IW SPM IP Security and Administration

What's new

The following feature is new in the SN08 software release:

A00007121 - IW Bridge Map maintenance for deload

A new MAP level has been added for managing the state of the IW SPM bridge terminals. The description was added to the MAP CI commands.

Security and administration strategy

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

Tools and utilities

SPM security is performed using the MAP display commands.

MAPCI Commands

The following tables list SPM MAPCI commands.

BRGMTCE command

The BRGMTCE MAP level provides a method to deload call processing from IW bridges. Deloading puts the bridge involved in a call into a pending deload state before the call is terminated. BRGMTCE provides the Bsy, Rts, Offl, Frls, Post, and Next commands.

Table 1 BRGMTCE command

Command	Parameter	Description
BRGMTCE		To access the BRGMTCE level from the CI environment, type: **> MAPCI;MTC;APPL;PKT**
	Bsy	Places the IW SPM bridge into manual out-of-service state. **where** Bsy All makes all bridge terminals of the posted IW SPM busy. Bsy 0 makes the bridge terminals of the specified DS512 link busy. The group state of the DS512 link is set to MANB.
	Offl	Sets the IW SPM bridge into an offline state. **where** Offl All sets the state of all bridge terminals of the posted IW SPM offline. Offl 0 sets the group state of the specified DS512 link offline. The group state of the specified DS512 link is set to OFFL.
	Rts	Returns the IW SPM bridge from manual out-of-service to in-service state. **where** Rts All returns all bridge terminals of the posted IW SPM to service. Rts 0 returns the bridge terminals of the specified DS512 link to service. The group state of the specified DS512 link is set to either InSv or SYSB, depending on the actual state of the DS512 link.

Table 1 BRGMTCE command

Command	Parameter	Description
	Frls	Removes the IW SPM bridge from use by call processing immediately. **where** Frls All removes all bridge terminals of the posted IW SPM from use by call processing. Frls 0 removes the bridge terminals of the specified DS512 link from use by call processing. The group state of the DS512 link is set to MANB.
	Post	Displays the terminal states of the IW SPM currently posted
	Next	Displays the terminal states of the next IW SPM in the post set (that is, the post set created by "post all"). If the current IW SPM is the last in the post set, Next clears the display on the map.

Figure 1 BRGMTCE map level

```
XAC       MS      IOD      Net       PM      CCS      Lns      Trks     Ext      APPL
  .     MSpair   2MPCOS    2CBsy    1EIU    8    RS     .       46C..      .       .
         *C*       M         M       *C*      *C*              *C*
BRGMTCE           OAMAP   ATMFW    SDM    SPMCP   SWMTC   SDMBIL   PKT    TOPSIP
 0 Quit             .       .       .       .       .       .       .       .
 2 Post_
 3
 4                 SPM_ATM = .
 5 Bsy_
 6 Rts_        IWSPM:   SPM 3    OFFL            NETBRDGE: E_A1
 7 Offl_       Link:  BRGMTCE STATE:  CPD:  CPB:  SYSB:  IDL:  MANB:  OFFL:
 8 Frls_          0         OFFL          0      0       0      0       0    504
 9                1         OFFL          0      0       0      0       0    504
10                2         OFFL          0      0       0      0       0    504
11                3         OFFL          0      0       0      0       0    504
12 Next        ------------------------------------------------------------------
13                                       0      0       0      0       0   2016
14             POST SPM 3
15             POSTED SET: SPM 3
16
17
18
  YD
Time  18:26  >
```

BULKABTK command

BULKABTK is an SPM, MAPCI level command. BULKABTK aborts the ongoing BULKMTC activity initiated by any of the BULK commands.

Table 2 BULKLOAD command

Command	Display
BULKABTK	**>MAPCI;MTC;PM;POST SPM <spm_no>;UPGRADE** where **spm_no** is in the SPM number (range 0 to 85) **>BULKABTK <variant> <option> <force> <noprompt> <noreply>** where **variant** specifies the SPM variant on which to perform the Bulk operation (IW for the inter-working SPM). **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 brings all the SPMs in a posted set to a valid state. Valid states are OFFL, INSV, ISTB, and SYSB.

Table 3 BULKLOAD command

Command	Display
BULKBSY	**>MAPCI;MTC;PM;POST SPM <spm_no>;UPGRADE** where **spm_no** is in the SPM number (range 0 to 85) **>BULKBSY <variant> <option> <force> <noprompt> <noreply>** where **variant** specifies the SPM variant on which to perform the Bulk operation (IW for the inter-working SPM). **option** provides two options to bring a CEM/SPM to INSV state. *PM option* - 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 SPM on which the command is issued to be in the MANB state. *INACTIVE option* - 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 SPMs on which the command is issued 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 defaults to “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 load operations on the selected CEM on the posted SPM.

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

Table 4 BULKLOAD command

Command	Display
BULKLOAD	**>MAPCI;MTC;PM;POST SPM <spm_no>;UPGRADE** where **spm_no** is in the SPM number (range 0 to 85) **>BULKLOAD <variant> <filename> <load_option> <noprompt> <noreply>** where **variant** specifies the SPM variant on which to perform the Bulk operation (IW for the inter-working SPM). **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.

BULKLOFFL command

BULKOFFL is an SPM, MAPCI level command. BULKOFFL changes all the SPMs in the posted set to OFFL state providing the SPMs are in a valid state.

Table 5 BULKLOAD command

Command	Display
BULKOFFL	**>MAPCI;MTC;PM;POST SPM <spm_no>;UPGRADE** where **spm_no** is in the SPM number (range 0 to 85) **>BULKOFFL <variant> <noprompt> <noreply>** where **variant** specifies the SPM variant on which to perform the Bulk operation (IW for the inter-working SPM). **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 CEM to Service on the posted SPMs.

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

Table 6 BULKRTS command

Command	Display
BULKRTS	**>MAPCI;MTC;PM;POST SPM <spm_no>;UPGRADE** where **spm_no** is in the SPM number (range 0 to 85) **>BULKRTS <variant> <option> <noprompt> <noreply>** where **variant** specifies the SPM variant on which to perform the Bulk operation (IW for the inter-working SPM). **option** provides two options to bring a CEM/SPM to INSV state. *PM option* - 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 SPM on which the command is issued to be in the MANB state. *INACTIVE option* - 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 SPMs on which the command is issued 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 switches activity of CEMs in all the INSV/ISTB SPMs in the posted set.

Table 7 BULKLOAD command

Command	Display
BULKSWCT	**>MAPCI;MTC;PM;POST SPM <spm_no>;UPGRADE** where **spm_no** is in the SPM number (range 0 to 85) **>BULKSWCT <variant> <force> <noprompt> <noreply>** where **variant** specifies the SPM variant on which to perform the Bulk operation (IW for the inter-working SPM) **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 may result in service degradation.

When a CEM is de-commissioned or removed from the SPM shelf, it is highly recommended that the flash information be cleared.

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:

- Two CEM's trying to own the same IP address,
- CEM does not recover due to mismatch in the IP address, and/or
- CEM auto-boot 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.

Table 8 ERASEFL command

Command	Parameter	Description
ERASEFL	NIL	(No parameters) To access the SPMCEMDIR level from the CI environment, type: **>MAPCI;MTC;PM;POST SPM <SPMNo>;SELECT CEM <X>(0 or 1)** where **SPMNo** is in the range 0 to 85 and **X** is 0 or 1 (for CEM 0 or CEM 1) Below is an example: **>MAPCI;MTC;PM;POST SPM 0;SELECT CEM 0** To return to the CI environment, type: ***Note:*** The command take about 2 minutes to successfully complete the erase task. **>QUIT ALL**

Figure 2 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: IW
  8 RTS        Default Load: IWS18BS
  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 is accessed through the Maintenance and Administration Position Command Interpreter (MAPCI).

Table 9 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 Maintenance and Administration Position Command Interpreter (MAPCI).

Table 10 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 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	Selects 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 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	Manually return the selected device from manual out-of-service to in-service state. The NOWAIT and NOREPLY option are not support with ALL parameter.
Select	Selects 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 an SPM, CEM level MAPCI command used to Perform load operations on the selected resource module on the posted SPM.

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

Table 11 LOADMOD command

Command	Display
LOADMOD	The following example shows using the LOADMOD command with a CEM. **>MAPCI;MTC;PM;POST SPM <spm_no>;SELECT CEM <cem_no>;LOADMOD** where **spm_no** is in the SPM number (range 0 to 85), and **cem_no** is in 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 will not allow the CEM to return to service. If INSV Loading restarts the CEM with Wrong Application Data then the CEM will remain 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 Maintenance and Administration Position Command Interpreter (MAPCI).

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

Table 12 Mount and Demount commands

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, and 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.

Table 12 Mount and Demount commands

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 and 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.

MSP Protection command

The MSP Protection command is accessed through the Maintenance and Administration Position Command Interpreter (MAPCI).

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

Table 13 MSP Protection commands

Command	Description
Clear	Clears all the commands listed below: • Exercise • Force • Lockout • Manual
Exercise	This command is only available for bidirectional compatible process and applies only when there is no failure. It initiates a switch but does not perform any switching action.
Force	This command is applied either to the Protection section or the Working section and forces the system to switch to the inactive section. This command last until it is cancelled by a higher priority request, a Forced Switch, or a Clear. Perform this command through the MAP CI by typing: **`Force <Card A> <Card B>`** This spares the active section from Card A to Card B.
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 from switching to the Protection. It has the highest priority. This means that if any signal failure occurs on the Working section, the system will not switch to the Protection section. If the Protection section is active the system will switch 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 either 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 Maintenance and Administration Position Command Interpreter (MAPCI).

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. The 15 represents the 15 minute data collection interval and 24 represents the 24 collection period of the day.

To see what volumes are mounted, use the ‘info’ command, for example,

```
info pm15
```

To turn off PMA, demount all volumes at the mapci drm level, for example,

```
demount pm15 fo21pm15
```

Table 14 Performance monitoring archival commands

Command	Parameter	Description
PMAUTILS		From the MAPCI level, enters the PMA utility.
Help	SetCarr GetHist	Displays text about how to use the SetCarr or GetHist commands and how to use the PMA utility.

SetCarr	SPM NO (0 to 85)
	SPM TYPE
		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 type oc3s`
		`>setcarr spm 10 14`

Table 14 Performance monitoring archival commands

Command	Parameter	Description
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`**
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 is accessed through the CARRIER level of the Maintenance and Administration Position Command Interpreter (MAPCI).

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

Table 15 Post command

Command	Parameter	Description
POST		Allows carriers to be displayed.
(by Condition)		The first screen displays the OC3S carriers. Select NEXT to see subsequent screens displaying other carriers. 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

PREPDATACHNG command

The PREPDATACHNG command facilitates the modification of RM resource datafill changes in table MNTCKTPAK.

The PREPDATACHNG command is accessed through the RM level of the Maintenance and Administration Position Command Interpreter (MAPCI).

Table 16 PREPDATACHNG command

Command	Description
PREPDATACHNG	Prepares the device for resource datafill changes. PREPDATACHNG returns to service the DSP/VSP if it is found to be in MANB or OFFL state and PWID & RMID are not aligned. The display provides instructions for various responses to the PREPDATACHNG command.

PRIMSGTRC Commands

The PRI message tracing tool is available through the Maintenance and Administration Position Command Interpreter (MAPCI). This sublevel can be entered by typing PRIMSGTRC at the CI prompt.

PRI message tracing provides the capability of tracing Q931 and Q921 messages being exchanged on a the SPM.

Table 17 PRIMSGTRC commands

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

Table 17 PRIMSGTRC commands

Command	Description
DISABLE	Disables tracing at Lyr2 and/or Lyr3. **`>DISABLE [L2, L3, both]<rem>SPM<SPMNo>`** where **L2, L3, both** is the layer number **rem** is the remove/deselect all option **SPMNo** is the SPM number (range 0 to 85) ***Note:*** Rem removes/deselects all 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. **`>DISPLAY [L2, L3, both]`** where **L2, L3** is the layer number
ENABLE	Enables tracing at Lyr2 and/or Lyr3. **`>ENABLE [L2, L3][in, out, both] SPM<SPMNo>`** where **L2, L3** is in the layer number **in, out, both** is the direction **SPMNo** is the SPM number (range 0 to 85)
HELP	Displays help on the available PRIMSGTRC commands.

Table 17 PRIMSGTRC commands

Command	Description
HEX	Turns Hex traces at lyr3 ON or OFF. **>HEX [on, off] SPM<SPMNo>** where **SPMNo** is the SPM number (range 0 to 85)
q<command_name>	Displays help on an individual command.
QUIT	Quits PRIMSGTRC and return to the CI level.
REMOVEDCH	Removes the D channel from list to be traced. **>REMOVEDCH SPM<SPMNo><cktno><ts>** where **SPMNo** is the SPM number (range 0 to 85) **cktno** is the circuit number (range 0 to 185) **ts** is the time slot (range 0 to 31)
SELECTDCH	Selects a D channel for tracing. **>SELECTCH SPM<SPMNo><cktno><ts>** where **SPMNo** is the SPM number (range 0 to 85) **cktno** is the circuit number (range 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. **>STATUS SPM<SPMNo>** where **SPMNo** is the SPM number (range 0 to 85)

QueryPM command

The QueryPM command is accessed through the Maintenance and Administration Position Command Interpreter (MAPCI).

Table 18 QueryPM command

Command	Parameter	Description
QueryPM		Displays the following information for all the datafilled modules (CEM, DSP, VSP, OC3, ATM, SYNCRM, IEM, STM or DLC) for DMS Call Processing (DMSCP) and Inter-working (IW) class variants: • shelf number, • slot number, • unit number, • state, and • activity status. The QueryPM command is executed from the SPMDIR directory. Some examples are: **`>MAPCI;MTC;PM;POST SPM <SPMNo>`** where **SPMNo** is in the range 0 to 85 **`>MAPCI;MTC;PM;POST SPM <node_no>`** **`>MAPCI;MTC;PM;POST SPM all`** To return to the CI command level, type: **`>QUIT ALL`**
	FILES (optional)	This option displays the: • default load names and the currently running loads in all devices on the posted SPM, • Flash Loader's 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.

Table 18 QueryPM command

Command	Parameter	Description
	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 MAPCI command used to Perform Reload Restart on the selected resource module of a posted SPM.

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

Table 19 RESETMOD command

Command	Display
RESETMOD	The following examples show the Resetmod command used with a CEM. **>MAPCI;MTC;PM;POST SPM <spm_no>;SELECT CEM <cem_no>;RESETMOD** where **spm_no** is in the SPM number (range 0 to 85), and **cem_no** is in 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 Wrong Application Data and will 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 correct Application Data before attempting RTS on the CEM.

RTS command

RTS is an SPM MAPCI command used to Return the selected resource module to Service on the posted SPM.

The following table uses the CEM as an example for the RTS command.

Table 20 RTS command

Command	Display
RTS	The following is an example of using the RTS command to return a CEM to service. **>MAPCI;MTC;PM;POST SPM <spm_no>;SELECT CEM <cem_no>;RTS** where **spm_no** is in the SPM number (range 0 to 85), and **cem_no** is in 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 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 given type. Individual RMs data can be collected if the RM number is specified.

The Sherlock command is accessed through the Maintenance and Administration Position Command Interpreter (MAPCI).

Table 21 SHERLOCK command

Command	Parameter	Description
Sherlock	NIL	(No parameters) Some examples 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 (both) OC3 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 (SPM call processing) commands are accessed through the SPMCP level of the Maintenance and Administration Position Command Interpreter (MAPCI).

The SPMCP commands were introduced in SP17.

Table 22 SPMCP commands

Command	Description
DISRCVY	Disable autonomous recovery on an SPM. **>DISRCVY spm_no** where **spm_no** is in the SPM number (range 0 to 85) ***Note:*** The display provides instructions for various responses to the DISRCVY command. *Example* **>DISRCVY 3** `Command succeeded. WARNING: Autorecovery will be reenabled in 24 hours.`
ENARCVY	Enables autonomous recovery on an SPM. **>ENARCVY spm_no** where **spm_no** is in the SPM number (range 0 to 85) ***Note:*** The display provides instructions for various responses to the ENARCVY command. *Example* **>ENARCVY 3** `Command succeeded.`

Table 22 SPMCP commands

Command	Description
QRYRCVY	Query whether autonomous recovery is enabled or disabled on an SPM. **>QRYRCVY spm_no** where **spm_no** is in the SPM number (range 0 to 85) ***Note:*** The display provides instructions for various responses to the QRYRCVY command. *Example* **>QRYRCVY 3** Autorecovery is enabled
QUERYFL	Query spm call processing faults. **>QUERYFL spm_no** where **spm_no** is in the SPM number (range 0 to 85) ***Note:*** The display provides instructions for various responses to the QUERYFL command. The list below gives additional help for some of the screen responses. **>The SPMCP state is call processing** There are no faults; the SPM is call processing normally. **System or user actions:** None **>The SPMCP state is not call processing** The call processing task in the SPM is no longer responding to pings. **System or user actions:** The system will cold swact the CEMs. If this does not clear the condition, a critical alarm occurs. User should investigate.

Table 22 SPMCP commands

Command	Description
	>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 log. User should investigate. **>The SPMCP has excessive tossed origination call pegs** The SPM has exceeded the tossed origination threshold during a 15 minute interval. **System or user actions:** System raises an alarm and log. User should investigate. **>HMon CallCount found PTS no setup fault** Calls using pts trunks are not being set up. **System or user actions:** Scenario one: Single trunk type configured in an SPM, or mixed trunk configuration in an SPM and all call types in fault condition: 1. SWACT CEMs. 2. bsy and rts inactive CEM. Scenario two: Mixed trunk configuration in an SPM and not all call types in fault condition. System raises an alarm. User should investigate. **>HMon CallCount found PTS no answer fault** Calls using pts trunks are being set up but not answered. **System or user actions:** System raises an alarm. User should investigate. **>HMon CallCount found PTS no cleanup fault** Calls using pts trunks are not transitioning from answered, seized, etc. to idle. **System or user actions:** System raises an alarm. User should investigate.

Table 22 SPMCP commands

Command	Description
	>HMon CallCount found ISUP no setup fault Calls using isup trunks are not being set up. **System or user actions:** Scenario one: Single trunk type configured in an SPM, or Mixed trunk configuration in an SPM and all call types in fault condition: 1. SWACT CEMs. 2. bsy and rts inactive CEMs. Scenario two: Mixed trunk configuration in a SPM and not all call types in fault condition. System raises an alarm. User should investigate. **>HMon CallCount found ISUP no answer fault** Calls using isup trunks are being set up but not answered. **System or user actions:** System raises an alarm. User should investigate. **>HMon CallCount found ISUP no cleanup fault** Calls using isup trunks are not transitioning from answered, seized, etc. to idle. **System or user actions:** System raises an alarm. User should investigate. **>HMon CallCount found PRI no setup fault** Calls using pri trunks are not being set up. **System or user actions:** Scenario one: Single trunk type configured in an SPM, or Mixed trunk configuration in an SPM and all call types in fault condition: 1. SWACT CEMs. 2. bsy and rts inactive CEM Scenario two: Mixed trunk configuration in a SPM and not all call types in fault condition. System raises an alarm. User should investigate.

Table 22 SPMCP commands

Command	Description
	>HMon CallCount found PRI no answer fault Calls using pri trunks are being set up but not answered. **System or user actions:** System raises an alarm. User should investigate. **>HMon CallCount found PRI no cleanup fault** Calls using pri trunks are not transitioning from answered, seized, etc. to idle. **System or user actions:** System raises an alarm. User should investigate. **>There are excessive pts trunks in lockout or RMB** A significant quantity of pts trunks are either in lockout or remote make busy. **System or user actions:** Scenario one: More than 50% of the pts trunks are in lockout. System raises an alarm. User should investigate Scenario two: More than 75% or greater than 96 of the pts trunks are in lockout. System raises an alarm. SWACT CEMs. User should investigate. **>There are 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 pts trunks are in lockout. System raises an alarm. User should investigate Scenario two: More than 75% or greater than 96 of the isup trunks are in lockout. System raises an alarm. SWACT CEMs. User should investigate.

Table 22 SPMCP commands

Command	Description
	>There are excessive d-channels in lockout A significant quantity of d-channels are in lockout. **System or user actions:** More than 70% of the of the d-channels are in lockout. SWACT CEMs. System raises an alarm. User should investigate. **>Missing contexts detected** Call processing contexts are not being created properly. **System or user actions:** If this is the active CEM, system will: 1. Cold swact and reset the inactive CEM. 2. Raise an alarm. User should investigate. If this is the inactive CEM, system raises an alarm. User should investigate. **>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 will: 1. Cold swact and reset the inactive CEM. 2. Raise an alarm. User should investigate. If this is the inactive CEM, system raises an alarm. User should investigate.

Table 22 SPMCP commands

Command	Description
	>Too many contexts in a bad state An excessive amount (more than 30%) of pts contexts have been detected in null Phase. **System or user actions:** If this is the active CEM, system will: 1. Cold swact and reset the inactive CEM. 2. Raise an alarm. User should investigate. If this is the inactive CEM, system raises an alarm. User should investigate. **>DDM data corruption detected** PTS trunks could not be fully Returned to Service (RTS'ed) because of missing DDM data. **System or user actions:** If this is the active CEM, system will: 1. Bulk DDM Download. 2. Cold swact and reset the inactive CEM. 3. Raise an alarm. User should investigate. If this is the inactive CEM, system raises an alarm. User should investigate.
QUIT	Quits the spmcp level and returns to the appl level of mapci. To return to the CI level, type the following: **>QUIT ALL**

SPRI CM Tool

The SPRI commands are accessed through the SPRI level of the Maintenance and Administration Position Command Interpreter (MAPCI).

Table 23 SPRI commands

Command	Description
DISPLAY_DCH	This command provides capability to covert CLLI to d-channel tid.
DISPLAY_TSM	View terminal states of TID.
QUERY_AUDIT	Provides statistics for D-channel audit
QUERY_DCH	Provides D-channel status per node and per switch basis.
QUERY_NODE	Provides the capability to see all trunk states in bitmap format for all agents or for only PRA agent
SEND_SCP_MSG	Sends any CPINTENT message to SPM on particular TID
SET_TSM	Changes (sets) the TSM state for any terminal

Unlocking a circuit-pack

At the MAP level

1 Post the SPM by typing

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

and pressing the Enter key.

where

spm_no
is the ID (number) of the SPM

Example

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

2 Select the circuit pack to unlock by typing

```
>select <rm> <rm_unit>
```

and pressing the Enter key.

where

rm
is the circuit pack to unlock (CEM or GEM)

rm_unit
is the unit number of the rm to unlock (0 for SRM, 0 or 1 for CEM or GEM)

Example

```
>select GEM 0
```

3 Unlock the circuit pack by typing the circuit pack must be in manb state in order to unlock it)

```
>RTS
```

and pressing the Enter key.

Locking a circuit-pack

At the MAP level

1 Post the SPM by typing

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

and pressing the Enter key.

where

spm_no
is the ID (number) of the SPM

Example

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

2 Select the circuit pack to lock by typing

```
>select <rm> <rm_unit>
```

and pressing the Enter key.

where

rm
is the circuit pack to lock (CEM or GEM)

rm_unit
is the unit number of the rm to unlock (0 or 1 for CEM or GEM)

Example

```
>select GEM 1
```

3 Lock the circuit pack by typing

```
>BSY
```

and pressing the Enter key.

Invoking manual protection switch

At the MAP level

1 Post the SPM by typing

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

and pressing the Enter key.

where

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

Example

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

2 Select an active RM by typing

```
>select rm rm_unit
```

and pressing the Enter key.

where

rm
is the circuit pack (CEM or GEM)

rm_unit
is the unit number of an active circuit pack (0 or 1 for CEM or GEM)

Example

```
>SELECT GEM 1
```

3 Access the protection level of the MAP by typing

```
>PROT
```

and pressing the Enter key.

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

```
>MANUAL active_rm_unit inactive_rm_unit
```

and pressing the Enter key.

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

```
>MANUAL 0 1
```

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

5 Confirm the system prompt by typing

```
>Y
```

and pressing the Enter key.

Displaying a Load Lineup

Use the following procedure to display the load lineup information for a Carrier VoIP (SN) load release. The results display the information contained in the SPMLDVAL table.

For instances where the table contains multiple product lineups with the same release, then all listed load lineups display according to the following product line information:

Carrier VoIP Product Lines for Load Lineup

Product	Abbreviation
MG 4000 ATM	MG4K ATM
DPT SPM ATM	DPT ATM
IW SPM ATM	IW ATM
IW SPM IP	IW IP

The Variable Abbreviations table defines the variables used in this procedure.

Variable Abbreviations

Abbreviation	Definition
gen_rel	the milestone release number value ranging from 1 through 99
main_rel	the maintenance release number ranging from 0 to 9 Enter zero (0) for a milestone release.
emer_rel	the emergency release number ranging from 0 through 9 Enter zero (0) for a maintenance or milestone release.

This procedure requires pressing the Enter key after typing a command.

Displaying a Load Lineup

At the MAP level

1 Enter the SPMLDINFO command level by typing

>SPMLDINFO

2 List the load lineup by typing

>LISTLOAD SN gen_rel main_rel emer_rel

Example

>LISTLOAD SN 07 3 1

Response Example

```
Circuit Pack Load Lineup for MG4K ATM Load Release SN07.3.1
CEM Load : MG420AL
ATM Load : ATC20AL
OC3 Load : OC320AL
DSP Load : DSP20AL
DLC Load : DLC20AL
.................
Circuit Pack Load Lineup for IW ATM Load Release SN07.3.1
CEM Load : IWS20AL
ATM Load : ATC20AL
SRM Load : SYN20AL
.................
Circuit Pack Load Lineup for DPT ATM Load Release SN07.3.1
CEM Load : IWS20AL
ATM Load : ATC20AL
DSP Load : DSP20AL
.................
```

Note: If the SPMLDVAL table does not contain the load release then an appropriate message displays in lieu of the load lineup.

3 Return to the CI prompt by typing

>QUIT

4 The procedure is complete.

Displaying the Release for a Device

Use the following procedure to display the load release that corresponds to a specified device load. A device load must be identified by a seven character loadname. The results display the release information contained in the SPMLDVAL table.

This procedure requires pressing the Enter key after typing a command.

Displaying the Release for a Device

At the MAP level

1 Enter the SPMLDINFO command level by typing

```
>SPMLDINFO
```

2 List the load lineup by typing

```
>LISTRELEASE load_name
```

Example

```
>LISTRELEASE DSP20AL
```

Response Example

```
Circuit pack load DSP20AL is valid in the following load
   releases
    SN20.2.1
```

> ***Note:*** If the SPMLDVAL table does not contain the load release then an appropriate message displays in lieu of the release.

3 Return to the CI prompt by typing

```
>QUIT
```

4 The procedure is complete.

Displaying the Running Release for a Node

Use the following procedure to display the running release load name for SPM-based nodes in an office. The procedure allows three options for node identification:

- a single node
- a range of nodes
- all nodes

A warning indicates if a running device load does not match any of the load release lineups datafilled in the SPMLDVAL table. If the resource modules in a node are out of service a message indicates that the device contact was not possible and information could not be retrieved

This procedure requires pressing the Enter key after typing a command.

Displaying the Running Release for a Node

At the MAP level

1 Enter the SPMLDINFO command level by typing

>SPMLDINFO

If	Do
a single node	step 2
a range of nodes	step 3
all nodes	step 4

2 List the running release load name for a single node by typing

>LISTSPMLOAD SPM spm_no

Example

>LISTSPMLOAD SPM 21

Response Example

```
SPM 21 : SN20.3.1
```

3 List the running release load name for a consecutive range of nodes by typing

>LISTSPMLOAD SPM spm_no spm_no

Example

>LISTSPMLOAD SPM 21 23

Response Example

```
SPM 21 : SN20.3.1
SPM 22 is not datafilled
SPM 23 : SN20.3.1
```

4 List the running release load name for all nodes in an office by typing

>LISTSPMLOAD ALL

Response Example

```
SPM 21 : SN20.3.1
SPM 22 is not datafilled
SPM 23 : SN20.3.1
SPM 24 : Unable to contact the devices. The requested data
cannot be retrieved
SPM 25 : SN20.3.1
SPM 26 :Load lineup does not match with any of the load
releases datafilled in table SPMLDVAL
```

5 Return to the CI prompt by typing

>QUIT

6 The procedure is complete.

Displaying the Running Release for Devices

Use the following procedure to display the running release load names for the devices (CEMs and RMs) on a posted SPM-based node.

A message indicates if a running device load does not match any of the load release lineups datafilled in the SPMLDVAL table. If the resource modules in a node are out of service a message indicates that the device contact was not possible and information could not be retrieved

In addition to the device load listings, the list provides the running release load for the Carrier VoIP SPM-based node designated as follows:

Carrier VoIP Product Lines for Load Lineup

Product	Abbreviation
MG 4000 ATM	MG4K ATM
DPT SPM ATM	DPT ATM
IW SPM ATM	IW ATM
IW SPM IP	IW IP

The following message occurs if the load is not listed in the SPMLDVAL table:

Load lineup of this SPM does not match with any of the load releases datafilled in table SPMLDVAL.

This procedure requires pressing the Enter key after typing a command.

Displaying the Running Release for Devices

At the MAP level

1 Post the appropriate node by typing

```
>MAPCI;MTC;PM;POST SPM spm_no
```

Example

```
>MAPCI;MTC;PM;POST SPM 21
```

2 List the running release load names for all devices on the node by typing

>QUERYPM FILES

Response Example

```
SPM 21 InSv
DSP 0 InSv Act Default Loadname: DSP20BW
               Default Filename: DSP20BW_010032
               Running Load: DSP20BW_010032
               Load in Flash: DSP20BW_010032
DSP 1 InSv Act Default Loadname: DSP20BW
               Default Filename: DSP20BW_010032
               Running Load: DSP20BW_010032
               Load in Flash: DSP20BW_010032
Running MG4K ATM Load Release: SN07.3.1
```

Note: To view the entire list of devices, press the Enter key whenever the “More...” prompt appears

3 Return to the CI prompt by typing

>QUIT ALL

4 The procedure is complete.