN CHEQUE V1.20	Changed
6263	R.RPT63	CANADIAN CHEQ-FREN V1.10	Changed
6262	R.RPT62L	CDN LASER CHEQUE V1.40	Changed
6263	R.RPT63F	CANADIEN - CHÈQUE V1.10	Changed
6263	R.RPT63L	CDN CHEQUE-FREN LS V1.10	Changed
6666	R.RPT66	CAN. DEPOSIT SLIP V1.10	Changed
6666	R.RPT66F	REGIS DE DÉPÔT-CDN V1.10	Changed
6666	R.RPT66L	CAN. DEPOSIT LSR V1.10	Changed
6767	R.RPT67	DEPOSIT SLIP-COMB. REG.	
6868	R.RPT68	CHECK-COMBINED REG V1.4	Changed
7A7A	R.RPT7A	PD7A REMITTANCE V00.01	
7A7A	R.RPT7AF	VERSEMENT PD7A V00.01	
7C7C	R.RPT7C	DISTRIBUTION REPORT	
7C7C	R.RPT7CF	RAPPORT DE DISTRIBUTION	
7D7D	R.RPT7D	BLS MWR FORMT V37.01	
7E7E	R.RPT7E	Data Mart HL Xtrat V1.53	

Generator	Name as listed on CYBMST	Generator Name	New/Changed
7G7G	R.RPT7G	CAN PAYROLL SAVINGS V1.0	
7G7G	R.RPT7GF	ÉPARGNE CANADA -PAIE V1.0	
7H7H	R.RPT7H	CPS REGISTER	
7H7H	R.RPT7HF	REGISTRE OEC	
7L7L	R.RPT7L	PAY INFO EXTRACT V1.1	Changed
7L7L	R.RPT7LA	PAY INFO EXTRACT V1.1	
7L7L	R.RPT7LF	EXTRAIT INFO PAIE V1.0	
7M7M	R.RPT7M	PAYSLIP EXTRACT V1.1	Changed
7M7M	R.RPT7MA	PAYSLIP EXTRACT V1.1	
7M7M	R.RPT7MF	PAYSLIP EXTRACT V1.0	
7Q7Q	R.RPT7Q	BACK OUT QTD FIGURES	
7S7S	R.RPT7S	WCB - MONTHLY V00.01	
7S7S	R.RPT7SF	CST - MENSUEL V00.01F	
7T7T	R.RPT7T	TAX REPORTING TAPE	
7U7U	R.RPT7U	REPORT ON HIRINGS	
7V7V	R.RPT7V	CDN WCB REPORT V00.01	
7V7V	R.RPT7VF	RAPPORT CST V00.01F	
7W7W	R.RPT7W	WORKERS COMP REPORTV1.1	Changed
7Y7Y	R.RPT7Y	CDN NF WCB V01.01	
7Y7Y	R.RPT7YF	WHSCC (NF) V00.01F	
7Z7Z	R.RPT7Z	WCB-NOVA SCOTIA V00.01	
7Z7Z	R.RPT7ZF	CST-NOUVELLE ÉCOSSE 1.0F	
7575	R.RPT75	JOURNAL ENTRY-FILE V1.0	
7575	R.RPT75F	DOSSIER-ÉCRITURE JRNL1.F	
7676	R.RPT76	JOURNAL ENTRY-PRT V1.0	
7676	R.RPT76F	ÉCRITURE JOURNAL V1.00F	
7777	R.RPT77	PAYROLL ACCRU-TAPE V1.00	
7777	R.RPT77F	BANDE-PAIE ACCUMUL.V1.0F	
7878	R.RPT78	PAYROLL ACCRU-PRNT V1.00	
7878	R.RPT78F	RAP-PAIE ACCUMUL. V1.00F	
7979	R.RPT79	LABOR DISTRIBUTION V1.01	
7979	R.RPT79F	DISTR.MAIN D'OEUVRE 1.0F	
8S8S	R.RPT8S	COLLECT HOURS WORKED	
8T8T	R.RPT8T	YEAR END CLEARINGS V1.0	
8T8T	R.RPT8TF	SUPPR FIN EXERCISE V1.0	

Generator	Name as listed on CYBMST	Generator Name	New/Changed
8W8W	R.RPT8W	W-2 FORMS ESTIM. V1.0	
8Z8Z	R.RPT8Z	COLLECT HOURS WRKED V1.0	Changed
9A9A	R.RPT9A	941 SUMMARY REPORT v001	
9B9B	R.RPT9B	QUARTERLY EMP CNTS v001	
9E9E	R.RPT9E	MASTER FILE STATUS V1.10	Changed
9F9F	R.RPT9F	MASTER FIL STAT (CAN)V1.0	
9F9F	R.RPT9FF	DOSSIER MAÎTRE D'ÉTAT V1.0	
9H9H	R.RPT9H	DELETE UNUSED H & J SEGS	
9M9M	R.RPT9M	STATISTICS CANADA REPORT	
9M9S	R.RPT9S	STATS CANADA - PART 2	
9N9N	R.RPT9N	INSURABLE EARNINGS	
9R9R	R.RPT9R	RETRO PAY INCREASE	
9090	R.RPT90	PD FRQ TAX FLNG RPTV1.3	Changed
9091	R.RPT91	ALL FREQ TAX FILING V1.2	Changed
9595	R.RPT95	STATE 941A'S v788	
9$9$	R.RPT9$	FEDERAL SUMMARY RPT v001	

Glossary of Terms

.EXE
A binary file containing a program in machine language that is ready to be executed.

.INI
A file that contains the parameters (values) used by the .exe file (program).

360-degree appraisal
Appraisals that include evaluations from an employee's managers and supervisors, peers, subordinates, and even customers, clients, and suppliers.

820 (Premium Payment for Group Insurance Products) Transaction Set
A specific transaction, standardized by the United States government, used between Covered Entities to relay remittance information and/or premium payments for heath care insurance products.

834 (Benefit Enrollment and Maintenance) Transaction Set
A specific transaction, standardized by the United States government, used between Covered Entities to relay information relating to the initial enrollment in and subsequent maintenance of individuals enrolled in a health care insurance product.

Absence data
Employee-level absence information that is entered on the absences forms.

Absence point
User-defined number that may be assigned for a particular absence and that can be totalled over time to determine if an employee is within the accepted number of absences for a time period.

Absence type
A classification of an employee absence, such as 'jury duty' or 'sick'. Employee absences are recorded by date and absence type.

Account timeout
The period of time that elapses before a user's account becomes invalid because of inactivity.

Accumulator id
A three-position, alphanumeric identifier for a benefits accumulator.

ACH
US-specific acronym for Automated Clearing House. The ACH Network provides inter-bank clearing of electronic payments for participating depository financial institutions. The American Clearing House Association, Federal Reserve, Electronic Payments Network, and Visa act as ACH Operators—central clearing facilities through which financial institutions transmit or receive ACH entries.

Acrobat
A suite of programs developed by Adobe Systems, Inc. For creating and distributing electronic documents. Programs in the suite allow you to create a portable document format (PDF) file for a document. You can then distribute the PDF file electronically to people who view the document with their freely distributed acrobat reader. People viewing a PDF file (or document) with the Acrobat Reader see the document with the exact layout intended by the author.

Action button
An action button performs an action such as saving the information you entered or telling the system you finished reviewing a page. An action button consists of an icon (or button) accompanied by underlined text (link text). For example, at various places throughout eCyborg Interactive Workforce you may see an action button displaying a check mark accompanied by the underlined text 'save changes'. You can click either the text or the button to save your changes to the page.

Activity
Event that can happen to an employee during employment, for example, new hire, leave of absence, termination, and so forth.

Activity code
Describes the clock transaction (ring) activity, such as clock start or meal end.

Activity types
With the time and attendance solution, you can set up the system so that an employee or group of employees may clock in and out for up to eight different activities: clock-in (1), break 1 start (2), break 1 end (3), meal start (4), meal end (5), break 2 start (6), break 2 end (7), and clock end (8).

Actuarial valuation
An examination of a pension plan to determine if contributions are being accumulated at a rate sufficient to pay the promised pensions.

Adjustment
Adjustments increase or reduce to-date accumulations of earnings, deductions, and taxes. Adjustments update month-to-date, quarter-to-date, and year-to-date activity. You can also correct or eliminate deduction arrears, transfer amounts or hours from one earning or deduction to another, redistribute labor hours and dollars, and refund deductions. Adjustment transactions are processed the next time the organization is processed by the batch payroll programs during either a payroll or maintenance run.

Administration home page
The administration page that displays when a user logs on using his or her administrator user ID and password. The administration page displays links to individual administrator pages (eCyborg Interactive Workforce, Human Resources Administration, Benefits Administration, and Payroll Administration).

Administrative User ID
User ID created by an administrator with the role of eCyborg Interactive Workforce administrator. This ID differs from the employee user ID generated for the administrator.

Agent types
Agent Indicator on the Employer Information Record (QE-SCR). The field's only allowable entries are selected from option list PR55, which consists of two agent types: Agent Indicator code and Common Pay master.

Further definition of agent types:

1. An employer that wants to use an agent prepares Form 2678, Employer Appointment, and submits the form to an agent.

The agent submits to IRS the form received from the employer along with a written request for authority to act as an agent for an employer.

The IRS gives written approval.

2. A common paymaster is a corporation that pays an employee who works for two or more related corporations at the same time.

Aggregate tax method
Method of calculating taxes in which year-to-date income is used to project annual wages (using prorating), on which taxes are calculated. With this method, the amount of tax withheld can vary from pay period to pay period. This method is useful in preventing a salesperson from being over withheld as the result of fluctuations in commission over various pay periods. It is activated in Payroll Administration by selecting aggregate/cumula tax (9) from the Withholding Method (PR09) option list on the Employee Tax Record Maintenance form. It is also referred to as cumulative tax calculation method.

Anniversary date
Period-end date for the next regularly scheduled pay run for a specific pay frequency.

Annualization
Process of calculating the annual amount of pay based on the number of pay periods and pay period amounts. Calculated by multiplying the number of pay periods in the year by the current taxable wages in the pay period.

Annualization factor
The factor that is used to multiply current pay period wages to determine annual wages. For example, a monthly pay frequency has an annualization factor of 12. Payroll Administration typically calculates income

taxes on the basis of annual wages. The annualization factor is entered by selecting an option from the Annualization (PP33) option list on the Company Pay Frequencies form for each pay frequency.

Annuitant
Someone entitled to receive or currently receiving payments from an annuity.

Annuity
A contract providing an income for a specific period of time.

Applicant
A person who is applying for a job or position in your organization. Internal applicants come from within your organization while external applicants come from outside of your organization.

Applicant organization
Organization used to store and update applicant records.

Appraisal rating
A method of ranking the performance of an employee during a given period using options ranging from 1-outstanding to 5-unsatisfactory.

Archive
To transfer files to a slower, cheaper media (usually magnetic tape) to either free up the hard disk space they occupy or to create a backup copy of the files that can be used to restore programs and/or data if there is a system failure.

Arrears
Amount that could not be deducted from an employee's net pay because the available net amount was less than the deduction. This amount may be recorded for recovery in a future pay period.

As-of reporting
Ability to report on data for a specified date or date range.

ASCII
American **S**tandard **C**ode for **I**nformation **I**nterchange. The basis of character sets used in almost all present-day computers; US-ASCII uses only seven bits to convey some control codes, space, numbers, most basic punctuation, and unaccented letters a-z and A-Z.

Ask Me wizard
A natural language, full-text search facility within the online help. This allows users to type in a question, the wizard interprets the question, and displays related topics.

Audit record
A snapshot of information entered on a form. Audit records are stored on the employee database and are displayed on audit reports in an is/was reporting format. Adjustments and time entries are stored as audit records and are extracted for a payroll run in which they update the employee's record.

Audit report
A report that is available after the running of a program; it lists created records as well as error messages for records that could not be created.

Audit trail
A report of changes made to your employee database, such as the Payroll Audit Trail (0101) report.

Authorized absence
Absences that are generally considered as paid time away from regularly scheduled work.

Automatic plan
A plan that has been defined with a default option and default pre- or posttax indicator (also known as core/default plan).

Average deferral percentage
Percentage used in nondiscrimination and compliance testing mandated by US law. The calculation is defined as the contribution divided by the compensation.

Average rating
A rating used for performance appraisal systems with categories weighted by relative importance, where the average score reflects the weighted scores.

Back
Takes the user back to the previous page.

Badge
Time and Attendance Administration can be set up to use two different types of badge readers. The type of badge your organization uses, is determined by your third party badge reader software. The two types of badges are magnetic badges and bar code badges.

Badge error
Occurs when a badge is used to create a clock transaction (ring) and an employee has not been assigned to the badge.

Badge number
Up to ten-character ID stored on employee badges and clock transactions (rings) that tie clock transactions (rings) to an employee on the ***Employee Database*** (on page 948).

Banner
Banner forms separate groupings on forms produced from the Federal, State/Local, and Employee Queues.

Batch
A group of transactions submitted to the batch payroll processing system. Also, a collection of time entries that corresponds to an employee group, such as department.

Batch control record
Precedes all transactions separated by group; used to identify the company to which the transactions in that group apply. By entering anticipated totals for dollars and hours on the batch control record, you may verify your totals against those accumulated by the system.

Batch layout facility
A program that produces a segment layout for loading forms via batch. This was formerly known as BATCHL.

Batch Master file (P20)
Sequential version of the Payroll Master information from the Employee Database. The Batch Master File (P20) is accessed and maintained during a batch maintenance run or pay run.

Batch number
An alphanumeric field on the batch control record containing a user-defined value used to identify a unique group of time entries or transactions.

Batch processing
A processing method that runs in the background and requires limited intervention.

Batch transaction
Precedes all transactions separated by group; used to identify the company to which the transactions in that group apply. By entering anticipated totals for dollars and hours on the BATCH transaction, you may verify your totals against those accumulated by the system.

Benchmark job
A standard or point of reference for determining total job points.

Beneficiary
A person named by the participant in an insurance or pension plan to receive any benefit provided by the plan if the participant dies.

Benefits Business Partner
See ***Trading Partner*** (on page 971).

Benefits control number
A four-position, alphanumeric identifier that specifies which tables are accessed for an organization.

Benefits statement
Report that indicates the coverage and cost of each benefits plan in which an employee participates.

Big option list
A large option list that includes a search facility. This was formerly known as a big codeset.

Blocking factor
Represents the number of physical records in a logical record.

Bridge loan
A loan made to assist a relocated employee in purchasing a new residence before the sale of their old residence is complete.

Browser
Software application used to locate and display web pages. Modern browsers give users access to graphics, text, and multimedia information, including sound and video.

Budget plan year
A twelve-month period over which a salary budget is effective.

Budget scenario
The result of creating one or more salary plans in order to see the effect of different increase policies on the budget.

Budget setting
The process of analyzing and selecting an organization's salary budget for the coming plan year.

Cafeteria plan
A specific type of flexible benefit plan that allows employees to select their benefits from a number of benefit plans. This term may be used interchangeably with flexible benefits plan.

Calculation option list
An option list that contains calculation formula. This was formerly known as a calculation codeset.

Candidate
A person who is applying for a job or position in your organization and is under consideration.

Career planning
Providing career incentives such as advancement and additional education and training for individual employees in order to meet projected organizational needs.

Carrier record
A carrier record supplies information from one application area to another application.

Case-sensitive
A program that distinguishes between uppercase (capital) and lowercase (small) letters. A case-sensitive program that expects you to enter all commands in uppercase will not respond correctly if you enter one or more characters in lowercase.

Catalog
A file (with the extension of .cat) that contains all the information necessary for Impromptu to access and retrieve information from a relational database. The catalog provides a business view of the data, as well as information about what database to access, where the database is stored, and how the tables in the catalog are joined in the data mart.

Category code
General term used to refer to the option selected from category (PP01 and PP02) option lists on the company earnings and company deductions forms. It is used to indicate the type of earning or deduction.

CBSVB
COBOL program used to produce reports and to access or maintain The Solution Series offline.

CBT
Computer-based training. Training through use of computer.

CE/H
Abbreviation for considered earnings/hours.

Change control facility
A facility for updating and comparing your system control repository. This was formerly known as MAINTI/MAINTO.

Check box
A standard windows control that displays a yes/no setting, either checked (yes) or unchecked (no).

Check digit
Unique identifier that is generated by the TBLCHK program and used by the system to check the table relationship records.

Checklist
A list of tasks to be performed in sequence. The checklist displays within the navigator area. Checklists link tasks and other checklists together to perform workflow functions. Users can display a checklist by selecting a checklist icon within the tasks in the navigator.

eCyborg Interactive Workforce specific—a list of tasks/pages generally displayed in a chart with hot spots (links) for the checklist items. The user clicks the link to access the page.

Checklist item
An item appearing within the navigator when a checklist is being displayed. Checklist items include tasks, dialogs and even other checklists.

Checklist item status
Defines the status of a checklist item. These can be:

- Available to perform
- Required
- Not available
- Already completed

Checklist margin
The area of the navigator that displays the checklist item status when a checklist is being displayed.

Checklist wizard
Tool used to create checklists.

Checkmark
If in the done column of an eCyborg Interactive Workforce checklist, indicates that an item on a checklist is complete. Can also indicate OK, finished, submit, and so forth.

Class
A class is an occurrence of a course that is specific to a location and a date that is being administered using Training Administration. For example, 'eCyborg: Using the Web Client′ on Thursday, December 21, in Chicago is a class of the course 'eCyborg: Using the Web Client'.

Class evaluation results
These are the results as entered on the evaluation forms filled out by the class participants upon completion of the class. These results are recorded on the class evaluation results form.

Cleared payment
A check that has been cashed or deposited by the payee and has been returned, marked as such, to the payer's bank, credit union, or financial institution.

Client data file
File containing information replicated from the System Control Repository. Used by client workstations to improve response time, since editing can be performed locally. May be located on each client workstation or may be located on a server and be shared by multiple client workstations on the network. Formerly known as the Client Control File.

Clock in and out
Also referred to as swipe/swiping the clock. When an employee uses their badge to record an activity time, they must pass their badge through the badge reader. This action can be referred to as clocking in and out.

Clock transaction (ring)
Record containing the information needed to create time entries for payroll processing. Clock transaction (ring) information includes date, time, and badge number. A clock transaction (ring) is created when a badge is swiped through a clock.

Clock transaction warning
Occurs when a clock transaction (ring) time falls outside of an employee's schedule warning times.

Closing costs
The costs associated with the purchase of a new house.

CLP
Abbreviation for certificates, licenses, and permits.

Co-ordinator
A coordinator is an instructional institution, organization or person who administers training courses.

Codeset
A list of valid code values and associated descriptions from which you may select an appropriate entry. This is now known as an option list.

Coefficient
Customer-defined value used in the formula to calculate a new salary grade midpoint value.

Combined register (2222) report
A report that provides a detailed printout of all earnings, hours, taxes, and deductions for all the payments and adjustments made on a payroll run. It is Report Generator 2222.

Command button
A standard windows control that initiates a command of sets an option (previously known as push button).

Common pay master
An organization that pays employees who work for different legal entities. If all the conditions related to a common paymaster are met, the FICA and, in most cases, the SUI does not have to start over.

Common tax organization
A method of setting up taxation in an organization in which all necessary tax specification records are contained in a single organization. The common tax organization often handles tax specification records more efficiently, since it avoids duplication of the

federal tax records and of any state or local records used by multiple companies.

Communication event
A letter or email that can be triggered automatically or manually within the system. Communication events are set up by the system administrator and usually include data from a form or record.

Compa ratio
The ratio of a given salary compared with the midpoint of the salary range. The formula is the salary divided by the midpoint.

Company logical Master record
Complete record for a company. It may be composed of multiple physical records.

Company validation table
Table that validates that an Organization Control Number is valid and payments can be made.

Competency
A requisite capacity to perform a single or set of skills or activities.

Complement limit
A 'complement limit' is the maximum number of complement units that can be assigned to a position at any one time.

Complement position
A 'complement position' is a position that is included in complement control.

Complement unit
A 'complement unit' is the type of unit used to measure the value of a position, for example, headcount, fte, or hours.

Compliance
Conformity in fulfilling legal requirements.

Component
The first level of functional organization on the navigator or menu, such as employee resourcing or employee development.

Component icon
An icon that denotes the current component. There are a number of components within the system. Each component appears as an icon on the navigator.

Component plan
Any plan included under the flex master plan or grouped together under a group master.

Condition
Predefined criteria that can be added to a report's filter.

Considered earnings
An employee's paid earnings that are to be accumulated, based on plan rules, for use in determining credited service or calculations of final benefits amounts.

Considered earnings/hours (CE/H) accumulators
Used only in benefits plans to accumulate the earnings and hours an employee has acquired toward eligibility for a deferred plan. Accumulators may be retained on a monthly, quarterly, or annual basis.

Considered hours paid
Actual number of hours for which an employee was paid and that are to be accumulated based on plan rules.

Considered hours worked
Actual number of hours an employee worked. These hours are to be accumulated based on plan rules for use in determining credited service for a plan participant (or for a non-participant if eligibility has been met).

Consolidated reporting
Option that enables packaged reports to be processed for all organizations (consolidated).

Customer-defined value used in the formula to calculate a new salary grade midpoint value.

Context-sensitive help
Information about an object and its current condition. It answers the question 'what is this?'

Contractual exchange rate
An annually reviewed exchange rate usually based on an employees anniversary date and reviewed once a year; often used for salaries.

Contribution type
The type of contribution being made to a benefits plan. The system allows for the deduction and accumulation of up to five different contributions per plan: basic employee pretax, basic employee posttax, supplemental employee pretax, supplemental post-tax, and organization.

Control 1-2
Organization Control Number. A six-character, customer-defined code that represents a company or group of employees within an organization.

Control levels
A hierarchy of values used to determine the breakdown of an organization for reporting purposes. The values are user-defined.

Control number
An alphanumeric designation assigned to a table to define the table records that will be used for each organization.

Conversion
A method for transferring data from either a manual or automated system into the system.

Conversion option
The interval at which you are converting currency (for example: yearly, monthly, weekly).

Core plan
One of the plans that make up the minimum benefits in which all eligible employees are required to enroll—for example, medical and life. Employees who fail to return enrollment forms with their benefit choices may be automatically enrolled in the core plans (also known as default plans).

Cost categories
Cost categories are classifications or divisions used to separate costs for training into broad groupings, for example, equipment or operating costs.

Cost types
Cost types are used to further define training costs. For example, the category of equipment could be further broken down into the cost type of overhead projector and monitor rental.

Costing
Projecting the future cost of a benefits plan contribution for budget purposes.

Costing record
Labor record.

Course
A course is a separate unit of instruction in a subject being administered using the training administration solution. For example, 'eCyborg: Using the Web Client′ is a course. This may be applied to a training course provided internally or externally.

Course directory
A course directory is a list of all available courses.

Covered Entity
A member of one of three groups subject to the administrative simplification provisions of HIPAA. The three types of Covered Entities are health plans (not fully insured), clearinghouses, and providers that conduct transactions electronically.

Covered Entity Group
A Covered Entity Group represents in the system a partnership between two Covered Entities (benefits business partners) who transmit benefit information electronically between each other in the form of the 834 (Benefit Enrollment and Maintenance) and 820 (Group Premium Payment for Insurance Products) Transaction Sets.

CPI
Characters per inch.

Credited service
The number of years of employment for which an employee is given credit for use in determining final benefits amounts.

Crew
A group of employees who rotate from one schedule assignment (shift) to another, following a rotation pattern.

Crew code
A unique, one-character, alphanumeric identifier of a crew.

Cross-reference keys
Provide direct query access to data within the system database.

Crossfoot
An accounting term that means to compare or add figures to make them balance. If you receive an error message such as 'Entries do not Crossfoot', this means that some amounts entered into fields are not balanced.

CSL
Abbreviation for ***Cyborg Scripting Language*** (on page 945).

Cube
File that contains data organized into dimensions to provide for faster data retrieval and drill down reporting and analytical capabilities.

Cumulative data
Also called 'to-date data'. includes payroll earning, deduction, net pay, taxable wage, and tax to-date figures for employees.

Cursor
A special symbol, usually a solid rectangle or a blinking underline character, that signifies where the next character will be displayed on the screen. To type in different areas of the screen, you need to move the cursor. You can use the arrow keys or a mouse to move the cursor.

Custom report format
Custom reporting used by states because their reporting format is neither MMREF, ICESA, nor TIB-4.

Customer-defined
Values that depend on an organization-specific definition--for example, option list.

CYB88X
An English Language root program used to set the production version switch to on or off, in addition to other automatic settings.

CYBMST
Library file that contains the main batch payroll software. This file consists of COBOL programs, report generators, and system tables.

Cyborg Scripting Language
Fourth-generation programming language, previously called English Language.

Data extract
Method for extracting information from The Solution Series for the purpose of subsequently loading it into eCyborg Interactive Workforce databases.

Data Extract File Splitter (RSPLIT)
COBOL program that creates separate files for every representative table, using the Data mart Extract File as input.

Data load
The process of moving data from one system or media to another. It encompasses data mapping, data extraction and conversion, and the actual loading of the data. Also the method of loading data extracted from The Solution Series into eCyborg Interactive Workforce databases using programming scripts.

Data mapping
The process of identifying, comparing, and matching data (field to field) to be converted from one system or media to another.

Data mart
Relational tables with a defined structure that have been designed to automatically accept full data mart extract data seamlessly.

Data mart Extract File (FILE36)
Temporary system file holding the copied data from The Solution Series.

Data store
Repository where data is stored. Client applications request information from a Solution Series data store.

Database
A collection of information organized so that a computer program can quickly search for and select specific pieces of data. Think of a database as an electronic filing system.

De-enrollment
The process of shutting off plan benefits for an employee for reasons other than a separation activity.

Deduct credits by plan
A method of distributing flexible benefit credits. The total monetary value for credits is prorated based on the employee's pay frequency. Credits are given to employees as earnings added to their pay; the cost of individual employee plans are collected through payroll deductions and listed on the employee's payment stub.

Deduct credits by plan method
A method of distributing flexible benefit credits. Credits are given to employees as earnings added to their pay; the individual employee plan costs are then collected through payroll deductions.

Deduction
An amount subtracted from available net pay. Deductions can be involuntary (child support or maintenance) or voluntary (pension plans).

Deduction cycle
A predetermined schedule for taking voluntary deductions, based on the defined frequency.

Default
Value that will appear if no entry is typed or selected.

Deferred compensation
Any benefit that is not immediately payable to an employee, but is instead deferred to a later date. This term refers to retirement vehicles, including all defined benefit, defined contribution, stock, and thrift/savings plan.

Deferred plan
Any benefits plan in which benefits are not immediately payable to an employee, but are deferred to some later date. This term refers to retirement vehicles, including all defined benefit, defined contribution, stock, and thrift/savings plans.

DEL-PE
Utility program used to delete existing Phonetic Keys.

Delimiter
A character that tells the system where an item of data ends and another starts.

Density
Number of bytes per inch that a tape drive writes to a tape.

Dependent
An individual who relies or depends on another for his or her support.

Dependent GTL
Acronym for Dependent group term life insurance plan.

Dependent number
A unique number in the eCyborg Interactive Workforce database that identifies an employee's spouse and his or her other dependents.

Deposit advice
Pay document that looks similar to a check and shows the amount deposited to the employee’s account.

Derived data
Reporting Administration enhances data during the extract process by capturing and storing table-derived data, such as salary grade, that do not reside on the employee’s record.

Detail page
A page in eCyborg Interactive Workforce that displays detailed information. Summary pages contain links to the detail for each record.

Dialog box
A secondary window that appears on the screen to present information or request input. Dialog boxes are generally temporary—they disappear after you enter the requested information.

Direct deposit
Also referred to as an Electronic Funds Transfer, or EFT, direct deposit allows employees to authorize the organization they work for to automatically deposit all or part of net pay into one or more bank accounts.

Disability
Inability to pursue certain occupational activities due to physical or mental impairment.

Disability insurance tax
A tax required by some us states to be funded by employee-paid contributions to pay all or part of the cost of disability insurance coverage. In Payroll Administration, US State disability insurance tax records are established as Type 4 taxes.

Disciplinary action
Action taken against an employee for violation of an organization policy or procedure.

Discretionary increase
A salary increase amount or percentage determined by a manager according to the guidelines established by the organization.

Display
Make data or images display on a computer monitor.

Display box
An area on a form in which data is displayed (formally known as an inquiry field).

Display text boxes
An area on a form in which data is shown but cannot be modified.

Disposable income
For garnishment purposes in the U.S., an employee's earnings minus deductions required by state or federal law.

Distributed Access Log Table
Form that records the date, time, and last record distributed to a unique location.

Distributed location
A customer location where data changes are replicated and may be distributed. A DL is identified to the system by a unique 5-position alphanumeric node ID.

Distributed Location NODE Control Table
Form that defines the operating environment of your remote node. It allows you to assign an access password for the node and indicate whether the option list and table records will be distributed to the remote node.

Distributed Rules Table
Form that records the FILE 02 segments that are to be excluded from the remote location.

Distribution
The process of passing data from a source DL to one or more target DLs.

Distribution rules
A set of parameters that determine how data will be distributed from one DL to another. These are defined at each DL by the owner using the distribution rules forms. Distribution rules are stored in tables that are not replicated (thus, they cannot be distributed).

DL
Abbreviation for ***distributed location*** (on page 947).

Docked toolbar
Toolbar that is located on the edge of a program window.

Document type
Categorization of a document, such as birth certificate, performance review, drivers license, and so on.

Double-click
Click a mouse button twice in rapid succession.

Drop-down list
A drop-down list is a view of the acceptable entry options available for a text box.

Drop-down list box
A standard windows control that displays a current setting but can be opened to display a list of choices. The user selects a choice by double clicking on the choice. The user can type into the field, and the system moves the list of choices to the last letter typed.

DSP08
Program that displays the current contents of the Replication Holding File (FILE08).

DSRF02
Form that records the FILE02 segments that are to be excluded from the remote location.

DSRSET
Program that activates the Distributed Administration indicator on the PP-SCOPTS record of FILE01.

DSSRRL
Program that will display those remote sites that have not had data distributed to them within the past three days.

DSUSET
Program that deactivates the Distributed Solution indicator on the PP-SCOPTS record of FILE 01.

Dynamic SQL
Statements created by a program that must be interpreted and converted to executable sql statements at run time.

Earned income credit
A refundable amount that reduces the tax owed by certain low-income individuals in the U.S. who meet adjusted gross income levels.

Earning
Money paid in return for work performed or services rendered. In Payroll Administration, earnings are separated by earning numbers into various categories such as regular pay, overtime pay, shift pay, bonuses, and so forth.

Earnings category
Used to categorize similar earnings. For example, all the overtime earnings can be grouped into category 01, all the shift differentials/premiums into category 06, and so forth.

EBCDIC
Extended Binary Coded Decimal Interchange Code; binary code for alphabetic and numeric characters developed by IBM for its computers.

eCyborg Interactive Workforce Home
Button on every page that returns the user to the eCyborg Interactive Workforce Home Page.

eCyborg Interactive Workforce Home page
Home page that displays each time employees log on to eCyborg Interactive Workforce after completing the new user tasks on the New User Home page.

EDI
Electronic Data Interchange. The electronic exchange of business transactions based on standardized guidelines.

EEOC
Equal Employment Opportunity Commission.

Effective date
Date on which an event takes place, for example, an enrollment or benefits plan change.

EFT
Electronic Funds Transfer or direct deposit. Allows employees to authorize the organization they work for to automatically deposit all or part of net pay into one or more bank accounts.

EIC
Abbreviation for ***earned income credit*** (on page 948).

EIN
Employer Identification Number. A federally or state assigned number used to distinguish tax entities in the US.

EL
Abbreviation for English Language, now called CSL (Cyborg Scripting Language).

Electronic documentation
Documentation that can be viewed, searched, and printed on your computer.

Electronic Performance Support system
Online tools that help users perform their job quickly and efficiently. EPSS can include online help, computer-based training (CBT), electronic manuals, wizards, and so on.

Email
Literally 'electronic mail'. This is a message that is sent to one or more people within or outside of your organization by an automated email software package.

Employee cancellation
An employee cancellation occurs when an employee is cancelled from attending a training class or training program.

Employee Database
The file that contains organization and employee records. This is File02. It was formerly known as the Master File.

Employee Database record
The complete record for an employee. It may be composed of multiple physical records.

Employee logical Master record
Complete record for an employee. It may be composed of multiple physical records.

Employee Number
Alphanumeric value of up to 10 characters that you define to be used to identify an individual as an employee. It acts as a key to retrieve an employee's record.

Employee status
Represents an employee's present standing in terms of activities processed for the employee, for example, active, inactive, part-time, full-time, and so forth.

Encoding
The process of applying a badge number to an actual badge. This badge number is then entered on the Badge Number Assignments form to assign it to an employee.

English Language
Former name of our fourth-generation programming language, now called Cyborg Scripting Language.

Enhanced Pay Processing and Reporting
Pay run and reporting process that can be executed online.

Enrollment form
A customer-defined form used by employees to record their benefits elections and any associated dependent and/or beneficiary information.

Entitlement accrual
An accumulation of hours for an employee benefit, such as sick leave or vacation time, commonly known as an accrual.

Entity
Each Organization Unit, Job, Position, and Incumbent is an entity. Together they are entities.

Alternate definition: The agency to which an organization submits its quarterly unemployment insurance reports.

Entry field
An area on a screen or browser page where the user can input information.

Entry form
An entry form is a form used to enter data.

Environment
The host platform and workstations where your system resides, and any communication protocols. Also, a workspace dedicated to a specific processing type. For example: development, test, and production.

EPSS
Abbreviation for ***Electronic Performance Support system*** (on page 948).

Establishment Reporting
Establishment Reporting occurs when an employer with several business locations chooses to file wage reports, broken down by location or unit, to the Social Security Administration. Each unit is identified by a four-character code, called an Establishment Number. The employer obtains approval from the SSA to use Establishment Reporting. Establishment Reporting does not apply to 1099s.

Euro triangulation
The conversion between one Euro currency and another.

Event
The combination of a trigger (changes made to system data) and an action (the creation of an email or letter). Events always consist of these two component halves.

Exchange rate
The ratio of the value of one currency to another.

Exchange rate type
The interval at which you update the exchange rate; for example, yearly, monthly, weekly.

Excused absence
Absences from regularly scheduled work that can be considered as either paid or unpaid time off.

Execution scripts
Generic reference to Job Control Language (JCL) for your operating system's command language.

Extract file
A data file generated to be used by another system or application.

Extract program
Report generator 7F7F and its subroutines.

This program accesses the P20 file to extract the employee information. It extracts all necessary information and is required to run only once per quarter. It may need to be rerun if there are subsequent adjustments applied to the P20.

Federal Insurance Contributions Act
The United States Federal Insurance Contributions Act imposes two taxes on both employers and employees. Tax is withheld from an employee's wages to finance the Old-Age, Survivor's, and Disability Insurance (OASDI) social security program and the Hospital Insurance (HI) Medicare program. Employers are then required to match the amounts withheld from employees. In Payroll Administration, employee information for FICA-OASDI social security tax is entered on tax record 101 and FICA-HI Medicare tax on tax record 103.

FEIN
Federal Employer Identification Number.

FICA
Abbreviation for Federal Insurance Contributions Act.

Field
A data item on the database. This is usually displayed on a form as a text box.

eCyborg Interactive Workforce specific—A space allocated for a particular item of information. A tax form, for example, contains a number of fields: one for your name, one for your Social Security number, one for your income, and so on. Every field has a name (also called a field label).

Filing entity
Agency to which an organization submits its quarterly report.

Filter
Device used by report to select certain rows of information from the database, thus limiting the amount of data from the database to be viewed in the report.

Finished
Users click Finished when they have completed all information on a checklist or other *Interactive Workforce* page.

Flat rate tax
A US local tax that is calculated as a standard percentage rate and that is calculated in the same way for all employees (that is, factors such as marital status do not enter into the calculation). For many such local taxes, the Tax Authority File does not provide tax specification information. Instead, you need to enter a Tax Specification Record for the tax on a Tax Specification Information form, indicating the tax rate in the Flat Rate text box.

Flex credits
Units granted to an employee in order to purchase benefits under a Flexible Benefits Program.

Flex Master Plan
Defines your Flexible Benefits Program and ties component plans together as a group. Employees are enrolled in the Master Plan and then select the benefit plans in which they wish to participate—for example, medical, dental, and life. Flex master plans are set up in Benefits Administration and used by eCyborg Interactive Benefits to display benefit plans to users for initial and open enrollment.

Flex plan
A benefit plan where, in addition to a core of basic benefits (if applicable), the organization/company allocates to each employee a credit for purchasing additional benefits tailored to their individual needs. Flexible benefit plans may include a flexible spending account.

Flexible Benefits Plan
A specific type of benefit plan that allows employees to select their benefits from a number of benefit plans. This term may be used interchangeably with cafeteria plan.

Flexible Benefits Program
A benefits program in which an organization may allocate to each employee a pool of credits or a monetary amount that is to be used to purchase benefits tailored to individual needs.

Flexible Spending Arrangement
A benefits welfare plan set up as an account in an employee's name that is used to reimburse the employee for certain personal expenses. In the United States, these accounts are provided by employers as a way for employees to pre-fund dependent care, legal services, or medical expenses with pretax currency.

Floating toolbar
Toolbar that is located within the program window.

FLSA
Fair Labor Standards Act. Additional calculations applied to the retroactive pay results to ensure the knock-on effects of pay rate changes are recognized by the recalculation of related monetary amounts.

Folder
Logical organization device for the content of a Cognos catalog.

Foreign currency
The currency into which or from which you must convert.

Form
Section of the Work Area in which data is entered and displayed, including text boxes and other controls. This was formerly known as a screen.

Form 300
Log of Work-Related Injuries and Illnesses, used to classify work-related injuries and illnesses and to note the severity and extent of each case. The delivered OSHA Form 300 Log of Work-Related Injuries and Illnesses report (20-RPT) is a facsimile of the Form 300.

Form 300A
Summary of Work-Related Injuries and Illnesses, used to show the totals for the year in each (illness or injury) category. The delivered OSHA Form 300A Summary of Work-Related Injuries and Illnesses report (21-RPT) is a facsimile of the Form 300A.

Form 301
Injury and Illness Incident Report. This must be completed when a recordable work-related injury or illness has occurred. This must be completed by the employer within 7 calendar days following receipt of information that the recordable work-related injury or illness occurred. This form must be kept on file for five years following the year to which it pertains. The delivered OSHA Form 301 Injury and Illness Incident Report (22-RPT) is a facsimile of Form 301.

Form area
An area of the window that contains a form.

Form Builder
A tool for use with The Solution Series for designing forms.

Formal education
Education that is obtained from a college or university.

Forward
Displays the next page.

FSA
Abbreviation for Flexible Spending Arrangement.

FTE
Full Time Equivalent. An FTE is the ratio of total working time to the time that represents full time employment for a single employee. For example, an FTE of .5 means working time is half of the time that represents full time employment.

FTP
File Transfer Protocol. A means of allowing a user on one computer to transfer files to and from another computer over a network

Full Time Equivalent
The ratio of total working time to the time that represents full time employment for a single employee. For example, an FTE of 0.5 means working half of the time that represents full time employment.

Function keys
Keys F2 through F12 on the keyboard that can be assigned to a bookmark or favorite.

Funeral days
Absences from regularly scheduled work due to a funeral, which at the discretion of the organization, can be considered as authorized or unauthorized, paid or unpaid time off.

Gap analysis
Comparison of a current state of being with a desired state of being. For example, you could perform a skill or competency gap analysis on individual employees or on the workforce as a whole, comparing the existing state of skills and competencies with the required state or level of skills and competencies.

Garnishment
A legal procedure authorizing a deduction from an employee's earnings to satisfy a legal requirement.

General ledger
File that provides a balanced payroll journal for the period. This file contains journal entries for labor expenses, withheld deductions, income, disability, UI, and other withheld taxes, net pay, and company-paid taxes. The interface may also be produced on paper.

General ledger interface
A file that provides a balanced payroll journal for the period. This file contains journal entries for labor expenses, withheld deductions, income, disability, UI, and other withheld taxes, net pay, and company-paid taxes. The interface may also be produced on paper.

Go to details
Displays a new page with detailed information. Used on summary pages.

Graphical User Interface
The Solution Series provides integrated human resource and payroll functionality via the Microsoft Windows Graphical User Interface. These are the elements that display on your screen.

Grievance
A formal complaint made by an employee against the organization usually because of an unsatisfactory working condition or other work-related dispute.

Gross wages
The total of all earnings paid to an employee.

It is stored in the Total Pay (field 119 of the US Tax Authority File) field of the employee's US FICA tax record 101 (FICA-OASDI). This figure appears on the Combined Register (2222) report as Total Pay. It does not appear on US W-2 forms.

Group box
A standard Windows control that groups a set of controls.

Group plan
Defines any number of benefit plans tied together as a group. Group plans are used to define common eligibility and to cluster plans for reporting purposes.

GUI
Abbreviation for Graphical User Interface.

Handicap
Having a physical or mental disability that substantially limits activities especially in relation to employment or education.

Health and safety profile
Data on the employee record that includes information such as the employee's blood type, language, physician, emergency contacts, and any disabilities.

HED
Acronym for Hours, Earnings, and Deductions. Each earning or deduction must be established in The Solution Series with a unique identifying three-digit code. HEDs are used to record pay, hours worked, and deduction amounts and arrears for each employee.

Help
Hot spot on an eCyborg Interactive Workforce page that displays step-by-step directions for completing the page.

HIPAA
Acronym for Health Insurance Portability and Accountability Act of 1996. HIPAA is a law that protects citizens from being denied health insurance coverage due to a pre-existing condition, and protects the privacy and security of citizens' healthcare information by enforcing standards for the manner in which health information is transmitted electronically.

History record
Part of an employee's payment history; a snapshot of a check paid to an employee or an adjustment made to an HED or tax.

Holiday days
The time off that all employees are entitled to based on the decision of the organization or government regulation.

Home location
The country in which an employee permanently resides.

Home page
The main page of a Web site that generally serves as an index or table of contents to other documents stored as pages on the site.

HTML
Abbreviation for **HyperText Markup Language,** the authoring language used to create documents on the World Wide Web. HTML defines the structure and layout of a Web document by using a variety of tags and attributes.

I-beam
Symbol that identifies the insertion point.

ICESA
Interstate Conference of Employment Security Agencies. Also used to refer to the specifications and instructions for reporting to participating states through magnetic media.

Import facility
A tool delivered with The Solution Series that moves data from an external source to any organization or employee form.

Import record
A line in a spreadsheet or delimited file that contains employee or company data.

Impromptu
Tool for interactive database reporting. Reports are built from the database using a pre-defined catalog.

Inactive plan
A benefits plan that no longer allows employee enrollment.

Inactive tax record
An employee tax record that is no longer in effect for a given employee. Neither wages nor taxes are accumulated for the particular tax record. However, any wages and/or taxes already accumulated remain until clearing is performed. Such clearing is usually performed in preparing the Employee Database for a new year. The inactive records can be deleted at this time. The process of making a tax inactive is called deactivating.

Incumbent
An incumbent is an employee linked with a specific position. The linking of an employee with a Position is an incumbency. An employee may be linked to more than one position; in other words, an employee with multiple incumbencies. A position to which more than one employee is linked has multiple incumbents.

Information-level security
These records grant access to employee and table data via specific password records.

Initial Administrator
Only user whose user ID and password are created during installation. The initial administrator always has authority to all administrative functions: eCyborg Interactive Workforce, Human Resources Administration, Benefits Administration, and Payroll Administration, and can assign administrative roles to others by creating administrative user IDs and passwords.

Initial passwords
Password generated by eCyborg Interactive Workforce for each user ID extracted from The Solution Series. Users must create a user-defined password when they log on to eCyborg Interactive Workforce for the first time.

InitialAdmin
See Initial Administrator.

Inquiry form
An inquiry form is a form used to view data already entered.

Instructional text
Any paragraph(s) on the page that explain the function of the page or fields to the user.

Internal candidate
An employee of your organization who is applying for another job or position in your organization.

Internet
A global network connecting millions of computers.

Intranet
A network belonging to an organization, usually a corporation accessible only by the organization's members, employees, or others with authorization and used to share information.

Investment funds
Different options or accounts available to employees for allocating their contributions, usually applicable to thrift/savings plans.

IPEDS
Acronym for Integrated Postsecondary Education Data System.

(Taken from NCES website at http://nces.ed.gov/ipeds/AboutIPEDS.html)

"NCES has established the Integrated Postsecondary Education Data System (IPEDS) as its core postsecondary education data collection program (prior to IPEDS some of the same information was collected by the Higher Education General Information Survey-HEGIS). It is a single, comprehensive system that encompasses all identified institutions whose primary purpose is to provide postsecondary education.

IPEDS consists of institution-level data that can be used to describe trends in postsecondary education at the institution, state and/or national levels. For example, researchers can use IPEDS to analyze information on 1) enrollments of students, undergraduate, first-time freshmen, graduate and first-professional students by race/ethnicity and gender; 2) institutional revenue and expenditure patterns by source of income and type of expense; 3) salaries of full-time instructional faculty by academic rank and tenure status; 4) completions (awards) by type of program, level of award, race/ethnicity, and gender: 5) characteristics of postsecondary institutions, including tuition, room and board charges, calendar systems, etc.; 6) status of postsecondary vocational education programs; and 7) other issues of interest."

IRP/BSS
Information Reporting Program/Bulletin Board

IRS/MCC
Internal Revenue Service/Martinsburg Computing Center

JDBC
Java Database Connectivity Application Programming Interface. An application programming interface for accessing tabular data sources from the JAVA programming language.

JMNTRUN
Script used to assign check numbers and create history records.

Job
A 'Job' is a generic description of a role within the organization—for example, Manager.

Job assignment
A job associated with a particular employee.

Job code
A designation for a job assignment.

Job streams
A generic reference, Job Control Language, for your operating system's command language. Control statements that execute programs.

Alternately: Jobstreams

Job type
A generic category that further defines a particular job.

JPAYRUN
Script that is used to calculate pay and create payroll reports.

JQTRRUN
Script that executes the new quarterly reporting process.

Jury duty
This is compulsory service on court appointed juries. Employers are required by law to excuse jury duty related absences. They are not, however, required by law to pay the employee during this time away from the job.

JXP5QTR
Stand-alone script used on all platforms to extract and compile the new quarterly COBOL program.

KEY-PE
Utility program used to rebuild the QUERY Alternate Keys.

KEYDEL
Utility program used to delete existing QUERY Alternate Keys.

Label
Text that describes the information the user enters into the field.

Labor record
A record containing the hours, amounts, associated charge-to control levels, and function assigned on the employee's Payroll Home Location/Pay Allocations form (GG-SCR).

Large number
The Multicurrency Payroll component contains a large-number format time entry form that accepts a nine-digit number as opposed to the seven-digit maximum in the standard Payroll Administration.

LDEFAULTS
Term used for a text/list box default template.

Leave of absence
Occurs when an employee leaves the organization for a period of time, usually temporary, for personal reasons such as medical leave.

Link/jump
Reference to another document. Links (or hotspots) appear as underlined text. When you move your cursor over a link, the cursor changes to a hand. Click the link to access or jump to the referenced document.

LIS file
Standard file name used by all completed report files that are launched online. Files are automatically assigned this extension by the Online Initiation of the Pay Processing and Reporting feature.

Local currency
The currency in which the employee is paid.

Local currency country
The work location for tax purposes.

Log file
Informational file generated when a report is launched online. The log file is used by the Process Monitor to communicate the status, progress, and completion of a report.

Log off
Logs the user off the system. When referring to the Log Off button, use initial caps.

Logical Employee Model
A collection of default employee information that is used to create a model. Logical Employee Model templates are used when hiring new employees to save time and ensure that critical information is established consistently and correctly. These were formally known as LMODELs.

LPI
Lines per inch.

Mailing address
An address, other than your legal residence address, to which you have your mail sent.

Maintenance payroll run
A maintenance payroll run automatically updates organization and employee records, but it does not process time entries, calculate pay or generate payments, pay slips, or deposit advices. It is also used to create payment history records.

Major activity
Event that causes a change in an employee's employment status, such as a new hire, termination, or rehire.

Mandatory field
A field that requires the user to enter information before the user can exit the form or page.

Manual payment
A payment not created within The Solution Series.

Map file
Stores the predefined relationships between an import file and a form.

Mass time entry creation
Creating time entries for a group of employees through one program execution, such as for a paid holiday.

Master File (0202) report
A report that produces a formatted display of the data in an employee's current batch Employee Database record. This includes the wages and taxes accumulated for the employee, covering current, month-to-date, quarter-to-date, and year-to-date information for individual tax codes. It is report generator 0202.

Matrix ID
Unique identifier for each pay-for-performance matrix.

Menu
A list of choices; the choices are generally links that take the user to another screen or page.

Menu bar item
A menu that appears on the menu bar.

Message area
An area of the window that contains messages or selection lists relevant to the current form. The Message Area can be turned on or off.

Method code
One of many specific routines (usually delivered and identified by a two-character code) used to calculate earnings and deductions.

Midpoint
The middle of the span of currency from the minimum to the maximum of the employee salary grade.

Minimart
Relational tables you create so you can insert data from your Subset data extractions.

MMREF
Magnetic Media Reporting and Electronic Filing. Also used to refer to the specifications and instructions for reporting to participating states through magnetic media. See Social Security Administration publication MMREF-1 for specifications and instructions for reporting quarterly wage information to participating states through magnetic media.

Model (PowerPlay)
File (with the extension .pye) that contains definitions of PowerCube dimensions and measures, queries that define the data sources, and other details needed to create a defined cube. Defined models reflect performance requirements as well as requirements of the final user of the cube.

Monetary perquisites
A privilege or profit that an employee is entitled to that is incidental to regular wages or salary.

Moving expenses
The expenses incurred by an employee due to moving from one location to another for employment purposes.

Multicurrency costing records
Records that maintain a history of the deduction and deposit transactions for each exchange rate.

Multiple master
A file compression technique that duplicates the current employee Permanent Master Record as many times as there are payments to that employee during one pay period. These multiple masters are detail records reflecting the amounts for the payment being made (current), and the adjusted MTD, QTD, and YTD totals. The system uses multiple master records to create history records showing the current payment figures only.

NACHA
American not-for-profit trade association that develops operating rules and business practices for the Automated Clearing House (ACH) Network and for other areas of electronic payments.

Navigation bar
In eCyborg Interactive Workforce the Navigation bar shows the name of the page you are using, for example, 'Mailing Address'. The top line of the Navigation bar shows the path you took from the Home page to reach the present page. Links on the Navigation bar let you return to the home page or log off the system.

Navigator
Left pane of the work area which forms the main method of moving through the forms. From the Navigator users select the component, process, and task in which they are interested.

NCES
Acronym for National Center for Educational Statistics.

(Taken from NCES website at http://nces.ed.gov/ipeds/AboutIPEDS.html)

Primary federal entity for collecting and analyzing data that are related to education in the United States and other nations.

Net credit method
A method allocating flex credits. An employee's cost of benefits is calculated as either a net cash earning or a net deduction from the employee's pay. The net amount is the difference, either plus or minus, between the credits allocated to the employee and the cost of his or her flex benefits choices.

New hire
Process of hiring a new employee for your organization.

New period pay run
Pay run for which the earning and deduction cycles are incremented. New-period pay runs are typically part of a regular pay schedule, and do not include off-cycle runs.

New user
A user of eCyborg Interactive Workforce who has not yet completed reviewing and updating their personal information on the New User Home page.

New User Home page
Home page that displays for new users of eCyborg Interactive Workforce until they complete reviewing and updating their personal information.

Node
A Distributed Location.

Node ID
A unique 5-position identifier for a node. The naming convention is defined by the user.

Notional value
A value input for informational purposes only.

Number registered
This is the number of employees registered for a training class. It is updated and displayed on the Class Schedule form.

Object
Each System Control Repository record type is assigned an object code. A single record type can have several object codes assigned to allow limited display.

Object key
A field that allows you to specify the System Control Repository record group you want to display. The value of this field is dependent on the type of information you want to display.

Obsolete plan
A benefits plan that will no longer be used.

Off cycle
An off-cycle payroll run is an additional payroll for the period just completed. An off-cycle payroll run is commonly used to process nonstandard payments, such as bonuses. It is sometimes referred to as an additional or bonus payroll run.

Off-cycle pay run
Additional payroll for the period just completed. An off-cycle payroll run is commonly used to process nonstandard payments, such as bonuses. It is sometimes referred to as an additional or bonus payroll run.

One-stop document
Documentation that contains reference information, step-by-step procedures, and training exercises.

Online
Turned on and connected, for example, printers are on-line when they are ready to receive data from the computer. Users are considered on-line when they are connected to a computer service through a modem. That is, they are actually on the line.

Open enrollment
A period of time during which employees can enroll in or change their benefit choices for the upcoming year, generally in October or November.

Operator ID
A four-character code that identifies the user to the system.

Option
An item in the option list for a field. This was formerly known as a codeset item.

eCyborg Interactive Benefits and Benefits Administration specific—In Benefits, the plan coverage that an employee selects, such as single or family coverage.

Option button
A standard Windows control that allows you to select from a fixed set of mutually exclusive options (previously known as radio button).

Option list
A list of valid options and associated descriptions from which you may select an appropriate entry. This was formerly known as a Codeset.

eCyborg Interactive Workforce specific—Options available in The Solution Series that the eCyborg Interactive Workforce administrator loads in to eCyborg Interactive Workforce. The options are then available in the drop-down list boxes in eCyborg Interactive Workforce.

Organization
A group of employees who are employed in a common structure, governed by the same set of rules or policies, and eligible for the same earnings and deductions. For example, your organization may be structured into parts that represent employee groups such as active, union, retirees, applicants, and so forth.

The organization is the highest level in The Solution Series structure and is identified by a six character code. All records are organized by organization.

Formerly known as a company or Control 1-2.

Organization Level 3
A customer-defined value used to determine the breakdown of an Organization for Human Resource reporting or selection purposes. This control level may be translated to a division, plant site, section, and so forth, as defined by you.

Organization Level 4
A customer-defined value used to determine the breakdown of an Organization for Human Resource reporting or selection purposes. This control level may be translated to a division, plant site, section, and so on, as defined by you.

Organization Level 5
A customer-defined value used to determine the breakdown of an Organization for Human Resource reporting or selection purposes. This control level may be translated to a division, plant site, section, and so on, as defined by you.

Organization Level 6
A customer-defined value used to determine the breakdown of an Organization for Human Resource reporting or selection purposes. This control level may be translated to a division, plant site, section, and so on, as defined by you.

Organization levels
Hierarchy of values used to determine the breakdown of an organization for reporting purposes. The values are customer-defined.

Organization Number
A six-character user-defined code that represents an organization; the highest level of the organizational structure in Payroll Administration.

Formerly known as a Control 1-2.

Organization Unit
An organization unit ('Org Unit') is a grouping of Positions within an organization (for example, Accounts Department).

Organization Validation table
A table that validates that an organization is valid and payments can be made.

Organization-specific tax setup
A method of implementing Tax Specification Records in which each organization involved in tax processing contains all the specification records required to process taxes for its employees, as opposed to a common tax organization.

OSHA
U.S. Department of Labor Occupational Health and Safety Administration.

Override file
A file used to maintain COBOL or Report Generator changes to the system.

P2EDIT
Transaction editor program. This is the first program executed as part of the batch payroll process. This program performs edits on the input transactions.

P4CALC
Program that performs payroll calculations and updates to the sequential Batch Master File during a payroll run.

P5PRNT
Program that formats and creates all output, including payments, reports, tapes, and records that must be recycled to future payroll runs.

Packaged reporting
A processing mode in which a job is scheduled to be run at a certain time.

Packaged reports
Delivered reports developed using a Fourth Generation scripting language, Cyborg Scripting Language (CSL).

Paid absence
Employee absence that will be paid by the organization. A time entry will be created for this absence.

Parallel run
The process of executing the same programs simultaneously on two separate systems to obtain the same or similar results.

Parameter form
A form that is displayed when certain programs are called from the Navigator or menus. The form facilitates entering parameters for the program.

Password
A secret series of characters, generally user defined, that enables you to access a computer, a software application, or a file. On multi-user systems, each user must enter his or her password before the computer will respond to commands.

In eCyborg Interactive Workforce, the password ensures that unauthorized users cannot access user-specific information.

Password aging
The period of time that elapses before a user-defined password expires and the user must change his or her password.

Pay allocation
A means of allocating, on a percentage basis, employee labor hours and amounts to multiple sets of control levels 3 through 6 and function to accurately reflect employees whose labor must be charged to more than one area within an organization.

Pay document
A pay slip or deposit advice with its associated pay stub.

Pay extract
Process that extracts data from the online Employee Database.

Pay frequency
The interval at which a group of employees is paid. Examples are weekly and semi-monthly. Also referred to as a payroll period.

Pay merge
Process that updates the Employee Database with the current data from the recently processed pay run.

Pay schedule
A predetermined schedule for a calendar year, identifying period-end and payment dates for each pay frequency.

Pay stub
A pre-printed form, corresponding to a check or deposit advice that lists all earning, gross pay, taxes, deduction, and net pay information for an employee.

Pay-for-performance matrix
Chart representation of the variables that result from the combination of salary increase information, how much to give and when.

Payment history record
A record documenting the detail information for a payment or adjustment. Multiple payment history records may be generated for an employee, reflecting multiple adjustments or payments. These records include all earning, deduction, and tax information included in the payment or adjustment.

Payroll home location
The location where the employee is normally assigned to work and where labor distribution information is charged. An employee's home location comprises specific Payroll Levels and is always assigned Allocation Number 01 on the Payroll Home Location/Pay Allocations form. The Function field may

also be used as part of a home location, depending on your specific requirements.

Payroll Level 3

A customer-defined value used to determine the breakdown of an organization for Payroll reporting or selection purposes. This control level may be translated to a division, plant site, section, and so forth, as defined by you.

Payroll Level 4

A customer-defined value used to determine the breakdown of an organization for Payroll reporting or selection purposes. This control level may be translated to a division, plant site, section, and so on, as defined by you.

Payroll Level 5

A customer-defined value used to determine the breakdown of an organization for Payroll reporting or selection purposes. This control level may be translated to a division, plant site, section, and so on, as defined by you.

Payroll Level 6

A customer-defined value used to determine the breakdown of an organization for Payroll reporting or selection purposes. This control level may be translated to a division, plant site, section, and so on, as defined by you.

Payroll period

A defined period of time for which an employer pays wages to employees.

Payroll Process Control

A series of forms used during the Payroll Process to determine the type of run (payroll run or maintenance run). Allows you to specify the pay frequencies to be paid and which reports are to be produced.

Payroll run

An automated process that updates organization and employee records, processes time entries, calculates employee pay, generates pay documents and payroll reports, including the Combined Register. It also produces a variety of special interface outputs.

PCL

Printer Control Language.

PDF

Portable Document Format. A file format that captures formatting information from a variety of desktop publishing applications, making it possible to have formatted documents appear on the screen and be printed. To view a file in PDF format, you need Adobe Acrobat Reader, a free application distributed by Adobe Systems.

Peer-group appraisal

Appraisal that uses performance evaluations completed by an individual employee's co-workers or project team members.

Pending de-enrollment segment

Plans for which an employee is enrolled, but has lost eligibility, as listed on the Pending Plan Enrollment/De-Enrollment form.

Pending eligibility segment

Plans for which an employee is eligible but not enrolled, as listed on the Pending Plan Enrollment/De-Enrollment form.

Performance appraisal

A periodic assessment and ranking of an employee's skills and accomplishments.

Performance appraisal rating

A method of ranking the performance of an employee during a given period using options ranging from

1-Outstanding to 5-Unsatisfactory.

Performance rating

A method of ranking the performance of an employee during a given period using options ranging from 1-Outstanding to 5-Unsatisfactory.

Performance-related pay

Monetary payments made to employees based on how well an employee has fulfilled job expectations.

Permanent Master Record

Individual employee record in the Employee Database. This record contains all the information about an employee, such as name, address, pay frequency, and salary.

Permanent records of employee earnings, taxes, and deductions in the Employee Database. This is the only record group that contains month-do-date, quarter-to-date, and year-to-date accumulations.

Perquisites
Property or privileges extended to an employee.

Personal days
Authorized absences that are generally considered as paid time away from regularly scheduled work, but can be either paid or unpaid.

Phonetic keys
The keys you use to access employee data using the phonetic spelling of an employee's last name.

Pixel
The smallest rectangular area of an image on a screen.

Plan deactivation
A process that makes a plan inactive and prevents future employee enrollment.

Plan ID
A three-position, alphanumeric identifier for a plan in the system.

Plan shutdown
The process of de-enrolling an employee from all benefits plans because of a separation activity.

Plan year
The 12-month period over which a salary budget is effective.

eCyborg Interactive Workforce specific—The calendar, policy, or fiscal year in which the records of a Benefits plan are maintained.

Policy tables
Highest level tables that are used to record the generic (or master) rules for an organization or group of employees. These included your organization's rules relating to working time procedures, such as clocking in and out, docking for lateness, and overtime. Each policy consists of a Policy Master table and one or more Policy Activities table.

Pop-up menu
A menu that appears when you use the second mouse button within the system. This menu contains context sensitive commands and options that relate to the object you have clicked on.

Portable document format
See PDF.

Position
A specific role with an organization—for example, Accounts Manager.

Alternative definitions:

1. to place an object in a specified location.

2. a location, particularly in a record

Position Administration Control Number
Two-character alphanumeric value that tells Position Administration which tables to use for a specific company.

Position complement
A 'Position complement' is the value of a Position. The organization complement is the total value of all Positions included in the complement.

Position in range
The difference between a given salary and the minimum of the salary range, divided by the difference between the range's maximum and minimum, and expressed as a percentage.

Posttax
A contribution made after taxes have been withheld from earnings.

PowerPlay
Business intelligence tool for multidimensional analysis of corporate data, also known as Online Analytical Processing (OLAP).

Premium
The amount of money an organization agrees to pay an insurance company for a policy or annuity, or the amount contributed by an employee to the employer to cover the employee's portion of the total premium.

Prenotification
Informing a bank or credit union that an employee will be using direct deposit with them in the future. To be safe, fill out the Direct Deposit Information form (H9-SCR) two pay periods in advance of the first deposit

date. This ensures that a prenotification record is provided to the bank or credit union in a timely manner.

Pretax

A contribution made before taxes have been withheld from earnings.

Primary account

The account set up in eCyborg Interactive Workforce to receive an employee's pay or reimbursement checks. After deductions and deposits to additional (secondary) accounts, the remainder of pay is deposited into the primary account.

Process

A subset of a component that logically groups tasks on the Navigator or menu. For example, the process 'Maintain Employee Details' contains tasks such as 'Basic Employee Information' and 'Personal Information'.

Alternate definition: An action that brings about a result.

Process bar

The graphical representation of a process on the navigator. Each process bar is within a Component.

Process Monitor

Utility that allows you to monitor the progress of reports and payroll processes launched online.

Program

A program is a series of classes being administered using Training Administration. For example, 'The Training Schedule for January-June 2004' may be a program consisting of eight different classes.

Alternative definitions:

1. A form or other set of instructions within the system, accessed directly from the Command dialog box. For example, form EF-SCR is a program.

2. A set of coded instructions that enables a computer to perform a desired sequence of operations.

Prompt

Expression set up to enable users to filter data by typing or picking a value, or a series of values, when the report opens.

Protected amount

The amount of disposable income protected from garnishment in the US. This amount may vary from state to state.

Prototype HED

An HED defined on a benefits form for use in recording employee/organization contributions when an employee is enrolled in a benefits plan. This allows the setup and maintenance of payroll deductions using Benefits Administration.

Provider

A provider is an instructional institution, organization, or person who is available to teach training courses.

Push button

A button on the interface that appears depressed when clicked on (now known as command button).

Qualifier

A drop-down list (field) referring to a data element on the HIPAA 834 (Benefit Enrollment and Maintenance) and 820 (Group Premium Payment for Insurance Products) transmissions used to describe the type of information supplied in a related data element (field). For example, a Telephone Qualifier drop-down list identifies whether the telephone number supplied in a Telephone Number text box is a home, work, or fax telephone number.

Quarter-end P20

P20 is a file structure used in batch payroll processing. The quarter-end P20 file contains payroll data that is used in the quarterly processing.

Quarterly Processor

Combination of forms, report generators, and COBOL programs that extracts quarterly wage reporting information and produces all of the selected quarterly reports and formatted filing output (paper, tape, or diskette) for all selected employees in all selected states.

Quartile

Points that represent the division of a salary grade range into four equal parts.

Query alternate keys
The keys you use to access the employee master record in an order other than by primary key.

Query primary keys
The keys you use to direct your QUERY program to a record type.

Quick Hire
The process of hiring an employee by entering one two-panel form with the required data elements rather than entering a series of forms.

Radio button
A button on a form that selects an option, the radio buttons that make a field are mutually exclusive (now known as an option button).

Recall
Return a laid-off employee to active status, usually with no affect to benefits.

Reciprocal taxation
Reciprocal tax withholding refers to agreements made between US states and (or) localities regarding income tax calculation and reporting for compensation paid to an employee who lives in one state or locality and works in another.

Reconciliation number
The unique identification number printed on each pay document. Reconciliation numbers are used in the payment reconciliation procedure to verify cleared and outstanding payments.

Record
A complete set of fields, such as the fields that make up a tax form or a name and address record.

Alternate definitions:

1. To set down for preservation in writing or other permanent form.

2. The reporting format for magnetic media as in Tape Record Type such as ICESA, TIB-4, or MMREF

3. Information or data on a particular subject collected and preserved

Recruitment
Process of finding and hiring new employees who meet the needs of your organization.

Recycle File
P05IN; A file that contains employee data and pay document information required for payment reconciliation. It also contains time entries to be processed and paid at a later date. This file is used to pass data to the next payroll or maintenance run.

Registration
Registration is the act of enrolling an employee in a class.

Registration number
A three-digit registration number is assigned to employees for tracking purposes when they register for a training class. This enables the order in which the employees registered to be viewed.

Regulatory bulletin
Contains updates to varying components of The Solution Series necessary to maintain regulatory compliance. Tax specifications supplied are delivered in regulatory bulletins (RBs).

Rehire
The process of hiring a former employee of your organization. Typically, a break in service is incurred and benefits must start over (usually requiring a new adjusted seniority date if used in benefits tracking).

Reimbursement account
The account into which employee's travel and other expense type reimbursement checks are directly deposited.

Reinstatement
The process of returning a former employee to active status within a certain time period (such as 90 days), thus qualifying the employee to have certain benefits restored to the original hire date.

Reject time
The point at which an error condition will occur. An error condition must be manually corrected/approved and approved before a time entry can be generated by the system.

Relocation
The process of moving an employee from one organization to another geographic location, whether the move be domestic or international. This process also applies to applicants who are being relocated as part of the hire process.

Remaining net pay
The 'bucket' of money that is left after all employee deductions and taxes have been taken from the employee's gross pay. This 'bucket' of money can then be used for multiple deposits if the enterprise sets up multiple deposit HEDs.

Replication
The automatic process of writing changes made in the Employee Database and option lists and tables in the System Control Repository to the Replication Holding File (FILE08).

Replication Application
English Language program (DSAPLY) that reads records from the Replication Packet File (FILE20) produced by the Replication Reception program (DSRECV) and updates the System Control Repository and Employee Database accordingly.

Replication Distribution
Two COBOL programs that work together to distribute and receive updates. The Replication Distribution Program (DSTRIB reads either the Replication Holding File (FILE08) or a Replication Packet File (FILE20), selects data applicable to a specific DL and writes all necessary data to a new output-only Replication Packet File (FILE21). The resulting FILE21 will be processed on the remote DL via the DSRECV Replication Reception program.

Replication Holding File
FILE08. This file contains additions, changes, and deletions to the System Control and the Employee Database. Data is distributed from and written to this file, based on the data distribution rules configured for the target DL by the source DL.

Replication Packet File
(FILE21/20). This file contains data changes and is created specifically to update a target DL. This information may include Company/Employee data, tables and option lists, and time entry and adjustment records.

Report
Batch program that creates report extract records.

Alternate definitions:

1. A detailed accounting of an activity; for example, the quarterly report of unemployment insurance details to a filing entity.

2. As in 'Report Select character', this represents the selection frequency for this output.

Report Generator
A program that produces the batch payroll and the batch payroll reports.

Report Group
A series of packaged reports that are created using the Report Group Activities form and are run together.

Report Group Scheduler
This is the program that allows you to schedule reports. This was formerly known as the Report Scheduler.

Report parameters
Specific guidelines for determining the information to be processed by a given report or program.

Report Viewer
Utility that allows you to view, search, print, save, and delete reports that are launched online.

Reporting Administration
HRMS reporting and analysis tool that links the database functionality found in The Solution Series with sophisticated, yet easy to use business intelligence tools from Cognos®.

Requisition
A formal request to fill a vacancy or vacancies.

Requisition candidate
A candidate for a vacancy represented on a requisition.

Requisition limit
A total unit value of a requisition.

Requisition unit
The value of a requisition expressed as an FTE, hours, salary or headcount.

Retirement
Occurs when an employee retires from the organization.

Retroactive Pay
The calculation and payment of monies due to pay rate changes for pay periods that have already been processed.

Return
The activity of an employee returning as an employee to active status, usually following a leave of absence.

Alternative definitions:

1. key on keyboard used to perform a carriage return; can also be known as Enter.

2. to send back to the originator; for example, the Tape Return Information form (QT-SCR) gives the address to which a filing entity would return a magnetic tape containing errors.

Review process
A method used by an organization to evaluate an employee's salary or performance in a standard, timely manner.

Roll-up reporting
Option that enables packaged reports to be processed within organizations (roll-up).

Rotation pattern
A way of describing the working pattern for a group of employees (crew) who regularly work different shifts. A crew is a group of employees who together regularly work the same schedules according to a rotation pattern.

Safety standards
Legally mandated workplace safety standards.

Salary budget record
Defines, for each employee, the budgeted increase amount, percentage, and effective date for a specific salary plan year, and the prorated effect of this increase on the budget in terms of amounts and percentages for each employee.

Salary grade
A range of salary amounts associated with a particular job.

Salary grade range
A range of salary amounts associated with the salary grade for a particular job.

Salary plan
A set of rules or guidelines used to budget for salary increases for the coming year.

Salary plan year
A 12-month period over which a salary plan is effective.

Salary range
The span of salary amounts from the minimum to the maximum of the employee salary grade.

Salary review
A periodic evaluation of an employee's compensation.

Salary review authorization form
Hard copy format of the employee criteria necessary to review and approve proposed salary increases.

SAT file
The Solution Series form appearance table. Simple text file that reflects the form's layout.

Save Changes
Saves the page (form) the user completed. (When you click 'Save Changes', eCyborg Interactive Workforce saves the information on the page whether or not the user made changes.)

Schedule Activities table
Identifies activity types for each point in a work day where the process of clocking in and out should be dealt with. Each Schedule activity also contains time parameters that will be used to calculate whether an employee will be docked or credited time.

Schedule assignments
Also referred to as a schedule. This term refers to the details of the Schedule Master tables to which an employee is assigned. These details include the date the assignment took place, the Schedule Number and Sub-Schedule Number, and (if applicable), the crew to which the employee is assigned.

Schedule error
Occurs when a clock transaction (ring) time falls outside of an employee's schedule reject times.

Schedule Master table
Used to set up your organization's Time and attendance rules (such as HEDs and the minimum number of hours an employee must work before a meal deduction is made). A Schedule Master table is associated with a Calendar Routine, earnings Code, and Shift Premium table by entering the appropriate identifier.

Schedule number
A unique three-character alphanumeric identifier used to partially identify a schedule table.

A Schedule Master table is used to associate schedules with a Policy Master table. A Schedule Master table can also be used to override values held on its corresponding Policy Master table.

Employees are assigned to a Schedule Master table. Schedule Master tables may be created for individual employees, or for use by groups of employees or by crews.

Screen
Now known as a form.

Scroll bar
When information on a page takes up more than one screen of your monitor, the system adds scroll bars to the right side of the screen. On the scroll bar:

- Click the up arrow to move line by line to the top of the page
- Click the down arrow to move line by line to move to the bottom of the page
- Click the double arrows to move several lines up or down the page

Click and drag the bar in the scroll area to manually move up or down the page.

Search argument
The value from an employee's master record used to search benefits tables to apply plan rules to specific groups of employees.

Search type
The definition of a field from an employee's master record to use as the search argument.

Secondary account(s)
Additional account or accounts at financial institutions that employees set up in eCyborg Interactive Workforce receive a portion of their pay. A primary account must be defined before an employee can set up additional accounts.

Security Officer
The assigned employee who is responsible for the setting up and monitoring of the security your system.

SEIN
State Employer Identification Number; required by some states for wage and tax reporting.

Selectable File08 Display
Program that displays FILE08 information based on a selectable record key, starting key, time, and date.

Self-adjusting taxes
Taxes for which the system automatically recalculates the tax on a cumulative year-to-date basis on each payroll run.

In the U. S. these include FICA taxes: Social Security (tax record 101) and Medicare (tax record 103). The purpose of this calculation is to avoid any differences (of pennies) in FICA tax paid versus FICA tax due at year-end due to rounding on a pay period basis. In addition, certain state disability taxes and employee-paid state unemployment insurance taxes also self-adjust.

Sequential Master File
P20IN; The batch processing version of the Employee Database. This file contains organization and employee data, tax tables, and the object code for programs.

Also known as the Batch Master File.

Service interruption
A period of time during which an employee did not maintain an active working status in the organization.

Service method
A calculation option list that determines the method for calculating credited service.

Session
When users log onto a software application, they begin a session. When they log off, they end the session.

Alternate definition: The period of time during which a class is held.

Shift
An employee schedule assignment for a given day. For a rotation pattern, this is a Sub-Schedule Number.

Alternative definition: key on keyboard, typically used to describe key combinations for a shortcut key.

Shift Differential/ Premiums
Premium (or allowance) added to an employee's regular earnings, overtime earnings, or both. It is represented by a shift code or HED Number.

Shift premium
A premium (or differential) added to an employee's regular earnings, overtime earnings, or both. It is represented by a shift code or HED Number.

Shortcut key
Key that corresponds to a command name on a menu, such as CTRL+Z.

Shortcut menu
A menu that appears when you right-click within The Solution Series 4. This menu contains context-sensitive commands and options that relate to the object (form, Navigator, and so on) on which you have clicked.

SIC
Standard Industrial Classification.

Sick days
The time off that an employee is allowed to take due to illness as a result of an employment contract or organizational policy.

SOAP
Simple Object Access Protocol. This is an XML-based protocol that exchanges structured and typed information on the Web.

SOC
Standard Occupational Classification.

Solution View
An online utility that provides the tools for creating new forms, fields, and report programs without the direct use of Cyborg Scripting Language.

Source DL
The node that owns the data being distributed. Depending on the rules established, the same DL can alternate from source to target.

Special assessment
Extraordinary or temporary taxes, such as additional employer-paid or employee-paid contributions to state unemployment programs or to mandatory health insurance programs.

Spinbox
A control on the interface composed of a text box and increment and decrement buttons that allow you to adjust a value from a limited range of possible values.

Spreadsheet application
Software for recording ledger entries, creating worksheets, graphing data, and other accounting functions.

SQL
Structured Query Language retrieves information from a relational database so it can populate Impromptu reports.

Standalone Time and Attendance
Customers who are using Time and Attendance Administration but not Payroll Administration.

Standard Pay Processing and Reporting
Pay run and reporting process that is executed in batch.

Static data
Includes organization and employee information, such as name and salary.

Static SQL
Data Definition Language (DDL) and Data Manipulation Language (DML) statements embedded in application programs.

Status bar
The bar that appears at the bottom of The Solution Series window. The Status Bar displays useful information, such as your current session number, the currently displayed organization and employee, and so forth.

Statutory employee
Any of the four categories of workers who are independent contractors under common law and are treated by statute as employees. These include:
(1) a driver who distributes beverages (other than milk) or meat, vegetables, fruits, or bakery products; or who picks up or delivers laundry or dry cleaning, if the driver is your agent or is paid by commission.
(2) certain types of full-time insurance sales reps
(3) an individual who works at home on materials supplied by you that must be returned to you
(4) certain full-time travelling or city salespeople.

Social Security and Medicare (FICA) taxes may or may not be withheld. Income taxes are not withheld from a statutory employee. A statutory employee will receive a W-2 with the 'Statutory Employee' box checked.

Sub-schedule number
A two-digit numeric text box used to further identify a schedule table.

Succession planning
Finding and developing employees for placement into identified key positions that are expected to become vacant sometime in the future.

SUI
State Unemployment Insurance.

Summary page
To help you see information at a glance, eCyborg Interactive Workforce uses summary pages. The summary page displays a short view of detailed information. For example, all your emergency contacts appear on a summary page. You delete the contact or proceed to the detail for the contact from the summary page.

Summary plan
A customer-owned description of a benefits plan.

Supplemental wages
Wages that are separate from regular earnings may be classified as supplemental wages and taxed using the default method. The default method means using a set percentage specified by the tax authority. Examples of such earnings are bonuses and commissions.

Surplus
A 'surplus' is an exceeded complement position.

Switches
Text or list box options that allow decisions to be recorded; in some cases, to be turned on or off.

System administrator
An individual responsible for maintaining a multi-user computer system, including a local-area network (LAN). Typical duties include:

- Adding and configuring new workstations
- Setting up user accounts
- Installing system-wide software
- Performing procedures to prevent the spread of viruses
- Allocating mass storage space

System Control Repository
This is the file that contains system definitions for The Solution Series, (FILE01). This was formerly known as the Control File.

System Generator
A type of Report Generator that performs system functions, such as defining data elements and system messages.

Table
Contains an organization's rules and policies and controls what actions take place at the employee level.

Alternative definition: means of displaying information in columns and rows.

Table Definition Record
Table containing data about the Position Administration table records, including the location of keys to associated tables.

Target DL
The node that receives the data being distributed. Depending on the rules established, the same DL can alternate from target to source.

Task
The lowest level of organization on the Navigator or menu; generally equivalent to a form, checklist, or dialog.

Alternate definition: a function to be performed; objective

Task icon
An icon denoting a task. Task icons describe the type of task, including Forms, Checklists, Dialogs and others.

Tax authority
A government agency to which an employer and employee has statutory tax obligations. The tax authorities for which you handle taxes exist at the federal, state/province, and local levels.

Tax Authority File
A supplied file that contains all the tax-specific information needed to calculate taxes for tax authorities. This includes wage-bracket tables for different marital statuses and information relating to allowances and standard deductions. The sources for the contents of this file are tax specifications published by the various tax authorities.

Tax class
Defines taxability for pre-tax deductions. These contributions can vary by tax authority. In the U.S.:

* Tax Class 1 defines taxability for 401(k) plans (maintained for all but local authorities)

* Tax Class 2 defines Section 125 plans (maintained for federal only)

* Tax Class 3 defines tax-sheltered annuities (maintained for federal only)

* Tax Class 4 - 9 fields are customer-defined

Tax code
The three-character to seven-character supplied reference code that identifies a tax and that serves as the link between the Tax Specification Record and the employee tax record.

Tax specification
Each tax authority publishes tax specification information that specifies how each tax must be administered. This information specifies how employers should calculate taxes and how taxes should be withheld from employees (if withholding applies). The tax specifications can be in the form of tax formulas and (or) tax tables.

Tax Specification record
A record on your Employee Database that contains the tax specifications for a tax. The record contains all the information, as obtained from the governmental authority, needed to calculate tax amounts for the tax. The record may contain more than one tax; for example, US state Tax Specification records contain information for both state income tax and state unemployment insurance. Once a Tax Specification record is activated, tax specification information from the supplied tax files can be loaded onto the record on your Employee Database.

Tax table
A set of information required to calculate a tax, for a specific set of employee parameters. Tax tables are stored and maintained in Tax Specification records. A table typically includes wage and bracket information and data relating to allowances, such as personal exemptions and to standard deductions. There can be several tables relating to marital and resident status in a given Tax Specification record.

Tax type
Income tax, unemployment insurance (including special assessments), and disability insurance are examples of tax types. At the federal level, there are also entitlement taxes: Social Security (FICA-OASDI) and Medicare (FICA-HI). The types of taxes to collect and the methods of collecting them vary by tax authority.

Tax-related Regulatory Bulletin
A regulatory bulletin contains the updates to tax specifications, consisting of a bulletin document and a tax file that contains the updated tax specifications.

Taxability
The term refers to whether an hours, earnings, and deductions amount is to be included in taxable wages to be accumulated for a specific tax. If the hours, earnings, and deductions amount is excludable, then the amount is not included in taxable wages. If the hours, earnings, and deductions amount is taxable, then the amount is included in taxable wages. The term fully excludable or fully taxable implies that more than one type of tax is being referenced, for example, state income tax and state unemployment insurance in the US.

Taxable wage base
The taxable wage base represents the maximum amount of an employee's wages on which tax is levied and after

which there is no liability. A wage base in the US typically is in effect for FICA, unemployment taxes, and disability.

TDR
Table Definition Record.

Template
A basis from which to create a custom item. For example, you can use an existing report as a template for your custom report.

Temporary password
A set of alphanumeric characters used with a user ID to limit access to a software application. The system requires that users replace their temporary password with a user-defined password within a certain number of days.

Termination
The activity of an employee no longer being employed by the organization.

Test environment
A separate organization or system partition used only for testing.

Text box
A control on the interface in which text can be entered and edited (formerly known as a field).

Text qualifier
The character surrounding an item between delimiters. All values between the qualifier are data items and are not scanned for a delimiter. This allows a delimiter character, such as a comma, to be a valid data item. Example:

"item 1","item 2","item 3, 4 and 5"

This string contains three data items:

Item 1

Item 2

Item 3, 4 and 5

Although the third item contains a comma, it is ignored as a delimiter because it is between the text qualifier of speech/quotation marks (").

Third Party Administator
An organization outside of a company that administers employee benefit plans on the company's behalf.

TIB-4
Technical Information Bulletin (Social Security Administration Publication 42-007). Also used to refer to the specifications and instructions for reporting to participating states through magnetic media.

Time entry
The form in which you enter the hours worked for an employee. This was formerly known as a Time Card.

Time entry extract file
A file of time entries external to Time and Attendance Administration that is used to feed to payroll.

Time entry validation
The Time Entry Validation/Creation program identifies and assigns an activity, for example Clock In (1), to each clock transaction (ring) when performing the validation function. Each clock transaction must be assigned to an activity, in order for time entry hours to be calculated for an employee, for a particular shift. This program validates clock transactions (rings) and generates time entries.

Timeout
The period of time that elapses before a user's eCyborg Interactive Workforce account becomes invalid because of inactivity.

TLCN
Tape Library Control Number - a government-provided control number.

ToolTip
Text that displays under a tool to describe its function when the mouse is held over the tool.

Top-down appraisal
Appraisal made by a supervisor or manager of an employee's capabilities. Such an appraisal is generally based on the supervisor's or manager's day-to-day observation of an employee's work performance and will usually include an appraisal interview with the employee.

TPA
Acronym for ***Third Party Administrator*** (see "Third Party Administator" on page 970).

Track
One of the concentric magnetic rings that form separate data storage areas on an electronic medium.

Trading Partner
A Covered Entity with whom another Covered Entity transmits health information electronically through the use of an Electronic Data Interface. Trading partners must create an agreement as to the specific information that will be passed during their transactions. The Electronic Data Interface is standardized by the provisions set forth in the Health Insurance Portability and Accountability Act of 1996 (HIPAA). Also referred to as Business Partner.

Trainer
Trainers are set up on the Provider Index Form. They are instructional institutions, organizations or persons who are available to teach a training class.

Trainer code
The trainer code is a four-character value that represents a trainer. This value resides in Option List TR38.

Training area
The training area is recorded on the Class Schedule Form. It is typically defined as the section of the organization to which the training applies, such as manufacturing.

Training class results
These are the class details and absence information recorded on the Process Class Results form. Details recorded include the objectives met when taking a training class.

Training class status
The status value is updated and displayed on the Class Schedule Form. It tracks whether the training class is cancelled, full or available.

Training course code
The training course code is a six-character value that represents a training course. This value resides in Option List TR33 and is associated with a course title.

Training plan
A plan of training courses that an employee will attend in the future to achieve the necessary skills to perform a job.

Training reason
The reason for training is used to identify why a training request has been made. For example, the purpose of the training to act as a refresher, to acquire new skills, and so forth.

Training request
A training request is a request for an employee to attend a specific course or class. A formal request for training is not essential. This step could be omitted and the employee could be registered directly in the course of his or her choice.

Transaction Set
Refers to HIPAA 834 (Benefit Enrollment and Maintenance) and 820 (Group Premium Payment for Insurance Products) transmissions meaning the smallest meaningful set of information exchanged between ***trading partners*** (see "Trading Partner" on page 971). The transaction set consists of a transaction header segment, one or more data segments in a specified order, and a transaction trailer segment.

Transfer
Process of moving an employee from one organization to another organization, such as moving an applicant from the applicant organization to the active employee organization.

Alternative definitions:

1. To move data or files from one computer to another

2. Electronic Funds Transfer or direct deposit

3. Allows employees to authorize the organization they work for to automatically deposit all or part of net pay into one or more bank accounts.

Trend analysis
Reporting or statistics that indicate the rate of change in costs and other elements of a benefits plan.

Trigger
A set of conditions that must occur for an email or letter communication event to start. This can involve

the creation, deletion, or modification of forms or checklists within the system.

Tuition reimbursement
Remuneration made to employees for tuition expenses.

Type of training request
The type of training request indicated whether the employee was required to attend the training or whether he or she asked to attend the training.

UI
Unemployment Insurance.

UI Number
Unemployment Insurance Number (or SUI number, State Unemployment Insurance number); required by all states.

Unauthorized absence
Absences that are generally not considered paid time away from regularly scheduled work.

Underlined text
In browser applications, text that provides a link to another screen or page.

Unemployment insurance tax
A tax required by some US states to be funded by employee-paid contributions to pay all or part of the cost of unemployment insurance coverage. On Payroll Administration, state unemployment insurance tax records are established as Type 2 taxes.

Unpaid absence
Employee absence that will not be paid by the organization. A time entry will not be created for this absence.

Upward appraisal
Appraisal that calls for evaluations by those who work under the direction of the employee being evaluated.

URL
Acronym for uniform resource locator. A standard way of specifying the location of an object, typically a web page, on the Internet. URLs are the form of address used on the World-Wide Web. They are used in HTML documents to specify the target of a hyperlink that is often another HTML document (possibly stored on another computer).

User class
Cognos Impromptu assigns security according to configured user profiles. These security profiles are configured by your Impromptu administrator.

User code
A set of characters (up to eighteen alphanumeric characters) that, along with the password, identify the user to the system as a valid user when they log on.

The user code is case-sensitive (upper case, lower case) and must be entered using the correct case.

User defined password
A set of alphanumeric characters created by users that allows them to view and update information in a software application.

User ID
A set of characters that identify you to the software application. The application contains a list of authorized users by user ID. When you attempt to log on, the system checks the list of authorized users to determine whether you have authority to use the application.

User profile
Used for security purposes to determine what you can and cannot do while you are using the system, and which parts of the system you can access. A user profile is created and maintained for you by a Security Officer. Each user of the system will have a user profile.

Vacancy
An open position that needs to be filled, or an unfilled complement position

Vacation days
The time off that an employee is entitled to as a result of an employment contract or due to length of service.

Validation
The process where the Time Entry Validation program identifies and assigns an activity to a clock transaction (ring) when performing the validation function.

Variant forms
Method of displaying country-specific variation of delivered forms.

Waive
The act of choosing not to enroll in an optional benefits plan.

Warning
An employee's schedule warning times.

Warning time
Used to set a period of time after which an employee will appear on the exception report for a particular activity. A Warning condition will allow the creation of a time entry. A Reject condition will not. This is part of the Time and Attendance Administration.

Welfare benefit plan group
First level of the logical organization of welfare benefit plans in eCyborg Interactive Workforce.

Welfare benefit plan subgroup
Second level of the logical organization of welfare benefit plans in eCyborg Interactive Workforce.

Welfare plan
Any insurance or other benefit plan that provides immediate benefits to a participant—for example, medical insurance.

What-if mode
Method for processing a report that allows viewing of information without updating of employee records.

Window
A standard Windows object that displays information. A window is a separately controllable area of the form that typically has a rectangular border.

Wizard
A form if user assistance that automates a task through a dialog with the user.

Work area
The Solution Series screen. It includes the menus, toolbars, Navigator, forms area, message area, and status bar.

Work instructions
Specific tasks to be completed during the migration of data and files from test to production.

Work restrictions
Restrictions that prevent an employee from participating in specific workplace functions.

Worker's compensation
Legislation in the US that provides compensation to employees who suffer work-related injuries.

Workforce competency
The capacity of the overall workforce to perform required functions and sets of activities.

XHTML
Extensible HyperText Markup Language, used by the help pages for eCyborg.

XML
Extensible Mark-up Language is a language for documents containing structured information.

XML Schema Definition Language
A language for describing and constraining the content of XML documents.

XSLT
Extensible Stylesheet Language Transformations. A language for transforming XML documents into other XML documents.

Year End Master File
P20OUT file from the final payroll run of the year

Index

(

(Optional) Using background processing to load the revised *.SAT file 147

.

.EXE 937
.INI 937

0

0101, Payroll Audit Trail report 332

1

1 - Human Resources Subject Area 528
1. Report Extract - REPORT 282

2

2 - Benefits Subject Area 533
2. Sort 283

3

3 - Time & Attendance Subject Area 535
3. Report Print - RTPRNT 283
360-degree appraisal 937

4

4 - Company and Payroll Subject Area 535

5

5.2 Report Generators 930

6

6 - Distributed Administration Subject Area ... 537

7

7E7E 469

8

820 (Premium Payment for Group Insurance Products) Transaction Set 937
834 (Benefit Enrollment and Maintenance) Transaction Set 937

A

A Backup scenario 241
A recommended approach to managing working storage areas 313
A8 Transaction - Deductions 747
A8 Transaction - Earnings 745
AA Transaction 748
AB Transaction 748
About Client/Server 31
About customization 36
About maintenance 41
About pay extract and pay merge processing .. 356
About reporting 39
About security 35
About the Online Pay Document Printer Interface 688
About the sort key 283
About This Manual 3
About this section 592, 876
About This Section 742, 786, 802
Absence data 937
Absence point 937
Absence type 937
AC Transaction 749
Accepting warning messages 178
Account timeout 937
Accumulator id 937
ACH 937
Acrobat 937
Action button 937
Activity 938

Activity code 938
Activity types 938
Actuarial valuation 938
AD Transaction 749
Adding a new Organization Control Number to the Company Validation Table 155
Adding new organizations 430
Adding user application tables to the System Control Repository and the relational database 152
Adding user segments 124
Addition of new relational database tables 130
Additional controls 70
Additional data mapping tools 171
Additional error messages
command line parsing 854
network I/O 855
Additional functionality in the Web Client 20
Additional programs 132
Address Code Invalid - Trans Rejected 823
ADDRESS MISSING 836
ADHOC - 911
Adjustment 938
Administering Reporting Administration 461, 909
Administration home page 938
Administrative User ID 938
AE Transaction 774
AF Transaction 750
AG Transaction 751
Agent types 938
Aggregate tax method 938
AH Transaction 751
AJ Transaction 752
Alternate Input Files (position 19) 736
Alternate Key
delete and recreate (UK) 913
Alternate Keys 598
Analytics 21, 478
Analytics cubes 478
Analyzing and Editing the Difference File 701
Anniversary date 938
Annualization 938
Annualization factor 938
Annuitant 939
Annuity 939
Appendices 509
Applicant 939
Applicant organization 939
Application components 17
Application data 383
Application interfacing options 23
Application of temporary fixes 209
Application programs 28
Application servers 33
Application tables 37
Apply overrides to master COBOL source (PULLUP) 621
Apply the Concept 11
Apply the concepts 880, 890
Apply the Concepts 909
Applying a temporary fix 223
Applying scheduled update bulletins 42
Applying Unscheduled Updates 42
Appraisal rating 939
Archive 939
Areas of security 99
Arrears 939
ASCII 939
Ask Me wizard 939
As-of reporting 939
Audit record 939
Audit records 583
Audit report 939
Audit trail 939
Audit Trail reports 193
Audit Trail Warnings 831
August 1 241
Authorized absence 939
Automated conversion methods 175
Automatic plan 939
Average deferral percentage 939
Average rating 939

B

Back 939
Background file 27

Background processing 68
Background processing mode..... 24
Background programs 68
Backing up Reporting Administration components 503
Backing up the Employee Database 251
Backup considerations for change control..... 240
Backup considerations for system failures 240
Backup considerations for the Employee Database 243
Backup of the System Control Repository 241
Backup recommendations..... 126
Backup System Control Repository (BACKEM) 622
Bad Fld Nbr..... 823
Bad HED Nbr 823
Badge..... 939
Badge error..... 940
Badge number..... 940
Banner 940
Basic Customizations to the Web Client 511
Batch..... 940
BATCH (positions 1-5) 735
Batch control record 940
Batch Layout (BATCHL)..... 610
Batch Layout (BATCHL) Example..... 611
Batch Layout (BATCHL) Report
  example 610
Batch layout facility 940
Batch Layout Facility (BATCHL)..... 623
Batch Layout for static data..... 176
Batch Layout Report..... 169
Batch Master file (P20) 940
Batch Master File (P20)..... 27, 469
Batch number 940
Batch Number (positions 12-15) 735
Batch payroll system files - An Introduction... 374
Batch processing..... 940
Batch reporting process 277
Batch transaction 940
BATCH Transaction..... 776
BATCH transaction fields 735
BATCH transaction layout 734
BATCH Transaction Layouts..... 741
Batch transactions for to-date accumulation data 177
BATRUN 664
  process batch jobs requiring security..... 664
Benchmark job 940
Beneficiary 940
Benefits Business Partner..... 940
Benefits control number..... 940
Benefits statement 940
Big option list..... 940
BIRTH DATE MISSING..... 835
Blocking factor..... 940
Bridge loan..... 940
Browser 940
Budget plan year 940
Budget scenario..... 940
Budget setting 941
Build Field Name Cross Reference (F-XREF) 624
Build Phonetic and/or Employee ID Keys (KEY-PE) 625
Build process..... 57
Build relational database structures (RDBPGM0) 626
Build the Client Data File (CSSSBLD)..... 627
Build/Rebuild Control File Relational Tables (POPF01)
  discussed..... 342
  running..... 347
bulk load
  core system 473
  Labor and History 473
bulk loading..... 473
Bulletin board..... 43
Business objectives 31
Bypass - History Not Run Since Paid 826
Bypass - This Control Not Being Paid 826
Bypass - This Frequency Not Paid..... 826

C

C1-2S EIN INVALID 835
Cafeteria plan 941
Calculating pay..... 391

Calculation option list 941
Candidate 941
Card Count (positions 24-27) 737
Career planning 941
Carrier record 941
CAS Error Messages (Windows) 840
CAS installation error messages 852
CAS Manager messages 854
Cascading Style Sheets 515
CASE tool 30, 59, 130
Case-sensitive 941
Catalog 941
Category code 941
CBSV working storage areas 316
CBSVB 28, 941
CBSVB (CBSVB) 628
CBSVBT 28
CBSVBT (CBSVBT) 629
CBSVO 28
CBSVO (CBSVO) 630
CBSVOT 28
CBSVOT (CBSVOT) 631
CBSVRFT 28
CBT 941
CC/CD C-fold, Heat Seal 791
CE/H 941
Change control facility 941
Change Control Facility
  MAINTO 702
Change Control Facility - Maintenance Input
  (MAINTI) 632
Change Control Facility - Maintenance Output
  (MAINTO) 633
Changes that impact the Client Data File 229
Changing graphics files 514
Changing HR reports to use Organization Units 287
Check Amounts Differ - Trans Rejected 823
Check box 941
Check digit 941
Check Nbr Not Outstanding - Trans Rejected . 823
Checklist 941
Checklist item 941
Checklist item status 941
Checklist margin 942
Checklist wizard 942
Checkmark 942
checks
  printing formats for 787, 789
CITY/STATE MISSING 836
Class 942
Class evaluation results 942
Cleared payment 942
Client 33
Client data file 942
Client Data File 26, 194
Client Data File update (MCL) records 229
Client files 33
Client installation error messages 853
Client interface 16
Client/Server objectives 31
Clock in and out 942
Clock transaction (ring) 942
Clock transaction warning 942
Closing costs 942
CLP 942
COBOL
  extraction of online system programs 324
  extraction of payroll process programs 325
COBOL temporary fixes for CBSVx programs 209
COBOL/Cyborg Scripting Language relationship
  29
Codeset 942
Coefficient 942
Cognos Impromptu 102
  security 102
Cognos PowerPlay 102
  security 102
Combined register (2222) report 942
Command button 942
Commit Limit 321
Commit, Rollback, and Recovery 244
Common pay master 942
Common tax organization 942
Communication between the client and server ... 34
Communication event 943
Compa ratio 943

Company 580
Company Area Expand Worksheet 524
Company Deductions form (A8-SCR) 747
Company Earnings form (A8-SCR) 745
Company logical Master record 943
Company Options (AF-SCR) and Payment Document Print Options - Part 1 (PD1SCR) forms 750
Company Pay Frequencies form (AJ-SCR)..... 752
Company Record/Segment Growth Worksheet526
Company records..... 580
Company segment codes 601
Company validation table..... 943
Comparing FILE01 to delivered DEMO0105 - online JMAINTO 917
Competency..... 943
Complement limit..... 943
Complement position..... 943
Complement unit 943
Compliance..... 943
Component 943
Component icon..... 943
Component plan..... 943
Condition 943
Configuration options..... 90
Configuring the labor and history extract..... 488
Considerations 287
Considerations for HR-only customers 195
Considered earnings 943
Considered earnings/hours (CE/H) accumulators 943
Considered hours paid 943
Considered hours worked 943
Consolidated and roll-up reporting..... 286
Consolidated reporting 286, 943
Contents..... 49, 50
Context-sensitive help 943
Contractual exchange rate 943
Contribution type..... 944
Control 1-2 944
Control levels 944
Control number..... 944
Control structures for reporting 278
CONTROLS 3-6 MISSING 836
Conventions used in this manual..... 11
Conversion 944
Conversion and Update Transactions..... 742, 745
Conversion categories and methods..... 175
Conversion option 944
Converting dynamic SQL to static SQL..... 362
Co-ordinator..... 942
Copy international option lists (ICCOPY) 634
Copy variant form table records for a country (VSCOPY)..... 635
Core plan..... 944
Core programs..... 28
Core system extraction..... 465
Core System versus Labor and History extraction 472
Correct invalid data on a P20 file (RDBPGM4)636
Correcting invalid data..... 93
Cost categories 944
Cost types..... 944
Costing 944
Costing record..... 944
Country codes 605
Course 944
Course directory..... 944
Covered Entity 944
Covered Entity Group 944
CPI 944
Create Combined Register (2222)..... 404
Create control records and extract payroll data for Sybase (RDBPGMX)..... 637
Create control records and update Sybase Employee Database (RDBPGMM)..... 638
Create LDEFAULTS D Records (SETUPS)... 639
Create new Employee Database (FILE07)..... 640
Create tables, indexes, and views..... 641
Create tables, indexes, and views (RDBPGM1)641
Creating a Difference File (MAINTO) 143
Credited service..... 944
Crew..... 944
Crew code 944
Crossfoot 945
Cross-reference keys 945

Cross-Reference Report 173
Cross-references 11
CSL 945
CSL programs with high volume I-O within a logical unit of work 346
CSL scheduled reporting 39
Cube 945
Cumulative data 945
Cursor 945
Custom programs that find salary data 135
Custom report format 945
Customer-defined 945
Customization 107, 165, 887
Customization categories 110
Customization options 36
Customizations
  Basic customizations
    Changing the Home button 514
Customizing delivered relational database tables 130
CYB88x 66
CYB88X 945
CYB88x (CYB88) 642
CYB89x 66
CYB89x (CYB89) 643
CYB90x 65
CYB90x (CYB90) 644
CYBIO 28
CYBMST 384, 786, 796, 945
  characteristics 590
CYBMST program changes 214
Cyborg Application Server (CAS)/Cyborg Application Broker (CAB) 34
Cyborg Scripting Language 945
Cyborg Scripting Language (English Language)
  verb names 595
Cyborg Scripting Language programs 28
Cyborg Scripting Language reports 123
Cyborg Scripting Language temporary fixes ... 211

D

Data addresses 53
Data components 22
Data Conversion and Load 163, 890
Data Conversion and Load Process - Data Conversion and Load 166
Data Conversion and Load Process Checklist .. 167
Data conversion categories 175
Data dictionary 23
Data dictionary and DDL/DML 59, 132
Data extract 945
Data Extract File Splitter (RSPLIT) 945
data extraction
  Reporting Administration extract 924, 925
Data keys for Company, Employee, Tax 246
Data load 945
Data load using batch transactions 179
Data load using BATCHL transactions 178
Data manipulation errors 344
Data mapping 945
data mart
  security 102
  tables 475
Data mart 475, 945
Data mart Extract File (FILE36) 945
Data Mart Extract File (FILE36) 464
Data Mart Extract File Splitter (RSPLIT) 464
Data mart security 102
Data store 945
Data Structures and Processing Modes 47, 880
database
  create new Employee Database 640
  rebuilding indexes 343
Database 22, 945
Database and file structure 26
Database error and informational messages 839
Database indexes 62
Database Operating Codes 551
Database recovery and index rebuilds 58, 343
Database servers 33
Database tables 62
Database views 62
Deduct credits by plan 946
Deduct credits by plan method 946
Deduction 946
Deduction cycle 946

De-enrollment 945
Default 946
Deferred compensation 946
Deferred plan 946
Defining FILE 31 689
Defining parameters for the Reporting Admin FILE08 Extract Report 484
Defining the sort key 297
Defining valid reports for an organization (optional) 294
Delete
AREA size record 647
selected records 646
Delete Phonetic and Employee ID Alternate Keys (DEL-PE) 645
Delete selected records (PURGE) 646
Delete the AREA size record (DEL-ZX) 647
Deleting an employee HED 782
Deleting an employee permanent master record 782
Deleting and recreating Alternate keys - online JBLDAKY 913
Deleting employee history or labor records 782
Deleting employee taxes 783
Deleting organizations 431
Deleting records using the X transaction 781
Deleting report requests 783
Delimiter 946
Delivered Impromptu catalogs setup 477
Delivered interfaces 113
Delivered reports 123
Delivered size of the REPORT ONLINE area 319
Delivered test data 83
DEL-PE 946
DEL-PE Utility Program 261
Density 946
Dependent 946
Dependent GTL 946
Dependent number 946
Deposit advice 946
Deposit Advices
printing formats for 787, 789
Derived data 946
Detail page 946
Detailed Directions 11, 71, 92, 136, 182, 197, 220, 232, 250, 264, 290, 326, 347, 362, 480
Determining if expansion is required for 332
Determining if expansion is required for employee and company areas 326
Determining the size of area 450
Determining what synchronization errors exist. 92
Determining whether a temporary fix has been applied 220
Dialog box 946
Direct deposit 946
Disability 946
Disability insurance tax 946
Disciplinary action 947
Discretionary increase 947
Disk Requirements Worksheets 715
Display 947
Employee Database records 648
System Control Repository 649
System Control Repository Records 650
Display box 947
Display Employee Database Record Keys (RECSIZ) 649
Display Employee Database records (DSP02) 648
Display System Control Repository Records (DSP01) 650
Display text boxes 947
Displaying Employee Database records 71
Displaying System Control Repository records 71
Displaying the Replication Holding File (FILE08) 498
Disposable income 947
Distributed Access Log Table 947
Distributed Access Log Table (DSRULE) 862
Distributed Administration 19
Distributed Administration error messages 862
Distributed location 947
Distributed Location NODE Control Table 947
Distributed Location NODE Control Table (DSNODE) 862
Distributed Rules Table 947
Distribution 947
Distribution rules 947

Distribution Rules Table (DSRF02) 863
DL 947
DML subroutines and CBSV 60, 133
Docked toolbar 947
Document type 947
Documentation for Regulatory Bulletins 44
Documenting Customizations 513
Double-click 947
Drop-down list 947
Drop-down list box 947
DSP02 332
DSP08 947
DSRF02 947
DSRSET 947
DSSRRL 947
DSUSET 948
Dynamic SQL 948
Dynamic SQL vs. static SQL 357

E

E Transaction 753
Earned income credit 948
Earning 948
Earnings Adjustments With Labor form (KL-SCR) 773
Earnings category 948
EBCDIC 948
eCyborg and The Solution Series 15
eCyborg Collaborative Platform 113
eCyborg Collaborative Platform authentication 35
eCyborg Interactive Workforce functionality 21
eCyborg Interactive Workforce Home 948
eCyborg Interactive Workforce Home page 948
eCyborg Interactive Workforce Security Considerations 103
eCyborg security 99
EDI 948
Edit pay document numbers (P2EDIT) 398
Edit Utility 117
EEOC 948
Effective date 948
EFT 948
EIC 948
EIN 948
EL 948
Electronic documentation 948
Electronic Performance Support system 948
Email 948
Employee 581
Employee Area Expand Worksheet 520
Employee cancellation 948
Employee Database 50, 58, 948
  key structures 580
  layout 578
Employee Database (FILE02) - Indexed version 25
Employee Database key structure(s) 580
Employee Database layout 578
Employee Database record 948
Employee Database utilities 120
Employee Earnings And Deductions* (HH-SCR) and Direct Deposit Information (H9-SCR) forms 757
Employee Earnings And Deductions* (HH-SCR) and Employee Pay Rate Or Salary (H1-SCR) forms 758
Employee ID Keys 261
Employee Information* (EF-SCR) and Set Up A New Employee (NH-SCR) forms 753
Employee logical Master record 949
Employee Migration Utility (LOADHR) 651
Employee Name And Address* (FF-SCR) and Employee Information (EF-SCR) forms 754, 755
Employee nnnnnnnnnnHED xxx CALLING BAD 5Gyy 830
Employee Number 949
Employee Record/Segment Growth Worksheet 523
Employee records 581
Employee segment codes 600
Employee status 949
Encoding 949
English Language 949
Enhanced Pay Processing and Reporting 949
Enhancements and bulletins 43
Enrollment form 949
Entering report requests 795
Entitlement accrual 949

Entity 949
Entry Added - No Wages Adjusted 827
Entry Added - Tax Type 1 Adjusted..... 827
Entry field..... 949
Entry form 949
Environment 949
Environment setup..... 164
EPSS..... 949
EQUAL OPPORTUNITY CODE BAD..... 835
ER Transaction 778
Error - Missing data in Transaction 823
Error and Warning Messages 819
Error and Warning Messages for Batch Payroll System Reports 822
Error handling..... 820
Error in BATCH Trans - Batch Rejected 823
Error in Trans - Entire Trans Rejected 823
Error message numbers 603
error messages
for SQL DML..... 344
synchronization 856
Error messages..... 320
Error Messages
on the Master File Status report 835, 836
on the Payroll Audit Trail report..... 826
on the Transaction Load report 822, 826
Establish payroll processing options 386
Establishment Reporting..... 949
Estimating table space sizing..... 92
Euro triangulation..... 949
Event..... 949
Exchange rate 949
Exchange rate type 949
Excused absence..... 949
Executable Code records 582
Execute
control records on the System Control Repository..... 653
DOS command from a file 652
Execute a DOS command from a file (DOSPRE) 652
Execute control records on the System Control Repository (F04F01) 653
Executing an enhanced query..... 292
Executing PAYMRG 421
Executing PRG02X online 252
Executing PRG02X or ZX-DEL in batch..... 253
Executing Queries in batch 293
Executing Queries online 290
Execution scripts 949
Existing interfaces..... 113
Expand Areas in CBSV Programs (EXPAND)654
EXPAND record format..... 446
Expanding 334
Expanding employee (Area2) and/or company (Area4) work areas..... 327
Expanding working storage areas for relational databases only..... 329
Expanding working storage for the database commit..... 335
Expansion of Payroll Processing COBOL working storage areas..... 323
Expansion of the online system COBOL working storage areas..... 322
Expansions 446
EXPORT
System Control Repository Records..... 658
Export Client Data File Items..... 655
Export Client Data File Items (MAKECL) 655
Exporting FILE01 items - online JEXPORT (+params)..... 915
Extended Stub-over Pay Document (XUC/XUD and XLUC\XLUD) Transaction Layouts..... 811
extract
COBOL programs..... 657
core system 464, 465
core system recovery 504
Core System versus Labor and History..... 472
extracting core system data..... 490
Labor and History recovery 505
Position Administration 465
Report 465
selecting components..... 486
System Control Repository Records..... 658
Extract (EXT) records
using..... 363

Extract and compile online COBOL programs 330
Extract and compile payroll programs (P9CNVT) 656
Extract file 949
Extract online COBOL programs (PULL) 657
Extract Parameter Records for pay documents 799
Extract Parameter Records for Format CC/CD 798
Extract Parameter Records for Format HC/HD 798
Extract Parameter Records for Format LUC/LUD 797
Extract Parameter Records for Format MC/MD 799
Extract Parameter Records for Format OC/OD 796
Extract parameter records for Format SC/SD .. 796
Extract Parameter Records for Format UC/UD 797
Extract Parameter Records for Format XHC/XHD 798
Extract Parameter Records for Format XLUC/XLUD 797
Extract parameter records for Format XSC/XSC 796
Extract Parameter Records for Format XUC/XUD 797
Extract program 950
Extract System Control Repository Records (EXPORT) 658
Extracted Report Records File (P40IN) 381
extracting
  online system COBOL programs 324
  payroll process COBOL programs 325
Extracting all organizations 390
Extracting COBOL programs 445
Extracting core system data - full extract 481
Extracting core system data - incremental extract 482
Extracting data 39
Extracting labor and history data 483
Extracting pay document formats 796
Extracting payroll information (PAYXTR) 389
Extracting Report Generators 444
Extracting report generators - online JRGEXT 922
Extracting selected organizations 390
Extracting the Standard Test data - online JSTEXT 928
Extraction of Payroll Process COBOL programs 325
Extraction of system changes 474
Extraction of the online system COBOL programs 324
extraction routine
  Report Generator 922
Extraction/Insertion overview 464

F

F1 Transaction 754
F2 Transaction 755
Federal Insurance Contributions Act 950
FEIN 950
FICA 950
FICA-HI Adjustments form (KH-SCR) 772
FICA-OASDI/Total Pay Adjustment form (KF-SCR) 770
Field 950
FIELD CONTENTS (328) 781
Field Maintenance And Edit, F-NAME 357
Field names 593
FIELD NUMBER (190) 780
File level and operating system level security .. 102
file level security 102
File numbers 604
File requirements 66, 68
FILE01
  characteristics 590
FILE02 Layout 578
FILE02 Records (RECSIZ) 612
FILE02 Records (RECSIZ) Example 613
FILE02 Records (RECSIZ) Report 316
  discussed 316
  example 612
  generating 326
FILE03
  characterisitcs 586
FILE04
  characteristics 586
FILE05

characteristics ... 586
FILE05 in a relational environment ... 133
FILE06
characteristics ... 586
FILE07
characteristics ... 586
FILE08
characteristics ... 586
FILE10
characteristics ... 586
FILE11
characteristics ... 586
FILE12
characteristics ... 586
FILE13
characteristics ... 586
FILE14
characteristics ... 586
FILE15
characteristics ... 586
FILE17
characteristics ... 586
FILE18
characterisitcs ... 586
FILE19
characteristics ... 586
FILE20
characteristics ... 586
FILE23
characteristics ... 586
FILE24
characteristics ... 586, 590
FILE25
characteristics ... 586
FILE26
characteristics ... 586
FILE31 record layouts ... 689
FILE36 ... 464
files
for payroll processing ... 590
Files ... 132
Files for extracting ... 440
Filing entity ... 950
Filter ... 950
Finished ... 950
FIXIDX
discussed ... 343
Flat rate tax ... 950
Flex credits ... 950
Flex Master Plan ... 950
Flex plan ... 950
Flexible Benefits Plan ... 950
Flexible Benefits Program ... 950
Flexible Spending Arrangement ... 951
Floating toolbar ... 951
FLSA ... 951
F-NAME, Field Maintenance And Edit ... 357
Folder ... 951
Following all installations ... 88
For reports not using Formatting Report Records - RTPRNT ... 286
For reports using Formatting Report Records - RTPRNT ... 286
Foreign currency ... 951
Form ... 951
Form 300 ... 951
Form 300A ... 951
Form 301 ... 951
Form area ... 951
Form Builder ... 951
Form Solutions ... 786
phone number for ... 788
Formal education ... 951
Format 1 Time Entry Transaction ... 759, 762
Format 1 Time Entry Transaction - (TC1EDT) 763
Format 1 Time Entry Transaction - (TCFEDT) 764
Format 1 time entry Transaction - (TCISCR) . 761
Format 2 Time Entry Transaction - (TC@SCR andTC2EDT) ... 765
Format code chart ... 788
Format Codes
CC/CD described ... 789
CC/CD extract parameter records ... 798
for extracting pay documents ... 796, 799
for pay document printing ... 787, 789
HC/HD described ... 789

HC/HD extract parameter records 798
MC/MD described 789
MC/MD extract parameter records 799
OC/OD described 789
OC/OD extract parameter records 796
SC/SD described 789
SC/SD extract parameter records 796
UC/UD described 789
UC/UD extract parameter records 797
XHC/XHD described 789
XHC/XHD extract parameter records 798
XSC/XSD described 789
XSC/XSD extract parameter records 796
XUC/XUD described 789
XUC/XUD extract parameter records 797
Format descriptions 789
FormBuilder 111
customizing forms 37
Forward 951
FSA 951
FTE 951
FTP 951
Full Reporting Administration extract 924
Full Time Equivalent 951
Function keys 951
Functional and Subsystem Transactions 742
Functionality not available on the Web Client 20
Functionality that is limited on the Web Client 20
Funeral days 951

G

G Transaction 756
Gap analysis 952
Garnishment 952
General considerations 240
General installation notes 83
General ledger 952
General ledger interface 113, 952
Generating a Batch Layout Report 182
Get Screen Appearance Table (GETSAT) 660
Getting a form for input into Form Builder (GETSAT) 144
Getting Started 75
Glossary of terms 10
Go to details 952
Graphical User Interface 952
Graphical User Interface (GUI) informational and error messages 837
Grievance 952
Gross wages 952
Group box 952
Group plan 952
GUI 952
GUI installation 81
GUI presentation program 28

H

H Transaction - Deductions 757
H Transaction - Earnings 758
H20IN 384
characteristics 590
Handicap 952
HC/HD Side-by-side, Heat Seal 792
Header Record 571
Health and safety profile 952
HED 952
HED Number Invalid - Transaction Rejected 823
Help 952
Help files 26
HIPAA 952
HIRE DATE MISSING 835
History record 952
Holiday days 953
Home location 953
Home page 953
Hours 1 (position 41-46) 737
Hours 2 (position 47-52) 737
Hours 3 (position 53-58) 737
Hours 4 (positions 59-64) 737
How segments are identified 51
How segments are located by programs 52
How temporary fixes are distributed 208
How temporary fixes are identified 208
How the BATCH Transaction Works 733
How the Client Data File is updated 230
How to get additional help 12

How to use this manual 10
HR Job Code table (TA-SCR) and verb processing 134
HR Job Code table, TA-SCR 134
  changes when using Position Management .. 134
HR regulatory bulletins 44
HR reports
  changing to use Organization Units 287
HTML 953

I

I-beam 953
IBM MAINFRAME -- OS 872
ICCOPY 634
ICESA 953
IDENTIFIER (327) 780
Identifier Invalid - 1st Tax Body Rejected 823
Identifier Invalid - 2nd Tax Body Rejected 823
Identify table synchronization problems (RDBPGM2) 661
Identifying Problems and Applying Temporary Fixes 205, 895
Impact on processing 57, 58, 341, 343
Implementation 105
Implementation planning considerations 108
Import facility 953
Import record 953
Import Wizard error and warning messages 858
Import Wizard error messages 858
Import Wizard Import Log error messages 859
Import Wizard informational messages 860
Import Wizard warning messages 860
Impromptu 123, 953
  security 102
Inactive plan 953
Inactive tax record 953
Incoming transactions edited (P2EDIT) 392
INCORE 662
Incorrect 823
Incremental core system extraction 467
Incremental Reporting Administratiion extract 925
Incumbent 953
Index 11
Indexed version 16, 49
indexes
  Rebuild a particular index record on the Employee Database 670
  rebuilding 343
INDEXS
  discussed 343
Information-level security 953
Initial Administrator 953
Initial passwords 953
InitialAdmin 953
Initiating a report run in batch 296
Initiating a report run online by submitting a batch query 302
Initiating a report run online by submitting a report online 300
Initiating core system changes data extraction from the command prompt 496
Initiating core system data extraction from the command prompt 490
Initiating core system data extraction online ... 492
Initiating core system data extraction using a scheduler 491, 497
Initiating labor and history data extraction from the command prompt 494
Initiating labor and history data extraction online 495
Initiating labor and history data extraction using a scheduler 493
Inquiry form 953
Insert a revised SAT form into The Solution Series (PUTSAT) online 146
Installation Considerations 77
Instructional chapters 11
Instructional text 953
Intelligent messaging 34
Interactive Workforce 21
  API1 user 35
Interactive Workforce Security 35
Interface considerations 113
Interface file 689
Internal candidate 953
Internet 954

Intranet 954
Introduction .1, 14, 48, 78, 98, 108, 164, 190, 206, 226, 238, 256, 274, 312, 340, 356, 372, 414, 436, 462, 512, 608, 702, 716, 732, 822
Introduction - Program and Utility Quick Reference 620
Introduction to UK online scripts 912
Introductory chapters 11
Invalid Adjustment Code - Trans Rejected 823
Invalid Delete Identifier - Trans Rejected 824
Invalid Employee Nbr - Trans Rejected 824
Invalid Field Number - Trans Rejected 824
Invalid identifier
  This Entry Rejected 824
  Trans Rejected 824
Invalid Identifier - This Entry Rejected 824
Invalid Identifier - Trans Rejected 824
Invalid Table or Bracket - Trans Rejected 824
Invalid Transaction Code - Trans Rejected 824
Investment funds 954
IPEDS 954
IRP/BSS 954
IRS/MCC 954

J

JBLDAKY
  UK administration script 913
JDBC 954
JDSPERR
  UK adinistration script 914
JEXPORT
  UK administration script 915
JMAINTI
  UK administration script 916, 918
JMAINTO
  UK administration script 917
JMNTREL
  UK administration script 918
JMNTRUN 954
Job 954
Job assignment 954
JOB CATEGORY BAD 835
Job code 954
Job Control Language 84
Job streams 954
Job streams for extracting 439
Job type 954
JPAYRUN 954
JQTRRUN 954
JQUERY
  UK administration script 919
JRECSIZ
  UK administration script 920
JRELOAD
  UK administration script 921
JRGEXT
  UK administration script 922
JRGUPD
  UK administration script 923
JRSXRPT
  UK administration script 924
JRSXRPTI
  UK administration script 925
JRUN
  UK administration script 926
JSTDTST
  UK administration script 927
JSTEXT
  UK administration script 928
Jury duty 954
JXP5QTR 954

K

KA Transaction 766
KB Transaction 767
KC Transaction 768
KD Transaction 769
Key concepts 11
key structure(s)
  for the Employee Database 580
  for the System Control Repository 564
Key technical components 32
KEY-00 Utility Program 258
KEYDEL 955
KEYDEL Utility Program 258
KEY-PE 955

KEY-PE Utility Program 261
KF Transaction 770
KG Transaction 771
KH Transaction 772
KL Transaction 773

L

L Segment Delete Report 614
L Segment Delete Report (LD-RPT) 614
L Segment Delete Report (LD-RPT) - Example 615
Label 955
Labor and History extraction 469
Labor and History record optimization 361
Labor record 955
Large number 955
Laser Check Printing 801
Launching a report from the Report Group Activities form 304
Launching a report group from the Navigator . 306
Launching the FILE02 Record Sizing Report - online JRECSIZ 920
Launching the Relational Message Report - online JDSPERR (RDB) (+parms) 914
LDEFAULTS 955
LD-RPT 614
Leave of absence 955
Letter communication event considerations 125
Link/jump 955
LIS file 955
List Master File Records (DSP02) executing 332
List programs in memory 662
List programs in memory (INCORE) 662
Loading cumulative data using batch Payroll transactions 185
Loading in FILE01 records - online JMAINTI 916
Loading report programs with the H2 transaction 456
Loading static data using BATCHL transactions 184
Local currency 955
Local currency country 955
Locating PTFs on CUBBS 221
Log file 955
Log off 955
Logical Employee Model 955
LPI 955
LUC/LUD Pay Document under Pay Stub 790
LZF segment 135

M

Machine Parameter Record 438
Machine parameters 872
Machine Parameters 871
Mailing address 955
Main files and their contents 25
Maintaining a report generator master file 434
Maintaining Cross-Reference Keys 255, 900
Maintaining Phonetic and Employee ID Keys 266
Maintaining QUERY Alternate Keys 264
Maintaining Reporting Administration 459
Maintaining the Client Data File 225, 896
Maintaining the Payroll System 369
Maintaining the Production System 203
Maintaining the Replication Holding file (MNTF08) 499
Maintaining the Replication Holding file (MNTF08) online 501
Maintenance payroll run 955
Maintenance utilities 45
MAINTO 917
MAINTO file record type examples 705
MAINTO file record types 704
Major activity 955
Managing Working Storage 311, 903
Mandatory field 955
Manual Adjustments form (KB-SCR) 767
Manual conversion methods 174
Manual data input via online forms 174
Manual payment 955
Manual Payment (KA-SCR) and Manual Adjustments* (KB-SCR) forms 768
Manual Payment form (KA-SCR) 766
Map file 955
Mass time entry creation 955
Master File (0202) report 956

Master File Status Report Messages..... 835
Master File Status report, 9E9E
error message definitions for..... 835, 836
See also Reports..... 836
MASTER NUMBER (145)..... 781
Master Number Invalid - Trans Rejected 824
Matrix ID..... 956
Maximum report lines per page..... 286
May 1 241
May 2 to July 31..... 241
MC/MD Self-mailer 792
Member selection 443
Menu 956
Menu bar item 956
Menu records, server checklists, and user profiles on database tables 247
Merging history files with the current Sequential Master File 428
Merging payroll information (PAYMRG) 407
Message area 956
Method 1 (1 7 1)..... 421
Method code..... 956
Method Two (2 2 2)..... 421
MICRO-FOCUS COMPILER Net Express 872
Midpoint..... 956
Migration to Production 189, 893
Minimart..... 956
Minimum client system requirements 33
Minimum hardware and software requirements 79
Missing BATCH Transaction - Trans Rejected824
Missing Report Code - Trans Rejected..... 824
MMREF 956
Model (PowerPlay)..... 956
Modification of model execution scripts 91
Modify Controls (position 17)..... 736
Module codes 596
Monetary perquisites 956
More Than 9 S1 Trans - Trans Rejected..... 825
Moving expenses..... 956
Moving the data files..... 198
MTD FIGURES OUT OF BALANCE BY <number>..... 836
Multicurrency costing records..... 956
Multiple environment access.....228
Multiple master 956
Must Edit in BATCH999999 - Trans Rejected 825

N

NACHA 956
Name Format 825
NAME MISSING 836
naming conventions
alternate keys 598
company segment codes 601
country codes.....605
Cyborg Scripting Language verb names.....595
employee segment codes 600
error message numbers 603
field names.....593
file numbers 604
module codes 596
option list names.....599
Other records 602
program names 594
table codes 597
Naming conventions 27, 62
Naming Conventions.....121, 591
Navigation bar.....956
Navigation customization options.....111
Navigator.....956
NCES 956
Net credit method.....957
New hire.....957
New period pay run.....957
New Screen, NEWSCR.....357
New user 957
New User Home page 957
NEWSCR, New Screen.....357
No Wages Adjusted 827
Node.....957
Node ID.....957
Non Numeric.....825
NORMAL HOURS MISSING 836
NORMAL RATE MISSING.....836
Not Loaded.....827
Notes 11, 713

Notional value 957
Number registered 957

O

O4CALC 410
Object 957
object codes
  listing 554
  System Control Repository
    listing 554
Object Codes 49, 553
Object Codes - Quick Solution 557
Object key 957
Obsolete plan 957
Obtaining a PTF 222
OC/OD Pay Document over Pay Stub 789
Off cycle 957
Off-cycle pay run 957
One-stop document 957
Online 957
online files
  listing 586
Online files 25
Online Pay Calc records 582
Online Pay Document Printer Interface 687
Online payroll calculation 410
Online processing 66
Online processing mode 24
Online programs 66
Online query and custom reporting 39
Online report initiation and viewing 285
Online System Files 586
Online/background system installation 81
Open enrollment 957
Operating report generators 383
operating system codes
  listing 550
Operating System Codes 549, 550
Operator ID 957
Optimizing for Labor and History records 367
Option 957
Option 1
  Use all table data 358
Option 1 - Extract and merge only the required data
  for payroll processing 364
Option 2
  Extract only required table data 359
Option 2 - Extract and merge the minimal amount
  of data required for payroll processing, plus
  selected table data 365
Option 3
  Extract additional specified table data 359
Option button 958
Option list 958
Option List Display/Report (CDLIST) 663
Option list names 599
Option lists 36
Optional balancing feature 739
Optional information 793
Optional Parameters 873
Organization 49, 50, 958
Organization Control Numbers and the Company
  Validation Table 122
Organization Level 3 958
Organization Level 4 958
Organization Level 5 958
Organization Level 6 958
Organization levels 958
Organization Name And Address form (AA-SCR)
  ..... 748, 749
Organization Number 958
Organization Number (positions 6-11) 735
Organization processing 360
Organization Unit 958
Organization Validation table 958
Organization-specific tax setup 958
OSHA 958
Other CBSV tasks 60
Other files 54
Other records 602
Other user interface customization options 111
Out of Sequence - Transaction Rejected 825
Out-of-synchronization conditions 231
Override file 958
Override file - CBSVx 210
Override file - COBOL 215

Override file - Generators 218
Overtime Hours (positions 35-40) 737
Overtime Rate/Amount 738

P

P05IN
characteristics 590
P05OUT
characteristics 590
P05RDR
characteristics 590
P05T80
characteristics 590
P05T81
characteristics 590
P20 469
P20IN
characteristics 590
P20OUT
characteristics 590
P2EDIT 405, 958
and error messages 822
P40IN/ P40IN1
characteristics 590
P40OUT 382
P40OUT/ P40OUT1
characteristics 590
P4CALC 406, 959
and error messages 826
P4CALC program areas 332
P5PRNT 406, 959
P5W2PR 406
P9CNVT 325, 437
P9CNVT Activity Report 453
P9CNVT Activity Report - Expand continued 455
Packaged reporting 959
Packaged reports 959
Packetizer (DSPACK) 863
Paid absence 959
Parallel pay runs and testing considerations 181
Parallel run 959
Parameter form 959
Password 959
Password aging 959
Past Column 80 825
Pay allocation 959
Pay document 959
Pay document contents 793
Pay document formats 787
Pay Document Program Setup 785
pay documents
format characteristics of 787
formats for 787, 789
formats for extracting 799
information contained on 793
list of programs 786
optional information on 793
report numbers for 795
Pay extract 959
Pay Extract /Pay Merge
improving performance of 358
Pay frequency 959
Pay merge 959
Pay only selected companies 387
Pay Period-End Maintenance form (PE-SCR) .778
Pay schedule 959
Pay stub 959
Pay Stubs
print formats for 787, 789
Pay-for-performance matrix 959
Payment Document Messages form (AG-SCR)751
Payment Document Print Options form 793
Payment history record 959
Payment reconciliation 415
Payment Reversal/Clearing form (ER-SCR) 778
Payroll Administration 18
Payroll Audit Trail 449
Payroll Audit Trail Messages 826
Payroll Audit Trail report, 0101 332
error message definitions for 826
warning definitions for 831
Payroll Calculation Program (P4CALC) 396
Payroll cycle 85
Payroll expansion areas affected by the online system work areas 317
Payroll home location 959

Payroll Home Location/Pay Allocations form (GG-SCR) 756
Payroll installation 80
Payroll Level 3 960
Payroll Level 4 960
Payroll Level 5 960
Payroll Level 6 960
Payroll period 960
Payroll Process Control 960
payroll process files 590
Payroll Process Files 589, 590
Payroll process programs 29
Payroll regulatory bulletins 44
Payroll reports 40
Payroll restart and recovery 417
Payroll run 960
Payroll Run Process Control form (AE-SCR) 774
Payroll run recovery 411
Payroll run using an H20IN file with report generators 434
Payroll Runs
when to rerun 826
Payroll setup 165
PAYXTR and PAYMRG 127
PCL 960
PDF 960
PE Transaction 778
Peer-group appraisal 960
Pending de-enrollment segment 960
Pending eligibility segment 960
Perform Maintenance Run 405
Performance appraisal 960
Performance appraisal rating 960
Performance rating 960
performance tuning 356
Performance Tuning for Relational Databases 355, 907
Performance-related pay 960
Performing a full Reporting Administration extract - online JRSXRPT 924
Performing an incremental Reporting Administration extract - online JRSXRPTI 925
Performing extractions 444
Permanent Master Record 960
Perquisites 961
Personal days 961
Personalizing the work area 110
Phase 1
Data Conversion and Load Process Plan 167
Phase 2
Data Mapping 169
Phase 3
Data Extraction and Conversion 174
Phase 4
Data Load 178
Phonetic keys 961
Phonetic Keys 260
Pixel 961
Plan deactivation 961
Plan ID 961
Plan shutdown 961
Plan year 961
Platforms 15
Policy tables 961
POPF01
discussed 342
Population process 57
Pop-up menu 961
Portable document format 961
Position 961
Position Administration 18
Position Administration Control Number 961
Position complement 961
Position in range 961
Possible environments 89
Post-installation issues 89
Post-payroll processing 409
Posttax 961
Potential delays in updating the Client Data File 229
PowerPlay 961
security 102
Practice and Review Answers 875
Pre-installation preparation 79
Preliminary steps 417
Premium 961

Prenotification 961
Preparation for migration to production 191
Preparing for migration verification 199
Pre-Payroll Processing 386
Prerequisites 164, 226, 372, 414, 436, 462, 732
Pretax..... 962
Primary account..... 962
PRINT
characteristics..... 590
Problem identification and notification 207
Process..... 962
Process bar..... 962
Process batch jobs that require security authorization (BATRUN) 664
Process Confirmation form, ADHOC 912
Process Monitor..... 279, 962
Processing a FILE04 parameter file - online JRUN (+params) 926
Processing modes 24, 65
Produce pay documents, reports, and files (P5PRNT) 402
Producing reports 458
Product Alerts..... 42
Production environment follow-up..... 194
Production Version setting 194
Program 962
Program and Utility Quick Reference 617
Program naming convention..... 594
Program Temporary Fix (PTF)..... 42
Program temporary fixes 208
Program/subroutine descriptions 131
Programming customization options 112
programs
BATRUN 664
CBSVB 628
CBSVBT..... 629
CBSVO 630
CBSVOT..... 631
CYB88x 642
CYB89x 643
DOSPRE 652
DSP01 650
F01F04..... 679
FILE07..... 640
FIXIDX..... 670
FIXMMN..... 683
for pay document production..... 786
GETSAT..... 660
INDEXS 671
NOLOCK 681
POPF01..... 678
PUTSAT 667
RDBPGM1 641
RDBPGM2 661
RDBPGM3 674
RDBPGM4 636
RDBPGMM..... 638
RDBPGMX 637
REPORT..... 673
RTPRNT..... 675
SORT..... 676
SUBMIT 680
UPDTCL..... 684
VIEW..... 686
ZX-DEL..... 672
Programs, languages, and tools..... 28
Prompt..... 962
Protected amount 962
Prototype HED..... 962
Provider..... 962
PULL 324
PULLUP 621
purge
object code from the Employee Database..... 665
organizations from the Employee Database .666
Purge object code from the Employee Database (PRG02X)..... 665
Purge Organizations from the Employee Database (PRGC12)..... 666
Purging History and Labor Records..... 425
Push button..... 962
Put Screen Appearance Table (PUTSAT)..... 667

Q

QTD FIGURES OUT OF BALANCE BY <number> 836

Qualifier 962
Quarter-end P20 962
Quarterly Processor 962
Quartile 962
Queries - launching online and viewing 276
QUERY Alternate Key Build (KEY-00) 668
QUERY Alternate Key Delete (KEYDEL) 669
Query alternate keys 963
QUERY Alternate Keys 258
Query primary keys 963
QUERY Primary Keys 257
Questions answered 226, 463
Questions answered in this section . 14, 48, 78, 98, 109, 165, 190, 206, 239, 256, 274, 312, 340, 356
Quick Hire 963

R

Radio button 963
RDBPGM 131
Reader File (P05RDR) 375
READ-TA-TABLE
changes when using Position Management .. 134
Reasons for backups 240
Rebuild a particular index record on the Employee Database (FIXIDX) 670
Rebuild all index records on the Employee Database (INDEXS) 671
Rebuilding all Employee Database index records 349
Rebuilding individual Employee Database index records in batch 351
Rebuilding individual Employee Database index records online 351
Rebuilding Position Administration cross-references 263
Rebuilding the Client Data File - Batch Method234
Rebuilding the Client Data File - Online Method 233
Rebuilding the web help index 516
Recalculate benefit coverage/contributions 388
Recall 963
Reciprocal taxation 963
Recommendation 101
Recommended maintenance 257, 259, 261
Recommended maintenance summary 262
Recon Run (position 22) 736
Reconciliation number 963
Record 963
Record display utilities 64
Record Key Structures 563
record lock handling
suspend 681
Record number 01 689
Record Number 01 ..... 804, 811
Record number 02 691
Record Number 02 ..... 804, 811
Record Number 03 ..... 804, 811
Record Number 04 ..... 805, 812
Record number 10 696
Record number 11 697
Record number 15 698
Record Number 19 806
Record Number 20 806
Record Number 21 806
Record Number 22 807
Record Number 23 807
Record Number 24 807
Record Number 25 807
Record Number 26 808
Record Number 27 808
Record Number 28 808
Record Number 29 for LUC\LUD format 808
Record Number 29 for UC\UD format 808
Record Number 33 809
Record Number 34 809
Record Number 35 809
Record Number 36 809
Record Number 37 810
Record Number 40 813
Record Number 41 813
Record Number 42 813
Record Number 43 813
Record Number 44 814
Record Number 45 814
Record Number 46 814
Record Number 47 814

Record Number 48 814
Record Number 49 815
Record number 5 692
Record Number 50 815
Record Number 51 815
Record Number 52 815
Record Number 53 815
Record Number 57 816
Record Number 58 816
Record Number 59 816
Record number 6 693
Record Number 60 816
Record Number 61 816
Record number 7 694
Record number 8 695
Record Numbers 05 through 18 805
Record Numbers 05 through 18 for LUC\LUD format 806
Record Numbers 05 through 39 for XLUC\XLUD format 813
Record Numbers 05 through 39 for XUC\XUD format 812
Record Numbers 30 through 32 809
Record Numbers 38 through 42 810
Record Numbers 54 through 56 815
Record Numbers 62 through 66 817
Record segments 50
Record types 50
Recording your system changes 91
Records numbers 03, 04, 09, 12, 13, 14 692
Recovering
core system extract 504
Labor and History extract 505
Recovering core system extract 504
Recovering labor and history extract 505
Recovering the database 253
Recreating FILE31 689
Recruitment 963
RECSIZ 316
FILE02 Records 316
Recycle File 963
Recycle File (P05OUT) 380
Recycle File Input (position 18) 736
Registration 963
Registration number 963
Regular Hours (positions 28-34) 737
Regular Rate/Amount 738
Regulatory bulletin 963
Regulatory bulletins 43
Rehire 963
Reimbursement account 963
Reinstatement 963
Reject - 99 Checks Already Written 830
Reject - Address is Not Set Up 827
Reject - Bad Date, No Pay Calculated 827
Reject - Bad Employee Record 827
Reject - Control Ident Not Set Up 827
Reject - Control Tax Body Not Set Up 827
Reject - Data Area is Full 828
Reject - Duplicate Identifier Entry 828
Reject - Emp. Number Already Used 828
Reject - Federal protection table not found 828
Reject - Format is Too Large 828
Reject - HED is Not Set Up 828
Reject - HED nnn - No A8 Transaction 828
Reject - HED nnn Not Added - Area Full 828
Reject - HED nnn Verify FLSA OT 829
Reject - Identifier Entry Not Set Up 829
Reject - Master Not on File 829
Reject - No Matching Print Position 829
Reject - Over 65/or blind tax levy table not found 827
Reject - Record Not on File 829
Reject - Rept mmmm Over Loop Limit, Adr. nnnnn 829
Reject - Split Number is not Set Up 829
Reject - Standard tax levy table not found 829
Reject - Support table not found 829
Reject - Tax Body is Not Set Up 829
Reject - Trans Failed Previous Edit 827
Reject - Unresolved Branch 829
Reject time 963
Relational and indexed versions 16
Relational considerations 130
Relational database considerations 45
Relational database installation 82

Relational database work areas..... 320
Relational issues 196
Relational Table Name Elements, VIEWNM.. 856
relational tables and views
  listing..... 527
Relational Tables and Views 527
relational version
  performance tuning
    converting dynamic SQL to static SQL 357
    using Extract (EXT) records 358
  rebuilding indexes 343
Relational version 16, 57
Reloading FILE01 components - online JRELOAD 921
Relocation..... 964
Remaining net pay..... 964
Remove executable code from the Employee Database..... 672
Remove ZX (executable code) records from the Employee Database (ZX-DEL)..... 672
Replication..... 964
Replication Application..... 964
Replication Application (DSAPLY)..... 864
Replication Distribution 964
Replication Distribution (DSTRIB)..... 865
Replication Holding File 964
Replication Management (DSCL08) 867
Replication Packet File..... 964
Replication Reception (DSRECV) 868
Report..... 964
REPORT..... 465
Report AAAACalling Bad 5Gyy..... 830
Report Area Full - Bypassed***..... 830
Report Extract (REPORT)..... 673
Report Generator 469, 964
Report generator (RG) programs 29
Report Generator records..... 580
Report generator reports 123
Report Generator temporary fixes 217
report generators
  UK administration scripts 922, 923
Report Generators..... 929
Report generators on a separate file..... 432
Report Group..... 964
Report Group Activities - RGMSTR..... 278
Report Group Scheduler..... 964
Report Groups 39
Report loading and selecting 456
Report on table space size (RDBPGM3)..... 674
REPORT ONLINE area 332
Report parameters 964
Report Print (RTPRNT) 675
Report Quick Reference 607
Report Requests form
  and printing pay documents 795
Report Requests form (DD-SCR)..... 777
Report Viewer 280, 964
Reporting Administration..... 40
Reporting Administration..... 19, 964
  backing up..... 503
Reporting Administration Security Considerations 102
Reporting considerations..... 123, 286
reports
  Audit Trail Warnings 822
  HR
    changing to use Organization Units..... 287
  Master File Status 822, 835, 836
  Payroll Audit Trail..... 822, 826
  printing pay documents..... 795
  that supply error messages 822
  Transaction Load 822, 826
Report-specific parameter forms 281
Reprint reports and files 404
Reprinting pay documents..... 422
Requesting Reports and Queries Online (SUBMIT) 285
Required Reader File records..... 441
Requisition 964
Requisition Administration 18
Requisition candidate 964
Requisition limit..... 964
Requisition unit 964
Resetting the Inquiry Indicator..... 151
Restoration of the System Control Repository 242
Restore System Control Repository (DEMO01)677

Resynchronize the System Control Repository and relational tables (POPF01) 678
Retirement 965
Retroactive Pay 965
Return 965
Returning Control to FILE01 (F01F04) 679
Review of Questions answered .. 46, 94, 224, 235, 254, 271, 310, 353, 368, 507
Review of Questions Answered . 11, 73, 104, 161, 188, 201, 337, 877, 881, 884, 886, 887, 890, 893, 895, 896, 898, 900, 902, 903, 906, 907, 909
Review process 965
RG ..... 469, See Report Generator
Role of the system administrator in reporting . 275
Rolling Time entry Format 1 form (TCRSCR) 762
Roll-up reporting 287, 965
Root programs 65
Rotation pattern 965
RPT20 332
RSPLIT 464
Run parameters 69
Run RAUDIT 474
Running a QUERY against a single Org/C12 - online JQUERY (+params) 919
Running BACKEM 250
Running MAINTI, including automatic RELOAD step - online JMNTREL 918
Running Report Options 273, 902
Running tests 85
Running the Report Extract (REPORT program) 296
Running the Report Print (RTPRNT program) 297
Running the Restore System Control Repository utility 250
Running the SORT program 297
Running the Standard Test - online JSTDTST 927
Running UK Online Administration Scripts ... 911

S

Safety standards 965
Salary budget record 965
salary data (LZF segment)
EL programming change modification 135
Salary grade 965
Salary grade range 965
Salary plan 965
Salary plan year 965
Salary range 965
Salary review 965
Salary review authorization form 965
Sample EXPAND records 451
SAT file 965
Save Changes 965
SC/SD Side-by-side, pay document on right ... 789
Schedule Activities table 965
Schedule assignments 965
Schedule error 965
Schedule Master table 966
Schedule number 966
Scheduled updates 41
Screen 966
Scripting language 38
Scroll bar 966
Search argument 966
Search type 966
Secondary account(s) 966
Security Considerations 97, 886
Security for The Solution Series system 194
Security for third-party reporting 35
security issues
Cognos Impromptu 102
Cognos PowerPlay 102
data mart 102
file level and operating system level 102
Security Officer 35, 966
Security Officer Profile 101
Security Officer Profile program 101
Security reports 35
Security setup 100
Security sign-ons and the Security Officer Profile 90
Security within The Solution Series 35
See BATCH Modify Control - Trans Rejected 825
Segment Layout Report 172
Segment/Pointer relationship 54
SEIN 966

Selectable File08 Display 966
Selectable table processing for Payroll 358
Selected 830
Selected FILE08 Display (DS8SEL) 862
Selected reports and the P4CALC program 458
Selecting reports with the P4 transaction 457
Selecting the core system extract components 486
Self-adjusting taxes 966
Sequential Master File 966
Sequential Master File (P20IN) 382
Sequential Master File merges 429
Sequential Output FILE10 143
Server 33
Service interruption 966
Service method 966
Session 966
Session records 582
Setting Up Environments 884
Setting up the job streams for SUBMIT and VIEW 298
Setting up the Print Batch Initiator (JPRTxxxx) job stream 299
Setting up the production environment 197
Setting up the Query Batch Initiator (JQRYxxxx) job stream 299
Setting up the Report Batch Initiator (JRPTxxxx) job stream 298
SETUPS 639
SEX NOT M OR F 835
Shift 967
Shift Differential/ Premiums 967
SHIFT MISSING 835
Shift premium 967
Shortcut key 967
Shortcut menu 967
SIC 967
Sick days 967
Size considerations for the production environment 192
SOAP 967
SOC 967
SOCIAL SECURITY NUMBER MISSING 835
Software updates 41
Solution View 967
  creating forms and fields 37
Sort Extract Records (SORT) 676
Sort Format Not Loaded - Trans Rejected 825
Source DL 967
space (position 23) 736
Special assessment 967
Special considerations for requesting Batch Layout (BATCHL) reports 171
Special considerations when running Position Administration reports 288
Special processing runs 413
Specific error codes 344
Specific relational database tuning 356
Spinbox 967
split 473
  core system 473
  Labor and History 473
SPLIT % NOT 100% 836
Split Number Invalid - Trans Rejected 825
Spreadsheet application 967
SQL 967
  converting dynamic to static 362
  dynamic 357
  errors 344
  static 357
Stage 1
  Extract 465
Stage 2
  Split 473
Stage 3
  Load 473
Standalone Time and Attendance 967
Standard information 793
Standard Pay Processing and Reporting 967
Standard Reports 39
Static data 967
Static SQL 967
Status bar 967
Statutory employee 968
Stub-over Pay Document (UC/UD and LUC\LUD) transaction layouts 804
Submit batch jobs

Submit 680
Submit batch jobs (SUBMIT) 680
Sub-schedule number 968
Succession planning 968
Suggestions and feedback 12
SUI 968
Summary page 968
Summary plan 968
Supplemental wages 968
Surplus 968
Suspend record lock handling (NOLOCK) 681
Switches 968
synchronization
error messages 856
System Control Repository and relational tables 342
table synchronization problems 661
Synchronization error messages 856
Synchronization of data loads 180
Synchronization of object code 249
Synchronization of the System Control Repository and relational tables 57, 342
Synchronizing Relational Tables and Indexes 339, 906
Synchronizing the Employee Database (FILE02) with the database 348
Synchronizing the executables 252
Synchronizing the System Control Repository (FILE01) with the database 348
Synchronizing the System Control Repository and the relational tables 347
System administrator 968
System Control Repository 25, 49, 57, 968
key structures 564
object codes for 554
resynchronize the 678
view a specific type of System Control Repository Record 685
System Control Repository (Control File) key structure(s) 564
System Control Repository Object Codes 554
System Control Repository replication 57, 341
System Control Repository utilities 50, 116
System Files 585
System Generator 968
System initialization generators 383
system level security 102
System Overview 13, 877
System setup and installation 226
Systems Subject Area 537
System-wide defaults 90

T

Table 968
Table 1 717
Table 2 718
Table 3 719
Table 4 720
Table 5 725
Table 6 726
Table codes 597
Table Definition Record 968
Table of contents 10
Tables by Pointer and Table Reference 538
Tables by Subject Area 528
Target DL 968
TA-SCR, HR Job Code table 134
Task 968
Task icon 969
Tasks ... 48, 78, 109, 164, 190, 206, 226, 238, 256, 274, 312, 340, 356, 462
Tax Adjustment - Alternate form (KG-SCR) ... 771
Tax Adjustments form (KD-SCR) 769
Tax authority 969
Tax Authority File 969
Tax class 969
Tax code 969
Tax records 581
Tax regulatory bulletins 44
Tax specification 969
Tax Specification record 969
Tax table 969
Tax type 969
Tax Type 1 Wages Adjusted 830
Tax Type or Number Invalid - Tran Rejected .. 826
Taxability 969

Taxable wage base 969
Tax-related Regulatory Bulletin 969
TDR 970
Technical considerations for printing laser checks 803
Technical objectives 31
Template 970
Temporary fix file 211
Temporary fixes 45
Temporary password 970
Termination 970
Test data 85
Test environment 970
Testing the installation 85
Text box 970
Text qualifier 970
The batch environment 373
The batch reporting programs and steps 282
The Collaborative Platform 21
The customization process 110
The Employee Database in the relational version 343
The Human Resources Administration 17
The importance of backing up your data 90
The Payroll BATCH Transaction 731
The Payroll System 371
The Solution Series database 62
The Solution Series security features and setup 99
The system components 17
The System Control Repository in the relational version 341
The X Transaction 780
Third Party Administator 970
Third party reporting security considerations 99
Third-party interfaces 113
Third-party reporting 40
This Control 1-2 Added 830
This Control 1-2 Deleted 830
This Employee Added 830
This Employee Deleted 830
Reject - Federal tax levy active 828
This Identifier Entry Added 830
This Identifier Entry Deleted 830
This Tax Body Added 831
This Tax Body Deleted 831
TIB-4 970
Time and Attendance Administration 18
Time entry 970
Time Entry - Full Override form (TCFSCR) .. 759
Time Entry and Adjustment Transactions 742, 759
Time Entry Edit - Partial Format 1 form (TCFEDT) 764
Time Entry Edit Format 1 form (TC1EDT) 763
Time entry extract file 970
Time Entry Format 1 form (TCISCR) 761
Time entry validation 970
Time Entry/Adjustment Transaction records .. 583
Time-Entry Batch Balancing form (BA-SCR) 776
Timeout 970
TLCN 970
ToolTip 970
Top-down appraisal 970
TPA 971
Track 971
Trading Partner 971
Trainer 971
Trainer code 971
Training area 971
Training class results 971
Training class status 971
Training course code 971
Training plan 971
Training reason 971
Training request 971
Trans Rejected - See BATCH Transaction 826
Transaction codes 742
Transaction Files (P05T80 and P05T81) 381
Transaction Load report error message definitions for 826
Transaction Load Report for editing pay document numbers 401
Transaction Load Report for incoming transactions 395
Transaction Load Report Messages 822
Transaction Set 971
Transfer 971

Trend analysis 971
Trigger 971
Troubleshooting 360
Troubleshooting the CAS daemon (UNIX) 852
Tuition reimbursement 972
tuning 356
Type of training request 972
Types of segments 51
Types of temporary fixes 208

U

UC/UD Pay Document under Pay Stub 790
UI 972
UI Number 972
Unauthorized absence 972
Underlined text 972
Unemployment insurance tax 972
Unlock
  menu records 683
  system lock record 682
Unlock a system lock record (UNLOCK) 682
Unlock Menu records (FIXMMN) 683
Unpaid absence 972
Unscheduled updates 42
Update and calculate pay information (P4CALC) 396
Update the Client Data File (UPDTCL) 684
Updating records using the X transaction 780
Updating report generator code in the RG file - online JRGUPD 923
Updating the Client Data File 232
Updating the System Control Repository (MAINTI) 142
Upward appraisal 972
URL 972
Usage 703
Use the batch payroll process 425
Use the Retain History field (option list PP26) on the Company Options form 425
User class 972
User code 972
User defined password 972
User ID 972
User interface utilities 36
User profile 972
Using EXPAND transactions 447
Using reporting packages 40
Using selectable Extract (EXT) records to speed up Payroll processing 363
Using the Backup and Restore Utilities ... 237, 898
Using the COPY utility 138
Using the EXPORT utility 141
Using the List Control File Records (DSP01) utility 138
Using the List Employee Data Records (DSP02) utility 144
Using the online DISPLY utility 137
Using the Online Pay Document Print Facility 699
Using the Pay Extract (PAYXTR) utility 148
Using the Pay Merge (PAYMRG) utility 149
Using the record delete (PURGE) utility 140
Using the System Control Repository editor (EDIT) 139
utilities
  BACKEM 622
  BATCHL 623
  CSSSBLD 627
  DEL-PE 645
  DEL-ZX 647
  DEMO01 677
  DISPLY 685
  DSP02 648
  EXPAND 654
  EXPORT 658
  F04F01 653
  ICCOPY 634
  INCORE 662
  KEY-00 668
  KEYDEL 669
  KEY-PE 625
  MAINTI 632
  MAINTO 633
  MAKECL 655
  PRG02X 665
  PRGC12 666
  PULL 657

PULLUP 621
PURGE 646
RDBPGM0 626
SETUPS 639
UNLOCK 682
VSCOPY 635
Utilities for customization 116

V

Vacancy 972
Vacation days 972
Valid reports for an organization - C12RPT 281
Valid Transactions File (P05IN) 380
Validate Only - BATCH Rejected 826
Validate Only (position 16) 736
Validation 972
Variant forms 972
Verify employee updates 388
Verifying the employee earnings and deductions figures 186
Verifying the employee tax figures 187
Verifying the migration 200
Version 5.1 changes to the installation process . 82
Version Number (position 21-21) 736
View a Specified Type of System Control Repository Record (DISPLY) 685
View online output from Query record (VIEW) 686
Viewing a held report online 309
Viewing held reports 39
Viewing Reports and Queries Online - VIEW 285
VIEWNM, Relational Table Name Elements .. 856
Virtual (Variant) Forms Facility 111
VSCOPY 635

W

Waive 973
Warning 973
Neg. Pay Put Into Arrears 832
Warning - Area Full, PD Entry Dropped 831
Warning - Garnishment HED nnn will stop on MM/DD/YY 831
Warning - Garnishments not allowed for XX .. 831
Warning - HED nnn Accrd Hrs 831
Warning - HED nnn DED – Insuff. Net Pay ... 831
Warning - HED nnn Ded-Insuf. NDI 831
Warning - HED nnn Has Been Set Up 831
Warning - Inactive Emp. Time Entry 832
Warning - Input Version Number Is 832
Warning - Negative Net Pay Zeroed Out 832
Warning - No Bracket For Tax Table 832
Warning - No GRTSCR set for Garnishment Type XX 832
Warning - No Hours x - Regular Pay Used 832
Warning - No Money x - Regular Pay Used ... 833
Warning - No Time Entry or HED 001 Pay 833
Warning - Not In Table, Area Fill 833
Warning - Overtime For Exempt Employ. 833
Warning - Shift HED Added 833
Warning - Shift Method Code Not Valid 833
Warning - Tax Area Full, Tax Not Used 833
Warning - Tax Body Not in Tax Area 833
Warning - Tax nnnnnnn Added 834
Warning - Tax nnnnnnn Area Full 834
Warning - Tax Table Missing 834
Warning - This Tax Body Deleted 834
Warning - This Time Card Bypassed 834
Warning - This Time Card Cancelled 834
Warning - Two KC Transactions 834
Warning messages 855
Warning Messages
Neg. Pay Put Into Arrears 832
Payroll Audit Trail Messages 826
Warning - Area Full, PD Entry Dropped 831
Warning - HED nnn Accrd Hrs 831
Warning - HED nnn DED - Insuff. Net Pay 831
Warning - HED nnn Has Been Set Up 831
Warning - Inactive Emp. Time Entry 832
Warning - Input Version Number Is 832
Warning - Negative Net Pay Zeroed Out 832
Warning - No Bracket For Tax Table 832
Warning - No Hours x - Regular Pay Used . 832
Warning - No Money x - Regular Pay Used 833
Warning - No Time Entry or HED 001 Pay. 833
Warning - Not In Table, Area Fill 833
Warning - Overtime For Exempt Employ.... 833
Warning - Shift HED Added 833

Warning - Shift Method Code Not Valid 833
Warning - Tax Area Full, Tax Not Used..... 833
Warning - Tax Body Not in Tax Area..... 833
Warning - Tax nnnnnnn Added..... 834
Warning - Tax nnnnnnn Area Full 834
Warning - Tax Table Missing 834
Warning - This Tax Body Deleted 834
Warning - This Time Card Bypassed..... 834
Warning - This Time Card Cancelled 834
Warning - Two KC Transactions 834
Warning time 973
Web Client..... 19
Welfare benefit plan group 973
Welfare benefit plan subgroup 973
Welfare plan 973
What has been installed 80
What is a Maintenance Run? 424
What is the Client Data File?..... 227
What to look for if the Position Administration Reporting Extract fails 288
What-if mode..... 973
When dynamic SQL is generated 357
When to check working storage resources 314
When to rebuild the Client Data File..... 231
When to rebuild the database 130
When to use the CASE tool..... 59, 131
Who should be present during the installation .. 79
Window 973
Wizard 973
WL Record Maintenance form (WL-SCR) 779
WL Transaction..... 779
Work area 973
work areas
defaults sizes and maximums for relational databases..... 320
Work instructions 191, 973
Work restrictions 973
Worker's compensation 973
Workforce competency 973
working storage
determining if expansion is required..... 326
expanding online system areas..... 322
expanding payroll process areas..... 323
expanding relational database areas.....329
expansion worksheets 326
Working storage.....53
Working storage areas affecting both the online system and Payroll Processing.....316
Working storage delivered with the system 319
Working storage expansion areas.....315
Working Storage Expansion Worksheets.....519
Working With CYBMST 435
WSA_INVALID_HANDLE.....848
WSA_INVALID_PARAMETER 848
WSA_IO_INCOMPLETE 849
WSA_IO_PENDING 849
WSA_NOT_ENOUGH_MEMORY 849
WSA_OPERATION_ABORTED 851
WSAEACCES 842
WSAEADDRINUSE 842
WSAEADDRNOTAVAIL 842
WSAEAFNOSUPPORT 842
WSAEALREADY 843
WSAECONNABORTED 843
WSAECONNREFUSED 843
WSAECONNRESET.....843
WSAEDESTADDRREQ 843
WSAEDISCON 851
WSAEFAULT 844
WSAEHOSTDOWN 844
WSAEHOSTUNREACH.....844
WSAEINPROGRESS.....844
WSAEINTR.....844
WSAEINVAL.....844
WSAEISCONN 845
WSAEMFILE 845
WSAEMSGSIZE 845
WSAENETDOWN 845
WSAENETRESET 845
WSAENETUNREACH 845
WSAENOBUFS 846
WSAENOPROTOOPT.....846
WSAENOTCONN.....846
WSAENOTSOCK 846
WSAEOPNOTSUPP 846
WSAEPFNOSUPPORT.....846

WSAEPROCLIM 847
WSAEPROTONOSUPPORT 847
WSAEPROTOTYPE 847
WSAESHUTDOWN 847
WSAESOCKTNOSUPPORT 847
WSAETIMEDOUT 848
WSAEWOULDBLOCK 848
WSAHOST_NOT_FOUND 848
WSAINVALIDPROCTABLE 849
WSAINVALIDPROVIDER 849
WSANO_DATA 850
WSANO_RECOVERY 850
WSANOTINITIALISED 849
WSAPROVIDERFAILEDINIT 850
WSASYSCALLFAILURE 850
WSASYSNOTREADY 851
WSATRY_AGAIN 851
WSATYPE_NOT_FOUND 848
WSAVERNOTSUPPORTED 851

X

XHC/XHD Expanded Side-by-side, Heat Seal 791
XHTML 973
XLUC/XLUD Expanded Pay Document under Pay Stub 791
XML 973
XML Schema Definition Language 973
XSLT 973
XUC/XUD Expanded Pay Document under Pay Stub 790
XXXXXX Added 835
XXXXXX Replaced 835

Y

Year End Master File 973
YTD FIGURES OUT OF BALANCE BY <number> 836

Z

ZE records 344
layout for 344
ZIP CODE MISSING 836

