

# Cincom

## **SUPRA SERVER PDM**

OS/390 Installation Guide

P26-0149-01



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# SUPRA<sup>®</sup> Server PDM OS/390 Installation Guide

## Publication Number P26-0149-01

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Cincom Systems, Inc.  
55 Merchant Street  
Cincinnati, Ohio 45246-3732  
U. S. A.

PHONE: (513) 612-2300  
FAX: (513) 612-2000  
WORLD WIDE WEB: <http://www.cincom.com>

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## Release information for this manual

The *SUPRA Server PDM OS/390 Installation Guide*, P26-0149-01, is dated January 15, 2002. This document supports Release 2.7 of SUPRA Server PDM in the OS/390 environment.

### We welcome your comments

We encourage critiques concerning the technical content and organization of this manual. Please take the [survey](#) provided with the online documentation at your convenience.

#### *Cincom Technical Support for SUPRA Server PDM*

FAX: (513) 612-2000  
Attn: SUPRA Server Support

E-mail: [helpna@cincom.com](mailto:helpna@cincom.com)

Phone: 1-800-727-3525

Mail: Cincom Systems, Inc.  
Attn: SUPRA Server Support  
55 Merchant Street  
Cincinnati, OH 45246-3732  
U. S. A.



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# About this book

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## Using this document

This manual describes the installation of SUPRA Server PDM in the OS/390 environment.

### Document organization

The information in this manual is organized as follows:

#### **Chapter 1—Planning considerations and resource requirements**

Provides a list of available components and their associated release levels.

#### **Chapter 2—SUPRA Server PDM installation**

Discusses steps to install the SUPRA Server PDM tapes.

#### **Chapter 3—Tailoring and operational considerations**

Discusses special performance and tailoring options.

#### **Chapter 4—Installation verification**

Use the product verification guide to verify a proper installation. Contact your Cincom representative if you have any problems.

#### **Appendix A—SUPRA Server PDM sample JCL members**

Lists and describes the members on the distributed SUPRA Server PDM JCL library.

#### **Appendix B—SUPRA Server PDM tape file contents**

Lists and describes each file on the installation tapes.

#### **Index**

## Revisions to this manual

The following changes have been made for this release:

- ◆ System requirements and planning considerations have been added to this manual. This information was previously located in the *SUPRA Server Planning Guide*, P26-0422, which has been eliminated. See “[Planning considerations and resource requirements](#)” on page 15.
- ◆ Information on updating the CSTHOPTN module has been added to the installation chapter. See “[Updating the CSTHOPTN module and JCL to assemble and link](#)” on page 37.
- ◆ All references to MVS/XA have been updated to OS/390.
- ◆ SPECTRA installation and verification information has been added.
- ◆ The NORMAL product is no longer distributed. If you use NORMAL, retain your files and previous documentation. References to NORMAL in this document have been deleted.

## Conventions

The following table describes the conventions used in this document. These conventions will help you identify statements, commands, and references within the text and software.

Convention	Description	Example
Constant width type	Represents screen images and segments of code.	<pre>PUT 'customer.dat' GET 'miller\customer.dat' PUT '\DEV\RMT0'</pre>
Slashed b ( <i>b</i> )	Indicates a space (blank). The example indicates that four spaces appear between the keywords.	<pre>BEGN<b>b</b><b>b</b><b>b</b><b>b</b>SERIAL</pre>
Brackets [ ]	Indicate optional selection of parameters. (Do not attempt to enter brackets or to stack parameters.) Brackets indicate one of the following situations:	
	A single item enclosed by brackets indicates that the item is optional and can be omitted.	<pre>[WHERE search- condition]</pre>
	The example indicates that you can optionally enter a WHERE clause.	
	Stacked items enclosed by brackets represent optional alternatives, one of which can be selected.	<pre>[<u>(WAIT)</u> (NOWAIT)]</pre>
	The example indicates that you can optionally enter either WAIT or NOWAIT. (WAIT is underlined to signify that it is the default.)	

Convention	Description	Example
Braces { }	<p>Indicate selection of parameters. (Do not attempt to enter braces or to stack parameters.) Braces surrounding stacked items represent alternatives, one of which you must select.</p> <p>The example indicates that you must enter ON or OFF when using the MONITOR statement.</p>	<p>MONITOR { ON }                   { OFF }</p>
<p><u>Underlining</u> (In syntax)</p>	<p>Indicates the default value supplied when you omit a parameter.</p> <p>The example indicates that if you do not choose a parameter, the system defaults to WAIT.</p> <p>Underlining also indicates an allowable abbreviation or the shortest truncation allowed.</p> <p>The example indicates that you can enter either STAT or STATISTICS.</p>	<p>[ (WAIT) ] [ (NOWAIT) ]</p> <p><u>STATISTICS</u></p>
Ellipsis points...	<p>Indicate that the preceding item can be repeated.</p> <p>The example indicates that you can enter multiple host variables and associated indicator variables.</p>	<p>INTO :host-variable [:ind-variable],...</p>
SMALL CAPS	<p>Represent a required keystroke. Multiple keystrokes are hyphenated.</p>	<p>ALT-TAB</p>

Convention	Description	Example
UPPERCASE lowercase	In most operating environments, keywords are not case-sensitive, and they are represented in uppercase. You can enter them in either uppercase or lowercase.	COPY MY_DATA.SEQ HOLD_DATA.SEQ
	In the UNIX operating environment, keywords are case-sensitive and you must enter them exactly as shown.	cp *.QAR /backup
<i>Italics</i>	Indicate variables you replace with a value, a column name, a file name, and so on.  The example indicates that you must substitute the name of a table.	FROM <i>table-name</i>
Punctuation marks	Indicate required syntax that you must code exactly as presented.  ( ) parentheses . period , comma : colon ' ' single quotation marks	<i>(user-id, password, db-name)</i>  INFILE 'Cust.Memo' CONTROL           LEN4

## SUPRA Server documentation series

SUPRA Server is the advanced relational database management system for high-volume, update-oriented production processing. A number of tools are available with SUPRA Server including DBA Functions, DBAID, precompilers, SPECTRA, and MANTIS. The following list shows the manuals and tools used to fulfill the data management and retrieval requirements for various tasks. Some of these tools are optional. Therefore, you may not have all the manuals listed. For a brief synopsis of each manual, refer to the *SUPRA Server Digest (OS/390 & VSE)*, P26-9062.

### Overview

- ◆ *SUPRA Server Digest (OS/390 & VSE)*, P26-9062

### Getting started

- ◆ *SUPRA Server PDM Migration Guide (OS/390 & VSE)*, P26-0550\*
- ◆ *SUPRA Server PDM CICS Connector Systems Programming Guide (OS/390 & VSE)*, P26-7452

### General use

- ◆ *SUPRA Server PDM Glossary*, P26-0675
- ◆ *SUPRA Server PDM Messages and Codes Reference Manual (RDM/PDM Support for OS/390 & VSE)*, P26-0126

## Database administration tasks

- ◆ *SUPRA Server PDM and Directory Administration Guide (OS/390 & VSE)*, P26-2250
- ◆ *SUPRA Server PDM Directory Online User's Guide (OS/390 & VSE)*, P26-1260
- ◆ *SUPRA Server PDM Directory Batch User's Guide (OS/390 & VSE)*, P26-1261
- ◆ *SUPRA Server PDM DBA Utilities User's Guide (OS/390 & VSE)*, P26-6260
- ◆ *SUPRA Server PDM Logging and Recovery (OS/390 & VSE)*, P26-2223
- ◆ *SUPRA Server PDM Tuning Guide (OS/390 & VSE)*, P26-0225
- ◆ *SUPRA Server PDM RDM Administration Guide (OS/390 & VSE)*, P26-8220
- ◆ *SUPRA Server PDM RDM PDM Support Supplement (OS/390 & VSE)*, P26-8221
- ◆ *SUPRA Server PDM RDM VSAM Support Supplement (OS/390 & VSE)*, P26-8222
- ◆ *SUPRA Server PDM Migration Guide (OS/390 & VSE)*, P26-0550\*
- ◆ *SUPRA Server PDM Windows Client Support User's Guide*, P26-7500\*
- ◆ *SPECTRA Administrator's Guide*, P26-9220

### Application programming tasks

- ◆ *SUPRA Server PDM DML Programming Guide (OS/390 & VSE)*, P26-4340
- ◆ *SUPRA Server PDM RDM COBOL Programming Guide (OS/390 & VSE)*, P26-8330
- ◆ *SUPRA Server PDM RDM PL/1 Programming Guide (OS/390 & VSE)*, P26-8331
- ◆ *SUPRA Server PDM Migration Guide (OS/390 & VSE)*, P26-0550\*
- ◆ *SUPRA Server PDM Windows Client Support User's Guide*, P26-7500\*

### Report tasks

- ◆ *SPECTRA User's Guide*, P26-9561



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Manuals marked with an asterisk (\*) are listed more than once because you use them for multiple tasks.

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Educational material is available from your regional Cincom education department.

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# 1

## Planning considerations and resource requirements

The following table lists the current release levels for components of SUPRA Server PDM Release 2.7 in the OS/390 environment.

<b>Component</b>	<b>Service level</b>
SUPRA Physical Data Manager	2316
Software Selection Menu	2033
CLM/V2	2106
CSIXIO	2032
SUPRA Inline Directory	2123
Comprehensive Retrieval	2131
SUPRA CICS Interface	2105
SUPRA DBA Utilities	2114
SUPRA Relational Data Manager	2165
SUPRA Direct VSAM Support	2165
SPECTRA	2408

## General planning considerations before installation

Before installing SUPRA Server PDM support, you must ensure that your software, hardware, and any field-developed products you have are compatible with SUPRA Server. Refer to later chapters in this manual for additional information.

### Compatible system software

The following table lists the systems software releases compatible with SUPRA Server PDM support.

Type	Compatible releases
Operating systems	MVS/ESA V5 R2 OS390 all versions VSE/ESA V2 R2 or higher
Communications software	ACF/VTAM 1.3 and above BTAM OS/390 ESA/CICS R4 CICS/VSE V2 R2 ESA CICS V3 R3 ESA CICS V4 TS 1.3
RDM application programming languages*	BASIC C** COBOL** COBOL II FORTRAN PL/I MANTIS

## Compatible hardware

The following table lists the hardware compatible with SUPRA Server (PDM/RDM support):

Type	Compatible hardware
CPU's	370 303x 308x 309x P390
Terminals	All 3270 family terminals
Disk drives*	3330 3330-11 3340 3350 3375 3380 3390 9345
Tape drives	All (excluding 8809)

- \* Files on SUPRA Server installation tapes are generated on and for 3390 devices. If you load the files onto devices other than 3390s, this Installation Guide will tell you what changes you need to make.

## Compatible Field-Developed Products

The following table lists which Field-Developed Products (FDPs) are compatible with SUPRA Server (PDM/RDM support) and which are not:

<b>FDP</b>	<b>Compatibility</b>
Continuous Operation Facility	Compatible*
Physical Data Manager Buffer Cache	Not Compatible
Physical Data Manager XA Support**	Not Compatible
Multiple PDM Facility	Compatible*
RDM Statistics	Compatible*
Selective Global View Facility	Compatible*
CICS RDM Refresh	Not Compatible
RDM CICS XA Support	Not Compatible

\* A new release of this FDP is required for SUPRA Server.

\*\* PDM/XA is a chargeable option that is available in IBM MVS environments.

## Resource requirements for SUPRA Server release 2.7 (OS/390)

Resource requirements for SUPRA Server release 2.7 include the following:

- ◆ Disk storage requirements
- ◆ Memory requirements
- ◆ PDM subsystem requirements



This chapter does not address the disk-storage requirements or memory requirements for SPECTRA or MANTIS. Refer to the appropriate SPECTRA or MANTIS documentation for information about the memory requirements of those products.

### Disk storage requirements

The following table lists SUPRA Server disk space requirements. These figures are approximate and are for planning purposes only. They include all the data files supplied by Cincom but not the user data files you create for your business.

Component	Space (3380/3390 devices)
System Software Libraries (SUPRA Server)	1,699 tracks
PDM Files (Directory and Burrys Files)	530 tracks*



\* The value shown is the largest value needed. After you install the SUPRA Directory and Burrys files, you can release any unused space by issuing a "Free" request under TSO option 3.4.

## Memory requirements

You must consider these OS/390 memory requirements for SUPRA Server release 2.7:

- ◆ The memory required for the SUPRA Server PDM address space
- ◆ The memory required for the SUPRA Server CICS address space



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Cincom recommends that your OS/390 machine configuration have the following address spaces available.

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An address space for CICS, the SUPRA Server multitasking PDM interface, and SUPRA Server online applications.



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We recommend a minimum address space size of 5 MB for a small SUPRA Server database.

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An address space for the central SUPRA Server PDM.



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We recommend a minimum size of 2 MB for a small SUPRA Server database.

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- ◆ At least one address space of 2 MB (or more) for batch SUPRA Server applications running against the central SUPRA Server PDM.
- ◆ At least one address space of 4 MB (or more) for stand-alone batch SUPRA Server applications such as PDM utilities.



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We recommend, and this manual assumes, that you run a multitasking, central-mode PDM in one address space, and CICS and your online SUPRA Server applications in another address space.

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The following table provides guidelines for determining whether you have a small, medium, or large SUPRA Server database. Use this information to determine which columns, in the two tables under “PDM memory requirements” and “CICS memory requirements” starting on page 23, apply to your system.

Areas to consider	Small	Medium	Large
Interfaces	3	10	25
Threads	5	15	45
Tasks	6	30	150
Maximum records locked for update (Including Directory Records and Scratch Pad)	700	1850	5400
Files	50	150	420
Total record codes	150	450	1350
Total fields	3750	11,250	33,750
Dynamic indexes	100	300	900
Buffer pools	1	5	10
Number of buffers per pool	5	50	100
Average blocks per file	75	500	1200
Average block size	4K	4K	4K

## PDM memory requirements

The following table lists the memory requirements for the SUPRA Server PDM.



Requirements for the NORMAL product have been removed. If you require NORMAL, refer to older manuals.

Memory type	Small	Medium	Large
Multitask PDM overhead	990	990	990
Nonfile related memory	115	308	866
User file related memory	476	1975	7082
Directory file related memory	129	249	508
Command related memory	15	45	135
Total	1455	2266	9084

These calculations are for normal operation of the PDM. Occasionally, additional short-term memory may be necessary.

Use these figures only as a general guideline. Your system will vary. Refer to the *SUPRA Server PDM Tuning Guide (OS/390 & VSE)*, P26-0225, for more specific information.

## CICS memory requirements

You must also consider the memory requirements for the SUPRA Server CICS address space. These memory requirements include the memory consumed by SUPRA Server components in the CICS address space below the 16 MB line and by the CICS Connector itself. The Connector may reside in extended storage. The amount of memory required for the CICS Connector will vary, depending on the size and configuration of your system. See the next table for general estimates of the memory requirements. (These figures are for planning purposes only.)

You do not have to calculate the memory requirements for the CICS Connector. The Connector does this automatically during initialization.

Beginning with CICS/ESA, the term *OSCOR* is obsolete. The available space would be the size of your CICS region minus the DSASZE operand you specify in the SIT.

This section specifies the following three types of memory in the CICS address space:

- ◆ Operating system memory (*OSCOR*) is OS/390 memory which is reserved for non-CICS use.
- ◆ Resident memory is reserved for programs which must reside permanently in the CICS address space. If a program is resident, one copy of the program will always be present, even if there are no users.
- ◆ The Dynamic Storage Area (DSA) is memory that CICS dynamically allocates and deallocates. Shared DSA memory contains programs which all users of the program share. For example, no matter how many Directory Maintenance users there are, there is no more than one copy of each Directory Maintenance module. Other DSA memory is allocated for use by a specific task or thread.

The following table provides guidelines for SUPRA Server CICS memory needed for a typical small, medium, and large SUPRA Server database. These hypothetical databases are similar in size to the databases represented in the previous table. However, the numbers of tasks and threads in the following table represent only tasks and threads for the CICS interface (this table does not apply to any other interface):

Areas to consider	Small	Medium	Large
CICS PDM threads	3	6	24
CICS PDM tasks	6	20	126
Directory Maintenance tasks	1	1	5
RDM tasks	5	19	121
DBAID/RDM tasks	1	1	1
Other RDM tasks	3	17	119
Operating system memory*	-	-	-
Resident memory	554.0K	554.0K	554.0K
DSA memory	1314.1K	2214.2K	9003.8K
<b>Total memory</b>	<b>1868.1K</b>	<b>2768.2K</b>	<b>9557.8K</b>

\* This table reflects operating system storage below the 16 MB line only. For more information, see the explanation of “[RDM operating system memory requirements](#)” beginning on page 29.

The preceding table incorporates several simplifying assumptions. The following considerations explain the assumptions and their exceptions:

- ◆ The numbers of tasks per component in the previous table are typical, but your system will almost certainly vary. The next table gives you the information you need to precisely calculate memory consumption per task by component.
- ◆ The previous table assumes you do not have or use NORMAL. If you have or use NORMAL, you need more memory. See the next table for memory consumption by component and add that amount as necessary.
- ◆ The previous table assumes you allow RDM to allocate heaps and global views in extended memory (above the 16 MB line). The table, therefore, does not include memory for RDM heaps and global views.
- ◆ The RDM resident module CSVNVRES is always loaded in extended memory (above the 16 MB line). The table, therefore, does not include memory for CSVNVRES.
- ◆ The table assumes you use certain values: 63K for RDM stack size, 63K for DBAID report size, and so on. The assumed values are specified in the formulas at the end of this section.



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If you do not use these assumed values, substitute your values into the appropriate formulas at the end of this section to calculate your requirements.

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You set RDM options, including these values, with the macro C\$VOOPTM. For information on how to set options with this macro, and what the defaults and permitted options are, refer to the *SUPRA Server PDM RDM Administration Guide (OS/390 & VSE)*, P26-8220.

The following table lists the SUPRA Server CICS memory requirements by component. It incorporates the same assumptions as the previous table.

<b>Component</b>	<b>Operating system memory</b>	<b>Resident memory (kilobytes)</b>	<b>Dynamic Storage Area (DSA) (kilobytes)</b>
CICS Interface	-	333	4 + 3.7/thread + .5/task
Software Selection Facility (SSF)	-	-	+ 15/task
Directory Maintenance	-	-	+ 857 61/Dir. Maint. task
RDM	-	93	+ 63/RDM task
DBAID	-	201	+ 63/DBAID task
Totals		554	861 + 3.7/thread .5/task 15/SSF task 61/Dir. Maint. task 63/RDM task 63/DBAID task

All the memory amounts shown in the table on page 24 are derived from the totals in the table on page 26. For example, memory requirements for the small database in the table shown on page 24 are derived as follows:

Operating system memory	Resident memory (kilobytes)	Dynamic Storage Area (DSA) (kilobytes)	
			861
		+	(3 threads * 3.7)
		+	(6 PDM tasks * .5)
		+	(1 Dir. Mnt. task * 61)
		+	(5 RDM tasks * 63)
	554	+	(1 DBAID task * 63)
Totals	554		1314.1

The memory requirements listed in the tables on pages 24 and 26 are derived from the following formulas. These formulas are listed in order, by component and memory type, in the same order as the components appear in the table on page 26.

- ◆ CICS interface resident memory requirement (includes CICS Connector modules):
  - = CSTXCSMT size + CSTXDC32 size + CSTXDMAC size + CSTXLSTA size + CSTXOPER size + CSTXPLCI size + CSTXPLDT size + CSTXRMDC size + CSTXRMOS size + CSTXTMSG size + CSTXUSER size + CSTXOTBL size
  - = 333K

- ◆ CICS interface Dynamic Storage Area (DSA) memory requirement:  
= 4K + (3.7K per thread) + (.5K per task)



---

The CICS DSA is allocated in block sizes of approximately 64K (6554 bytes). Consequently, the actual DSA memory requirement is rounded up to the next 64K block. For example, the DSA memory requirement in the small system shown above is 17.1K (4K + 11.1K + 3K). The DSA, therefore, would require one 64K block. But if the DSA memory requirement were three times as large (51.3K), it would still require only one 64K block. (Refer to the *SUPRA Server PDM Tuning Guide (OS/390 & VSE)*, P26-0225, for more information.)

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- ◆ Software Selection Facility Dynamic Storage Area (DSA) memory requirement:  
= (program/context data + transaction work area size) per task  
= (12K + 3K) per task  
= 15K per task
- ◆ Directory Maintenance Dynamic Storage Area (DSA) memory requirement:  
= Total size of the 12 Directory modules +(program/context data + TWA size) per Directory Maintenance task  
= 857K + 61K per Directory Maintenance task

You must allow enough space for all 12 Directory Maintenance modules; however, only the minimum number of modules needed are present in the DSA at any given time. The remaining space is available for temporary use by other programs. For details, refer to the *SUPRA Server PDM Tuning Guide (OS/390 & VSE)*, P26-0225.



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The calculations for CICS-managed storage do not consider the space needed for CICS's own storage management headers. The actual storage demand on Dynamic Storage Area (DSA) is, therefore, slightly greater than the calculations show. Rounding up all your calculations to the next whole kilobyte (rounding up 3.3K to 4K) should be sufficient to cover this extra storage requirement.

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◆ RDM operating system memory requirements:

RDM allocates one global heap plus a number of equal-sized task heaps. This storage is allocated by OS/390 GETMAIN requests (not by CICS commands). These heaps, therefore, are located in non-CICS-managed storage. The following parameters of the C\$VOOPTM macro determine the sizes and number of the heaps:

GLOBSIZ	Determines the size of the global heap
HEAPSZ	Determines the size of the task heaps.
HEAP#	Determines the number of task heaps.

The amount of operating system storage allocated by RDM for heap storage is as follows:

$$\text{Heap storage} = \text{GLOBSIZ} + (\text{HEAPSZ} * \text{HEAP\#})$$

If you code C\$VOOPTM GETMAIN=BELOW, the global heap and the task heaps are allocated below the 16 MB line. If you code C\$VOOPTM GETMAIN=ANY, the global heap and the task heaps are allocated above the 16 MB line.

In addition, RDM allocates some overhead storage for storage management control blocks in operating system (non-CICS-managed) storage. This overhead storage is calculated as follows:

$$\text{Overhead storage} = 13\text{K} + (76 * \text{RDMUSR\#}) + 24$$

If you code C\$VOOPTM GETMAIN=BELOW, this storage is allocated below the 16 MB line. If you code C\$VOOPTM GETMAIN=ANY, it is allocated above the 16 MB line.

The total storage requirement for RDM in non-CICS-managed storage is:

$$\text{Total storage} = \text{Heap storage} + \text{Overhead storage}$$

To determine your storage requirements, round this number up to the next whole 1K.

- ◆ RDM resident memory requirement:
  - = CSVNVRUN size + CSVOPLVS size + CSVCWORK size + CSVXRSSO size + CSVNPLVS size + CSVNVSAM size + CSVNDATB size + CSVOOPTM size
  - = 90K
- ◆ RDM user Dynamic Storage Area (DSA) memory requirements

RDM allocates a number of equal-sized stacks within CICS user DSA.



---

User DSA is below the 16 MB line. The stacks are located here even if you code C\$VOOPTM GETMAIN=ANY.

---

The size of a stack and the maximum number of stacks are determined by the following parameters of the C\$VOOPTM macro:

- STACKSZ      Determines the size of a stack.
- RDMUSR#      Determines the size of stacks.

The number of stacks allocated at any given time depends on how many active CICS tasks are issuing RDML requests. RDM allocates a stack when control enters RDM to process a single RDML, and then frees that stack when control returns from RDM after the RDML is processed. The formula:

$$\text{Maximum stack storage} = \text{STACKSZ} * \text{RDMUSR\#}$$

expresses the maximum amount of stack storage that can be allocated, but less storage may be allocated at a given time.

◆ DBAID operating system memory requirements:

There is no operating system memory requirement for DBAID.

◆ DBAID resident memory requirement:

= CSVLVDBA size + CSVODBA size

= 201K

◆ DBAID user Dynamic Storage Area (DSA) memory requirements:

DBAID requires a Task Work Area (TWA) of 120 bytes. DBAID also allocates one slot within CICS user DSA.



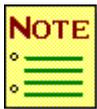
---

User DSA is below the 16 MB line. The DBAID slot is located here even if you code C\$VOOPTM GETMAIN=ANY.

---

The RPTSIZE parameter of the C\$VOOPTM macro determines the size of the DBAID slot. The amount of user DSA allocated by DBAID depends on the number of DBAID users signed on at any given time. This amount is expressed by the following formula:

$$\text{DBAID storage} = (\text{number of DBAID users}) * (.1K + \text{RPTSIZE})$$



---

The Task Work Area shown as .1K in the formula is actually 120 bytes.

---

## PDM subsystem requirements



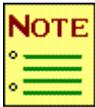
---

You must install the PDM subsystem to run SUPRA Server in central or attached central mode. If you are currently a SUPRA Server user and have the subsystem installed, you must reinstall with the SUPRA 2.7 subsystem. Complete instructions for installing the subsystem are in the *SUPRA Server PDM and Directory Administration Guide (OS/390 & VSE)*, P26-2250.

---

This section describes the steps you can take before you receive your SUPRA Server installation tape:

1. Add several 4-character subsystem names (SUP1, SUP2, SUP3) to the subsystem table. The subsystem table is specified by the IEFSSNxx member in SYS1.PARMLIB.



---

Do not specify the initial routine, CSTSINI, or the command prefix in this table until you have loaded the routine from the SUPRA Server tape.

---

2. Allocate a library of one cylinder on a 3390 device, or an equivalent space on another disk device, to hold 20 members. You need this library for the PDM subsystem modules.
3. Add the library name and volume to the LNKLST concatenation. The LNKLST concatenation is specified by the LNKLSTxx member in SYS1.PARMLIB.
4. Add the library's name and volume to the list of APF-authorized libraries. The list of APF-authorized libraries is specified by the IEAAPFxx member in SYS1.PARMLIB.
5. Increase the maximum number of address spaces by 10 or 15. The maximum number of address spaces is specified by the MAXUSER parameter in the IEASYSxx member in SYS1.PARMLIB.

# 2

## SUPRA Server PDM installation

To install SUPRA Server PDM Release 2.7, perform these steps:

1. Download the installation JCL.
2. Download the remaining files on the tape.
3. Update the CICS table entries.
4. Update the CSTHOPTN module in the SUPRA Maclib.
5. Assemble and link the changed options module.
6. Relink with the new DATBASC.
7. (*Optional*) Update your JCL to automatically connect to PDM.
8. Update the CICS start-up JCL.
9. Update the JCL to run in central, attached, or attached central mode.

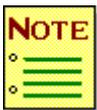
The following sections provide detailed instructions for completing these steps.

## Downloading the installation JCL

To begin installing SUPRA, you must unload the files. The first file on the media contains the JCL to unload the remaining files on the installation media.

The file members are:

- ◆ **INSTPDM.** The JCL used to allocate and unload the PDM SUPRA files from the installation media.
- ◆ **INSTSPEC.** The JCL used to allocate and unload the SPECTRA files from the installation media, if you ordered SPECTRA.



Review the JCL closely before you submit it. You must change the library and volume names to reflect the naming conventions used at your site.

You can install SUPRA Server PDM Release 2.7 into a new test environment or upgrade an existing test environment. If you are upgrading from a prior release, make backup copies of all your current files before you begin the installation.



The software on this tape has had all published fixes in the REQUIRED category applied. If you have used previous releases of SUPRA and have applied optional fixes, contact your Cincom representative to review the optional fixes available for this release. The BASEARS member in the MACLIB contains a list of all the fixes currently applied.



The SYSUT2 data set specified in the JCL must be a partitioned data set.

After you update the following JCL, submit it to unload the first file from the installation tape or cartridge.

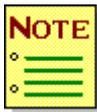
```
//xxxxCOPY JOB (dept#,dept#),CLASS=,MSGCLASS=,
//          USER=*UID,PASSWORD=*PSW,NOTIFY=*UID
//STEP1    EXEC   PGM=IEBCOPY
//SYSUT1   DD    DSN=CINCOM.SUP2700.RELTAPE1,
//          DISP=(OLD,KEEP),UNIT=CART,
//          LABEL=(1,SL),VOL=SER=XXXXXX           ←Update to specify the volume received
//SYSUT2   DD    DSN=target.lib,                 ←Supply library name
//          DISP=SHR
//SYSPRINT DD    SYSOUT=T
//SYSIN    DD    *
           COPY INDD=SYSUT1,OUTDD=SYSUT2
/*
//
```

## Downloading the remaining files on the tape

Follow these steps to edit the sample JCL member INSTPDM:

1. Update the JOB statement information.
2. Change all occurrences of CINCOM.SUPRA27 to a valid data set name qualifier for your site.
3. Update the reference to DISKNAME with a valid disk pack name for your site, or a null indicator (e.g., DKSER1=,) which places the data sets wherever there is available disk space.
4. Update the reference to DISKTYPE with a valid disk type (3390, SYSDA, etc.).
5. If you want to install Access 2033:
  - a. In INSTPDM, update CINCOM.MANTIS.SETPRAY.CLUSTER to the data set name of the MANTIS setpray cluster where you want to install Access 2033.
  - b. Uncomment the ACCESS2 step within the main procedure and at the end of the JCL member where the INPUT to the ACCESS2 step is specified. (If you already have Access 2033 installed, you can omit the ACCESS2 step.)

If you have received a separate MANTIS installation tape or cartridge, you can install Access 2033 from it. If you have not purchased MANTIS, you do not need the Access (Software Selection Facility) software. (Refer to the *MANTIS Startup and Configuration Guide for MVS/CICS*, P39-5018, for other considerations regarding the Software Selection Facility.)




---

You must install the SUPRA 2.7 SUPRA subsystem.

---




---

If you are upgrading from SUPRA Release 2.1.6 or higher, you do not need to convert your applications, migrate directory files, or update any JCL other than to point to the newly installed libraries. However, read this entire manual to verify your current environment complies with current installation considerations.

---

6. If you ordered SPECTRA:
  - a. In INSTSPEC, update CINCOM.SPEC2408 to a valid dataset qualifier name for your site.
  - b. In INSTSPEC, update all occurrences of CINCOM.VSAM.SPEC2408 to a valid dataset qualifier for your site. This defines the SPECTRA LV002 PFS dataset. Ensure that you update CINCOM.VSAM.SPEC2408 in the input to step DEFLV where the VSAM cluster for the LV002 file is defined."
  - c. Update all references of "VSAMDISK" to specify a disk pack for VSAM datasets. This statement defines the volume on which the SPECTRA LV002 PFS dataset will be installed.
  - d. Update the reference to DISKNAME with a valid disk pack name for your site, or a null indicator (e.g., DKSER1=,) which places the data sets wherever there is available disk space.
  - e. Update the reference to DISKTYPE with a valid disk type (3390, SYSDA, etc.).

If you ordered MANTIS, please refer to the appropriate MANTIS Installation Guide.

Submit the installation JCL to unload the remaining files from the installation tape or cartridge.

---

## Optional patches

The software on this tape has had all published fixes in the REQUIRED category applied. If you have used previous releases of SUPRA and have applied optional fixes, contact your Cincom representative to review the optional fixes available for this release. The BASEARS member in the MACLIB contains a list of all the fixes currently applied. Current product fixes are also available on the Internet via a web browser or via FTP client software. Contact your support representative for more information.

## Updating the CICS table entries

Once you have executed the installation JCL, the entries for your CICS tables are in the CICSTBLS libraries. (A CICSTBLS library is allocated and downloaded for each installation JCL member submitted.)

See the *SUPRA Server PDM CICS Connector Systems Programming Guide (OS/390 & VSE)*, P26-7452 for information on installing the CICS Connector and Directory Maintenance.

## Updating the CSTHOPTN module and JCL to assemble and link

After updating the CSTHOPTN module in the maclib with the password and dates provided in the installation package and any other options you wish to alter (see the *SUPRA Server PDM and Directory Administration Guide (OS/390 & VSE)*, P26-2250), assemble and link the module using the sample member TXJPOPTN in the JCLLIB.

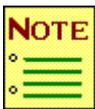
JCL Sample	Purpose
TXJPOPTN	Assemble and link the CSTHOPTN module in AMODE 24/RMODE24



You cannot execute any SUPRA programs until this information is valid for the CPU on which SUPRA will be running.

## Relinking with the new DATBASC

If you are converting from SUPRA Release 1.3.5, or a prior release, to SUPRA Server PDM Release 2.7, you must relink with the new DATBASC.



The new DATBASC has no positional requirements within the link.

---

## Updating your JCL to automatically connect to the PDM

If you wish the CICS Connector to automatically connect to the PDM at CICS initialization using the sequential terminal method, you can make changes to your CICS execution JCL to accommodate CICS/ESA. You must define a sequential terminal using the TCT or CSD file and include the JCL shown below. Using the SIT override TCT=5\$ will make CARDIN available to CICS. If you have other required TCT entries that require you to code a DFHTCT module, you will need to add the entries for sequential terminal support to your TCT.

```
//CARDIN DD *,DCB=BLKSIZE=80
OPER CON\
OPER RDM START\ (optional - start rdm after connect)
/*
//PRINTER DD SYSOUT=*,BLKSIZE=132
```

After CICS/ESA becomes active, it will read the OPER CONNECT statement from the serial terminal SAMA using the CARDIN DD for its BSAM input. This will start the SUPRA OPER CONNECT process. If you do this, you can remove the PLT entries for CSTXPLCI. Any transaction that can be entered from a CICS terminal can be placed in this DD statement and will be processed as entered at CICS startup.

If you remove the PLT entries for CSTXPLCI and if you do not use the serial terminal capability, this will defer connection until after CICS initialization. You will need to issue "OPER CON" from any CICS terminal.

The SUPRA OPER DISCONNECT function will process as in previous releases of CICS. The inclusion of a PLT Shutdown Table entry will cause an automatic disconnect from the PDM to occur when CICS is terminating. Refer to the *SUPRA Server CICS Connector Systems Programming Guide* (P26-7452) for information on the PLT Shutdown Table entry used for automatic disconnection from the PDM. Also, refer to the manual, SUPRA PDM DML Programming Guide (P26-4340).

Refer to the *SUPRA Server PDM CICS Connector Systems Programming Guide (OS/390 & VSE)*, P26-7452, for further information on CICS JCL changes.

## Updating the CICS start-up JCL

If you ordered other components as well as SUPRA, add the following linklibs to the library concatenation in the STEBLIB DD statement of the CICS initialization step as appropriate:

- ◆ SUPRA PDM LINKLIB
- ◆ MANTIS LINKLIB
- ◆ SPECTRA LINKLIB

Include the linklibs in the DFHRPL DD list of libraries. SUPRA does not require the linklib to be authorized. However, two SUPRA modules must reside in the CICS STEPLIB, and CICS/ESA requires STEPLIB be APF authorized. These modules are CSTH050C and CSXSDDMOD.

If you ordered MANTIS, refer to the *MANTIS Startup and Configuration Guide for MVS/CICS*, P39-5018, for information on updating the CICS start-up JCL for MANTIS.

If you ordered SPECTRA, you must also specify the following SPECTRA datasets in the CICS start-up JCL:

```
//QRYPRINT DD SYSOUT=*,DCB=(RECFM=FA,BLKSIZE=133)
//LV002 DD DSN=CINCOM.VSAM.SPEC2408.LV002,DISP=SHR
//SORT001 DD UNIT=DISK,SPACE=(CYL,(1,5))
//SORT002 DD UNIT=DISK,SPACE=(CYL,(1,5))
//SORT003 DD UNIT=DISK,SPACE=(CYL,(1,5))
//SORT004 DD UNIT=DISK,SPACE=(CYL,(1,5))
//SORT005 DD UNIT=DISK,SPACE=(CYL,(1,5))
//PLIPRT DD SYSOUT=*
```



The Spectra LV002 file is in VSAM format. If you want to use the PDM LV00 file, you must define it to your directory files using the SUPRA PDM MACLIB input transactions (TXIDRLV0). The sample JCL to build the LV00 file is in the SPECTRA JCLLIB(TXJBLV00).

## Updating the JCL to run in central, attached, or attached central mode

You can execute SUPRA Server PDM in central mode, attached mode, or attached central mode.

For SUPRA Server PDM Release 2.7, central mode is required to allow the RDM heaps and global views to be allocated above the 16 MB line. The distributed media assumes this is the mode of operation and supplies the RDM options module CSVOOPTM specifying GETMAIN=ANY. If you have not purchased the option to allow RDM heaps and global views to be allocated above the 16 MB line, RDM GETMAINS will be issued for storage below the 16 MB line.

Refer to the *SUPRA Server PDM RDM Administration Guide (OS/390 & VSE)*, P26-8220, for more information on the C\$VOOPTM macro. For more information concerning modes of operation, refer to the *SUPRA Server PDM and Directory Administration Guide (OS/390 & VSE)*, P26-2250.

## Executing SUPRA Server PDM in central mode

Before you can execute SUPRA Server PDM in central mode, you must ensure the subsystem has been installed. If you are upgrading, this must be a different subsystem than the one used by the earlier release. Refer to the *SUPRA Server PDM and Directory Administration Guide (OS/390 & VSE)*, P26-2250, for additional information on installing the subsystem.

To execute SUPRA Server PDM in central mode, you must submit two JCL members. First, you submit TXJCEN TP to start up the PDM. Then, once the PDM is initialized, you submit the CICS execution JCL member. Refer to the *SUPRA Server PDM and Directory Administration Guide (OS/390 & VSE)*, P26-2250, for additional information on modes of operation.

You must upgrade your current PDM execution JCL to include DD statements for SUPRA files. Use the member TXJCEN TP to start the PDM. For the CSIPARM member, specify TXPCEN TP, and be sure to specify the CSIPARM parameter TISSID with your subsystem ID.

After the PDM is initialized, review the CICS execution JCL to make sure all the necessary linklibs are included. For example, you may need to add the MANTIS linklib and the SPECTRA linklib. (Refer to the TXJCCICS member in the JCLLIB for an example.)

To shut down the PDM, use the member TXJSHUTP. TXPCEN TP is the CSIPARM member used in TXJSHUTP, and can be found in the CSIPARM library. TXJSHUTP also uses a maclib member to specify whether the PDM is shut down normally or is forced down. The maclib member TXISHUTN shuts down the PDM with FORCE=NO; maclib member TXISHUTY forces the PDM down and locks all the PDM files.

## Executing SUPRA Server PDM in attached mode or attached central mode

To execute SUPRA in attached or attached central mode, you must reassemble your CSVOOPTM module using GETMAIN=BELOW. (Refer to the TXJVOPTM member in the JCL library for an example.) Your CICS execution JCL must also include DD statements for your SUPRA files.

To run in attached mode, you can use the JCL sample CSIPARM TXPATTCH located in the CSIPARM library.

To run in attached central mode, the SUPRA subsystem must be installed. (For more information on installing the subsystem, refer to the *SUPRA Server PDM and Directory Administration Guide (OS/390 & VSE)*, P26-2250.) Use the JCL sample CSIPARM TXPATCEN in the CSIPARM library. (Change the TISSID to your subsystem ID.)

# 3

## Tailoring and operational considerations

When you are installing SUPRA Server PDM Release 2.7, you should be aware of the following tailoring and operational considerations:

- ◆ Migrating to SUPRA Server PDM Release 2.7
- ◆ Allocating the STAT file
- ◆ Specifying directory file device type information
- ◆ Tailoring input members
- ◆ Building the LOSTTERM/INFLIGHT environment
- ◆ Locating the single task interface library
- ◆ Reviewing and updating the PDM interface exits
- ◆ Converting the CICS Connector exits
- ◆ Reviewing and updating the RDM exits
- ◆ Specifying RDM options
- ◆ Converting applications
- ◆ (Optional) Upgrading the Software Selection Facility (SSF)

---

## Migrating to SUPRA Server PDM Release 2.7

If you are migrating to SUPRA Server PDM Release 2.7, you must refer to the *SUPRA Server PDM Migration Guide (OS/390 & VSE)*, P26-0550, for instructions.

If you are migrating from SUPRA Release 2.1.6 or higher, you must install the SUPRA 2.7 subsystem. There is no need to convert your applications, or update any JCL except to point to the newly installed libraries. Directory file migration is not required. However, read this entire manual to verify your environment complies with current operational considerations.

---

## Allocating the STAT file

For SUPRA Server PDM Release 2.7, the STAT file is allocated during the installation process. It is defined under the schemas CSISCH20 and BURRYSCH. The STAT file is related to the environment descriptors CSIENVRG and BURRYENV with an open mode of SUPD. The statistics indicator flag in these environment descriptors is set to YES.

---

## Specifying directory file device type information

The directory files delivered on this media have been tailored for 3390 devices. The file allocations for the install can be used on either 3380 or 3390 devices. In either case, after you install, you may wish to free the extra tracks that are unused by the Directory and Burrys files. If you want to use a device other than 3380 or 3390, the following instructions are an example of how to move from 3380 devices to 3390 devices. You will need to construct a member similar to DIRCH390 for the device type to which you are moving your directory files.

1. Back up your existing directory files.
2. Run Batch Directory Maintenance using maclib member DIRCH390 (for 3390) to change the definitions in the schema CSISCH20. You should also run this member against any user schema containing directory file definitions. Run the Directory Maintenance function to check the consistency of the Schema and use the check options yyyy.
3. Unload the directory files using the SUPRA Server PDM Release 2.7 Unload utility.
4. Delete and re-allocate the directory files using the DCB information you obtained from displaying the files in step 2.
5. Modify the boot schema CSTASCHM in the ENVLIB using maclib member MODSC390. (Refer to JCLLIB member TXJBMODS for an example.)
6. Rebuild the validation module CSTAVMOD in the ENVLIB using the maclib member CSTAVMOD. (Refer to JCLLIB member TXJBVMOD for an example.)
7. Reload the directory files using the SUPRA Server PDM Release 2.7 Load utility.

---

## Tailoring input members

If you would like to tailor the input members used to create this media, they are located in the maclib.

---

## Building the LOSTTERM/INFLIGHT environment

To build the LOSTTERM/INFLIGHT environment you need, review these members on the SUPRA maclib: CSTXLSTA, CSTXLS1L, CSTXMROT, CSTXMRXT. (See the examples on the SUPRA maclib beginning with the letters DFHZ.)

---

## Locating the single task interface library

In some previous releases of SUPRA, the single task interface module was delivered in a separate library called TISXA.INTERFLS. For SUPRA Server PDM Release 2.7, it is not supplied in a separate library, but is included in the SUPRA27.LINKLIB delivered on the media.

The multitask interface module is still delivered separately in a library called SUPRA27.INTERFLM.

---

## Reviewing and updating the PDM interface exits

The default precommand and postcommand exits, CSTK0001 and CSTK0002, do not require changes. However, if you have modified the default versions of these exits, or have replaced them with your own versions, then you must review these exits and update them to work with this release of SUPRA Server PDM.

Refer to the *SUPRA Server PDM and Directory Administration Guide (OS/390 & VSE)*, P26-2250, for more information on these exits.

---

## Converting the CICS Connector exits



---

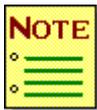
Refer to the CSTXOTBL/CSTXOPRM options in the *SUPRA Server PDM CICS Connector Systems Programming Guide (OS/390 & VSE)*, P26-7452, for detailed information on converting these exits and for considerations on using CSTXOPRM.

---

CICS Connector exits receive control with an addressing mode of 31 (AMODE-31). You must verify the exit programs can operate in this mode. If an exit program cannot operate with AMODE-31, you must upgrade it or insert code to switch to 24-bit addressing mode and restore the AMODE before returning.

Keep these considerations in mind when you upgrade the exit programs:

- ◆ PDM parameters and data areas can reside above the 16 MB line. If your exit programs access these, the programs must operate in AMODE-31.
- ◆ For general OS/390 conversion requirements and general CICS/ESA program conversion requirements, refer to the IBM documentation.
- ◆ CSTXUFCT, CSTXKCCX, and CSTXDBXT are now obsolete, and you should move the logic in these into CSTXUSRX. Relink CSTXUSER using the CSTXUSER linkdeck. If you have an old version of CSTXDBXT, you must split it into CSTXTPRE and CSTXPOS. The old CSTXKCCX needs to be included in the CSTXDUE exit. You must also code TPOS=CSTXUSER to activate the SYNCPOINT on SUPRA COMMIT logic.



---

You can bring your system up without user exits and add them as you need them.

---

- ◆ The parameter list passed to user exits may be in 31-bit addressable storage, as the PDM may be resident above the 16 MB line in some cases. Even if the parameter list is in 24-bit addressable storage, it may contain addresses in 31-bit addressable storage. Your user exit should allow for testing the parameter list addresses and determining their addressing mode.

- ◆ In general, CICS macro level requests cannot be issued in AMODE-31. Code must be added to switch to AMODE-24. You can use the following code to switch to AMODE-24.

```
LA R9,LABELY      SETUP FOR RETURN TO ORIGINAL
LA R14,LABELX     SETUP FOR SWITCH TO AMODE-24
ICM R14,B'1000,'=x'00'
BSM 0,R9,R14      CHANGE TO AMODE-24, SAVE AMODE
LABELX DS 0H

... existing code which must execute in AMODE-24
should be placed here...
```

You can use the following code to restore the original addressing mode.

```
BSM 0,R9          RESTORE AMODE
LABELY DS 0H
```

The preceding code may be useful if you issue functions that need to operate in AMODE-24.

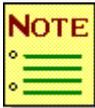
You can use the following code to switch from AMODE-24 and restore AMODE-31. You may want to use this code at the beginning and end of your exit program.

```

BEGIN    DS    0H
*
          STM   R14,R12,12(R13)  SAVE THE CALLERS REGISTERS
          L     R10,LABEL1        ESTABLISH PERMANENT BASE,
*
          LA    R12,LABEL2        GET ADDRESS OF EXIT POINT
          BSM   R12,R10           SAVE CALLER'S AMODE,
                                  SET TO 31
          DS    0F                ALIGNMENT
LABEL1   DC    A(BEGIN31+X'80000000')
BEGIN31  DS    0H
*****  NOW IN 31 BIT MODE SO CAN MANIPULATE EXTENDED CSA
          ST    R12,SAVEMODE      SAVE MODE REGISTER

          ... place your code that runs in 31-bit mode here...

RETURN   DS    0H
          L     R12,SAVEMODE      RESTORE MODE REGISTER
          L     R13,4(,R13)       RESTORE ORIGINAL SAVE AREA
          BSM   0,R12             RESET CALLER'S AMODE
LABEL2   DS    0H
          L     R14,12(,R13)      RESTORE RETURN ADDRESS
          LM    R0,R12,20(R13)    RESTORE CALLER'S REGISTERS
          BR    R14               RETURN WITH RC IN R15
SAVEMODE DS    F                 MODE REGISTER SAVE AREA
    
```



The parameter list passed to the user exits may be in 31-bit addressable storage as the PDM may be resident above the 16-meg line in some cases. Even if the parameter list is in 24-bit addressable storage, it may contain addresses that are in 31-bit addressable storage. Your user exit should allow for testing the parameter list addresses and determining their addressing mode.

---

## Reviewing and updating the RDM exits

As with the CICS Connector user exit processing, SUPRA Release 2.7 RDM user exits may receive control in 31-bit addressing mode. The standard exits Cincom supplies do not need to be changed, but if you have altered these RDM exits, then you must review them.

Refer to the *SUPRA Server PDM RDM Administration Guide (OS/390 & VSE)*, P26-8220, for the names of the RDM exits and considerations for using them.

---

## Specifying RDM options

The options macro C\$VOOPTM is necessary to allocate RDM context in the CICS/ESA environment. Refer to the *SUPRA Server PDM RDM Administration Guide (OS/390 & VSE)*, P26-8220, for more information on this macro.

---

## Converting applications

You do not need to alter applications to run with SUPRA Server PDM Release 2.7. However, your applications may require changes due to CICS/ESA 3.3 or newer releases of CICS. For information on migrating CICS applications to CICS/ESA, refer to the CICS/ESA migration guide for your release of CICS.

## Upgrading the Software Selection Facility (SSF)

This step is optional. If you would like to upgrade your current service level of the Software Selection Facility to service level 2033, use the following JCL to install the delivered tape or cartridge.

```
//*****
//*   REPRO REPLACE THE SSF 2033 CLUSTER CODE ONTO EXISTING
//*   MANTIS CLUSTER
//*****
//ACCESS2 EXEC PGM=IDCAMS
//SYSPRINT DD SYSOUT=*
//TAPE     DD UNIT=CART,DISP=OLD,LABEL=(35,SL),
//          DSN=SUPRA.C1.RELTAP35,VOL=SER=XXXXXX,
//          DCB=(BLKSIZE=4096,RECFM=VB,DSORG=PS,LRECL=4088)
//SYSIN    DD *
          REPRO INFILE(TAPE) ODS(your.MANTIS.SETPRAY.CLUSTER) REPLACE
//
```

Refer to the *MANTIS Startup and Configuration Guide for MVS/CICS*, P39-5018, for considerations for using SSF.

## SPECTRA operational considerations

When upgrading from a previous service level of SPECTRA, it is important to use the linkdecks and modules associated with the new service level, as these may differ greatly from previous service levels. If, however, you are currently using customized versions of the Sample Submit, Security, or Printer exits supplied with a previous service level, you may continue to use them under this service level by copying your version of the exits to the new SPECTRA library. Be careful not to overlay the new Sample exits on the library. Depending on your existing service level, some of the exits may have changed, although they retain compatibility with previous service levels. Refer to the *SPECTRA Administration Guide*, P26-9220 for further information on exits.

Please note that the main SPECTRA module (CSGAQRUN) is linked as RE-ENTRANT on your installation media. When relinking this module for any reason, such as applying an AR from the CINCOM Service Center, you must specify the 'RENT' option on the Linkage Editor parm card in order to avoid possible problems with excessive memory usage. In an OS/390 environment, you can load and run this module above the 16 MB line simply by relinking LKGAQRUN with AMODE(31) and RMODE(ANY). For specific information on this, refer to the *SPECTRA Administration Guide*, P26-9220.

If you choose not to use the Personal File that was delivered on the media, LV002 (VSAM) for SUPRA 2.7 customers, you must either migrate your existing Personal File (PFS) to the new service level or create a new PFS. Before migrating an existing PFS, please run a backup of this file.

To migrate the PFS file, use the member TXJMIGL0 in the SPECTRA JCLLIB. This sample JCL refers to input members in the SPECTRA MACLIB (C\$GC2408,etc). Read the documentation in TXJMIGL0 carefully. This job will run approximately 10 minutes.

To create a new PFS, use either the TXJBLV02 (VSAM) or the TXJBLV00 (PDM) member in the SPECTRA JCLLIB. These JCL members use the member LV002F80 in the SPECTRA MACLIB as input data for the load.

To use a PDM LV00 file, you must include a definition of the file in your active schema. The batch Directory Maintenance transactions that will add the LV00 PDM file to a schema are in the SUPRA MACLIB member TXIDRLV0. You can use these transactions in conjunction with the member TXJBDIRM in the SUPRA JCLLIB to run batch Directory Maintenance.

---

## SPECTRA external VSAM support

If selected, SPECTRA users can access VSAM KSDS files. This allows you to access both RDM views and VSAM KSDS files as central files. You can join data from both of these sources.

SPECTRA also supports a mode which uses MANTIS cluster definitions to access VSAM files. The VSAM files are considered to be SPECTRA's central files instead of RDM views. This mode of SPECTRA requires MANTIS 4.2 or higher.

To verify SPECTRA EXTERNAL VSAM support:

1. Bringing the SUPRA system up with MANTIS installed.
2. Add an external VSAM KSDS file definition in MANTIS.
3. Sign off from MANTIS, then sign on to SPECTRA under the same ID.

The VSAM file should show up in a list of central files, along with the RDM views related to the user. VSAM files are not updateable through SPECTRA, but they may be browsed and queried in the same manner as other central files.

## SPECTRA relink considerations after install

The SPECTRA product on this media has been prelinked. Using the information below, determine if the linked members on the media are correct for your environment. If not, follow the instructions for linkedits that need to be done.

Modules DFHEAI and DFHEAI0 are prelinked for CICS 2.1. Relink for subsequent releases of CICS using MVS link decks:

- ◆ LKGDBEUP
- ◆ LKGDBEXT
- ◆ LKGXPRNT
- ◆ LKGXPSPL
- ◆ LKGXSIGN
- ◆ LKGXSUBM
- ◆ LKSPECTR
- ◆ LKGCOPDM
- ◆ LKGDBEX3 (for module CSGDBEXT, if you are running with IBM-supported versions of CICS.)

Delete from the linklib the following SUPRA/SQL interface modules:

- ◆ CSGBCALS
- ◆ CSGCCALS

If you are running with CICS 3.3 or higher, relink CSGDBEXT using the linkdeck LKGDBEX3.

If SPECTRA is to be used in an RDM with IMS (Batch OS/390 environment), you must relink using LKGMBQRY and using your installation libraries.

# 4

## Installation verification

This section describes how to verify your SUPRA Server PDM installation and the procedures to follow to verify:

- ◆ Directory Maintenance
- ◆ Interactive Services
- ◆ RDM

These product verification procedures assume you installed the Software Selection Facility (SSF). If you are not using the SSF, see “[When the Software Solution Facility is not installed](#)” on page 55 before proceeding any further.

### When the Software Solution Facility is not installed

To begin the verification if you are not using the SSF, enter DIRM on your CICS screen and press ENTER.

When the sign-on screen displays, enter CSI-DBA for the user ID and CSI-DBA for the password; then press ENTER. Next, proceed to the first Directory Maintenance screen on page 57 and follow the remaining instructions for verifying Directory Maintenance.



If the SIT parameter you used does not specify automatic connection to the PDM, wait until CICS has initialized and then issue the command OPER CON from any CICS terminal.

Once the connect request is executed, issue the command OPER RDM START. When RDM has started, control returns to the issuing terminal and you can continue with the product verification.

## Verifying Directory Maintenance

Enter CSI-DBA for the DBA ID and CSI-DBA for the password.

```

          0110
WELCOME TO :
T.M
TTTTTT IIIIII SSSSSS // XX XX AAAAAA
TTTTTT TT II SS // XX XX AA AA
TTTTTT TT II SSSSSS // XXX AAAAAA
TTTTTT TT II SS // XX XX AA AA
TTTTTT TT IIIIII SSSSSS // XX XX AA AA

PLEASE ENTER
USERID : csi-dba :
PASSWORD : :
TO BY-PASS SELECTION SCREEN, ENTER INFORMATION:
: :
PA1/PA2=EXIT SERVICE LEVEL: xxxx
    
```

Press ENTER to display the Cincom Software Selection Menu. (The Software Selection Menu at your site may differ slightly from the following example, depending on the options you installed.)

Enter the option number that corresponds with SUPRA Inline Directory Maintenance (DIRECTRY).

```

CINCOM SOFTWARE SELECTION MENU 0210
ENTER SELECTION NAME OR NUMBER:
: 5
* TO EXECUTE WITH CURRENT USER-ID, PRESS ENTER.
* TO EXECUTE WITH ALTERNATE USER-ID, PRESS PF2/PF14.
* TO VIEW EXPANDED MENU DEFINITON, PRESS PF1/PF13.

1 DBAID
2 NORMAL
3 SPECTRA
4 MANTIS
5 DIRECTRY
6 IN/SERVE
7 RESIGNON

PA2/PA1=EXIT
PF1/PF13 WITHOUT SELECTION INFORMATION=HELP
    
```

Press ENTER to display the Directory Maintenance screen. To verify the delivered schemas, enter SC for the category; then press ENTER.

```

TIS/XA DIRECTORY MAINTENANCE

ENTER CATEGORY: SC

AS  ACCESS SET                LV  LOGICAL VIEW
AT  ATTRIBUTE                 MR  MAINTENANCE RESTRICTION
BP  BUFFER POOL              PF  PHYSICAL FIELD
CS  CONCEPTUAL SCHEMA      PR  PROCEDURE
DC  DIRECTORY COMPONENT DSC  RE  RELATION
DM  DOMAIN                   RW  RESERVED WORD
ED  ENVIRONMENT DESCRIPTION  SC  SCHEMA
EM  EDIT MASK                SG  SECURITY GROUP
FK  FOREIGN KEY              SK  SECONDARY KEY
IR  INTERNAL RECORD          TA  TABLES
KC  KEY CODE                  US  USER
LG  LOG GROUP                 XF  EXTERNAL FIELD

ACTIVE SC: BURRYSCH  ACTIVE ED: BURRYENV  MAINTENANCE PERMITTED: NO

```

Enter SD for the selection code, FI for the subcategory code, and CSISCH20 in the schema field; then press ENTER.

```

SCHEMA: COMMANDS                TIS/XA DIRECTORY MAINTENANCE

AD  ADD                       RL  RELATE
CG  CHANGE                    RM  REMOVE
CK  CHECK                     RN  RENAME
CO  COPY                      SD  STRU DSPLY
DE  DELETE                    SE  SHORT EDIT
DI  DISPLAY                   SF  SPEC FUNC
LE  LONG EDIT                 ST  SHORT TEXT
LT  LONG TEXT

ENTER SELECTION CODE: SD      SUBCATEGORY CODE: FI

ENTER NAMING DATA:
SCHEMA:                       CSISCH20

ACTIVE SC: BURRYSCH  ACTIVE ED: BURRYENV  MAINTENANCE PERMITTED: NO

```

The first 16 files in the CSISCH20 display. The M in the command field indicates there are more files to display. Press ENTER to display the next 16 lines.

```
SCHEMA: STRU DSPLY          TIS/XA DIRECTORY MAINTENANCE
SCHEMA: CSISCH20

LAST UPDATE  12.06.13 08/12/1998 V: 0017    USER: CSI-DBA

FI  COPY
FI  C$-N
FI  C$-#
FI  C$-D
FI  C$-T
FI  C$-S
FI  RPTR
FI  TLOG
FI  SLOG
FI  STAT

COMMAND:
```

STAT is the last file displayed. Press ENTER to display the next screen or the command screen.

```
SCHEMA: COMMANDS          TIS/XA DIRECTORY MAINTENANCE

AD  ADD                    RL  RELATE
CG  CHANGE                 RM  REMOVE
CK  CHECK                  RN  RENAME
CO  COPY                   SD  STRU DSPLY
DE  DELETE                 SE  SHORT EDIT
DI  DISPLAY                SF  SPEC FUNC
LE  LONG EDIT              ST  SHORT TEXT
LT  LONG TEXT

ENTER SELECTION CODE: SD          SUBCATEGORY CODE: FI

ENTER NAMING DATA:
SCHEMA:                          CSISCH20

ACTIVE SC: BURRYSCH  ACTIVE ED: BURRYENV  MAINTENANCE PERMITTED: NO
```

The command screen redisplay the last command you entered. Move the cursor to the schema name and enter BURRYEXT in place of CSISCH20. Press ENTER to display the files.

```

SCHEMA: STRU DSPLY          TIS/XA DIRECTORY MAINTENANCE
SCHEMA: BURRYEXT

LAST UPDATE  11.24.35 12/11/1997 V: 0002  USER: CSI-DBA

FI  E$DP
FI  E$EM
FI  E$WH
FI  E$DM
FI  E$PY
FI  E$SL
FI  E$MG
FI  STAT
FI  TLOG

```

The files related to the BURRYEXT schema are listed. Press ENTER to return to the command screen.

```

SCHEMA: COMMANDS          TIS/XA DIRECTORY MAINTENANCE

AD  ADD                   RL  RELATE
CG  CHANGE                RM  REMOVE
CK  CHECK                 RN  RENAME
CO  COPY                  SD  STRU DSPLY
DE  DELETE                SE  SHORT EDIT
DI  DISPLAY               SF  SPEC FUNC
LE  LONG EDIT             ST  SHORT TEXT
LT  LONG TEXT

ENTER SELECTION CODE: SD          SUBCATEGORY CODE: FI

ENTER NAMING DATA:
SCHEMA:                          BURRYEXT

ACTIVE SC: BURRYSCH  ACTIVE ED: BURRYENV  MAINTENANCE PERMITTED: NO

```

The command screen redisplay the last command you entered. Move the cursor to the schema name and enter BURRYSCH in place of BURRYEXT. Press ENTER to display the files.

```
SCHEMA: STRU DSPLY          TIS/XA DIRECTORY MAINTENANCE
SCHEMA: BURRYSCH

LAST UPDATE  12.07.48 08/12/1998 V: 0029  USER: CSI-DBA

FI  COPY
FI  C$-N
FI  C$-#
FI  C$-D
FI  C$-T
FI  C$-S
FI  RPTR
FI  TLOG
FI  SLOG
FI  STAT
FI  E$RG
FI  E$BR
FI  E$MB
FI  E$MF
FI  E$CU
FI  E$SK
COMMAND:
```

The first 16 files are listed. Press ENTER to display the next 16 files.

The next 16 files are listed. Press ENTER to continue.

```

SCHEMA: STRU DSPLY          TIS/XA DIRECTORY MAINTENANCE
SCHEMA: BURRYSCH

LAST UPDATE  12.07.48 08/12/1998 V: 0029  USER: CSI-DBA

FI  E$ML
FI  E$VS
FI  E$SU
FI  E$IN
FI  E$IL
FI  E$PD
FI  E$PL
FI  E$PO
FI  E$ST
FI  E$PG
FI  E$XF
FI  E$XP
FI  E$XA

COMMAND: M

```

If there are more files, an M displays in the command field. Press ENTER to continue. After all files are displayed, press PA2 to return to the Category menu.

To change the category to user, enter US for the selection code and press ENTER.

```

                                TIS/XA DIRECTORY MAINTENANCE

ENTER CATEGORY:  US

AS  ACCESS SET                LV  LOGICAL VIEW
AT  ATTRIBUTE                  MR  MAINTENANCE RESTRICTION
BP  BUFFER POOL                PF  PHYSICAL FIELD
CS  CONCEPTUAL SCHEMA        PR  PROCEDURE
DC  DIRECTORY COMPONENT DSC    RE  RELATION
DM  DOMAIN                     RW  RESERVED WORD
ED  ENVIRONMENT DESCRIPTION    SC  SCHEMA
EM  EDIT MASK                  SG  SECURITY GROUP
FI  FILE                       SK  SECONDARY KEY
FK  FOREIGN KEY                TA  TABLES
IR  INTERNAL RECORD            US  USER
KC  KEY CODE                    XF  EXTERNAL FIELD
LG  LOG GROUP

ACTIVE SC: BURRYSCH  ACTIVE ED: BURRYENV  MAINTENANCE PERMITTED: NO

```

Verify the user STUDENT is in the directory by entering DI for the selection code and STUDENT in the user field.

```
USER: COMMANDS          TIS/XA DIRECTORY MAINTENANCE

AD  ADD                  RL  RELATE
CG  CHANGE               RM  REMOVE
DE  DELETE               SD  STRU DSPLY
DI  DISPLAY              SE  SHORT EDIT
LE  LONG EDIT            ST  SHORT TEXT
LT  LONG TEXT            VD  VAR DSPLY
RC  REL CHANGE           VE  VAR EDIT
RD  REL DSPLY

ENTER SELECTION CODE: DI          SUBCATEGORY CODE:

ENTER NAMING DATA:
USER:          STUDENT

ACTIVE SC: BURRYSCH  ACTIVE ED: BURRYENV  MAINTENANCE PERMITTED: NO
```

Press ENTER to display the data for STUDENT. (The STUDENT user is required for Cincom education classes.)

```
USER: DISPLAY          TIS/XA DIRECTORY MAINTENANCE
USER: STUDENT

LAST UPDATE  17.05.40 08/12/1998 V: 0000  USER: CSI-DBA

USER NAME:          CINCOM SYSTEMS INC.
ADDRESS:            2300 Montana Avenue
ADDRESS:            CINCINNATI
ADDRESS:            OHIO 45211
PHONE NUMBER:      612-2300
PASSWORD:
DBA OPTION:        Y
NORMAL OPTION:    N
LANGUAGE:         N
```

Press ENTER to return to the user command screen.

The CSMM447A message indicates no additional descriptive data is available for the user.

```

USER: COMMANDS                TIS/XA DIRECTORY MAINTENANCE

AD  ADD                      RL  RELATE
CG  CHANGE                   RM  REMOVE
DE  DELETE                   SD  STRU DSPLY
DI  DISPLAY                  SE  SHORT EDIT
LE  LONG EDIT                ST  SHORT TEXT
LT  LONG TEXT                VD  VAR DSPLY
RC  REL CHANGE               VE  VAR EDIT
RD  REL DSPLY

ENTER SELECTION CODE: SD          SUBCATEGORY CODE: LV

ENTER NAMING DATA:
USER:                            STUDENT

ACTIVE SC: BURRYSCH  ACTIVE ED: BURRYENV  MAINTENANCE PERMITTED: NO

CSMM447A  VARIABLE ATTRIBUTE DATA NOT FOUND

```

Change the selection code to SD, enter LV for the subcategory code; then press ENTER to display the logical views within each schema.

```

USER: STRU DSPLY              TIS/XA DIRECTORY MAINTENANCE
USER: STUDENT

LAST UPDATE  17.05.40 08/12/1998 V: 0000  USER: CSI-DBA

SC  BURRYSCH
LV  REGN
SC  BURRYSCH
LV  BRAN
SC  BURRYSCH
LV  MANF
SC  BURRYSCH
LV  CUST
SC  BURRYSCH
LV  INVC
SC  BURRYSCH
LV  PGRP
SC  BURRYSCH
LV  PROD
SC  BURRYSCH
LV  SUPP
COMMAND: M

```

The STUDENT user is only related to views in the BURRYSCH schema.  
Press ENTER to display the next screen.

```
USER: STRU DSNLY          TIS/XA DIRECTORY MAINTENANCE
USER: STUDENT

LAST UPDATE  17.05.40 08/12/1998 V: 0000  USER: CSI-DBA

SC    BURRYSCH
LV    STCK
SC    BURRYSCH
LV    MANL
SC    BURRYSCH
LV    VSNO
SC    BURRYSCH
LV    INVL
SC    BURRYSCH
LV    PORD
SC    BURRYSCH
LV    POLN
SC    BURRYSCH
LV    RECD
SC    BURRYSCH
LV    STRU
COMMAND: M
```

Press ENTER to display the next screen.

```
USER: STRU DSNLY          TIS/XA DIRECTORY MAINTENANCE
USER: STUDENT

LAST UPDATE  17.05.40 08/12/1998 V: 0000  USER: CSI-DBA

SC    BURRYSCH
LV    ADD-INVOICE
SC    BURRYSCH
LV    BRANCH-INFO
SC    BURRYSCH
LV    BRANCH-REGIONAL-SALES
SC    BURRYSCH
LV    CUSTOMER-ACCOUNTS
SC    BURRYSCH
LV    CUSTOMER-INFO
SC    BURRYSCH
LV    INVOICE
SC    BURRYSCH
LV    MAIN-WAREHOUSE-INVENTORY
SC    BURRYSCH
LV    MANIFEST
COMMAND: M
```

Press ENTER to continue.

```
USER: STRU DSPLY          TIS/XA DIRECTORY MAINTENANCE
USER: STUDENT

LAST UPDATE  17.05.40 08/12/1998 V: 0000  USER: CSI-DBA

SC   BURRYSCH
LV   MANTIS-WORKSHOP-1
SC   BURRYSCH
LV   MANTIS-WORKSHOP-2
SC   BURRYSCH
LV   PO-BY-DATE
SC   BURRYSCH
LV   PRODUCT-PURCHASE-INFO
SC   BURRYSCH
LV   REGIONAL-SHIPPING
SC   BURRYSCH
LV   SUPPLIERS-BY-PRODUCT
SC   BURRYSCH
LV   VERIFY-BRANCH
SC   BURRYSCH
LV   VERIFY-CUSTOMER
COMMAND: M
```

Press ENTER to continue.

```
USER: STRU DSPLY          TIS/XA DIRECTORY MAINTENANCE
USER: STUDENT

LAST UPDATE  17.05.40 08/12/1998 V: 0000  USER: CSI-DBA

SC   BURRYSCH
LV   VERIFY-PRODUCT
SC   BURRYSCH
LV   VENDOR-STOCK-NUMBERS

COMMAND:
```

The last view related to the STUDENT user should be VENDOR-STOCK-NUMBERS. Press ENTER to return to the user command screen.

To add the user DEMO to the directory, change the selection code to AD and the user name to DEMO. Press EOF; then press ENTER.

```
USER: COMMANDS                TIS/XA DIRECTORY MAINTENANCE

AD  ADD                        RL  RELATE
CG  CHANGE                    RM  REMOVE
DE  DELETE                    SD  STRU DSPLY
DI  DISPLAY                   SE  SHORT EDIT
LE  LONG EDIT                 ST  SHORT TEXT
LT  LONG TEXT                 VD  VAR DSPLY
RC  REL CHANGE                VE  VAR EDIT
RD  REL DSPLY

ENTER SELECTION CODE: AD      SUBCATEGORY CODE: LV

ENTER NAMING DATA:
USER:                        DEMO

ACTIVE SC: BURRYSCH  ACTIVE ED: BURRYENV  MAINTENANCE PERMITTED: NO
```

The User: Add screen displays. Complete the descriptive information for the user. In this case, DEMO is the user name and DEMO is the password. Change the DBA option to Y and the LANGUAGE option to ENGLISH; then press ENTER, as shown in the following example.

```
USER: ADD                      TIS/XA DIRECTORY MAINTENANCE
USER: DEMO

LAST UPDATE  14.35.39 08/12/1998 V: 0000  USER: CSI-DBA

USER NAME:                DEMO
ADDRESS:
ADDRESS:
ADDRESS:
PHONE NUMBER:
PASSWORD:                DEMO
DBA OPTION:              Y
NORMAL OPTION:          N
LANGUAGE:                ENGLISH
MAIN SECURITY GROUP:    CSISG001
```

The user DEMO has been added. However, a user cannot access data until it is related to one or more logical views.

Change the selection code to RL and press ENTER to relate the user DEMO to the first view.

```

USER:  COMMANDS                TIS/XA DIRECTORY MAINTENANCE

AD  ADD                        RL  RELATE
CG  CHANGE                     RM  REMOVE
DE  DELETE                     SD  STRU DSPLY
DI  DISPLAY                    SE  SHORT EDIT
LE  LONG EDIT                  ST  SHORT TEXT
LT  LONG TEXT                 VD  VAR DSPLY
RC  REL CHANGE                VE  VAR EDIT
RD  REL DSPLY

ENTER SELECTION CODE:  RL          SUBCATEGORY CODE:  LV

ENTER NAMING DATA:
USER:                    DEMO

ACTIVE SC:  BURRYSCH  ACTIVE ED:  BURRYENV  MAINTENANCE PERMITTED:  NO

```

BRANCH-STOCK is one of the views in BURRYSCH related to the user STUDENT. To relate this view to the user DEMO, enter BRANCH-STOCK in the LOGICAL VIEW field.

```

USER:  RELATE                TIS/XA DIRECTORY MAINTENANCE
USER:  DEMO

LAST UPDATE 14.36.07 08/12/1998 V: 0000 USER: CSI-DBA

SCHEMA:                    BURRYEXT
LOGICAL VIEW:              BRANCH-STOCK

```

Press ENTER to display the first screen of defaults for a user and view.

```
USER: RELATE          TIS/XA DIRECTORY MAINTENANCE          1 OF 2
USER: DEMO

LAST UPDATE  14.36.07 08/12/1998 V: 0000  USER: CSI-DBA

SCHEMA:          BURRYSCH
LOGICAL VIEW:    BRANCH-STOCK
BATCH DELETE OPTION:  N
ONLINE DELETE OPTION: Y
BATCH SAVE OPTION:  N
ONLINE SAVE OPTION:  Y
BATCH DEFINE QUERIES: N
ONLINE DEFINE QUERIES: Y
BATCH EXECUTE QUERIES: N
ONLINE EXECUTE QUERIES: Y
ONLINE SUBMIT OPTION: N
DEFINE COMP. RETRIEVAL: N
EXECUTE COMP. RETRIEVAL: N

COMMAND: F
```

Do not change the defaults for this demonstration. The default command is F for forward. Press ENTER to display the second screen of defaults. Change the N to Y for the EXECUTE GEN. UPDATES and EXECUTE RDM APPLICATION fields.

```
USER: RELATE          TIS/XA DIRECTORY MAINTENANCE          2 OF 2
USER: DEMO

LAST UPDATE  14.36.07 08/12/1998 V: 0000  USER: CSI-DBA

SCHEMA:          BURRYSCH
LOGICAL VIEW:    BRANCH-STOCK
DEFINE GEN. UPDATES:  N
EXECUTE GEN. UPDATES:  Y
DEFINE RDM APPLICATION: N
EXECUTE RDM APPLICATION: Y

COMMAND:
```

The changes you made allows execution of generalized updates and RDM applications. Press ENTER to return to the command screen.

```

USER: COMMANDS                TIS/XA DIRECTORY MAINTENANCE

AD  ADD                      RL  RELATE
CG  CHANGE                   RM  REMOVE
DE  DELETE                   SD  STRU DSPLY
DI  DISPLAY                  SE  SHORT EDIT
LE  LONG EDIT                ST  SHORT TEXT
LT  LONG TEXT                VD  VAR DSPLY
RC  REL CHANGE               VE  VAR EDIT
RD  REL DSPLY

ENTER SELECTION CODE: RL          SUBCATEGORY CODE: LV

ENTER NAMING DATA:
USER:                            DEMO

ACTIVE SC: BURRYSCH  ACTIVE ED: BURRYENV  MAINTENANCE PERMITTED: NO

```

Now, relate these logical views in exactly the same way you related the views for the BRANCH-STOCK logical view: BRAN, STCK, PROD, and STRU.

This completes the verification for Directory Maintenance. Press PA2 to return to the Category menu.

```

                                TIS/XA DIRECTORY MAINTENANCE

ENTER CATEGORY: US

AS  ACCESS SET                LV  LOGICAL VIEW
AT  ATTRIBUTE                 MR  MAINTENANCE RESTRICTION
BP  BUFFER POOL              PF  PHYSICAL FIELD
CS  CONCEPTUAL SCHEMA      PR  PROCEDURE
DC  DIRECTORY COMPONENT DSC  RE  RELATION
DM  DOMAIN                   RW  RESERVED WORD
ED  ENVIRONMENT DESCRIPTION  SC  SCHEMA
EM  EDIT MASK                SG  SECURITY GROUP
FI  FILE                     SK  SECONDARY KEY
FK  FOREIGN KEY              TA  TABLES
IR  INTERNAL RECORD          US  USER
KC  KEY CODE                 XF  EXTERNAL FIELD
LG  LOG GROUP

ACTIVE SC: BURRYSCH  ACTIVE ED: BURRYENV  MAINTENANCE PERMITTED: NO

```

Press PA2 again to exit from Directory Maintenance and return to the Software Selection Menu.

## Verifying Interactive Services

To verify Interactive Services (IN/SERVE), enter the corresponding option number in the option field and press ENTER.

```
CINCOM SOFTWARE SELECTION MENU                                0210

ENTER SELECTION NAME OR NUMBER:
: 6
* TO EXECUTE WITH CURRENT USER-ID, PRESS ENTER.
* TO EXECUTE WITH ALTERNATE USER-ID, PRESS PF2/PF14.
* TO VIEW EXPANDED MENU DEFINITON, PRESS PF1/PF13.

1 DBAID
2 NORMAL
3 SPECTRA
4 MANTIS
5 DIRECTRY
6 IN/SERVE
7 RESIGNON

PA2/PA1=EXIT
PF1/PF13 WITHOUT SELECTION INFORMATION=HELP
```

Enter 1 for the service number and press ENTER.

```
INTERACTIVE SERVICES MAIN MENU

SELECT SERVICE OPTION:

1. PHYSICAL FILE SERVICES
2. PDM SERVICES
3. USER EXTENSION SERVICES

ENTER SERVICE NUMBER : 1 :

PA2-EXIT
```

The Physical File Services menu displays. Enter 1 in the option field and E\$SK in the file name field.

```

                PHYSICAL FILE SERVICES

SELECT OPTION:

1.  PHYSICAL FILE INFORMATION
2.  FILE STATISTICS

ENTER OPTION NUMBER : 1 :

ENTER FILE NAME IF REQUESTING SINGLE FILE : E$SK :
IF YOU DO NOT ENTER A FILE NAME, THE NEXT SCREEN WILL
DISPLAY A LIST OF ALL VALID FILES FROM WHICH TO CHOOSE.

PRESS PA2 TO EXIT.

```

Press ENTER to display the physical file information.

```

                PHYSICAL FILE INFORMATION

FILE NAME : E$SK :

DDNAME      : E$SK      :
DATA SET NAME : TISXA.E$SK :
BUFFER POOL NAME : REL3 :
FILE TYPE    : RELATED   :
FILE MODE    : NATIVE    :
OPEN MODE    : SUPD      :
EUPD OWNER (TASK NAME) :      :
ACCESS METHOD : BDAM      :
CODED FILE   : N        :
LOGICAL RECORD LENGTH : 40 :
BLOCKSIZE    : 3840     :
BLOCKS PER TRACK : 11 :
RECORDS PER BLOCK : 96 :
RECORDS PER FILE (TLR) : 4224 :
CONTROL INTERVAL SIZE : 0 :
PRIME NUMBER  : 1      :
PA2-EXIT

```

This information is retrieved from the file description in the directory.  
Press PA2 to return to the Physical File Services menu. Enter 2 in the option field and E\$SK in the file name field.

```
                PHYSICAL FILE SERVICES

SELECT OPTION:

1.  PHYSICAL FILE INFORMATION
2.  FILE STATISTICS

ENTER OPTION NUMBER : 2 :

ENTER FILE NAME TO REQUEST A KNOWN FILE  OR
LEAVE BLANK TO CHOOSE FROM A LIST OF VALID FILES: E$SK :

PA2-EXIT
```

Press ENTER to display the run-time statistics for the file E\$SK.

```
                F I L E   S T A T I S T I C S

                F O R   F I L E   E$SK

F1.01  TOTAL LOGICAL READS ..... 0
F1.02  TOTAL PHYSICAL READS ..... 0
F1.03  TOTAL IN-MEMORY HITS ..... 0
F1.04  TOTAL IN-MEMORY HITS ON UPDATED BUFFER ..... 0
F1.05  TOTAL PHYSICAL UPDATES FORECED BY PHYSICAL READ. 0

F2.01  AVG. LOGICAL READS PER PHYSICAL READ ..... 0.0
F2.02  of LOGICAL READS WHICH WERE IN-MEMORY HITS . 0.00
F2.03  OF IN-MEMORY HITS TO AN UPDATED BUFFER ..... 0.00
F2.04  of PHYSICAL READS FORCING A PHYSICAL UPDATE .. 0.00

PA2-EXIT                                     -MORE-

WMM:PF7-UP  PF8-DOWN  PF9-END  PF10-LEFT  PF11-RIGHT  PF12-HOME  001 001
```

If the STATS file is not activated, the fields contain zeros. Press PA2 to return to the Physical File Services menu.

```
          PHYSICAL FILE SERVICES

SELECT OPTION:

1.  PHYSICAL FILE INFORMATION
2.  FILE STATISTICS

ENTER OPTION NUMBER :      :

ENTER FILE NAME TO REQUEST A KNOWN FILE   OR
LEAVE BLANK TO CHOOSE FROM A LIST OF VALID FILES: E$SK :

PA2-EXIT
```

Press PA2 to return to the Interactive Services Main Menu.

```
          INTERACTIVE SERVICES MAIN MENU

1.  PHYSICAL FILE SERVICES
2.  PDM SERVICES
3.  USER EXTENSION SERVICES

ENTER OPTION NUMBER :  2  :

PA2-EXIT
```

Enter 2 and press ENTER to view information about the Physical Data Manager.

Enter 1 in the option field.

```
                PDM SERVICES

                1.  PDM SYSTEM INFORMATION
                2.  PDM SYSTEM STATISTICS
                3.  ENVIRONMENT INFORMATION
                4.  TASK MANAGEMENT

                ENTER OPTION NUMBER : 1 :

PA2-EXIT
```

Press ENTER to view information about the PDM that is currently executing.

```
                PDM INFORMATION

PDM NAME : DEMOTIS :

PDM TYPE ..... MULTI-TASK
ATTACHED MODE ..... NO
CENTRAL MODE ..... YES
PDM AND APPLICATION IN SAME ADDRESS SPACE .. NO

PA2-EXIT
```

The PDM name is the job name in which the PDM is executing. (It will be different for your installation.) Press PA2 to return to the PDM Services menu.

Enter 2 in the option field.

```

                                PDM SERVICES

                                1. PDM SYSTEM INFORMATION
                                2. PDM SYSTEM STATISTICS
                                3. ENVIRONMENT INFORMATION
                                4. TASK MANAGEMENT

                                ENTER OPTION NUMBER : 2 :

                                PA2-EXIT
  
```

Press ENTER to display run-time statistics for the Physical Data Manager.

```

                                PDM STATISTICS FOR dbmname

S1.01  DATE AND TIME STATISTICS WERE LAST RESET ..      6/3/98  09:20:37
        CURRENT TASKS .....                               2
S2.01  TOTAL TASKS .....                                 6
S2.02  MAXIMUM CONCURRENT TASKS .....                   2
S3.01  CURRENT RECORD HOLDING ENTRIES IN USE .....      0
S3.02  MAXIMUM RECORD HOLDING ENTRIES USED .....        0
S3.03  CURRENT MONITOR ENTRIES IN USE .....              0
S3.04  MAXIMUM MONITOR ENTRIES USED .....                0
S4.01  TOTAL READ  COMMANDS .....                       8606   99.85
S4.02  TOTAL UPDATE COMMANDS .....                      0     0.00
S4.03  TOTAL ADD AND DELETE COMMANDS .....              0     0.00
S4.04  TOTAL OTHER COMMANDS .....                      13     0.15

PA2-EXIT                                                    -MORE-

WMM:PF7-UP  PF8-DOWN  PF9-END  PF10-LEFT  PF11-RIGHT  PF12-HOME  001 001
  
```

The logical and physical I/O information is refreshed each time you press ENTER. (The values in these fields may differ for your installation.)

Press PA2 to return to the PDM Services menu, and enter 3 in the option field.

```
                PDM SERVICES

                1. PDM SYSTEM INFORMATION
                2. PDM SYSTEM STATISTICS
                3. ENVIRONMENT INFORMATION
                4. TASK MANAGEMENT

                ENTER OPTION NUMBER : 3 :

PA2-EXIT
```

Press ENTER to display information about the current SUPRA environment.

```
                ACTIVE ENVIRONMENT INFORMATION

REALM ENVIRONMENT DESCRIPTION NAME ..... BURRYENV
REALM SCHEMA NAME ..... BURRYSCH

LOADED DIRECTORY ENVIRONMENT DESCRIPTION NAME ..... CSTATLOG
LOADED DIRECTORY SCHEMA NAME ..... CSTASCHM

STATISTICS ..... Y
TASK LOGGING ..... Y
SYSTEM LOGGING ..... N

IMAGE LOGGING ..... N
BEFORE IMAGE LOGGING ..... N
AFTER IMAGE LOGGING ..... N

ALL SINON LOGGING ..... N
UPDATE SINON LOGGING ..... N

PRESS PA2 TO EXIT.

WMM:PF7-UP PF8-DOWN PF9-END PF10-LEFT PF11-RIGHT PF12-HOME 001 001
```

This information comes from the environment description in the SUPRA directory.

Press PA2 to return to the PDM Services menu, then enter 4 in the option field.

```

                                PDM SERVICES

                                1.  PDM SYSTEM INFORMATION
                                2.  PDM SYSTEM STATISTICS
                                3.  ENVIRONMENT INFORMATION
                                4.  TASK MANAGEMENT

                                ENTER OPTION NUMBER : 4 :

                                PRESS PA2 TO EXIT.

```

Press ENTER to view active interfaces and tasks, and to purge unwanted ones.

```

                                TASK MANAGEMENT - CRITERIA SELECTION MENU

                                SPECIFY CRITERIA OR USE DEFAULTS.

                                ACTION          : DISPLAY :          (DISPLAY/PURGE)
                                PURGE OPTION   : LIST    :          (LIST/NO LIST)

                                INTERFACE NAME  : ALL      :          (ALL/NAME)
                                INTERFACE TYPE  : ALL      :          (ALL/BATCH/CICS/CM)
                                INTERFACE STATUS: ALL      :          (ALL/CONNECTED/NOTCONNECTED)

                                TASK NAME      : ALL      :          (ALL/NAME)
                                TASK STATUS    : ALL      :          (ALL/ACTIVE/NONACTIVE)

                                TIME SINCE
                                LAST COMIT     :          :          (TIME IN MINUTES)

                                PA2-EXIT  ENTER-PROCESS

```

Press ENTER to display the status of all interfaces defined to this PDM.

Two interfaces are connected to this PDM. (Your interface names will differ from these.) Place an S in front of an interface name.

```
INTERFACE SELECTION LIST

TYPE "S" NEXT TO AN INTERFACE NAME TO LIST TASKS BY CRITERIA.

INTERFACE NAME      INTERFACE TYPE      INTERFACE STATUS
S  CINCOMI1         BATCH              CONNECTED
   CICS             CICS              CONNECTED

PA2-EXIT  PF8-FORWARD  ENTER-PROCESS
```

Press ENTER to display the active tasks for the interface.

```
TASK LIST FOR INTERFACE ER31SUPR

TYPE "P" NEXT TO A TASK NAME TO PURGE THE TASK.
TYPE "ALL" TO PURGE ALL TASKS ON THIS SCREEN :      :

TASK      TASK SIGN   TIME SINCE          COMPLETION
NAME      ON STATUS    LAST COMIT         MESSAGE
TI111    ACTIVE      00:01:24

PA2-EXIT  PF8-FORWARD  ENTER-PROCESS
```

Your task name is displayed.

Press PA2 to return to the Interface Selection List screen.

```

                INTERFACE SELECTION LIST

TYPE "S" NEXT TO AN INTERFACE NAME TO LIST TASKS BY CRITERIA.

    INTERFACE NAME    INTERFACE TYPE    INTERFACE STATUS
    CINCOMI1          BATCH            CONNECTED
*   ER31SUPR          CICS             CONNECTED

PA2-EXIT  PF8-FORWARD  ENTER-PROCESS

```

Press PA2 to return to the Task Management menu.

```

                TASK MANAGEMENT - CRITERIA SELECTION MENU

SPECIFY CRITERIA OR USE DEFAULTS.

ACTION           : DISPLAY :           (DISPLAY/PURGE)
PURGE OPTION     : LIST    :           (LIST/NO LIST)

INTERFACE NAME   : ALL      :           (ALL/NAME)
INTERFACE TYPE   : ALL      :           (ALL/BATCH/CICS/CM)
INTERFACE STATUS : ALL      :           (ALL/CONNECTED/NOTCONNECTED)

TASK NAME        : ALL      :           (ALL/NAME)
TASK STATUS      : ALL      :           (ALL/ACTIVE/NONACTIVE)

TIME SINCE
LAST COMIT      :          :           (TIME IN MINUTES)

PA2-EXIT  ENTER-PROCESS

```

Press PA2 to return to the PDM Services menu.

```
                PDM SERVICES

                1. PDM SYSTEM INFORMATION
                2. PDM SYSTEM STATISTICS
                3. ENVIRONMENT INFORMATION
                4. TASK MANAGEMENT

                ENTER OPTION NUMBER :      :

                PRESS PA2 TO EXIT.
```

This completes the verification for SUPRA Interactive Services. Press PA2 to return to the Interactive Services Main Menu.

```
                INTERACTIVE SERVICES MAIN MENU

                1. PHYSICAL FILE SERVICES
                2. PDM SERVICES
                3. USER EXTENSION SERVICES

                ENTER OPTION NUMBER :      :

                PA2-EXIT
```

Press PA2 to return to the Software Selection Menu.

## Verifying RDM

To verify RDM, enter the menu option number for DBAID in the option field and press PF2 to sign on as the DEMO user.

```

                                CINCOM SOFTWARE SELECTION MENU                                0210
ENTER SELECTION NAME OR NUMBER:
: 1
  * TO EXECUTE WITH CURRENT USER-ID, PRESS ENTER.
  * TO EXECUTE WITH ALTERNATE USER-ID, PRESS PF2/PF14.
  * TO VIEW EXPANDED MENU DEFINITION, PRESS PF1/PF13.

1  DBAID
2  NORMAL
3  SPECTRA
4  MANTIS
5  DIRECTRY
6  IN/SERVE
7  RESIGNON

PA2/PA1=EXIT
PF1/PF13 WITHOUT SELECTION INFORMATION=HELP

```

Enter DEMO for the alternate user ID and DEMO for the alternate password, then press ENTER.

```

                                CINCOM SOFTWARE SELECTION MENU                                0210
ENTER SELECTION INFORMATION:
: 1
  * TO EXECUT
  * TO EXECUT
  * TO VIEW

1  DBAID
2  NORMAL
3  SPECTRA
4  MANTIS
5  DIRECTRY
6  IN/SERVE
7  RESIGNON

                                ALTERNATE USER ID PASSWORD & ENGINE SIGN ON ID
                                FOR SELECTION = DBAID                                ENTER:
                                ALTERNATE USER-ID:
                                : demo
                                :
                                ALTERNATE PASSWORD:
                                :
                                :
                                AND/OR ALTERNATE SUPRA/DRDM KERNEL NAME:
                                :
                                : <== USE ONLY WITH DRDM SELECTIONS

                                PRESS ENTER TO EXECUTE                                PA2 PA1=EXIT

PA2/PA1=EXIT
PF1/PF13 WITH

```

The LIST command displays a view and places your session in edit mode. After the prompt, enter LIST@BRANCH-STOCK.

```
WELCOME TO DBAID - LEVEL 2163

> LIST BRANCH-STOCK
```

Press ENTER to display the view BRANCH-STOCK. You must open a view before you can test it against the database. Enter OPEN@\* to test this view.

```
BRANCH-STOCK

0100 KEY BRANCH-NO
0200 BRANCH-NAME
0300 KEY STOCK-PRODUCT
0400 STOCK-QNTY
0500 STOCK-BIN-LOC
0600 STOCK-YTD-SALES
0700 PRODUCT-DESC
0800 REQ PRODUCT-GROUP
0900 PRODUCT-PRICE
1000 PRODUCT-WH-QNTY
1100 STRUCTURE-COMP
1200 STRUCTURE-QNTY
1300 ACCESS BRAN WHERE BRANCH-NO = BRANCH-NO
1400 ACCESS STCK WHERE STOCK-BRANCH = BRANCH-NO
1500 ACCESS PROD ONCE WHERE PRODUCT-CODE = STOCK-PRODUCT
1600 ACCESS STRU WHERE STRUCTURE-ASSM = PRODUCT-CODE

> OPEN *
```

The asterisk (\*) can be used in place of the view name BRANCH-STOCK until you want to work with a different view. Press ENTER to display the amount of storage used to open this view.

Enter the command `GO*` to issue multiple RDML gets to `BRANCH-STOCK`.

```

                                BRANCH-STOCK
0100 KEY BRANCH-NO
0200   BRANCH-NAME
0300 KEY STOCK-PRODUCT
0400   STOCK-QNTY
0500   STOCK-BIN-LOC
0600   STOCK-YTD-SALES
0700   PRODUCT-DESC
0800 REQ PRODUCT-GROUP
0900   PRODUCT-PRICE
1000   PRODUCT-WH-QNTY
1100   STRUCTURE-COMP
1200   STRUCTURE-QNTY
1300 ACCESS BRAN      WHERE BRANCH-NO      = BRANCH-NO
1400 ACCESS STCK      WHERE STOCK-BRANCH    = BRANCH-NO
1500 ACCESS PROD ONCE WHERE PRODUCT-CODE    = STOCK-PRODUCT
1600 ACCESS STRU      WHERE STRUCTURE-ASSM  = PRODUCT-CODE

> OPEN *
FSI: * VSI: = MSG:      16360 BYTES USED IN OPENING VIEW.
> GO *
```

Press `ENTER` to execute the command. RDM retrieves two rows from `BRANCH-STOCK`.

DBAID displays the recurring data only once. To retrieve a single record as an application program would, enter the command `GET BRANCH-STOCK USING 1241`.

```

| BRANCH-NO |      BRANCH-NAME      | | | |
|---|---|---|---|---|
| 1241 | OAKLEY |
|-----|-----|
| STOCK-PRODUCT | STOCK-QNTY | STOCK-BIN-LOC | STOCK-YTD-SALES |
|-----|-----|-----|-----|
|          PRODUCT-DESC          | PRODUCT-GROUP | PRODUCT-PRICE | PRODUCT-WH-QNTY |
|-----|-----|-----|-----|
| TK-4200-P | 41 | 05056 | 82.00 |
| TAPE ACCESSORY KIT |  |  AV  | 16.00 | 821 |
|-----|-----|-----|-----|
| STRUCTURE-COMP | STRUCTURE-QNTY |
|-----|-----|
| TD-4202-I | 1 |
| TC-4201-I | 1 |
|-----|-----|
***MORE***
> GET BRANCH-STOCK USING 1241
```

Press ENTER to display the row. To retrieve the next row, you can enter the same request or just enter an equal sign (=) to repeat the most recent request.

```
BRANCH-NO                (=) 1241
BRANCH-NAME              (=) OAKLEY
STOCK-PRODUCT            (+) VR-0500-K
STOCK-QNTY               (+) 47
STOCK-BIN-LOC            (+) 05063
STOCK-YTD-SALES          (+) 94.00
PRODUCT-DESC             (+) 500K VAR. RESISTOR
PRODUCT-GROUP            (+) PT
PRODUCT-PRICE            (+) 2.26
PRODUCT-WH-QNTY         (+) 9400
STRUCTURE-COMP           (-)
STRUCTURE-QNTY           (-) 0
FSI: * VSI: - MSG: SUCCESSFUL COMPLETION
> =
```

Press ENTER to display the next record.

```
BRANCH-NO                (=) 1241
BRANCH-NAME              (=) OAKLEY
STOCK-PRODUCT            (+) SC-1000-K
STOCK-QNTY               (+) 36
STOCK-BIN-LOC            (+) 05055
STOCK-YTD-SALES          (+) 72.00
PRODUCT-DESC             (+) SECURITY ALARM KIT
PRODUCT-GROUP            (+) SE
PRODUCT-PRICE            (+) 119.00
PRODUCT-WH-QNTY         (+) 723
STRUCTURE-COMP           (+) WT-0050-I
STRUCTURE-QNTY           (+) 1
FSI: * VSI: + MSG: SUCCESSFUL COMPLETION
> =
```

The fields in parentheses are attribute status indicators (ASI). The ASI fields indicate the most recent request retrieved a new occurrence of product information (+), while the branch information came from the same record (=). A minus sign (-) in the ASI field indicates a null value.

Now, enter an equal sign (=) after the prompt and press ENTER to display a new occurrence of the structure data for the same stock item.

DBAID allows the DBA to modify and test changes to a view. To list the view again and enter edit mode, enter the command LIST\*.

```

BRANCH-NO                (=) 1241
BRANCH-NAME              (=) OAKLEY
STOCK-PRODUCT            (=) SC-1000-K
STOCK-QNTY               (=) 36
STOCK-BIN-LOC            (=) 05055
STOCK-YTD-SALES          (=) 72.00
PRODUCT-DESC             (=) SECURITY ALARM KIT
PRODUCT-GROUP            (=) SE
PRODUCT-PRICE            (=) 119.00
PRODUCT-WH-QNTY         (=) 723
STRUCTURE-COMP           (+) SW-1406-I
STRUCTURE-QNTY           (+) 1
FSI: *  VSI: +  MSG: SUCCESSFUL COMPLETION
> LIST *

```

Press ENTER to edit the record.

You can modify any view statement by retyping the statement at the prompt. To select a subset from BRANCH-STOCK of only those products in group AV, enter line 0800 as shown in the following example.

```

                                BRANCH-STOCK
0100 KEY BRANCH-NO
0200   BRANCH-NAME
0300 KEY STOCK-PRODUCT
0400   STOCK-QNTY
0500   STOCK-BIN-LOC
0600   STOCK-YTD-SALES
0700   PRODUCT-DESC
0800 REQ PRODUCT-GROUP
0900   PRODUCT-PRICE
1000   PRODUCT-WH-QNTY
1100   STRUCTURE-COMP
1200   STRUCTURE-QNTY
1300 ACCESS BRAN      WHERE BRANCH-NO      = BRANCH-NO
1400 ACCESS STCK     WHERE STOCK-BRANCH    = BRANCH-NO
1500 ACCESS PROD ONCE WHERE PRODUCT-CODE   = STOCK-PRODUCT
1600 ACCESS STRU     WHERE STRUCTURE-ASSM  = PRODUCT-CODE

> 0800 CONST PRODUCT-GROUP= 'AV'

```

Press ENTER to update line 0800 and display a blank command prompt.

The ALLOW UPDATE clause modifies the access to the stock file (E\$SK) to allow updates to fields within that file. To allow updates, enter the ALLOW UPDATE clause as shown in the following example. (Use line 1410 as the line number so you do not have to retype all of line 1400.)

```

0100 KEY BRANCH-NO
0200 BRANCH-NAME
0300 KEY STOCK-PRODUCT
0400 STOCK-QNTY
0500 STOCK-BIN-LOC
0600 STOCK-YTD-SALES
0700 PRODUCT-DESC
0800 REQ PRODUCT-GROUP
0900 PRODUCT-PRICE
1000 PRODUCT-WH-QNTY
1100 STRUCTURE-COMP
1200 STRUCTURE-QNTY
1300 ACCESS BRAN WHERE BRANCH-NO = BRANCH-NO
1400 ACCESS STCK WHERE STOCK-BRANCH = BRANCH-NO
1500 ACCESS PROD ONCE WHERE PRODUCT-CODE = STOCK-PRODUCT
1600 ACCESS STRU WHERE STRUCTURE-ASSM = PRODUCT-CODE

> 0800 CONST PRODUCT-GROUP='AV'
> 1410 ALLOW UPDATE
    
```

Press ENTER to add line 1410 and display a blank command prompt.

You must release the existing copy of the BRANCH-STOCK view in your workspace before you can use the modified version. To free the workspace, enter the command `RELEASE*`.

```

                                BRANCH-STOCK
0100 KEY BRANCH-NO
0200 BRANCH-NAME
0300 KEY STOCK-PRODUCT
0400 STOCK-QNTY
0500 STOCK-BIN-LOC
0600 STOCK-YTD-SALES
0700 PRODUCT-DESC
0800 REQ PRODUCT-GROUP
0900 PRODUCT-PRICE
1000 PRODUCT-WH-QNTY
1100 STRUCTURE-COMP
1200 STRUCTURE-QNTY
1300 ACCESS BRAN WHERE BRANCH-NO = BRANCH-NO
1400 ACCESS STCK WHERE STOCK-BRANCH = BRANCH-NO
1500 ACCESS PROD ONCE WHERE PRODUCT-CODE = STOCK-PRODUCT
1600 ACCESS STRU WHERE STRUCTURE-ASSM = PRODUCT-CODE

> 0800 CONST PRODUCT-GROUP='AV'
> 1410 ALLOW UPDATE
> RELEASE *
    
```

Press ENTER to execute the RELEASE command.

The LIST command lists the view with the modified lines. Enter the LIST command as shown in the following example.

```

                                BRANCH-STOCK
0100 KEY BRANCH-NO
0200   BRANCH-NAME
0300 KEY STOCK-PRODUCT
0400   STOCK-QNTY
0500   STOCK-BIN-LOC
0600   STOCK-YTD-SALES
0700   PRODUCT-DESC
0800 REQ PRODUCT-GROUP
0900   PRODUCT-PRICE
1000   PRODUCT-WH-QNTY
1100   STRUCTURE-COMP
1200   STRUCTURE-QNTY
1300 ACCESS BRAN      WHERE BRANCH-NO      = BRANCH-NO
1400 ACCESS STCK      WHERE STOCK-BRANCH    = BRANCH-NO
1500 ACCESS PROD ONCE WHERE PRODUCT-CODE    = STOCK-PRODUCT
1600 ACCESS STRU      WHERE STRUCTURE-ASSM  = PRODUCT-CODE

> 0800 CONST PRODUCT-GROUP='AV'
> 1410   ALLOW UPDATE
> RELEASE *
FSI: * VSI: = MSG: SUCCESSFUL COMPLETION
> LIST BRANCH-STOCK

```

Press ENTER to display the list.

You must open this version of the view to test the results. To open the view, enter the command OPENØ\*.

```

                                BRANCH-STOCK
0100 KEY BRANCH-NO
0200   BRANCH-NAME
0300 KEY STOCK-PRODUCT
0400   STOCK-QNTY
0500   STOCK-BIN-LOC
0600   STOCK-YTD-SALES
0700   PRODUCT-DESC
0800 CONST PRODUCT-GROUP='AV'
0900   PRODUCT-PRICE
1000   PRODUCT-WH-QNTY
1100   STRUCTURE-COMP
1200   STRUCTURE-QNTY
1300 ACCESS BRAN      WHERE BRANCH-NO      = BRANCH-NO
1400 ACCESS STCK      WHERE STOCK-BRANCH    = BRANCH-NO
1410   ALLOW UPDATE
1500 ACCESS PROD ONCE WHERE PRODUCT-CODE    = STOCK-PRODUCT
1600 ACCESS STRU      WHERE STRUCTURE-ASSM  = PRODUCT-CODE

> OPEN *

```

Press ENTER to execute the OPEN command. Next, issue the GET command to retrieve the first row for branch 1241.

```

                                BRANCH-STOCK
0100 KEY BRANCH-NO
0200   BRANCH-NAME
0300 KEY STOCK-PRODUCT
0400   STOCK-QNTY
0500   STOCK-BIN-LOC
0600   STOCK-YTD-SALES
0700   PRODUCT-DESC
0800 CONST PRODUCT-GROUP='AV'
0900   PRODUCT-PRICE
1000   PRODUCT-WH-QNTY
1100   STRUCTURE-COMP
1200   STRUCTURE-QNTY
1300 ACCESS BRAN      WHERE BRANCH-NO      = BRANCH-NO
1400 ACCESS STCK     WHERE STOCK-BRANCH    = BRANCH-NO
1410   ALLOW UPDATE
1500 ACCESS PROD ONCE WHERE PRODUCT-CODE   = STOCK-PRODUCT
1600 ACCESS STRU     WHERE STRUCTURE-ASSM  = PRODUCT-CODE

> OPEN *
FSI: * VSI: = MSG:          16376 BYTES USED IN OPENING VIEW.
> GET BRANCH-STOCK USING 1241

```

Press ENTER to execute the GET command and display the first row. Notice the product group no longer displays. Constant fields are used for qualification, but are never displayed.

Enter the command UPDATE\*.

```

BRANCH-NO          (+) 1241
BRANCH-NAME       (+) OAKLEY
STOCK-PRODUCT     (+) TK-4200-P
STOCK-QNTY        (+) 41
STOCK-BIN-LOC     (+) 05056
STOCK-YTD-SALES   (+) 82.00
PRODUCT-DESC      (+) TAPE ACCESSORY KIT
PRODUCT-PRICE     (+) 16.00
PRODUCT-WH-QNTY   (+) 821
STRUCTURE-COMP    (+) TD-4202-I
STRUCTURE-QNTY    (+) 1
FSI: * VSI: + MSG: SUCCESSFUL COMPLETION
> UPDATE *

```

Press ENTER to update the record.

RDM allows updates to data only in updateable fields. DBAID prompts you for each updateable field. To change the stock quantity for TK-4200-P, enter 35 after the prompt.

```
BRANCH-NO                (+) 1241
BRANCH-NAME              (+) OAKLEY
STOCK-PRODUCT           (+) TK-4200-P
STOCK-QNTY               (+) 41
> 35
```

Press ENTER to update the stock quantity.

```
BRANCH-NO                (+) 1241
BRANCH-NAME              (+) OAKLEY
STOCK-PRODUCT           (+) TK-4200-P
STOCK-QNTY               (+) 41
> 35
STOCK-BIN-LOC            (+) 05056
>
```

Continue to press ENTER until all of the fields have been displayed.

```
BRANCH-NO                (+) 1241
BRANCH-NAME              (+) OAKLEY
STOCK-PRODUCT           (+) TK-4200-P
STOCK-QNTY               (+) 41
> 35
STOCK-BIN-LOC            (+) 05056
>
STOCK-YTD-SALES          (+) 82.00
>
```

Once all the fields have been displayed, DBAID prompts MORE LINES, as shown in the following example:

```
BRANCH-NO                (+) 1241
BRANCH-NAME              (+) OAKLEY
STOCK-PRODUCT            (+) TK-4200-P
STOCK-QNTY               (+) 41
> 35
STOCK-BIN-LOC            (+) 05056
>
STOCK-YTD-SALES          (+) 82.00
>
PRODUCT-DESC             (+) TAPE ACCESSORY KIT
PRODUCT-PRICE            (+) 16.00
PRODUCT-WH-QNTY          (+) 821
STRUCTURE-COMP           (+) TD-4202-I
STRUCTURE-QNTY           (+) 1
*MORE LINES*
```

Press ENTER to display the record, along with all the modifications you made. If you are satisfied with your changes, enter Y after the prompt.

```
BRANCH-NO                (+) 1241
BRANCH-NAME              (+) OAKLEY
STOCK-PRODUCT            (+) TK-4200-P
STOCK-QNTY               (+) 35
STOCK-BIN-LOC            (+) 05056
STOCK-YTD-SALES          (+) 82.00
PRODUCT-DESC             (+) TAPE ACCESSORY KIT
PRODUCT-PRICE            (+) 16.00
PRODUCT-WH-QNTY          (+) 821
STRUCTURE-COMP           (+) TD-4202-I
STRUCTURE-QNTY           (+) 1
UPDATE (Y/N)?
> Y
```

Press ENTER to update the record. DBAID tells you the update was successful. To verify the change was made on the database, enter the GET command.

```

BRANCH-NO                (+) 1241
BRANCH-NAME              (+) OAKLEY
STOCK-PRODUCT            (+) TK-4200-P
STOCK-QNTY               (+) 35
STOCK-BIN-LOC            (+) 05056
STOCK-YTD-SALES          (+) 82.00
PRODUCT-DESC             (+) TAPE ACCESSORY KIT
PRODUCT-PRICE            (+) 16.00
PRODUCT-WH-QNTY          (+) 821
STRUCTURE-COMP           (+) TD-4202-I
STRUCTURE-QNTY           (+) 1
UPDATE (Y/N)?
> Y
FSI: * VSI: + MSG: SUCCESSFUL COMPLETION
> GET SAME BRANCH-STOCK

```

Press ENTER to get the same row again. The database reflects the new stock quantity of 35.

This completes the verification of DBAID and view maintenance. Enter BYE at the command prompt.

```

BRANCH-NO                (+) 1241
BRANCH-NAME              (+) OAKLEY
STOCK-PRODUCT            (+) TK-4200-P
STOCK-QNTY               (+) 35
STOCK-BIN-LOC            (+) 05056
STOCK-YTD-SALES          (+) 82.00
PRODUCT-DESC             (+) TAPE ACCESSORY KIT
PRODUCT-PRICE            (+) 16.00
PRODUCT-WH-QNTY          (+) 821
STRUCTURE-COMP           (+) TD-4202-I
STRUCTURE-QNTY           (+) 1
FSI: * VSI: + MSG: SUCCESSFUL COMPLETION
> BYE

```

Press ENTER to execute the BYE command and return to the Software Selection Menu.

CINCOM SOFTWARE SELECTION MENU

0210

ENTER SELECTION NAME OR NUMBER:

: 6

- \* TO EXECUTE WITH CURRENT USER-ID, PRESS ENTER.
- \* TO EXECUTE WITH ALTERNATE USER-ID, PRESS PF2/PF14.
- \* TO VIEW EXPANDED MENU DEFINITION, PRESS PF1/PF13.

- 1 DBAID
- 2 NORMAL
- 3 SPECTRA
- 4 MANTIS
- 5 DIRECTRY
- 6 IN/SERVE
- 7 RESIGNON

PA2/PA1=EXIT

PF1/PF13 WITHOUT SELECTION INFORMATION=HELP

---

## Verifying SPECTRA

To verify SPECTRA, enter the appropriate menu option number in the option field and press ENTER.

```
Welcome to SPECTRA 2.4 Service Level 2408 as of 09/17/96
==> 1

SPECTRA SYSTEM ADMINISTRATOR'S GUIDE. (c) Cincom Systems, Inc. 1992

Information concerning the administration of SPECTRA is available for user's
with a DBA password. To return to this menu enter END at the command line,
use the corresponding PF key or enter HELP DBA. Enter 1 to access the main
menu for non-DBA users. This Personal File System is Service Level 2408.

SELECT ONE OF THE TOPICS BELOW. TYPE THE NUMBER AND PRESS ENTER.

 1 USER MENU                               10 PRINTER SUPPORT
 2 DBA COMMANDS                             11 SYSTEM FILES
 3 USER PROFILES                             12 PUBLIC SUB-DIRECTORIES
 4 C$GOPTNS MACRO (IBM Only)                13 EXITS (IBM Only)
 5 PFS CONFIGURATION FILE (VAX Only)        14 MODIFYING DOCUMENTATION
 6 SORT FACILITY                             15 DBA INDEX
 7 RECOVERY                                  16 SYSTEM MESSAGES AND CODES INDEX
 8 USING EXTERNAL FILES                      17 DBA SERVICE LEVEL UPDATES
 9 USING BATCH SPECTRA

NOTE: VAX and VMS are registered trademarks of Digital Equipment Corporation
1=HELP 2=TOP 3=END 4=EX 5=SPLIT 6=INPUT 7=P 8=NEXT 9=MARK 10=GET 11=MOVE 12=PUT
```

Type "1" to access the main menu for non-DBA users. Press ENTER.

```
Ready
==> 1

SELECT ONE OF THE TOPICS BELOW.  TYPE THE NUMBER AND PRESS ENTER.

New users should first read the User's Guide.

For assistance, type Help at the command line (==>) and press ENTER.

  1  CENTRAL FILES           Lists the central files available to you.
  2  PERSONAL FILES         Lists your personal files.
  3  PROCESSES              Lists processes available to you.
  4  USER'S GUIDE          Provides a complete guide to SPECTRA.

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1=HELP 2=TOP 3=END 4=EX 5=SPLIT 6=INPUT 7=P 8=NEXT 9=MARK 10=GET 11=MOVE 12=PUT
```

A central file contains the data defined in a logical view. Enter a "1" on the command line to see what central files are available to the user DEMO. Press ENTER.

```
Ready
==> Fi 1
ITEM ... CENTRAL FILE NAME .....
  1 RDM>BRANCH-STOCK

1=HELP 2=TOP 3=END 4=EX 5=SPLIT 6=INPUT 7=P 8=NEXT 9=MARK 10=GET 11=MOVE 12=PUT
```

BRANCH-STOCK is the only central file available to the user DEMO. Enter "FI 1" on the command line to display the data fields in the central file BRANCH-STOCK. Press ENTER for the next screen.

Fields for RDM>BRANCH-STOCK

==> EDIT

.....ITEM-NAME.....	SEE	.....SELECTION.....	FMT	LEN	DEC
BRANCH-NO	* Y		T	4	0
BRANCH-NAME	Y		T	20	0
STOCK-PRODUCT	* Y		T	9	0
STOCK-QNTY	Y		Z	5	0
STOCK-BIN-LOC	Y		T	5	0
STOCK-YTD-SALES	Y		Z	9	2
PRODUCT-DESC	Y		T	30	0
PRODUCT-GROUP	Y		T	2	0
PRODUCT-PRICE	Y		Z	9	2
PRODUCT-WH-QNTY	Y		Z	5	0
STRUCTURE-COMP	Y		T	9	0
STRUCTURE-QNTY	Y		Z	5	0

1=HELP 2=TOP 3=END 4=EX 5=SPLIT 6=INPUT 7=P 8=NEXT 9=MARK 10=GET 11=MOVE 12=PUT

Notice that the format, length, and decimal fields are protected fields. You can change the item name, change the display, or add selection criteria. Enter "EDIT" on the command line to retrieve the first screen of data from BRANCH-STOCK. Press ENTER.

Do you want to specify a key? Y or N

==>

Enter a N. Press ENTER.

```
File RDM>BRANCH-STOCK
==>
    BRANCH-NO ( 1241 )
    BRANCH-NAME ( OAKLEY )
    STOCK-PRODUCT ( TK-4200-P )
    STOCK-QNTY ( 41 )
    STOCK-BIN-LOC ( 05056 )
    STOCK-YTD-SALES ( $82.00 )
    PRODUCT-DESC ( TAPE ACCESSORY KIT )
    PRODUCT-GROUP ( AV )
    PRODUCT-PRICE ( $16.00 )
    PRODUCT-WH-QNTY ( 821 )
    STRUCTURE-COMP ( TD-4202-I )
    STRUCTURE-QNTY ( 1 )

1=HELP 2=TOP 3=END 4=EX 5=SPLIT 6=INPUT 7=P 8=NEXT 9=MARK 10=GET 11=MOVE 12=PUT
```

Each item name and the data from the file are displayed. Only one occurrence will fit on the screen. Press PF8 for the next record in BRANCH-STOCK.

```
File RDM>BRANCH-STOCK
==>
    BRANCH-NO ( 1241 )
    BRANCH-NAME ( OAKLEY )
    STOCK-PRODUCT ( TK-4200-P )
    STOCK-QNTY ( 41 )
    STOCK-BIN-LOC ( 05056 )
    STOCK-YTD-SALES ( $82.00 )
    PRODUCT-DESC ( TAPE ACCESSORY KIT )
    PRODUCT-GROUP ( AV )
    PRODUCT-PRICE ( $16.00 )
    PRODUCT-WH-QNTY ( 821 )
    STRUCTURE-COMP ( TC-4201-I )
    STRUCTURE-QNTY ( 1 )

1=HELP 2=TOP 3=END 4=EX 5=SPLIT 6=INPUT 7=P 8=NEXT 9=MARK 10=GET 11=MOVE 12=PUT
```

This record has a different structure component than the previous record. Press PF3 to return to the display of fields.

```

Fields for RDM>BRANCH-STOCK
==> SAVE OAKLEY-BRANCH-STOCK
.....ITEM-NAME.....|SEE|.....SELECTION.....|FMT|LEN|DEC|
BRANCH-NO             *  Y  =1241                T   4  0
BRANCH-NAME           Y                       T  20  0
STOCK-PRODUCT         *  Y                       T   9  0
STOCK-QNTY            Y                       Z   5  0
STOCK-BIN-LOC         Y                       T   5  0
STOCK-YTD-SALES       Y                       Z   9  2
PRODUCT-DESC          Y                       T  30  0
PRODUCT-GROUP         Y                       T   2  0
PRODUCT-PRICE         Y                       Z   9  2
PRODUCT-WH-QNTY      Y                       Z   5  0
STRUCTURE-COMP        Y                       T   9  0
STRUCTURE-QNTY        Y                       Z   5  0

```

```
1=HELP 2=TOP 3=END 4=EX 5=SPLIT 6=INPUT 7=P 8=NEXT 9=MARK 10=GET 11=MOVE 12=PUT
```

Now create a personal file that is a subset of the BRANCH-STOCK central file. Enter "=1241" in the selection field for the branch number and enter "SAVE OAKLEY-BRANCH-STOCK" on the command line. This will create a file with data from only the Oakley branch (1241). Now press ENTER.

```

1 record changed, 104 records copied
==> EDIT
.....ITEM-NAME.....|SEE|.....SELECTION.....|FMT|LEN|DEC|
BRANCH-NO                n                T    4  0
BRANCH-NAME              n                T   20  0
STOCK-PRODUCT            Y                T    9  0
STOCK-QNTY               Y                Z    3  0
STOCK-BIN-LOC            n                T    5  0
STOCK-YTD-SALES          n                Z    5  2
PRODUCT-DESC             Y                T   25  0
PRODUCT-GROUP            n                T    2  0
PRODUCT-PRICE            Y                Z    5  2
PRODUCT-WH-QNTY         n                Z    5  0
STRUCTURE-COMP           Y                T    9  0
STRUCTURE-QNTY           n                Z    5  0

1=HELP 2=TOP 3=END 4=EX 5=SPLIT 6=INPUT 7=P 8=NEXT 9=MARK 10=GET 11=MOVE 12=PUT

```

Notice that the format, length, and decimal fields for a personal file can be changed. Change the "Y" to an "N" in the "SEE" column and the lengths in the "LEN" column as shown above. The changes in the "SEE" column are in lowercase and the changes in the "LEN" column are left justified. This will change the screen display so that multiple records can fit on one screen. Type "EDIT" on the command line and press ENTER.

```

10 records changed, 104 records rebuilt
==>
STOCK-PRODUCT|STOCK-QNTY|.....PRODUCT-DESC.....|PRODUCT-PRICE|STRUCTURE-COMP
TK-4200-P      41    TAPE ACCESSORY KIT           16.00    TD-4202-I
TK-4200-P      41    TAPE ACCESSORY KIT           16.00    TC-4201-I
TL-6001-A      39    PERMAGLUE-6 OZ.             2.95
VR-0500-K      47    500K VAR. RESISTOR          2.26
SC-1000-K      36    SECURITY ALARM KIT           119.00    WT-0050-I
SC-1000-K      36    SECURITY ALARM KIT           119.00    SW-1406-I
SC-1000-K      36    SECURITY ALARM KIT           119.00    SW-1145-P
WI-0050-I       5    50 FT. ALARM WIRE           1.17
TL-9002-B      49    SCREWDRIVER SET              5.25    TL-8003-A
TL-9002-B      49    SCREWDRIVER SET              5.25    TL-8002-A
TL-9002-B      49    SCREWDRIVER SET              5.25    TL-8001-A
TL-1003-A       6    NEEDLE TIP                    .50
VD-1000-J      37    VIDEO TAPE RECORDER          599.00
TL-1002-A       7    CHISEL TIP                    .50
KT-4070-A      15    DIGITAL CLOCK KIT            19.95    DI-0750-G
KT-4070-A      15    DIGITAL CLOCK KIT            19.95    SW-1012-I
KT-4070-A      15    DIGITAL CLOCK KIT            19.95    SW-1011-I
KT-4070-A      15    DIGITAL CLOCK KIT            19.95    CS-4438-I
KT-4070-A      15    DIGITAL CLOCK KIT            19.95    VR-0500-K
KT-4070-A      15    DIGITAL CLOCK KIT            19.95    CP-0002-C
1=HELP 2=TOP 3=END 4=EX 5=SPLIT 6=INPUT 7=P 8=NEXT 9=MARK 10=GET 11=MOVE 12=PUT

```

Only the items with a "Y" indicated in the "SEE" column will be displayed. You can modify any existing data on this screen or add and delete entire records using the editing commands. You can also create a process to give you more control over the retrieval and display of the data in this file. First, press PF3 to stop reading data.

```
Fields for PFS>OAKLEY-BRANCH-STOCK
==>
.....ITEM-NAME..... |SEE| .....SELECTION..... | FMT | LEN | DEC |
BRANCH-NO                N                T      4  0
BRANCH-NAME              N                T     20  0
STOCK-PRODUCT            Y                T      9  0
STOCK-QNTY               Y                Z      3  0
STOCK-BIN-LOC            N                T      5  0
STOCK-YTD-SALES          N                Z      5  2
PRODUCT-DESC             Y                T     25  0
PRODUCT-GROUP            N                T      2  0
PRODUCT-PRICE            Y                Z      5  2
PRODUCT-WH-QNTY         N                Z      5  0
STRUCTURE-COMP           Y                T      9  0
STRUCTURE-QNTY          N                Z      5  0

1=HELP 2=TOP 3=END 4=EX 5=SPLIT 6=INPUT 7=P 8=NEXT 9=MARK 10=GET 11=MOVE 12=PUT
```

Now we will create a process. Press PF5 to split the screen. This will allow us to reference the item names still displayed on the top screen while creating the process on the bottom screen.

```

Fields for PFS>OAKLEY-BRANCH-STOCK
==>
.....ITEM-NAME.....|SEE|.....SELECTION.....|FMT|LEN|DEC|
BRANCH-NO             N             T             4             0
BRANCH-NAME          N             T            20             0
STOCK-PRODUCT        Y             T             9             0
STOCK-QNTY           Y             Z             3             0
STOCK-BIN-LOC        N             T             5             0
STOCK-YTD-SALES      N             Z             5             2
PRODUCT-DESC         Y             T            25             0
PRODUCT-GROUP        N             T             2             0
-----
Ready
==> SHOW BRANCH-REPORT

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Information concerning the administration of SPECTRA is available for users
with a DBA password. To return to this menu enter END at the command line,
use the corresponding PF key or enter HELP DBA. Enter 1 to access the main
menu for non-DBA users. This Personal File System is Service Level 2408.

SELECT ONE OF THE TOPICS BELOW. TYPE THE NUMBER AND PRESS ENTER.
1=HELP 2=TOP 3=END 4=EX 5=SPLIT 6=INPUT 7=P 8=NEXT 9=MARK 10=GET 11=MOVE 12=PUT

```

You can now execute a parallel SPECTRA session on the bottom half of the screen. Type "SHOW BRANCH-REPORT" on the command line of the bottom screen to create a new process named BRANCH-REPORT. Press ENTER.

```

Fields for PFS>OAKLEY-BRANCH-STOCK
==>
.....ITEM-NAME.....|SEE|.....SELECTION.....|FMT|LEN|DEC|
BRANCH-NO                N                T      4  0
BRANCH-NAME              N                T     20  0
STOCK-PRODUCT            Y                T      9  0
STOCK-QNTY               Y                Z      3  0
STOCK-BIN-LOC            N                T      5  0
STOCK-YTD-SALES          N                Z      5  2
PRODUCT-DESC             Y                T     25  0
PRODUCT-GROUP           N                T      2  0
-----
Input data for BRANCH-REPORT
==> go
.....TEXT.....
PRINT STOCK-PRODUCT PRODUCT-DESC STOCK-QNTY PRODUCT-PRICE STRUCTURE-COMP
FROM OAKLEY-BRANCH-STOCK
ORDER BY PRODUCT-GROUP STOCK-PRODUCT STRUCTURE-COMP
WHEN PRODUCT-GROUP CHANGES
(MESSAGE 'GROUP ' PRODUCT-GROUP ' HAS ' COUNT STOCK-PRODUCT ' PRODUCTS.'
PAGE)

1=HELP 2=TOP 3=END 4=EX 5=SPLIT 6=INPUT 7=P 8=NEXT 9=MARK 10=GET 11=MOVE 12=PUT

```

This process will print data for each product group within the Oakley branch. We are sorting the data by product number and structure component within product group. When all of the products within a group have been displayed, we will display a count of the products and begin a new screen. Key in the process shown above, enter "GO" on the command line of the bottom screen, and press ENTER.

SEPTEMBER 20TH, 2000 14:50:45 PAGE 1

STOCK-PRODUCT	PRODUCT-DESC	STOCK-QNTY	PRODUCT-PRICE	STRUCTURE-COMP
AC-0003-I	AUDIO CABLE -3 FT.	16	.98	
AC-0006-I	AUDIO CABLE -6 FT.	13	1.98	
AC-0006-P	AUDIO CABLE KIT	8	3.85	AC-0006-I
AF-1000-I	AM/FM TUNER	10	112.00	
CS-9111-I	AUDIO/CASSETTE DECK	47	125.00	
FM-1000-I	FM TUNER	8	98.50	
SP-4200-K	STEREO SPEAKER SET	5	198.00	
ST-2020-K	STEREO TURNTABLE	37	327.00	
TC-4201-I	TAPE HEAD CLEANER	6	9.95	
TD-4202-I	HEAD DEMAGNETIZER	6	7.70	
TK-4200-P	TAPE ACCESSORY KIT	41	16.00	TC-4201-I
TK-4200-P	TAPE ACCESSORY KIT	41	16.00	TD-4202-I

GROUP AV HAS 12 PRODUCTS.  
Press ENTER for next page  
==>

Press ENTER for the next product group.

SEPTEMBER 20TH, 2000 14:51:55 PAGE 2

STOCK-PRODUCT	PRODUCT-DESC	STOCK-QNTY	PRODUCT-PRICE	STRUCTURE-COMP
CB-1172-R	PRINTED CIRCUIT BOAR	19	2.14	
CP-0001-C	.01 CERAMIC CAP	6	.36	
CP-0002-C	.02 CERAMIC CAP	5	.36	
CP-0005-C	.05 CERAMIC CAP	7	.36	
CP-5179-P	CERAMIC CAP ASSORT.	33	2.30	CP-0001-C
CP-5179-P	CERAMIC CAP ASSORT.	33	2.30	CP-0002-C
CP-5179-P	CERAMIC CAP ASSORT.	33	2.30	CP-0005-C
CS-4438-I	MOLDED CLOCK CASE	9	3.10	
DI-0750-G	DIGITAL CLOCK DISPLY	9	6.32	
IC-4995-J	CLOCK I.C.	7	3.95	
KT-4070-A	DIGITAL CLOCK KIT	15	19.95	CB-1172-R
KT-4070-A	DIGITAL CLOCK KIT	15	19.95	CP-0001-C
KT-4070-A	DIGITAL CLOCK KIT	15	19.95	CP-0002-C
KT-4070-A	DIGITAL CLOCK KIT	15	19.95	CS-4438-I
KT-4070-A	DIGITAL CLOCK KIT	15	19.95	DI-0750-G
KT-4070-A	DIGITAL CLOCK KIT	15	19.95	IC-4995-J
KT-4070-A	DIGITAL CLOCK KIT	15	19.95	SW-1011-I
KT-4070-A	DIGITAL CLOCK KIT	15	19.95	SW-1012-I
KT-4070-A	DIGITAL CLOCK KIT	15	19.95	VR-0500-K

Press ENTER for next page  
==>

Press ENTER for the next screen.

```

                                APRIL 20TH, 1993 14:53:06 PAGE 3
STOCK-PRODUCT      PRODUCT-DESC      STOCK-QNTY  PRODUCT-PRICE  STRUCTURE-COMP
-----
SW-1011-I  SWITCH PUSHBUTTON      23          2.49
SW-1012-I  SWITCH SLIDE            26          1.27
SW-2022-P  PUSHBUTTON SW. PACK    18          9.97      SW-1011-I
SW-2024-P  SLIDE SWITCH PACK      16          4.99      SW-1012-I
VR-0500-K  500K VAR. RESISTOR    47          2.26
GROUPPT HAS 24 PRODUCTS.
Press ENTER for next page
==> END
    
```

Type "END" at the prompt to discontinue the process. Press ENTER to return to the process screen.

```

Fields for PFS>OAKLEY-BRANCH-STOCK
==>
.....ITEM-NAME.....|SEE|.....SELECTION.....|FMT|LEN|DEC|
BRANCH-NO           N           T     4  0
BRANCH-NAME         N           T    20  0
STOCK-PRODUCT       Y           T     9  0
STOCK-QNTY          Y           Z     3  0
STOCK-BIN-LOC       N           T     5  0
STOCK-YTD-SALES     N           Z     5  2
PRODUCT-DESC        Y           T    25  0
PRODUCT-GROUP       N           T     2  0
-----
6 records added, Process stopped
==>
.....TEXT.....
PRINT STOCK-PRODUCT PRODUCT-DESC STOCK-QNTY PRODUCT-PRICE STRUCTURE-COMP
FROM OAKLEY-BRANCH-STOCK
ORDER BY PRODUCT-GROUP STOCK-PRODUCT STRUCTURE-COMP
WHEN PRODUCT-GROUP CHANGES
(MESSAGE 'GROUP ' PRODUCT-GROUP ' HAS ' COUNT STOCK-PRODUCT ' PRODUCTS.'
PAGE)

1=HELP 2=TOP 3=END 4=EX 5=SPLIT 6=INPUT 7=P 8=NEXT 9=MARK 10=GET 11=MOVE 12=PUT
    
```

Press PF5 to unsplit the screen. The cursor location determines which of the screens remains displayed.

```
Screens exchanged
==> BYE
.....TEXT.....
PRINT STOCK-PRODUCT PRODUCT-DESC STOCK-QNTY PRODUCT-PRICE STRUCTURE-COMP
FROM OAKLEY-BRANCH-STOCK
ORDER BY PRODUCT-GROUP STOCK-PRODUCT STRUCTURE-COMP
WHEN PRODUCT-GROUP CHANGES
(MESSAGE 'GROUP ' PRODUCT-GROUP ' HAS ' COUNT STOCK-PRODUCT ' PRODUCTS.'
PAGE)
```

```
1=HELP 2=TOP 3=END 4=EX 5=SPLIT 6=INPUT 7=P 8=NEXT 9=MARK 10=GET 11=MOVE 12=PUT
```

This completes the verification of SPECTRA.

Type "BYE" on the command line to return to the Software Selection Menu.

CINCOM SOFTWARE SELECTION MENU

0210

ENTER SELECTION NAME OR NUMBER:

:

- \* TO EXECUTE WITH CURRENT USER-ID, PRESS ENTER.
- \* TO EXECUTE WITH ALTERNATE USER-ID, PRESS PF2/PF14.
- \* TO VIEW EXPANDED MENU DEFINITION, PRESS PF1/PF13.

- 1 DBAID
- 2 NORMAL
- 3 SPECTRA
- 4 MANTIS
- 5 DIRECTRY
- 6 IN/SERVE
- 7 RESIGNON

PA2/PA1=EXIT

PF1/PF13 WITHOUT SELECTION INFORMATION=HELP

This concludes the verification testing of your SUPRA Server PDM configuration. Press PA2 to exit.



# SUPRA Server PDM sample JCL members

## SUPRA JCL library members

The distributed SUPRA Server PDM Release 2.7 JCL library contains the following members.

Member	PROC	Function
TXJAOPRM	TISMSASM TISMSLKD	Assembles and links CSTXOTBL (CICS operator control parameter table)
TXJAPM01	None	Processes the APMS tape to extract APMS01 data (SUPERZAP)
TXJASMDF	TISMSASM TISMSLKD	Assembles and links defaults module CSXSMDMOD
TXJBDAID	TISAIDBL	Batch DBAID
TXJBDIRM	TISDMBMB	Batch Directory Maintenance
TXJBENV	TISBUEVD	Creates bootstrap environment descriptions: CSTANONE, CSTAREAD, CSTASUPD, CSTATLOG, and CSTAOLDM
TXJBMODS	TISBUSCH	Modifies bootstrap schema CSTASCHM
TXJBVMOD	TISBUVAL	Creates VALMOD CSTAVMOD
TXJCACCS	None	Batch ACCESS against central PDM
TXJCCICS	None	Central CICS
TXJCDAID	TISAIDCL	Batch DBAID against central PDM
TXJCENPT	TISDBEXC	Brings up central PDM
TXJCNVDB	TISCUTIS	Converts database files from TIS 1.2 to SUPRA 1.x
TXJCNVDR	TISCUTIS	Converts directory files from TIS 1.2 to SUPRA 1.x
TXJCNV80	TISCUS80	Converts Series 80 files to SUPRA file format
TXJDDL80	TISCUDDL	Converts Series 80 DDL statements to Batch Directory Maintenance statements
TXJDIRLD	TISUTUTL	Loads directory files (V1 utility)
TXJDIRPT	TISDMRPT	Executes Directory Reports using Comprehensive Retrieval
TXJDIRUL	TISUTUTL	Unloads directory files (V1 utility)
TXJDMSTR	TISUTUTL TISDMSTR	Formats DIR files and initializes DEF# file
TXJDRCPY	TISDMCPY	Inter-directory copy utility

Member	PROC	Function
TXJDSTAT	TISUTUTL	Prints the DIR files statistics
TXJFTLOG	TISUTUTL	Formats task log file
TXJICRPT	TISICRBL	Runs RDM Impact of Change Report against BURRYSCH
TXJIDAID	DLIBATCH	Executes DLI batch DBAID (IMS)
TXJIRDMA	DLIBATCH	Executes DLI batch RDM application
TXJLINK	TISMSLIN	Executes a general linkedit of Cincom software
TXJMIGXX	TISCUMGR	Migrates DIR from TIS and SUPRA 1.x to 1.3
TXJPMSLG	TISUTUTL	Logprint - multiple data set system log file
TXJPSTAT	TISUTSTA	Prints the statistics file (execution statistics)
TXJRCVLF	TISUTUTL	Recovers to last COMMIT using single system log
TXJRCVLG	TISUTUTL	Recovers to last COMMIT using multiple data set SLOG
TXJREPRT	TISRPTBL	Runs batch RDM reports against BURRYSCH
TXJRSTOR	TISUTUTL	Restores to last COMMIT using single system log
TXJSHUTP	TISDBTMC	Brings down a central PDM
TXJULKDR	TISUTUTL	Unlocks directory files
TXJULKUS	TISUTUTL	Unlocks user files
TXJUJ2LD	TISUTLOD	Executes PDM utility version 2 loader
TXJUJ2UL	TISUTLOD	Executes PDM utility version 2 unloader
TXJVOPTM	None	Assembles and links the RDM options module

## SPECTRA JCL library members

The following members are found on the distributed SPECTRA JCLLIB:

Member	Function
\$INDXSPE	Index of all delivered Spectra sample JCL members
TXJBLV00	DBA Utility format of LV00
TXJBLV02	Build and define the LV002 file
TXJBSPEC	Batch SPECTRA
TXJEXPL0	Exports all files for multiple users from the PFS
TXJEXPL2	Expand the VSAM PFS LV002 file
TXJIMPL0	Imports all files for multiple users from the PFS
TXJISPEC	Execute DLI Batch SPECTRA
TXJMIGL0	Migrate SPECTRA PFS file forward to new Service Level
TXJOPTNS	JCL to assemble and link the options macro C\$GOPTNS
TXJSPBEX	JCL to assemble and link the batch SPECTRA exit
TXJSPCEX	JCL to translate, assemble, and link the CICS SPECTRA exit
TXJUFSNP	JCL to print the snap dump file

# B

## SUPRA Server PDM tape file contents

The installation media for SUPRA Server PDM Release 2.7 contains the following files, in the sequence listed.

File	Description
1	Install JCL
2	SUPRA MACLIB DLIB
3	SUPRA PROCLIB DLIB
4	SUPRA LINKLIB DLIB
5	empty data set—null file
6	SUPRA INTERFLM LIB
7	SUPRA JCLLIB data set
8	SUPRA CSIPARM data set
9	SUPRA UCLCODE data set
10 through 14	SUPRA Directory files
15 through 33	Burrys database user files
34	SUPRA CICS table entries
35	SSF SL2033 cluster code

If you ordered SPECTRA, you also have these files:

File	Description
36	SPECTRA LINKLIB
37	SPECTRA MACLIB
38	SPECTRA PROCLIB
39	SPECTRA CICS TABLES
40	SPECTRA JCLLIB
41	SPECTRA LV002
42	QRW CEF PROCESS

The following files, related to the SUPRA Server PDM Windows Client, are also included on the server installation tape. These files are optional during the installation. You can copy them during the install if you wish, or you could add them later if you decide to use the Windows Client at a later time.

<b>File</b>	<b>Description</b>
43	SUPRA PDM Windows Client debugging LINKLIB
44	SUPRA PDM Windows Client LINKLIB
45	SUPRA PDM Windows Client Message
46	SUPRA PDM Windows Client JCLLIB
47	SUPRA PDM Windows Client SASC LINKLIB

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55

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