SPM security and administration

What's new

The following sections detail what is new in SPM security and administration (NN10163-611) for release 9.

Features

There were no new features added to this document.

Other changes

Information on PMA utilities was updated to distinguish the configuration requirements for BRISC and XA-Core core processors. For additional information, see and .

Security and administration procedures

Security and administration can be performed on circuit packs, carriers, and trunks. This includes locking, unlocking, protection switching, and posting.

Tools and utilities

SPM security is performed using the Maintenance and Administration Position (MAP) display commands.

MAPCI commands

The following tables list SPM Maintenance and Administration Position Command Interpreter (MAPCI) commands.

BULKABTK command

BULKABTK is an SPM, MAPCI level command. BULKABTK attempts to abort the ongoing BULKMTC activity initiated by any of the BULK commands on the specified SPM variant. The table below, BULKABT command, describes the use of the BULKABTK command.

Note: This functionality requires CSP 18/SN05 or later loads on the core and SP17.1 or later loads on the SPM.

BULKABT command

Command	Display
BULKABTK	Access the BULKABTK command from the UPGRADE menu. **> MAPCI;MTC;PM;POST SPM <spm_no>;UPGRADE** where **<spm_no>** is the SPM number (range 0 to 85) Select BULKABTK from the list of menu options and use the following format: **> BULKABTK <variant> <option> [force] <noprompt> <noreply>** where **<variant>** specifies the SPM variant on which to perform the Bulk operation. **<noprompt>** suspends any Yes/No prompts from displaying. Replies to prompts defaults to "YES. **<noreply>** suspends MAP response upon execution of the command.
Quit all	Exits the UPGRADE level and returns to the CI prompt.

BULKBSY command

BULKBSY is an SPM, MAPCI level command that attempts to move the node or inactive CEM of the specified variant in the posted SPM set to a MANB state from a valid state.

Valid states are OFFL, INSV, ISTB, and SYSB.

The table below, BULKBSY command, describes the use of the BULKBSY command.

Note: This functionality requires CSP 18/SN05 or later loads on the core and SP17.1 or later loads on the SPM.

BULKBSY command

Command	Display
BULKBSY	Access the BULKBSY command from the UPGRADE menu: **> MAPCI;MTC;PM;POST SPM <spm_no>;UPGRADE** where **<spm_no>** is the SPM number (0 to 85) Select BULKBSY from the list of menu options and use the following format: **> BULKBSY <variant> <option> [force] <noprompt> <noreply>** where **<variant>** specifies the SPM variant on which to perform the Bulk operation. **<option>** provides two options to bring a CEM/SPM to INSV state: • PM attempts to bring all the nodes (SPMs) in the posted set to INSV from a MANB (manual busy) state. The PM option requires both CEMs of the specified SPM to be in the MANB state. • INACTIVE attempts to bring the inactive unit of the all the SPMs in the posted set to INSV. The inactive option requires the inactive CEM of the specified SPMs to be in the MANB state **<force>** used in conjunction with the PM option (indicates override). **<noprompt>** suspends any Yes/No prompts from displaying. Replies to prompts default is YES. **<noreply>** suspends MAP response upon execution of the command.
Quit all	Exits the UPGRADE level and returns to the CI prompt.

BULKLOAD command

BULKLOAD is an SPM, MAPCI level command used to perform in-service loading operation on the selected CEM of the specified variant in posted SPM set.

Note: This functionality requires CSP 18/SN05 or later loads on the core and SP17.1 or later loads on the SPM.

The manual BULKLOAD command generates a failure response when the CEM restarts with Wrong Application Data. The table below, BULKLOAD command, describes the use of the BULKLOAD command.

BULKLOAD command

Command	Display
BULKLOAD	Access the BULKLOAD command from the UPGRADE menu. **> MAPCI;MTC;PM;POST SPM <spm_no>;UPGRADE** where **<spm_no>** is the SPM number (range 0 to 85) Select BULKLOAD from the list of menu options and use the following format: **> BULKLOAD <variant> <filename> <load_option> <noprompt> <noreply>** where **<variant>** specifies the SPM variant on which to perform the Bulk operation. **<filename>** the name of the load file with which the specified CEMs are loaded. **<load_option>** INSVLD is the only valid option for performing the INSV Loading operation on the inactive CEMs of all the SPMs in the posted set. **<noprompt>** suspends any Yes/No prompts from displaying. Replies to prompts defaults to YES. **<noreply>** suspends MAP response upon execution of the command.
Quit all	Exits the UPGRADE level and returns to the CI prompt.

BULKOFFL command

BULKOFFL is an SPM, MAPCI level command. BULKOFFL attempts to change the specified SPM variant in the posted set to an OFFL state provided that the SPMs are in a valid MANB state. The table below, BULKOFFL command, describes the use of the BULKOFFL command.

Note: This functionality requires CSP 18/SN05 or later loads on the core and SP17.1 or later loads on the SPM.

BULKOFFL command

Command	Display
BULKOFFL	Access the BULKOFFL command from the UPGRADE menu. **> MAPCI;MTC;PM;POST SPM <spm_no>;UPGRADE** where< **<spm_no>** is the SPM number (range 0 to 85) Select BULKOFFL from the list of menu options and use the following format. **> BULKOFFL <variant> <noprompt> <noreply>** where **<variant>** specifies the SPM variant on which to perform the Bulk operation. **<noprompt>** suspends any Yes/No prompts from displaying. Replies to prompts defaults to YES. **<noreply>** suspends MAP response upon execution of the command.
Quit all	Exits the UPGRADE level and returns to the CI prompt.

BULKRTS command

BULKRTS is an SPM, MAPCI level command used to return the selected node or CEM of the specified variant to service in the posted SPM set.

The manual BULKRTS command generates a failure response when the CEM restarts with Wrong Application Data. The table below, BULKRTS command describes the use of the BULKRTS command.

Note: This functionality requires CSP 18/SN05 or later loads on the core and SP18 or later loads on the SPM.

BULKRTS command (Sheet 1 of 2)

Command	Display
BULKRTS	Access the BULKRTS command from the UPGRADE menu. **> MAPCI;MTC;PM;POST SPM <spm_no>;UPGRADE** where **<spm_no>** is the SPM number (0 to 85)

BULKRTS command (Sheet 2 of 2)

Command	Display
	Select BULKRTS from the list of menu options and use the following format.
	> BULKRTS <variant> <option> <noprompt> <noreply>
	where
	<variant> specifies the SPM variant on which to perform the Bulk operation.
	<option> provides two options to bring a CEM/SPM to INSV state:
	• PM attempts to bring all the nodes (SPMs) in the posted set to INSV from a MANB (manual busy) state. The PM option requires both CEMs of the specified SPM to be in the MANB state.
	• INACTIVE attempts to bring the inactive unit of the all the SPMs in the posted set to INSV. The inactive option requires the inactive CEM of the specified SPMs to be in the MANB state
	<noprompt> suspends any Yes/No prompts from displaying. Replies to prompts defaults to "YES.
	<noreply> suspends MAP response upon execution of the command.
Quit all	Exits the UPGRADE level and returns to the CI prompt.

BULKSWCT command

BULKSWCT is an SPM, MAPCI level command that attempts to switch activity of the INSV/ISTB CEMs on the specified variant in the posted

SPM set. The table below, <u>BULKSWCT command</u>, describes the use of the BULKSWCT command.

> *Note:* This functionality requires CSP 18/SN05 or later loads on the core and SP17.1 or later loads on the SPM.

BULKSWCT command

Command	Display
BULKSWCT	Access the BULKSWCT command from the UPGRADE menu. **> MAPCI;MTC;PM;POST SPM <spm_no>;UPGRADE** where **<spm_no>** is the SPM number (0 to 85) Select BULKSWCT from the list of menu options and use the following format. **> BULKSWCT <variant> [force] <noprompt> <noreply>** where **<variant>** specifies the SPM variant on which to perform the Bulk operation. **<force>** used in conjunction with the PM option - indicates override. **<noprompt>** suspends any Yes/No prompts from displaying. Replies to prompts defaults to "YES. **<noreply>** suspends MAP response upon execution of the command.
Quit all	Exits the UPGRADE level and returns to the CI prompt.

ERASEFL command

ERASEFL is an SPM, CEM level MAPCI command used to erase the flash memory of the CEM.

> ⚠ **CAUTION**
> **Possible service interruption**
> The ERASEFL command can be used only when the CEM card is being relocated or decommissioned (in MANB state). Execution of this command in other instances can result in service degradation.

This functionality requires CSP 18/SN05 or later loads on the core and SP17.1 or later loads on the SPM.

When a CEM is de-commissioned or removed from the SPM shelf, clear the flash information.

Because the flash memory stores the IP address and the load of a CEM, moving the CEM to a different location or platform may cause the one or more of the following problems:

- two CEMs with the same IP address

- CEM does not recover due to mismatch in the IP address, and, or

- CEM auto-boots with the incorrect SW load

The ERASEFL command should be executed with the CEM in Manually Busy (ManB) state and have a software on RAM state and have no other maintenance in progress. The table below, ERASEFL command, describes the use of the ERASEFL command. The figure below, ERASEFL command at the CEM level of the MAPCI shows an example of the MAP display and location of the ERASEFL command.

ERASEFL command

Command	Parameter	Description
ERASEFL	NIL	(No parameters) To access the SPMCEMDIR level from the CI environment, type: **> MAPCI;MTC;PM;POST SPM <spm_no>;SELECT CEM <cem_no>** where **<spm_no>** is the SPM number (0 to 85) **<cem_no>** is the CEM number (0 or 1) The following is an example of the ERASEFL command: **> MAPCI;MTC;PM;POST SPM 0;SELECT CEM 0** *Note:* The command takes about 2 minutes to successfully complete the erase task. To return to the CI environment, type: **> QUIT ALL**

ERASEFL command at the CEM level of the MAPCI

```
XAC        MS      IOD      Net      PM      CCS     Lns     Trks    Ext     APPL
 AMDI     Istb    1IOCOS   REx 0   6LIU7   2 RTRC    .      10CC.   1Crit    .
 *C*              M                 *C*     *C*             *C*     *C*
CEM                                SysB    ManB    OffL    CBsy    ISTb    InSv
 0 Quit         PM                   6       2       2       0      10       5
 2              SPM                  0       2       2       0       3       0
 3 ListSet      CEM                  0       1       0       0       1       0
 4
 5 Trnsl     SPM   10 CEM   0  InAct  ManB
 6 Tst
 7 Bsy       Loc : Row B  FrPos  6 ShPos  0 ShId 0 Slot  7    Class:
 8 RTS       Default Load:
 9 OffL      Clock:
10 LoadMod   Input Ref:         Source:          Current Mode:
11           Select 0
12 Next
13 Select_
14 QueryMod
15 ListAlm
16 Prot
17 EraseFl
18
  ADMIN
Time  01:45  >
```

INFO Command

The Info command displays information about the mounted volumes for the storage of PMA data. It is accessed through the MAPCI. The table below, Info command, describes the use of the INFO command parameters.

Info command

Command	Parameter	Description
Info	Valid DRM stream names (see below)	provides a list of the mounted volumes for the storage of PMA data
		also displays OM data
	PM15	displays the mounted volumes for collecting 15 minute PMA data
	PM24	displays the mounted volumes for collecting 24 hour PMA data
	OM	displays information about OM mounting

IP RM Commands

The IP RM commands are accessed through the MAPCI. The table below, IP RM commands, describes the use of the IP RM commands.

IP RM commands

Command	Description
BSY	manually place the selected device into manual out-of-service state. The NOWAIT and NOREPLY option are not support with the ALL parameter.
ListAlm	manually list all alarms set against the posted RM.
ListSet	lists the posted set.
LoadMod	manually download a specific loadfile to the selected device. The INSVLD and MATE options are not supported.
Next	select the next RM in the posted set.
Offl	manually set the selected device into an offline state. The NOWAIT and NOREPLY option are not support with the ALL parameter.
Prot	manually switch from the active device to a protection device.
QueryMod	manually query local CM information on the selected device.
Quit	quit the current MAP level.
RTS	return the selected device from manual out-of-service to in-service state. The NOWAIT and NOREPLY option are not support with the ALL parameter.
Select	select another device configured on the currently selected SPM.
Tst	manually run diagnostics on the selected device. The device can be in-service or out-of-service.

LOADMOD command

LOADMOD is a MAPCI command used to Perform load operations on the selected resource module of the posted SPM.

The manual LOADMOD command generates a failure response when the RM restarts with Wrong Application Data as shown in the table below, LOADMOD command.

Note: This functionality requires CSP 18/SN05 or later loads on the core and SP17.1 or later loads on the SPM.

LOADMOD command

Command	Display
LOADMOD	The following is an example of accessing the Loadmod command for a CEM. **> MAPCI;MTC;PM;POST SPM \<spm_no\>;SELECT CEM \<cem_no\>;LOADMOD** where **\<spm_no\>** is the SPM number (0 to 85) **\<cem_no\>** is the CEM number (0 or 1) The following example shows the screen output and action for a failed Loadmod command. `> Command Failed : CEM has Application Data of Mate CEM.` The Loadmod command restarted CEM with Wrong Application Data and does not allow the CEM to return to service. If INSV Loading restarts the CEM with Wrong Application Data then the CEM remains in SYSB state. **System or user actions:** Check NODE303 & LINK300 Logs for more information about the problem. Take appropriate action to restart the CEM with correct Application Data before attempting RTS on the CEM.

Mount and Demount Commands

The mount command mounts a disk volume for writing access by OM and PMA. The demount command demounts the disk volumes. These commands are accessed from the DRM level of the MAPCI. The table below, Mount and Demount commands, describes the use of the Mount and Demount commands.

Note 1: Demounting all PMA volumes turns off PMA data collection.

Note 2: In SN06 and later, mounted volumes do not appear in Table DRMPOOL. PMAUTIL volumes can also be mounted and demounted using PMAUTILS.

Mount and Demount commands (Sheet 1 of 2)

Command	Parameter	Description

Mount	Valid DRM stream names (see below)	mounts a disk volume for writing access by OM and PMA.
		
		Below is an example of the mount command:
		
		>mapci;mtc;appl;oamap;drm;mount pm15 f021pm15
		
		where
		
		    <PM15>
		        is the volume designation for 15 minute PMA records
		    <F021PM15>
		        is the volume number
		
		Note: There are two designations for the volume names, PM15 and PM24
		• PM15 is for 15 minute data collection intervals
		• PM24 is for 24 hour data collection intervals

	OM	mount a volume for writing by the OM system
	PM15	mount a volume to write 15 minute interval PMA records
	PM24	mount a volume to write 24 hour interval PMA records.

Mount and Demount commands (Sheet 2 of 2)

Command	Parameter	Description

Demount	Valid DRM stream names	demounts a disk volume used by OM and PMA
		
		Below is an example of the demount command:
		
		> mapci;mtc;appl;oamap;drm;demount pm15 f021pm15
		
		where
		
		<PM15>
		    is the volume designation for 15 minute PMA records
		
		<F021PM15>
		    is the volume number
		
		Note: There are two designations for the volume names, PM15 and PM24:
		
		• PM15 is for 15 minute collection intervals
		
		• PM24 is for 24 hour data collection intervals

	OM	demount a volume used by the OM system
	PM15	demount a volume used to store 15 minute interval PMA records
	PM24	demount a volume used to store 24 hour interval PMA records
Info	PM15 or PM24	Confirms that your volume has been mounted. To view what volumes are mounted, use the info command at the MAPCI DRM level. Example: **>mapci;mtc;appl;oamap;drm;info pm15**

MSP Protection command

The MSP Protection command is accessed through the MAPCI. For example:

> MAPCI;MTC;PM;POST SPM #;SELECT STM #;PROT

The table below, MSP Protection commands, describes the use of the MSP Protection commands.

MSP Protection commands (Sheet 1 of 2)

Command	Description
Clear	This command clears all of the commands listed below: • Exercise • Force • Lockout • Manual
Exercise	This command is only available for bidirectional compatible processes, and applies only when there is no failure. It initiates an activity switch but does not perform any switching action.
Force	This command is applied to the Protection or to the Working section, and forces the system to switch to the inactive section. This command lasts until it is cancelled by a higher priority request, a Forced Switch, or a Clear. Perform this command through the MAP CI by entering: **> Force <Card_A> <Card_B>** This spares the active section from Card_A to Card_B.

MSP Protection commands (Sheet 2 of 2)

Command	Description
Lockout	If applied to optimized protocol, this command freezes the position of the selector. It has the highest priority (higher than any other request).
	If applied to other than optimized protocol, this command prevents switching to the Protection. It has the highest priority. If any signal failure occurs on the Working section, the system does not switch to the Protection section. If the Protection section is active, the system switches back to the Working section even if an SF is raised against the Working section.
Manual	This command is not available for optimized process. It acts only on the Protection section or the Working section. It has the same behavior as the Forced Switch command with a lower priority level.

Performance Monitoring Archival (PMA) commands

The Carrier Performance Monitoring Archival (PMA) commands are accessed through the MAPCI.

Note: Beginning in SN06, the PMA Utility (PMAUTILS) CI increment replaces the Carrier Utility (CARRUTIL) CI increment to access PMA data on a specific SPM. CARRUTIL does not function with release SN06 or higher. For additional information on the configuration of the PMA utility, see Configuring, enabling, and disabling PMA on page 79.

The PMAUTILS tool provides commands to retrieve historical performance monitoring data. By using PMAUTILS subcommands, SetCarr and GetHist, you can access data, one carrier at a time.

PMA is turned off by default. To enable PMA, mount a disk volume at the DRM level. For example:

> **mapci;mtc;appl;oamap;drm;mount pm15 f02Lpm15**

Volumes are mounted separately for 15 minute and 24 hour data collection intervals. Data is collected in files on the mounted volume(s) with file names such as PMA15N24.

- 15 represents the 15 minute data collection interval
- 24 represents the 24 collection period of the day

To list the mounted volumes, use the info command. For example:

> **info pm15**

To turn off PMA, demount all volumes at the MAPCI drm level. For example:

> **demount pm15 fo2Lpm15**

The table below, Performance monitoring archival commands, describes the use of the performance monitoring archival commands.

Performance monitoring archival commands (Sheet 1 of 2)

Command	Parameter	Description
PMAUTILS		enter the PMA Utility from the CI environment
Help		describes the function of each PMAUTILS command. The Help command also offers directions on how to use PMA.
SetCarr	SPM NO (0 to 85) SPM TYPE • DS1(L or P) (String) • DS3P (String) • OC3 (String) • STS1(L, P, or S) (String) • STS3L (String) • VT15P (String)	allows the carrier(s) to be placed in context Below are examples of how the carrier can be selected by number or type: **> setcarr spm10** **> setcarr spm10 type oc3s** **> setcarr spm 10 14**
GetHist	Min(ute) Range Day Range	retrieves historical performance monitoring data for the carriers selected by the SetCarr command Below are examples of how the carrier can be selected by number or type: **> gethist min 10:30** **> gethist min 2:00 3:00** **> gethist day 03/24 03/26**
Mount		mount a disk volume on which to store PMA data
Demount		demount a disk volume
Info		listed the mounted volumes

Performance monitoring archival commands (Sheet 2 of 2)

Command	Parameter	Description
Quit		exits the PMAUTILS CI increment.

Note 1: The SetCarr command must be run successfully before the GetHist command can be run.

Note 2: A PMA volume of the appropriate type must be mounted before data can be retrieved from it. For example, a 15 minute volume to retrieve 15 minute data or a 24 hour volume to retrieve 24 hour data. To access the PMA volumes, refer to the Enabling and Disabling PMA procedure in this Security and Administration document.

Post commands

The POST command displays carriers information, and is accessed through the CARRIER level of the MAPCI:

> **`> MAPCI;MTC;TRKS;CARRIER`**

The table below, Post command, describes the use of the POST command.

Post command

Command	Parameter	Description
POST	(by Condition)	This command allows carriers to be displayed. The order of the displayed carriers is: • OC3S • STS1S • STS3L • STS1L • STS3cP • STS1P • VT15P • DS1P
	BSY	Busying
	INSV	In-service
	MANB	Manual busy
	OFFL	Offline
	RTS	Return to Service
Note: The first screen displays the OC3S carriers. Select NEXT to see subsequent screens displaying other carriers.		

PREPDATACHNG command

The PREPDATACHNG command, accessed through the RM (DSP/VSP) level of the MAPCI, facilitates the change of RM (DSP/VSP) resource datafill in table MNTCKTPAK. The command enhancements include detailed feedback during execution. The table below, PREPDATACHNG command, describes the use of the PREPDATACHNG command.

PREPDATACHNG command

Command	Description
PREPDATACHNG	PREPDATACHNG aligns the RMID-PWID of the selected RM (DSP/VSP). At the completion of the command, the selected RM is placed at MANB state.
	During execution of the command, the MAP displays progress messages and various responses to this command.

PRMSGTRC Commands

The PRI message tracing tool is available through the MAPCI. This sublevel can be entered by entering PRMSGTRC at the CI prompt. PRI message tracing can trace Q931 and Q921 messages being exchanged on the SPM. The table below, PRMSGTRC commands, describes the use of the PRMSGTRC command.

PRMSGTRC commands (Sheet 1 of 4)

Command	Description
ALLOC	Allocates memory for Lyr2 or Lyr3 tracing. For example: **>ALOC [L2, L3]<nmblks> SPM <spm_no>** where **[L2, L3]** is the layer **<nmblks>** is the number of memory blocks (11 to 1000) **<spm_no>** is the SPM number (0 to 85)
CLEAR	Clears the memory. Clears traces collected at Lyr2 and, or Lyr3. For example: **>CLEAR [L2, L3, both] <spm_no>** where **[L2, L3, both]** is the layer number **<spm_no>** is the SPM number (0 to 85)
DCHDUMP	Dumps the SPM PRI D channels on an SPM or on the entire DMS. **> DCHDUMP <spm_no>** where **<spm_no>** is the SPM number (0 to 85)

PRMSGTRC commands (Sheet 2 of 4)

Command	Description
DEALLOC	De-allocates the memory for Lyr2 and/or Lyr3. **> DEALLOC [L2, L3, both] SPM <spm_no>** where **<L2, L3, both>** is the layer number **<spm_no>** is the SPM number (0 to 85)
DISABLE	Disables tracing at Lyr2 and/or Lyr3. **> DISABLE [L2, L3, both] <rem> SPM <spm_no>** where **[L2, L3, both]** is the layer number **<rem>** is the remove/deselect all option **<spm_no>** is the SPM number (range 0 to 85) ***Note:*** REM removes/deselects all of the selected D channels if neither layer 2 nor layer 3 message tracing is ON. If the disable command is executed without REM, then the default is to retain the selected D channels.
DISPLAY	Displays Lyr2 and/or Lyr3 tracing buffers. For example: **> DISPLAY [L2, L3, both]** where **[L2, L3, both]** is the layer number

PRMSGTRC commands (Sheet 3 of 4)

Command	Description

ENABLE	Enables tracing at Lyr2 and/or Lyr3. For example:
	
	>ENABLE [L2, L3][in, out, both] SPM <spm_no>
	
	    where
	
	    [L2, L3]
	        is the layer number
	
	    [in, out, both]
	        is the direction
	
	    <spm_no>
	        is the SPM number (0 to 85)

HELP	Displays help on the available PRMSGTRC commands.

HEX	Turns Hex traces at lyr3 ON or OFF.
	
	> HEX [on, off] SPM <spm_no>
	
	    where
	
	    <spm_no>
	        is the SPM number (0 to 85)

q<command_name>	Displays help on an individual command.
QUIT	Quits PRMSGTRC and return to the CI level.

REMOVEDCH	Removes the D channel from list to be traced.
	
	> REMOVEDCH SPM <spm_no> <cktno> <ts>
	
	    where
	
	    <spm_no>
	        is the SPM number (0 to 85)
	
	    <cktno>
	        is the circuit number (0 to 185)
	
	    <ts>
	        is the time slot (0 to 31)

PRMSGTRC commands (Sheet 4 of 4)

Command	Description
SELECTDCH	Selects a D channel for tracing. **> SELECTCH SPM \<spm_no\> \<cktno\> \<ts\>** where **\<spm_no\>** is the SPM number (0 to 85) **\<cktno\>** is the circuit number (0 to 185) **\<ts\>** is the timeslot (range 0 to 31)
STATUS	Displays the status of tracing tool for an SPM or the entire DMS. For example: **> STATUS SPM \<spm_no\>** where **\<spm_no\>** is the SPM number (range 0 to 85)

QueryPM command

The QueryPM command displays the following information for all of the datafilled modules (CEM, DSP, VSP, OC3, ATM, SYNCRM, IEM, STM or DLC) for DMSCP and IW class variants:

- shelf number
- slot number
- unit number
- state
- activity status
- the spectrum load release running in a DMSCP SPM

Note 1: SPM load release information appears toward the end of the command output.

Note 2: Table SPMLDVAL must be datafilled before using the QueryPM command. Although service is not affected, the QueryPM

files command displays a warning message that the SPM load lineup does not match the datafill in table SPMLDVAL.

The QueryPM command is accessed from SPMDIR of the MAPCI. The table below, QueryPM command, describes the use of the QueryPM command.

QueryPM command

Command	Parameter	Description
QueryPM		Some QueryPM command examples are: **> MAPCI;MTC;PM;POST SPM <spm_no>** where **<spm_no>** is the SPM number (0 to 85) **> MAPCI;MTC;PM;POST SPM 23** **> MAPCI;MTC;PM;POST SPM all**
	FILES (optional)	This option displays the: • default load names and the currently running loads in all devices on the posted SPM • Flash Loader load file for each device that supports Flash Loader functionality, and • image file for each device on the posted SPM
	FLT (optional)	displays a list of devices on the posted SPM that are currently reporting a fault (FLT) condition.
	FLT REASON (optional)	displays the reasons for the ISTB/SYSB state of the supported devices on the posted SPM.
	FLT ALL (optional)	displays a list of devices, on all the posted SPMs that are currently reporting fault conditions regardless of the SPM currently displayed on the MAP.
	FLT REASON ALL (optional)	displays the reasons for the ISTB/SYSB states of supported devices on all the posted SPMs regardless of the SPM currently displayed on the MAP.
QUIT	ALL	returns you to the CI environment.
Note: Perform alarm clearing procedures to clear system faults if necessary.		

RESETMOD command

RESETMOD is an SPM, CEM level MAPCI command used to Perform Reload Restart on the selected CEM on the posted SPM.

The manual RESETMOD command generates a failure response when the CEM restarts with the Wrong Application Data as shown in the table below, RESETMOD command.

Note: This functionality requires CSP 18/SN05 or later loads on the core and SP17.1 or later loads on the SPM.

RESETMOD command

Command	Display
RESETMOD	Select a CEM in order to access the RESETMOD command. **> MAPCI;MTC;PM;POST SPM <spm_no>;SELECT CEM <cem_no>;RESETMOD** where **<spm_no>** is the SPM number (0 to 85) **<cem_no>** is the CEM number (0 or 1) The following example shows the screen output and action for a failed Resetmod command. `> Command Failed : CEM has Application Data of Mate CEM.` The Resetmod command restarted CEM with the Wrong Application Data, and does not allow the CEM to return to service. **System or user actions:** Check NODE303 & LINK300 Logs for more information about the problem. Take appropriate action to restart the CEM with the correct Application Data before attempting RTS on the CEM.

REXTEST command

REXTEST is a CI command used to temporarily suspend one or all of the REX tests (on all the objects, including SPMs) for a single maintenance window. It also allows unscheduled or non-routine activities to be performed when REX testing normally occurs. The REXTEST command does not alter the permanent data. REX testing automatically resumes on the next maintenance window.

For more details about the REXTEST command, refer to NTP 297-1001-820, *Non-Menu Command Historical Reference Manual*.

The table below, REXTEST command, describes the use of the REXTEST command.

REXTEST command (Sheet 1 of 2)

Command	Parameters	Display
REXTEST		Access the REXTEST command from the CI prompt. **>REXTEST <subcommand> <test>** where **<subcommand>** is SUSPEND, RESUME, QUERY, or HELP **<test>** is ALL, (otherwise) <Rex_test_id> Examples of <Rex_test_id> are: MS_REX_TEST, CM_REX_TEST, SLM_REX_TEST, ENET_REX_TEST, LIM_REX_TEST, LGC_REX_TEST, NIU_REX_TEST, LCM_REX_TEST, or SPM_REX_TEST
	SUSPEND <test>	immediately suspends one or more (or all) scheduled REX test classes until the end of the next maintenance window.
	RESUME <test>	resumes the suspended REX test classes on next maintenance window.

REXTEST command (Sheet 2 of 2)

Command	Parameters	Display

	QUERY	displays the current settings for each REX test class.
		Terms:
		• Class status
		  — Disable: No objects of this class will be scheduled to run
		  — Critical: This class is a critical REX test that must run every day
		  — Suspended: This class has been suspended
		• Frequency: minimum number of days between two consecutive REX tests on the same object of this class
		• Days disabled: list of days in a week that this REX class is not scheduled to run.

	HELP	provides a brief description on each REX test class.

RTS command

RTS is a CEM level MAPCI command used to Return to Service the selected CEM on the posted SPM. The manual RTS command generates a failure response when the CEM restarts with Wrong Application Data as shown in the table below, RTS command.

Note: This functionality requires CSP 18/SN05 or later loads on the core and SP17.1 or later loads on the SPM.

RTS command

Command	Display
RTS	Select a CEM in order to access the RTS command. **> MAPCI;MTC;PM;POST SPM \<spm_no\>;SELECT CEM \<cem_no\>;RTS** where **\<spm_no\>** is the SPM number (0 to 85) **\<cem_no\>** is the CEM number (0 or 1) The following example shows the screen output and action for a failed RTS command. `>Command Failed : CEM has Application Data of Mate CEM.` The RTS command was attempted on CEM with the Wrong Application Data. **System or user actions:** Check NODE303 & LINK300 logs for more information about the problem. Take appropriate action to restart the CEM with correct Application Data before attempting RTS on the CEM.

SHERLOCK command

Sherlock allows data collection of a specified SPM and one or more RMs of a specified type. Individual RMs data can be collected if the RM number is specified. The Sherlock command was introduced in SP17.

The Sherlock command is accessed through the Maintenance and Administration Position Command Interpreter (MAPCI). The table below, SHERLOCK command, describes the use of the SHERLOCK command.

SHERLOCK command

Command	Parameter	Description
Sherlock		(No parameters)
		Some examples of the use of the Sherlock command are:
		MAPCI> sherlock collect spm 0 <volume> <starttime> <endtime>
		In the above example, data is collected only from the Core and from both CEMs of SPM 0.
		MAPCI> sherlock collect spm 0 oc3 <volume> <starttime> <endtime>
		In the above example, data is collected from the Core, both CEMs of SPM 0, and all (e.g. both) OC-3 RMs of SPM 0.
		MAPCI> sherlock collect spm 0 oc3 1 <volume> <starttime> <endtime>
		In the above example, data is collected from the Core, both CEMs of SPM 0, and OC3 1 on SPM 0.

SPMCP commands

The SPMCP commands are call processing commands that are accessed through the SPMCP level of the Maintenance and Administration Position Command Interpreter (MAPCI).

The SPMCP level provides an interface for the reporting of faults detected by the SPM Health Monitor which runs on each SPM. The functionality within the SPM for reporting these faults was introduced in SP17.1. This new subsystem monitors for problems that can affect call processing. If a problem is detected, the SPM Health Monitor performs maintenance actions to attempt to clear the condition. If the Health Monitor is not able to clear the condition, it raises an alarm and the corresponding fault will be visible from the SPMCP level.

The SPM Health Monitor provides a detection mechanism for the following types of problems:

- exhaustion of call processing buffer pool
- sanity of call processing message server
- connection management problems
- DDM (Dynamic Data Manager) problems
- missing EXECs
- call processing abnormalities
- trunk state problems

The SPMCP level is entered from the APPL level of the MAP as shown below.

CI> mapci;mtc;appl;spmcp

The figure below, SPMCP MAP display, shows a MAP screen display for SPM Callp.

SPMCP MAP display

```
XAC        MS      IOD      Net       PM    CCS     Lns      Trks     Ext      APPL
 .          .       .        .      17 SPM   .       .       ...       .        .


 SPMCallp         OAMAP  ATMFW   SDM   SPMCP  SWMTC  SDMBIL        TOPSIP
  0 Quit           .      .       .      .      .      .             .
  2
 3 QueryFl_  SPMCALLP STATES
  4                         111111111122222222223333333333444
 5 Enarcvy       01234567890123456789012345678901234567890123456789012
 6 Disrcvy       -.......--.-------------------------------
  7 Qryrcvy
  8             4444444555555555566666666666777777777788888888888
  9             34567890123456789012345678901234567890123456789012345
 10            -------------...........................
 11
 12
 13
 14
 15
 16
 17
 18
   CC1
 Time  01:45  >
```

The table below, SPMCP commands, describes the use of the SPM Callp commands.

SPMCP commands (Sheet 1 of 10)

Command	Description
DISRCVY	Disable autonomous recovery on an SPM. Autonomous recovery will be automatically enabled after 24 hours. This command will disable fault detection by the SPM Health Monitor on the specified SPM. **> DISRCVY <spm_no>** where **<spm_no>** is the SPM number (0 to 85) *Example input:* **> DISRCVY 3** ```Command succeeded. WARNING: Autorecovery will be reenabled in 24 hours.```
ENARCVY	Enables autonomous recovery on an SPM. This command will enable fault detection by the SPM Health Monitor on the specified SPM. **> ENARCVY <spm_no>** where **<spm_no>** is the SPM number (0 to 85) *Example input:* **> ENARCVY 3** ```Command succeeded.```

SPMCP commands (Sheet 2 of 10)

Command	Description
QRYRCVY	Query whether autonomous recovery is enabled or disabled on an SPM. **> QRYRCVY <spm_no>** where **<spm_no>** is the SPM number (0 to 85) *Example input:* **> QRYRCVY 3** `Autorecovery is enabled`
QUERYFL	Query spm call processing faults. **> QUERYFL <spm_no>** where **<spm_no>** is the SPM number (0 to 85) *Example response:* **> The SPMCP state is call processing** There are no faults; the SPM is call processing normally. **System or user actions:** None *Example response:* **> No response from SPM Callp Task** The call processing task in the SPM is no longer responding to queries from the Health Monitor. **System or user actions:** The system cold switches activity (swact) on the CEMs and generates an SPM370 log. If this does not clear the condition, an alarm is raised. User must investigate.

SPMCP commands (Sheet 3 of 10)

Command	Description
	Example response: **> The SPMCP has spent excessive time in overload** The SPM has spent one or more hours in level 2 overload. **System or user actions:** System raises an alarm and generates an SPM370 log. User must investigate. *Example response*: **> The SPMCP has excessive tossed origination call pegs** The SPM has exceeded the tossed origination threshold during a 15 minute interval. This indicates that the SPM is in overload and is not able to originate calls. **System or user actions:** System raises an alarm and generates an SPM370 log. User must investigate.

SPMCP commands (Sheet 4 of 10)

Command	Description
	Example response:
	> HMon CallCount found PTS no setup fault
	Calls using PTS trunks are not being seized for call processing.
	System or user actions:
	Scenario one:
	Fault raised against all trunk types provisioned on SPM (only one trunk type provisioned or mixed trunk configuration with fault raised against all trunk types).
	The system:
	- raises an alarm and generates an SPM370 log
	- SWACTs CEMs.
	User must investigate, then Bsy and RTS newly inactive CEM to clear fault.
	Scenario two:
	Mixed trunk configuration in an SPM and not all call types in fault condition.
	System raises an alarm and generates an SPM370 log. User must investigate.
	Example response:
	> HMon CallCount found PTS low answer fault
	Of calls seizing PTS trunks, less than 20% are being answered.
	System or user actions:
	System raises an alarm and generates an SPM370 log. User must investigate.
	Example response:
	> HMon CallCount found PTS no answer fault
	Of calls seizing PTS trunks, 100% are not being answered.
	System or user actions:
	System raises an alarm and generates an SPM370 log. User must investigate.

SPMCP commands (Sheet 5 of 10)

Command	Description
	Example response:
	> HMon CallCount found PTS no cleanup fault
	Calls using PTS trunks are not transitioning from seized or answered to idle.
	System or user actions:
	System raises an alarm and generates an SPM370 log. User must investigate.
	Example response:
	> HMon CallCount found ISUP no setup fault
	Calls using ISUP trunks are not being seized for call processing.
	System or user actions:
	Scenario one:
	Fault raised against all trunk types provisioned on SPM. Only one trunk type is provisioned, or mixed trunk configurations with fault raised against all trunk types.
	The system:
	- raises an alarm, and generates an SPM370 log
	- SWACTs CEMs
	User must investigate, then Bsy and RTS newly inactive CEM to clear the fault.
	Scenario two:
	There is a mixed trunk configuration in an SPM, and not all call types in fault condition.
	The system raises an alarm and generates an SPM370 log. User must investigate.
	Example response:
	> HMon CallCount found ISUP low answer fault
	Of calls seizing ISUP trunks, less than 20% are being answered.
	System or user actions:
	The system raises an alarm and generates an SPM370 log. User must investigate.

SPMCP commands (Sheet 6 of 10)

Command	Description
	Example response:
	> HMon CallCount found ISUP no answer fault
	Of calls seizing ISUP trunks, 100% are not being answered.
	System or user actions:
	The system raises an alarm and generates an SPM370 log. User should investigate.
	Example response:
	> HMon CallCount found ISUP no cleanup fault
	Calls using ISUP trunks are not changing state from seized or answered to idle.
	System or user actions:
	The system raises an alarm and generates an SPM370 log. User must investigate.
	Example response:
	> HMon CallCount found PRI no setup fault
	Calls using PRI trunks are not being seized for call processing.
	System or user actions:
	Scenario one:
	A fault is raised against all trunk types provisioned on SPM. Only one trunk type is provisioned or mixed trunk configurations with fault raised against all trunk types.
	The system:
	- raises an alarm and generate an SPM370 log
	- SWACTs CEMs.
	User must investigate, then Bsy and RTS newly inactive CEM to clear the fault.
	Scenario two:
	There is a mixed trunk configuration in an SPM, and not all call types are in fault condition.
	System raises an alarm. User must investigate.

SPMCP commands (Sheet 7 of 10)

Command	Description
	Response
	> HMon CallCount found PRI no answer fault
	Of calls seizing PRI trunks, less than 20% are being answered.
	System or user actions:
	The system raises an alarm and generates an SPM370 log. User must investigate.
	Example response:
	> HMon CallCount found PRI no answer fault
	Of calls seizing PRI trunks, 100% are not being answered.
	System or user actions:
	The system raises an alarm and generates an SPM370 log. User must investigate.
	Example response:
	> HMon CallCount found PRI no cleanup fault
	Calls using PRI trunks are not changing state from seized or answered to idle.
	System or user actions:
	The system raises an alarm, and generates an SPM370 log. User must investigate.

SPMCP commands (Sheet 8 of 10)

Command	Description
	Example response: **> Excessive pts trunks in lockout or RMB** A significant quantity of PTS trunks are either in lockout , or are Remote Man Busy. **System or user actions:** *Scenario one:* More than 50% of the PTS trunks are in lockout. The system raises an alarm and generates an SPM370 log. User must investigate *Scenario two:* More than 75% or greater than 64 PTS trunks are in lockout. System: - raises and alarm and generates an SPM370 log - spares OC3 Resource Modules. - SWACTs CEMs. User must investigate. *Example response:* **> Excessive isup trunks in lockout** A significant quantity of ISUP trunks are in lockout. **System or user actions:** *Scenario one:* More than 50% of the ISUP trunks are in lockout. The system raises an alarm and generates an SPM370 log. User must investigate. *Scenario two:* More than 75% or greater than 64 ISUP trunks are in lockout. System: - raises and Alarm and generates an SPM370 log - SWACTs CEMs Resets newly inactive CEM to clear the fault.

SPMCP commands (Sheet 9 of 10)

Command	Description
	Example response: **>Excessive d-channels in lockout** A significant quantity of PRI D-channels are in lockout. **System or user actions:** More than 70% of the of the PRI D-channels are in lockout. System: - raises an alarm and generates an SPM370 log - spare DLC Resource Modules - SWACTs CEMs User must investigate, then Bsy/RTS newly inactive CEM to clear alarm. *Example response*: **> Missing execs in table MNNODE detected** Execs which should be datafilled in table MNNODE have been detected as missing. **System or user actions:** If this is the active CEM, system: - cold switches activity (swact) and resets the inactive CEM - raises an alarm and generate an SPM370 log. User must investigate. If this is the inactive CEM, the system raises an alarm and generates an SPM370 log. User must investigate.

SPMCP commands (Sheet 10 of 10)

Command	Description
	Example response:
	> DDM data corruption detected
	PTS trunks was not fully Returned to Service (RTS) because of missing DDM data.
	System or user actions:
	If this is the active CEM, system:
	- cold switches activity (swact) and resets the newly inactive CEM
	- raises an alarm and generate an SPM370 log
	User must investigate.
	If this is the inactive CEM, the system raises an alarm and generates an SPM370 log. User must investigate.
QUIT	Quits the SPMCP level and returns to the APPL level of MAPCI.
	To return to the CI level, enter the following:
	> QUIT ALL

SPMLDINFO tool

The SPMLDINFO tool uses commands to display the spectrum load release information. This command interface (CI) tool is introduced in the SP17.1 release. The table below, [SPMLDINFO commands](), provides a list of commands and their descriptions.

Table SPMLDVAL must be datafilled before using the SPMLDINFO tool. Although this does not affect service, if table SPMLDVAL is not datafilled the SPMLDINFO tool does not display load release information for that specific load.

SPMLDINFO commands (Sheet 1 of 5)

Command	Description

LISTLOAD	Displays the load lineup information for a given spectrum load release name.
	
	Command format:
	
	> listload <load_type> <general_release> <maintenance_release> <emergency release>
	
	where:
	
	<load_type>
	   is the type of load. The only allowable value is SP
	
	<general_release>
	   is the milestone release number in the range 1 to 99
	
	<maintenance_release>
	   is the maintenance release number in the range 0 to 9. (If this is a milestone release, enter 0)
	
	<emergency_release>
	   s the emergency release number in the range 0 to 9. (If this is a milestone release, enter 0)

SPMLDINFO commands (Sheet 2 of 5)

Command	Description
	Example 1
	CI:
	> spmldinfo
	SPMLDINFO:
	> listload SP 15 3 1
	Circuit Pack Load Lineup for Spectrum Load Release SP15.3.1:
	CEM Load:CEM15CQ
	DSP Load:DSP15DO
	DLC Load:DLC15DA
	OC3 Load:OC315DF
	....
	....
	Example 2
	CI:
	> spmldinfo
	SPMLDINFO:
	> listload SP 16 1 1
	This Load Release is not datafilled in table SPMLDVAL.
LISTRELEASE	Displays the spectrum load releases for a given device load.

	> listrelease <load_name> string
	    where
	    <load_name>
	      is the device load name string consisting of seven characters

SPMLDINFO commands (Sheet 3 of 5)

Command	Description

	Example 1:
	CI:
	
	> spmldinfo
	`SPMLDINFO:`
	
	> listrelease CEM15CQ
	
	`Circuit pack load CEM15CQ is valid in the`
	`following load releases.`
	
	`SP15.2.1`
	
	Example 2
	CI:
	
	> spmldinfo
	`SPMLDINFO:`
	
	> listrelease DSP15
	
	`***Warning:Loadname must be 7 characters in`
	`length.`

LISTSPMLOAD	Displays the running release load name for all the DMSCP SPMs in the office.
	
	> listspmload [All] [spm <spm_no> <spm_no>]
	    where
	    ALL
	      lists the load names for all of the DMSCP SPMs
	    <spm_no> < spm_no>
	      lists a specified range of DMSCP SPMs

SPMLDINFO commands (Sheet 4 of 5)

Command	Description
	Example 1 (continued) CI: **> spmldinfo** SPMLDINFO: **> listspmload all** SPM 1:SP15.3.1 SPM 2 is not a DMSCP SPM SPM 3:SP15.3.1 SPM 5:SP15.3.1 SPM 6:Unable to contact the devices. The requested data cannot be retrieved SPM 7:Load lineup does not match with any of the load releases datafilled in table SPMLDVAL *Example 2* CI: **> spmldinfo** SPMLDINFO: **> listspmload spm 3 5** SPM 3:SP15.3.1 SPM 4 is not datafilled SPM 5 is not datafilled

SPMLDINFO commands (Sheet 5 of 5)

Command	Description

	Example 3
	CI:
	
	> spmldinfo
	`SPMLDINFO`
	
	> listspmload spm 1
	
	`SPM 1:SP15.3.1`

QUIT	Quits the SMPLDINFO level and returns to the CI environment. To return to the CI level, enter: **> quit**

SPRI CM Tool

The SPRI commands are accessed through the SPRI level of the MAPCI. The table below, <u>SPRI commands</u>**,** describes the use of the SPRI commands.

SPRI commands

Command	Description
DISPLAY_DCH	covert CLLI to d-channel tid.
DISPLAY_TSM	view terminal states of TID.
QUERY_AUDIT	statistics for D-channel audit
QUERY_DCH	D-channel status per node and per switch basis.
QUERY_NODE	view all trunk states in bitmap format for all agents, or for only PRA agent
SEND_SCP_MSG	send any CPINTENT message to SPM on specific TID
SET_TSM	change TSM state for any terminal

TABAUDIT

The TABAUDIT command checks for data inconsistencies in the AB-bit, Multi Frequency (MF), and DTMF resources between tables TRKMEM, TRKSGRP, and MNCKTPAK for the SPM.

The TABAUDIT command is accessed through the MAPCI.

The table below, TABAUDIT MAP responses, lists some error responses and associated actions.

TABAUDIT MAP responses (Sheet 1 of 4)

Command	Description

Execute	ERROR: Cannot get AB Bit resources for this SPM.
	
	Meaning: A software error caused the tabaudit process to be unable to retrieve the numbers of AB bit resources provisioned for the SPM.
	
	System actions:
	
	`Circuit pack verification Interested Party 6 failed`
	`---Error: Data does not verify.`
	`    Position:  SPM  9 1 13`
	
	Meaning: The DSP RM or VSP RM tuple can be corrupted.
	
	User actions:
	
	1. Perform a protection switch to the protection DSP RM or VSP RM.
	
	2. Offline this DSP RM or VSP RM.
	
	3. Delete the DSP RM or VSP RM tuple from table MNCKTPAK.
	
	4. Add the DSP RM or VSP RM back into table MNCKPAK.
	
	--- 	
	
	ERROR: Cannot get MF resources for this SPM.
	
	Meaning: A software error caused the tabaudit process to be unable to retrieve the numbers of Multi Frequency (MF) resources provisioned for the SPM.
	
	System actions:
	
	`Circuit pack verification Interested Party 6 failed`
	`---Error: Data does not verify.`
	`    Position:  SPM  9 1 13`
	
	Meaning: The DSP RM or VSP RM tuple may be corrupted.
	
	User actions:
	
	1. Perform a protection switch to the protection DSP RM or VSP RM.
	
	2. Offline this DSP RM or VSP RM.
	
	3. Delete the DSP RM or VSP RM tuple from table MNCKTPAK.
	
	4. Add the DSP RM or VSP RM back into table MNCKPAK.

TABAUDIT MAP responses (Sheet 2 of 4)

Command	Description

	`ERROR: Cannot get DTMF resources for this SPM.`
	
	Meaning: A software error caused the tabaudit process to be unable to retrieve the numbers of Digitone Multi Frequency (DTMF) resources provisioned for the SPM.
	
	System actions:
	
	`Circuit pack verification Interested Party 6 failed`
	`---Error: Data does not verify.`
	`   Position:  SPM  9 1 13`
	
	Meaning: The DSP RM or VSP RM tuple can be corrupted.
	
	User actions:
	
	1. Perform a protection switch to the protection DSP RM or VSP RM.
	
	2. Offline this DSP RM or VSP RM.
	
	3. Delete the DSP RM or VSP RM tuple from table MNCKTPAK.
	
	4. Add the DSP RM or VSP RM back into table MNCKPAK.

	`ERROR: Cannot get MF trunks for this SPM.`
	
	Meaning: A software error caused the tabaudit process to be unable to retrieve the numbers of trunks using the MF resources provisioned for the SPM.
	
	System actions:
	
	`Circuit pack verification Interested Party 6 failed`
	`---Error: Data does not verify.`
	`   Position:  SPM  9 1 13`
	
	Meaning: The DSP RM or VSP RM tuple may be corrupted.
	
	User actions:
	
	1. Perform a protection switch to the protection DSP RM or VSP RM.
	
	2. Offline this DSP RM or VSP RM.
	
	3. Delete the DSP RM or VSP RM tuple from table MNCKTPAK.
	
	4. Add the DSP RM or VSP RM back into table MNCKPAK.

TABAUDIT MAP responses (Sheet 3 of 4)

Command	Description

	`ERROR: Cannot get DTMF trunks for this SPM.`
	
	Meaning: A software error caused the tabaudit process to be unable to retrieve the numbers of trunks using the DTMF resources provisioned for the SPM.
	
	System actions:
	
	`Circuit pack verification Interested Party 6 failed`
	`---Error: Data does not verify.`
	`   Position:  SPM  9 1 13`
	
	Meaning: The DSP RM or VSP RM tuple may be corrupted.
	
	User actions:
	
	1. Perform a protection switch to the protection DSP RM or VSP RM
	
	2. Offline this DSP RM or VSP RM
	
	3. Delete the DSP RM or VSP RM tuple from table MNCKTPAK
	
	4. Add the DSP RM or VSP RM back into table MNCKPAK.
	
	`The count of AB bit resources for its SPM is less than`
	`the number of AB bit resources in use by PTS trunks.`
	
	Meaning: Tabaudit found that there are more PTS trunks using AB bit resources than the current numbers of AB bit resources provisioned for the SPM.
	
	System actions:
	
	`Circuit pack verification Interested Party 6 failed`
	`---Error: Data does not verify.`
	`   Position:  SPM  9 1 13`
	
	Meaning: The DSP RM or VSP RM tuple may be corrupted.
	
	User actions:
	Execute the following steps to add more resources:
	
	1. Execute PREPDATACHNG command at the DSP or VSP MAP level.
	
	2. Add more AB bit resources on the DSP or VSP RM in table MNCKTPAK.
	
	3. RTS the active DSP RM or VSP RM.
	
	4. Perform a protection switch on the DSP RM or VSP RMM.

TABAUDIT MAP responses (Sheet 4 of 4)

Command	Description

	`There are trunks with associated IPULSTYP = MF in table TRKSGRP, but there are no MF resources provisioned.`
	
	Meaning: Tabaudit discovered that there are PTS trunks using MF resources, however, there are no MF resources provisioned for the SPM.
	
	System actions:
	
	`Circuit pack verification Interested Party 6 failed`
	`---Error: Data does not verify.`
	`   Position:  SPM  9 1 13`
	
	Meaning: The DSP RM or VSP RM tuple may be corrupted.
	
	User actions:
	Execute the following steps to add more resources:
	
	1. Execute PREPDATACHNG command at the DSP or VSP MAP level.
	
	2. Add more MF resources on the DSP or VSP RM in table MNCKTPAK.
	
	3. RTS the active DSP RM or VSP RM.
	
	4. Perform a protection switch on the DSP RM or VSP RMM.
	
	--- 	
	
	`There are trunks with associated IPULSTYP = DTin table TRKSGRP, but there are no DTMF resources provisioned.`
	
	Meaning: Tabaudit discovered that there are PTS trunks using DTMF resources, however, there are no DTMF resources provisioned for the SPM.
	
	System actions:
	
	`Circuit pack verification Interested Party 6 failed`
	`---Error: Data does not verify.`
	`   Position:  SPM  9 1 13`
	
	Meaning: The DSP RM or VSP RM tuple may be corrupted.
	
	User actions: Execute the following steps to add more resources:
	
	1. Execute PREPDATACHNG command at the DSP or VSP MAP level.
	
	2. Add more DTMF resources on the DSP or VSP RM in table MNCKTPAK.
	
	3. RTS the active DSP RM or VSP RM.
	
	4. Perform a protection switch on the DSP RM or VSP RMM.

Unlocking a circuit pack

Use this procedure to unlock CEM, DLC, DSP, VSP and SRM circuit packs.

Unlocking a circuit pack

At the MAP level

1   Post the SPM:

> **> MAPCI;MTC;PM POST SPM <spm_no>**

where

     <spm_no>
        is the ID (number) of the SPM

Example input:

> **> MAPCI;MTC;PM;POST SPM 23**

Example of MAP display:

```
SPM 23   INSV     Class: DMSCP
Shlf0 SL A Stat   Shlf0 SL A Stat  Shlf1 SL A Stat   Shlf1 SL A Stat
DSP 2  1 A Insv   CEM 1  8 I Insv  DLC 1  1 A Insv   --- -  8 - ----
DSP 4  2 A Insv   OC3 0  9 A Insv  --- -  2 - ----   --- -  9 - ----
DSP 1  3 I Insv   OC3 1 10 I Insv  --- -  3 - ----   --- - 10 - ----
DSP 3  4 A Insv   VSP 2 11 A Insv  --- -  4 - ----   --- - 11 - ----
--- -  5 - ----   VSP 4 12 A Insv  --- -  5 - ----   --- - 12 - ----
--- -  6 - ----   VSP 1 13 I Insv  --- -  6 - ----   --- - 13 - ----
CEM 0  7 A Insv   VSP 0 14 A Insv  DLC 2  7 I Insv   --- - 14 - ----
```

2   Select the circuit pack to unlock:

> **> select <rm> <rm_unit>**

where

     <rm>
       is the circuit pack to unlock (CEM, DLC, DSP, VSP, SRM)

     <rm_unit>
       is the unit number of the rm to unlock

- 0 for SRM
- 0 or 1 for CEM, DLC, or OC3
- 0 to 24 for DSP and VSP

Example input:

> **> select DSP 2**

3   Unlock the circuit pack:

> RTS

You have completed this procedure.

Locking a circuit pack

Use this procedure to lock CEM, DLC, DSP, VSP and SRM circuit packs.

Locking a circuit-pack

At the MAP level

1   Post the SPM:

> **> MAPCI;MTC;PM POST SPM <spm_no>**

where

    <spm_no>
      is the ID (number) of the SPM

Example input:

> **> MAPCI;MTC;PM;POST SPM 23**

Example of MAP display

```
SPM 23   INSV     Class: DMSCP
Shlf0 SL A Stat  Shlf0 SL A Stat  Shlf1 SL A Stat  Shlf1 SL A Stat
DSP 2  1 A Insv  CEM 1  8 I Insv  DLC 1  1 A Insv  --- -  8 - ----
DSP 4  2 A Insv  OC3 0  9 A Insv  --- -  2 - ----  --- -  9 - ----
DSP 1  3 I Insv  OC3 1 10 I Insv  --- -  3 - ----  --- - 10 - ----
DSP 3  4 A Insv  VSP 2 11 A Insv  --- -  4 - ----  --- - 11 - ----
--- -  5 - ----  VSP 4 12 A Insv  --- -  5 - ----  --- - 12 - ----
--- -  6 - ----  VSP 1 13 I Insv  --- -  6 - ----  --- - 13 - ----
CEM 0  7 A Insv  VSP 0 14 A Insv  DLC 2  7 I Insv  --- - 14 - ----
```

2   Select the circuit pack to lock:

> **> select <rm> <rm_unit>**

where

    <rm>
      is the circuit pack to lock (CEM, DLC, DSP, VSP, or SRM)

    <rm_unit>
      is the unit number of the rm to unlock:

- 0 for SRM
- 0 or 1 for CEM, DLC, or OC3
- 0 to 24 for DSP and VSP

Example

> **> select DSP 2**

3   Lock the circuit pack:

> BSY

You have completed this procedure.

Unlocking a carrier

Use this procedure to unlock a carrier.

Unlocking a carrier

At the MAP level

1   Access the Carrier level of the MAP:

      > MAPCI;MTC;TRKS;CARRIER

Example of MAP display:

```
CARRIER CLASS   ML OS ALRM SYSB MANB UNEQ OFFL CBSY PBSY INSV
        TRUNKS  35  0  105  112    0    0    0    1    0  285
        TIMING   0  0    0    0    0    0    0    0    0    2
        HSCARR  18  0    9    1    1    0    6    0    0  251
```

2   Post a carrier:

      > POST SPM <spm_no> <carrier_no>

      where

            <spm_no>
                is the SPM number (0 to 85)

            <carrier_no>
                is the carrier number (0 to 181)

      Example input:

      > POST SPM 2 170

Example of MAP display:

```
  OC3S
N CLASS   SITE SPM RM OC3S CKT STATE TR MA
0 HSCARR HOST   2  1    0 170  MANB -- --
SIZE OF POSTED SET : 1
```

3   Unlock the carrier:

> RTS <carrier_number>

where

<carrier_number>
is the number under the N column
(0 to 4)

Example input:

> RTS 0

You have compleed this procedure.

Locking a carrier

Use this procedure to lock a carrier.

Locking a carrier

At the MAP level

1 Access the Carrier level of the MAP:

> **MAPCI;MTC;TRKS;CARRIER**

Example of MAP display:

```
CARRIER CLASS   ML OS ALRM SYSB MANB UNEQ OFFL CBSY PBSY INSV
        TRUNKS  35  0  105  112    0    0    0    1    0  285
        TIMING   0  0    0    0    0    0    0    0    0    2
        HSCARR  18  0    9    1    1    0    6    0    0  251
```

2 Post a carrier:

> **POST SPM <spm_no> <carrier_no>**

where

> **<spm_no>**
> is the SPM number (0 to 85)

> **<carrier_no>**
> is the carrier number (0 to 181)

Example input:

> **POST SPM 2 170**

Example of MAP display:

```
 OC3S
N CLASS  SITE SPM RM OC3S CKT STATE TR MA
0 HSCARR HOST   2  1    0 170  INSV -- --
SIZE OF POSTED SET : 1
```

3 Lock the carrier:

> **BSY <carrier_number>**

where

> **<carrier_number>**
> is the number under the "N" column
> (0 to 4)

Example input:

> **BSY 0**

You have completed this procedure.

Invoking manual protection switch

Use this procedure to initiate a manual protection activity switch.

Invoking manual protection switch

At the MAP level

1   Post the SPM:

> **> MAPCI;MTC;PM POST SPM <spm_no>**

where

> **<spm_no>**
> is the ID (number) of the SPM

Example input:

> **> MAPCI;MTC;PM;POST SPM 23**

Example of MAP display:

```
SPM 23   INSV      Class: DMSCP
Shlf0 SL A Stat  Shlf0 SL A Stat  Shlf1 SL A Stat  Shlf1 SL A Stat
DSP 2  1 A Insv  CEM 1  8 I Insv  DLC 1  1 A Insv  --- -  8 - ----
DSP 4  2 A Insv  OC3 0  9 A Insv  --- -  2 - ----  --- -  9 - ----
DSP 1  3 I Insv  OC3 1 10 I Insv  --- -  3 - ----  --- - 10 - ----
DSP 3  4 A Insv  VSP 2 11 A Insv  --- -  4 - ----  --- - 11 - ----
--- -  5 - ----  VSP 4 12 A Insv  --- -  5 - ----  --- - 12 - ----
--- -  6 - ----  VSP 1 13 I Insv  --- -  6 - ----  --- - 13 - ----
CEM 0  7 A Insv  VSP 0 14 A Insv  DLC 2  7 I Insv  --- - 14 - ----
```

2   Select an active RM:

> **> select rm rm_unit**

where

> **<rm>**
> is the circuit pack (CEM, DLC, DSP, VSP)

> **<rm_unit>**
> is the unit number of an active circuit pack

> - 0 or 1 for CEM, DLC, or OC3
> - 0 to 24 for DSP and VSP

Example input:

> **> SELECT DLC 1**

3   Access the protection level of the MAP:

> **> PROT**

4   Switch activity from an active RM that you have not downgraded to an inactive RM in the circuit pack protection group:

> MANUAL\<active_rm_unit> \<inactive_rm_unit>

where

   \<active_rm_unit>
      is the unit number of an active RM that has not been downgraded

   \<inactive_rm_unit>
       is the unit number of an inactive RM in the circuit pack group

Example input:

> MANUAL 1 2

Example of MAP display:

```
A sparing action may impact services on this node.

Do you wish to continue?
Please confirm ("YES", "Y", "NO", or "N"):
```

   Note 1: If OC3s are not datafilled in table MNHSCARR, the manual protection switch fails for CEMs. To complete the protection switch, you must either datafill the OC3s prior to the manual protection switch, or force the protection switch by using the FORCE command.

   Note 2: When doing a manual protection switch for a CEM, the unit numbers are not necessary. The SPM automatically switches activity to the other CEM when the MANUAL command is used.

5   Confirm the system prompt:

> Y

You have completed this procedure.

Obtaining CLLI codes

Use this procedure to obtain the common language location identifier (CLLI) codes.

Obtaining CLLI codes

At the MAP level

1   Access table CLLI:

> table CLLI

2   Obtain a list of the CLLI codes:

> list <num_entries>

where

   <num_entries>
      is the number of entries to list

Note: An alternative to listing a specific number of entries is to list all the entries. To do this, substitute the word ALL for the <numentries> argument.

Example input:

> list 10

Example of a MAP screen:

```
        CLLI ADNUM TRKGRSIZ                          ADMININF
----------------------------------------------------------------
AXEAN868C7DR01  3131        12 CCS7_AXXESS_EQUAL_ACCESS_TRUNK
AXEAN869C7DR02  3132        12 CCS7_AXXESS_EQUAL_ACCESS_TRUNK
EAN830C7DR01    1013         1        CCS7_EQUAL_ACCESS_TRUNK
EAN831C7DR02    1014         1        CCS7_EQUAL_ACCESS_TRUNK
EAN832C7DR03    1015         1        CCS7_EQUAL_ACCESS_TRUNK
EAN833C7DR04    1016         1        CCS7_EQUAL_ACCESS_TRUNK
EAN834C7DR05    1017         1        CCS7_EQUAL_ACCESS_TRUNK
EAN835C7DR06    1018         1        CCS7_EQUAL_ACCESS_TRUNK
EAN836C7DR07    1019         1        CCS7_EQUAL_ACCESS_TRUNK
EAN837C7DR08    1020         1        CCS7_EQUAL_ACCESS_TRUNK
```

3   Copy the CLLI codes for the trunks you are working with.

4   You have completed this procedure. Exit table CLLI:

> QUIT

Posting a trunk group member

Use this procedure to post a member of a trunk group.

Posting a trunk member

At the MAP level

1 Obtain the CLLI code for the trunk member by performing the procedure in this NTP, Obtaining CLLI codes.

2 Access the TTP level of the MAP display:

> **MAPCI;MTC;TRKS;TTP**

3 Post the trunk:

> **post g <clli> <trk_num>**

where

    <clli>
       is the CLLI code obtained in step 1

    <trk_num>
       is the external trunk member number defined in table
       TRKMEM

Example input:

> **POST g AXEAN868C7DR01 149**

Example of MAP screen:

```
POST        DELQ          BSYQ          DIG
TTP 17-0004
CKT TYPE  PM NO.          COM LANG    STA S R DOT TE RESULT
2W S7 S7  SPM 5 5 4 AXEAN868C7DR0 149 INB
                                            R


LAST CKTN = 149
POST CKT IDLED
SHORT CLLI IS: AXEAN8
OK,CKT POSTED
```

You have completed this procedure.

Posting the next trunk group member

Use this procedure to post the next member of a trunk group to the one selected.

Posting the next trunk member

At the MAP level

1   Follow the procedure in this NTP <u>Posting a trunk group member</u> to post a trunk.

2   Post the next trunk:

> **NEXT**

You have completed this procedure.

Busying a trunk group member

Use this procedure to busy a trunk group member.

Busying a trunk member

At the MAP level

1   Follow the procedure in this NTP <u>Posting a trunk group member</u> to post a trunk.

2   Busy the trunk member:

        > BSY

        You have completed this procedure.

Busying INB a trunk group member

Use this procedure to busy INB a trunk group member.

Busying INB a trunk member

At the MAP level

1   Follow the procedure in this NTP Posting a trunk group member to post a trunk.

2   Busy INB the trunk member.

        > BSY INB

You have completed this procedure.

Force releasing a trunk member

Use this procedure to force the release of a trunk group member.

Force releasing a trunk member

At the MAP level

1   Follow the procedure in this NTP, <u>Posting a trunk group member</u>

2   Force release the trunk:

> RLS

You have completed this procedure.

Returning a trunk group member to service

Use this procedure to return a trunk group member to service.

Returning a trunk member to service

At the MAP level

1 Follow the procedure in this NTP, <u>Posting a trunk group member</u>, to post a trunk.

2 Return the trunk to service:

> **> RTS**

You have completed this procedure.

Posting a trunk group

Use this procedure to post a trunk group.

Posting a trunk group

At the MAP level

1   Obtain the CLLI code for the trunk member by performing the procedure in this NTP, Posting a trunk group member.

2   Access the TTP level of the MAP display by typing

> **> MAPCI;MTC;TRKS;TTP**

3   Post the trunk group:

> **> post g <clli>**

where

> **<clli>**
> is the CLLI code obtained in step 1

Example input:

> POST g A01030026

Example of MAP screen:

```
POST     1 DELQ            BSYQ            DIG
TTP 17-0004
CKT TYPE  PM NO.           COM LANG    STA S R DOT TE RESULT
IC     DT  SPM 4 1 13 ATRTRK        129 CFL



LAST CKTN = 130
POST CKT IDLED
SHORT CLLI IS: ATRTRK
OK,CKT POSTED
```

You have completed this procedure.

Busying a trunk group

Use this procedure to busy a trunk group.

Busying a trunk group

At the MAP level

1   Follow the procedure in this NTP, <u>Posting a trunk group member</u>, to post a trunk group.

2   Busy the trunk group:

> BSY all

You have completed this procedure.

Busying an INB trunk group

Use this procedure to busy an INB trunk group.

Busying an INB trunk group

At the MAP level

1   Follow the procedure in this NTP, <u>Posting a trunk group member</u>to post a trunk group.

2   Busy the INB trunk group:

> **> BSY INB all**

You have completed this procedure.

Force releasing a trunk group

Use this procedure to force release a trunk group.

Force releasing a trunk group

At the MAP level

1   Follow the procedure in this NTP, [Posting a trunk group member](#), to post a trunk group.

2   Force release the trunk group

> **> FRLS all**

You have completed this procedure.

Returning a trunk group to service

Use this procedure to return a trunk group to service (RTS).

Returning a trunk group to service

At the MAP level

1 Follow the procedure in this NTP, Posting a trunk group member, to post a trunk group.

2 Return the trunk group to service

> RTS all

You have completed this procedure.

Configuring, enabling, and disabling PMA

Use the following procedures to configure, enable, and disable the performance monitoring archival (PMA) data. PMA information is stored on the core, and can be accessed through the the Maintenance and Administration Position Command Interpreter (MAPCI).

Understanding data collection

PMA data allow users to diagnose and correct problems that affect the performance of carriers and their peripheral modules. The data represent a collection of parameters (such as CV, ES, SES, and UAS), that start counting at zero and increment one at a time. A zero value means that there is no problem. Optical parameters (such as OPT, OPR, and LBC), are the only exception to this rule because they are calculated as a percentage and remain at approximately 100 per cent.

The disk volume storage mechanism is called the Distributed Recording Manager (DRM). After the DRM has been configured, and the volume mounted, PMA collection begins. The system collects data from all carriers on all SPMs every15 minutes and every 24 hours. Data collection continues until you demount DRM volumes.

Initial configuration of PMA

You must configure PMA to identify where to store the data the system collects by entering volume and naming information in two tables:

- Table DRMAPPL
- Table DRMPOOL

Note: The configuration process varies depending on whether your core processor is BRISC or XA-Core.

Configure Table DRMAPPL and DRMPOOL

At the MAP

1   Go to Table DRMAPPL by typing

> **table drmappl**

2   List all files by typing

> **list all**

List of Table DRMAPPL

```
TOP
APPLNAME   GROUPID  APPLID  POOLNAME  ALARMMN  ALARMMJ  ALARMCR  RETPD  FILEDATE
SHEDDAYS  SHEDBASE  SHEDINCR  CLOSTATE  MAXFSIZE  FORCBKUP
--------------------------------------------------------------------------------
    PM15      SPMPM        0 PM15POOL       10        5        1      1    OPENED
  YYYYYYY         3      X24        P      100               N

    PM24      SPMPM        1 PM24POOL        5        3        1      7    OPENED
  YYYYYYY         3      X24        P      100               N

      OM        SOM        2 OMPOOL         50       20        1     30    OPENED
  YYYYYYY         3      X24        P      100               Y

BOTTOM
```

3   Enter the following recommended values:

Recommended values for Table DRMAPPL

Field	Explanation	Recommended setting
ALARMMN	Minor Alarm Threshold. Triggers a minor alarm if the free space on the volume drops below the set value.	10 Mb for PM15; 5 Mb for PM 24
ALARMMJ	Major Alarm Threshold. Triggers a major alarm if the free space on the volume drops below the set value.	5 Mb for PM15; 3 Mb for PM 24
ALARMCR	Critical Alarm Threshold. Triggers a critical alarm if the free space on the volume drops below the set value.	1 Mb for PM15; 1 Mb for PM 24
RETPD	Retention Period. The period (in days) to preserve the data.	1 day for PM15; 7 day for PM 24
CLOSTATE	Closed State.	P = Processed State. Data can be extracted from such files. U = Unprocessed State. Data cannot be extracted from such files. The mandatory setting is P.
FORCBKUP	Force Backup.	N = files can be deleted without being backud up. Y = files are not deleted until they are backed up. The recommended value is N.

4   Go to Table DRMPOOL by typing

> **table drmpool**

5   In releases prior to SN06, mounted volumes appear in Table DRMPOOL. To verify that the volumes have been mounted, list all files by typing

> **list all**

Note: In release SN06 and later, any volume added to PMAUTILS does not appear in Table DRMPOOL.

Table DRMPOOL

```
POOLNAME VOLUME0 VOLUME1 VOLUME2 VOLUME3 VOLUME4 VOLUME5 VOLUME6 VOLUME7
VOLUME8 VOLUME9 VOLUME10 VOLUME11 VOLUME12 VOLUME13 VOLUME14 VOLUME15
VOLUME16 VOLUME17
------------------------------------------------------------------------
PM15POOL      $       $       $       $       $       $       $       $
          $       $       $       $       $       $       $       $
          $       $

PM24POOL      $       $       $       $       $       $       $       $
          $       $       $       $       $       $       $       $
          $       $
```

Note: Prior to SN06, Table DRMPOOL would list the volumes mounted for PMAUTILS.

- XA-Core

  The volumes used to record data must be configured FTFS when the volumes are located on XA-Core DAT drives.

- BRISC

  In a BRISC office, the volumes must be configured as STD. If you configured FTFS volumes in a BRISC office, PMAUTILS does not work. In such a case, the PMA utility generates a CARRIER820 LOG, indicating a PMAUTIL failure.

6   You have completed this procedure.

Enabling PMA

Use the following steps to enable PMA.

At the MAPCI DRM level

1   You must create disk volumes for PM15 and PM24, if they do not already exist. To do so, type

     `>diskut`

2   List the volumes by typing

     `>lv`

The system lists the current volumes.

List volumes for BRISC

```
Volumes found on the node CM:
----------------------------
NAME                TYPE     TOTAL      FREE  TOTAL  OPEN  ITOC    LARGEST
                             BLOCKS    BLOCKS FILES  FILES FILES   FREE SEGMENT
--------------------------------------------------------------------------
S00DIMAGE           STD      1689543   571616    8     0     5      380364
S00DPMLOADS         STD       307143    75335   43     0     0       13706
S00DPATCH           STD        30559     1704  849     0     0          40
S00DBAK0            STD        20415        5    2     0     0           5
S01DIMAGE           STD      1689535   616835    8     1     4      251176
S01DPMLOADS         STD       307135   104335   25     0     0       26180
S01DPATCH           STD        30559     4079  715     0     0        4079
S01DMISC0           STD        10175     6959   32     0     0        6071
S01DMISC1           STD        10175     4111   50     0     0        3703
Total number of volumes found on node CM : 9
```

List volumes for XA-Core

```
NAME                TYPE     TOTAL      FREE  TOTAL  OPEN  ITOC    LARGEST
                             BLOCKS    BLOCKS FILES  FILES FILES   FREE SEGMENT
--------------------------------------------------------------------------
F02LIMAGE1          FTFS     2048000   147456   11     0     2       90624
F02LIMAGE2          FTFS     2048000   197632   12     0     2      155904
F02LIMAGE3          FTFS     2048000   276480   10     0     2      192768
F02LIMAGE5          FTFS     2048000   176128    9     0     0       82944
F02LPMLOADS         FTFS      614400   205728   55     0     0       50240
F02LPM21LDS         FTFS      409600   334048   10     0     0      333792
F02LPM22LDS         FTFS      409600   380256  188     0     0      380256
F02LPM23LDS         FTFS      409600   389600  142     0     0      389600
F02LMISC0           FTFS      102400    95072   29     0     0       95072
F02LMISC1           FTFS      102400    23520    3     0     0       23520
F02LFIDB            FTFS      368640    50272    2     0     0       50272
F02LSDMBAK1         FTFS     2867200  1486624   57     0     0     1468096
F02LXPM17           FTFS      409600   339296    9     0     0      323296
F02LMISC2           FTFS      102400    76352   29     0     0       76352
F02LMISC3           FTFS      102400    95712    2     0     0       95712
F02LSN07PTCH        FTFS      102400   101472    0     0     0      101472
--------------------------------------------------------------------------
```

Note: The FTFS disk option is only supported on XA-Core DAT drives. The PMAUTIL does not capture SPM statistics for BRISC office when volumes are FTFS.

3   Write down the names of the volumes you want PMAUTIL to use.

4   Using the information from , you must mount each disk volume to enable PMA to use them. Go to the MAPCI DRM level and enter the PMA record type and volume name.

> *Note:* In SN06 and later, mounted volumes do not appear in Table DRMPOOL. PMAUTIL volumes can also be mounted and demounted using PMAUTILS.

Example input:

> > MAPCI;MTC;APPL;OAMAP;DRM;MOUNT PM15 F17LPM15

where

<PM15>

is the volume for 15 minute PMA records, and

<F17LPM15>

is the volume name.

> *Note:* There are two designations for the volume names, PM15 and PM24:
> - PM15 is for 15 minute data collection intervals, and
> - PM24 is for 24 hour data collection intervals

Example system response:

```
Sending request to CM

Request sent...

MOUNT OPERATION INITIATED

Volume  has been allocated to PM15POOL. The
MOUNT may take a few seconds to complete.
```

5   Confirm that your volume has been mounted. To view what volumes are mounted, use the info command at the MAPCI DRM level.

Example input:

> INFO PM15

> *Note:* Print raw data from the files by using the print command.

> PRINT <filename>

You have completed this procedure.

Disabling PMA

the PMA utility continues to collect data after you issue the mount command. To stop PMA you must demount all volumes. Use the following steps to disable PMA.

Disabling PMA

At the MAPCI DRM level

1   To turn off PMA, demount the mounted volumes

Example input:

> **DEMOUNT PM15 F17LPM15**

2   You have completed this procedure.

Obtaining PMA data

You can obtain PMA data in two ways.

- FTP the files and extract the information.
- Use the Reach Through feature of the SuperNode Data Manager (SDM).

For further information on how to obtain PMA data, see *Setup and Use of Carrier Performance Monitoring Archival (PMA) for SPMs* HLM-1771-PMA.