Security and Administration

Security and administration strategy

Security and adminstration 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.

IP RM Commands

The IP RM MAPCI commands are listed in the following table:

Table 1 IP RM MAPCI commands

Command	Description
BSY	Provides the ability to manually place the selected device into manual out-of-service state. The NOWAIT and NOREPLY option are not support with ALL parameter.
ListAlm	Provides the ability to manually list all alarms set against the posted RM.
ListSet	Lists the posted set.
LoadMod	Provides the ability to manually download a specific loadfile to the selected device. The INSVLD and MATE options are not supported.
Next	Provides the ability to select the next RM in the posted set.

Table 1 IP RM MAPCI commands

Command	Description
Offl	Provides the ability to manually set the selected device into an offline state. The NOWAIT and NOREPLY option are not support with ALL parameter.
Prot	Provides the ability to manually switch from the active device to a protection device.
QueryMod	Provides the ability to manually query local CM information on the selected device.
Quit	Quit the current MAP level.
RTS	Provides the ability to 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	Provides the ability to select another device configured on the currently selected SPM.
Tst	Provides the ability to manually run diagnostics on the selected device. The device can be in-service or out-of-service.

MAP Carrier and Post level commands

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

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

The following table list SPM17 and later MAP Carrier and Post level commands:

Table 2 Carrier and Post level commands

Command	Parameter	Description
POST (by Condition)		This command allows carriers to be displayed. 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

MSP Protection commands

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

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

The following table list SPM17 and later MAP Carrier and Post level commands:

Table 3 Carrier and Post level commands

Command	Description
Clear	This command 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.

SPRI CM Tool

The SPM PRI commands are listed in the following table:

Table 4 SPRI commands

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

QueryPM command

The following table lists QueryPM command and its parameters that are added or changed for SPM17:

Table 5 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), Inter-working (IW) and Media Gateway 4000 (MG4K) class variants: • shelf number, • slot number, • unit number, • state, and • activity status. The QueryPM command is executed from the SPMDIR directory. Some examples of accessing this directory are : **>MAPCI;MTC;PM;POST SPM <node_no>** **>MAPCI;MTC;PM;POST SPM <SPMNo>** where **SPMNo** is in the range 0 to 63 **>MAPCI;MTC;PM;POST SPM all** To return to the CI command level, type: **>QUIT ALL**
	FILES	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.

Table 5 QueryPM command

Command	Parameter	Description
	FLT	Fault (optional). Displays a list of devices on the posted SPM that are currently reporting a fault (FLT) condition.
	FLT REASON	Fault Reason (optional). Displays the reasons for the ISTB/SYSB state of the supported devices on the posted SPM.
	FLT ALL	Fault 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	Fault 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.

CI Commands

The following table lists MAPCI commands that are added or changed for SPM17:

Table 6 MAPCI commands

Command	Description
Sherlock	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. Some examples of the Sherlock command are: **CI> 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. **CI> 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 (eg. both) OC3 RMs of SPM 0. **CI> 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.

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`

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 by typing

`>select rm rm_unit`

and pressing the Enter key.

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; o to 24 for DSP and VSP)

Example

>select DSP 2

3 Unlock the circuit pack by typing

>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`

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 by typing

`>select rm rm_unit`

and pressing the Enter key.

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; o to 24 for DSP and VSP)

Example

>select DSP 2

3 Lock the circuit pack by typing

>BSY

and pressing the Enter key.

Unlocking a carrier

At the MAP level

1 Access the Carrier level of the MAP by typing

>MAPCI;MTC;TRKS;CARRIER

and pressing the Enter key.

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 by typing

>POST SPM spm_no carrier_no

and pressing the Enter key.

where

spm_no
is the SPM number (0 to 63)

carrier_no
is the carrier number (0 to 181)

Example

>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 by typing

>RTS carrier_number

and pressing the Enter key.

where

carrier_number
is the number under the “N” column (0 to 4)

Example

```
>RTS 0
```

Locking an carrier

At the MAP level

1 Access the Carrier level of the MAP by typing

>MAPCI;MTC;TRKS;CARRIER

and pressing the Enter key.

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 by typing

>POST SPM spm_no carrier_no

and pressing the Enter key.

where

spm_no
is the SPM number (0 to 63)

carrier_no
is the carrier number (0 to 181)

Example

>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 by typing

>BSY carrier_number

and pressing the Enter key.

where

carrier_number
is the number under the “N” column (0 to 4)

Example

```
>BSY 0
```

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`

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 by typing

`>select rm rm_unit`

and pressing the Enter key.

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; o to 24 for DSP and VSP)

Example

>SELECT DLC 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 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 will fail 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 will automaticaly 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.

Obtaining CLLI codes

At the MAP level

1 Access table CLLI by typing

```
>table CLLI
```

and pressing the Enter key.

2 Obtain a list of the CLLI codes by typing

```
>list numentries
```

where

numentries
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 argutment.

Example

```
>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 will be working with.

4 Exit table CLLI by typing

>QUIT

and pressing the Enter key.

Posting a trunk member

At the MAP level

1 Obtain the CLLI code for the trunk member by performing the Procedure , “Obtaining CLLI codes,” on page -19.

2 Acccess the TTP level of the MAP display by typing

```
>MAPCI;MTC;TRKS;TTP
```

3 Post the trunk by typing

```
>post g clli trknum
```

where

clli
is the CLLI code obtained in Procedure 1

trknum
is the external trunk member number defined in table TRKMEM

Example

```
>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
```

Posting the next trunk member to the one selected

At the MAP level

1 Follow the Procedure , “Posting a trunk member,” on page -21 to post a trunk.

2 Post the next trunk by typing

>NEXT

and pressing the Enter key.

Busying a trunk member

At the MAP level

1 Follow the Procedure , “Posting a trunk member,” on page -21 to post a trunk.

2 Busy the trunk member by typing

>BSY

and pressing the Enter key.

Busying INB a trunk member

At the MAP level

1 Follow the Procedure , “Posting a trunk member,” on page -21 to post a trunk.

2 Busy INB the trunk member by typing

```
>BSY INB
```

and pressing the Enter key.

Force releasing a trunk member

At the MAP level

1 Follow the Procedure , “Posting a trunk member,” on page -21 to post a trunk.

2 Force release the trunk by typing

>FRLS

and pressing the Enter key.

Returning a trunk member to service

At the MAP level

1 Follow the Procedure , “Posting a trunk member,” on page -21 to post a trunk.

2 Return the trunk to service by typing

>RTS

and pressing the Enter key.

Posting a trunk group

At the MAP level

1 Obtain the CLLI code for the trunk member by performing the Procedure , “Obtaining CLLI codes,” on page -19.

2 Acccess the TTP level of the MAP display by typing

`>MAPCI;MTC;TRKS;TTP`

3 Post the trunk group by typing

`>post g clli`

where

clli
is the CLLI code obtained in Procedure 1

Example

`>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
```

Busying a trunk group

At the MAP level

1 Follow the Procedure , “Posting a trunk member,” on page -21 to post a trunk group.

2 Busy the trunk group by typing

```
>BSY all
```

and pressing the Enter key.

Busying INB a trunk group

At the MAP level

1 Follow the Procedure , “Posting a trunk member,” on page -21 to post a trunk group.

2 Busy INB the trunk group by typing

```
>BSY INB all
```

and pressing the Enter key.

Force releasing a trunk group

At the MAP level

1 Follow the Procedure , “Posting a trunk member,” on page -21 to post a trunk group.

2 Force release the trunk group by typing

```
>FRLS all
```

and pressing the Enter key.

Returning a trunk group to service

At the MAP level

1 Follow the Procedure , “Posting a trunk member,” on page -21 to post a trunk group.

2 Return the trunk group to service by typing

```
>RTS all
```

and pressing the Enter key.