NT0H65AM **323-1701-190**

Nortel

Optical Metro 5100/5200

TL1 Interface, Part 1 of 4

Standard Release 8.0 Issue 1 April 2005

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About this document

ATTENTION

This document is presented in four parts: Part 1, Part 2, Part 3, and Part 4. Each part has its own table of contents. The table of contents in Part 1 contains topics found in Part 1 only. The table of contents in Part 2 contains topics found in Part 2 only. The table of contents in Part 3 contains topics found in Part 3 only. The table of contents in Part 4 contains topics found in Part 4 only. Parts 1, 2, and 3 do not include TL1 commands for the Enhanced Trunk Switch (ETS); Part 4 contains all the TL1 commands for the ETS.

You are reading Part 1 of the *TL1 Interface*, 323-1701-190.

This document provides general information about the TL1 command interface, as well as a description of the supported commands.

Audience for this document

This document is for the following audience:

- planners
- provisioners
- network administrators
- transmission standard engineers
- maintenance personnel

Optical Metro 5100/5200 library

The Optical Metro 5100/5200 library consists of the *Nortel Optical Metro 5100/5200 Technical Publications*, NT0H65AM.

Technical publications

The *Optical Metro 5100/5200 Technical Publications* consist of descriptive information and procedures.

Descriptive information

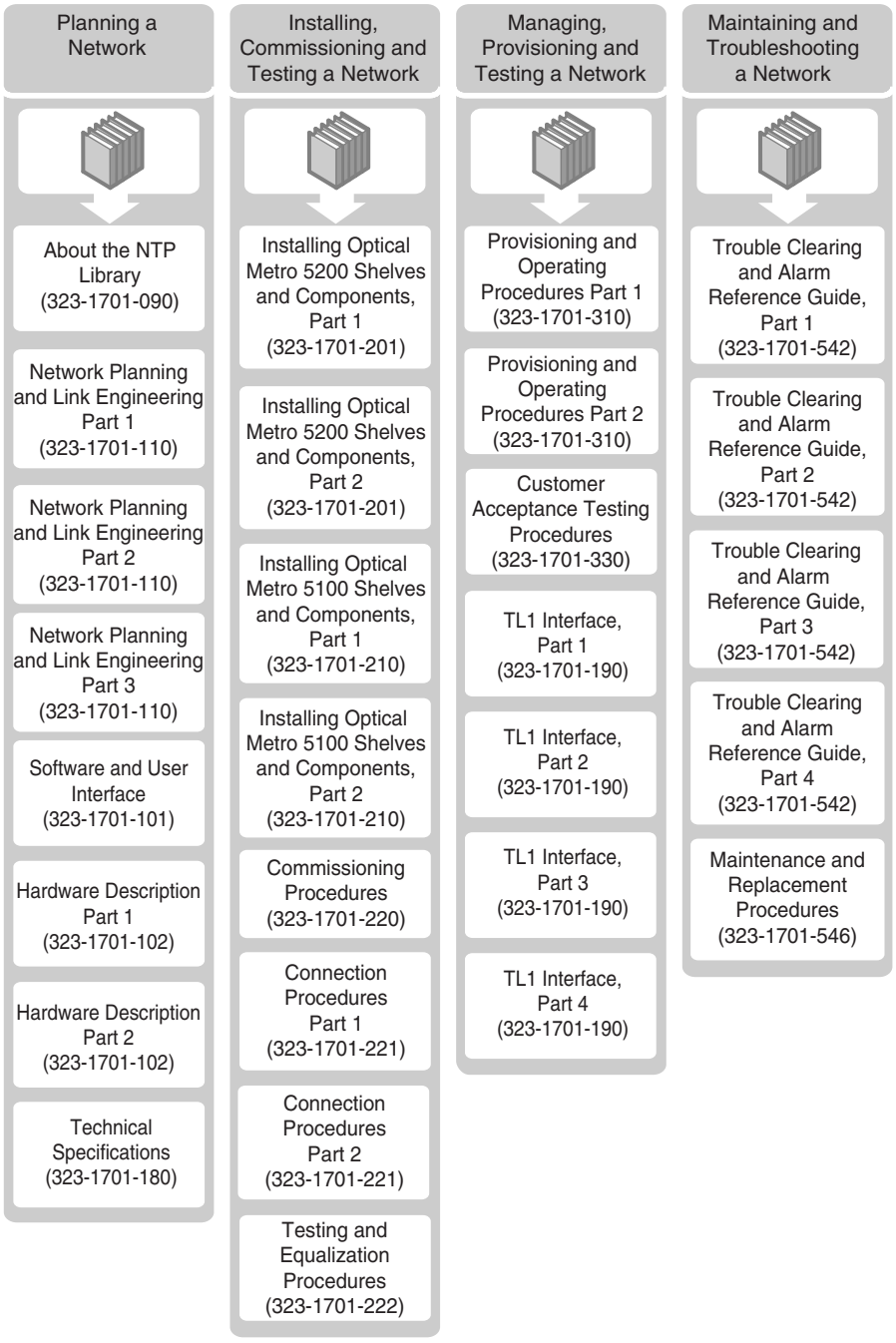
These NTPs provide detailed descriptive information about the Optical Metro 5100/5200, including system software and hardware descriptions, technical specifications, ordering information, and TL1 user information.

Procedures

These NTPs contain all procedures required to install, provision, and maintain the Optical Metro 5100/5200.

The following roadmap lists the documents in the Optical Metro 5100/5200 library.

OM2805p



Technical assistance service telephone numbers

For technical support and information from Nortel Networks, refer to the following table.

Technical Assistance Service	
For service-affecting problems: For 24-hour emergency recovery or software upgrade support, that is, for: • restoration of service for equipment that has been carrying traffic and is out of service • issues that prevent traffic protection switching • issues that prevent completion of software upgrades	**North America:** 1-800-4NORTEL (1-800-466-7835) **International:** 001-919-992-8300
For non-service-affecting problems: For 24-hour support on issues requiring immediate support or for 14-hour support (8 a.m. to 10 p.m. EST) on upgrade notification and non-urgent issues.	**North America:** 1-800-4NORTEL (1-800-466-7835) ***Note:*** You require an express routing code (ERC). To determine the ERC, see our corporate Web site at www.nortel.com. Click on the Express Routing Codes link. **International:** Varies according to country. For a list of telephone numbers, see our corporate Web site at www.nortel.com. Click on the Contact Us link.
Global software upgrade support:	**North America:** 1-800-4NORTEL (1-800-466-7835) **International:** Varies according to country. For a list of telephone numbers, see our corporate Web site at www.nortel.com. Click on the Contact Us link.

Introducing TL1

In this chapter

- Standards compliance on page 1-3
- TL1 user interface on the network element on page 1-3
- TL1 configuration on page 1-7
- TL1 message notation on page 1-8
- TL1 message overview on page 1-11
- Access identifiers on page 1-13

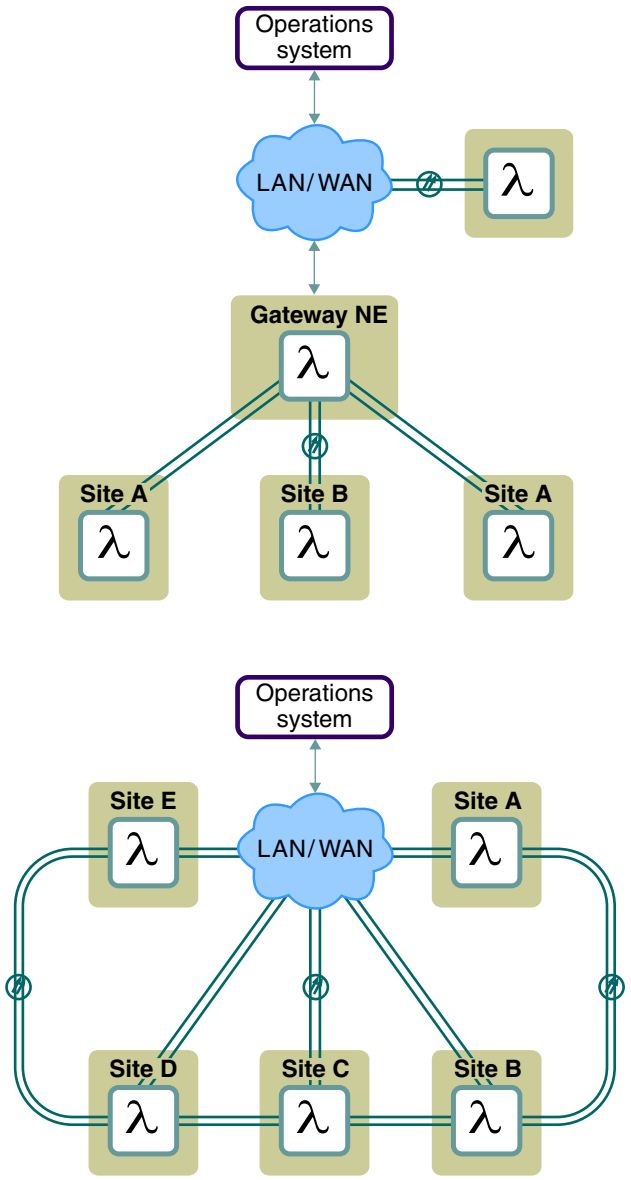
This chapter provides an introduction to the Transaction Language 1 (TL1) used on the network element.

TL1 is an industry-recognized protocol that Optical Metro 5100/5200 uses to exchange messages between network elements and an operations system. The TL1 interface allows the operations system to monitor Optical Metro 5100/5200 network elements. The Optical Metro 5100/5200 supports TL1 messages for network administration, provisioning, surveillance, commissioning and performance monitoring.

The TL1 interface allows the operations system to communicate with equipment of different vendors, and removes the need to support specific vender interfaces. The operations system communicates with network elements through Transmission Control Protocol/Internet Protocol (TCP/IP) connections. Users access TL1 through TRUE TCP/IP or TCP/IP Telnet sessions. Figure 1-1 on page 1-2 shows TL1 connectivity to network elements with TCP/IP.

Figure 1-1
TL1 connectivity to network elements with TCP/IP

OM0198t



You can provision a redundant TL1 connection to have complete system visibility in the event of a system failure, such as optical fiber outages or network element failures.

The TL1 interface allows the operations system to perform

- commissioning
- testing
- provisioning

- alarm and network surveillance
- protection switching
- performance monitoring
- network security and administration
- inventory retrieval

Standards compliance

The Optical Metro 5100/5200 TL1 surveillance interface meets the following Telcordia Technologies, Inc. standards:

- GR-833-CORE Issue 2: Network Maintenance—Network Element and Transport Surveillance Messages
- SR-OPT-001665 Issue 2: NMA Generic Transport Element Interface Support

The Optical Metro 5100/5200 equipment is compliant with the Telcordia Technologies, Inc. Network monitoring and analysis (NMA) operations system standard, releases 2.4 and 3.2.

TL1 user interface on the network element

The TL1 interface is a text-based, single command line user interface.

On the Optical Metro 5100/5200 shelf, the TL1 interface is obtained:

- by connecting a VT100, or other ANSI standard terminal to an RS-232 DCE craft access port on the shelf maintenance panel
- by using TCP/IP over Ethernet (10Base-T)

This section includes information about the TL1 prompt, the user identifier, the password identifier, security access levels, target identifiers, source identifiers, default target identifiers, and multiple sessions.

TL1 prompt

The TL1 prompt for the craft interface at telnet TCP/IP is indicated by "OPTICAL METRO-TL1>" on the left side of the screen. The prompt appears in response to the semicolon (;) from the terminal keyboard.

Note 1: TL1 uses a semicolon (;) and a carriage return as a line terminator. The semicolon is shown at the end of all TL1 commands in this guide.

Note 2: TL1 commands should be executed one at a time. You must obtain a response to your command before entering another one. Insertion of multiple commands is not supported.

User identifier

The user identifier (UID) is a unique non-confidential name to identify each authorized system user. UIDs are between 5 and 8 alphanumeric characters. You must have a UID to activate a user login session. The UID is case insensitive. The Optical Metro 5100/5200 supports three predefined UIDs: admin, operator, and observer. You can provision up to ten local users on each Optical Metro 5100/5200 network.

Password identifier

The password identifier (PID) is a confidential code to qualify the authorized system user to access the account specified by a UID. The PID is case sensitive.

You must use the PID to activate a user login session to the UID specified, or change the current PID to a different PID.

PID naming rules

Password identifiers are between 8 and 10 characters. PIDs are a combination of alphanumeric (letters A through Z; numbers 0 through 9) and special characters. The following special characters are supported for the password:

! “ # $ % ‘ ( ) * + - . / < = > @ [ ] ^ _ ‘ { | } ~

The password must contain at lease one alphabetic character. A double quote (“) must always be preceded by a backslash (\). The backslash is treated as a character in the length of the password.

> ***Note:*** These characters are not supported for the PID: semicolon (;), comma (,), colon (:), ampersand (&), question mark (?), spaces, double quotes (“”), and all control characters.

Security access levels

When logging in to a network element, you must use an account name and password.

Optical Metro 5100/5200 supports three predefined user IDs. Each user ID is automatically assigned a security access level on the network element, between one and three. The number assigned is the user privilege code (UPC). The UPC security levels offer access to a range of capabilities:

- Level 1 – Customer1
  - — allows access to events, user requests and non-service affecting alarms (except AIS, RDI and PM)
- Level 1 – Customer2
  - — allows access to events, user requests and non-service affecting alarms

- Level 1 – observer
  - — allows access to operating, releasing, and retrieving commands
  - — allows access to reporting commands
- Level 2 – operator
  - — allows access to testing, editing, retrieving, and some provisioning commands
- Level 3 – admin (administrator)
  - — allows surveillance of all network elements
  - — allows complete access to all commands and processes
  - — can be assigned to more than one account so that several users have full privilege access to a network element

Note: The emsmetro user uses the same password as and has identical privileges to the admin user. If you change the admin password your change will also affect the emsmetro user. The emsmetro account is used by Optical Networks Manager (ONM) AP/OMEA to establish a network management session.

Table 1-1 lists the capabilities assigned to each UPC.

Table 1-1
UPC capability summary

UPC	Administrative	Provisioning	Testing	Maintenance
Admin (level 3)	Yes	Yes	Yes	Yes
Operator (level 2)	No	Yes	Yes	Yes
Observer (level 1)	No	No	Yes	Yes
Customer1 (level 1)	No	No	No	Yes
Customer2 (level 1)	No	No	No	Yes

To execute TL1 commands, you must log in to TL1 using an account with the appropriate UPC level.

Note: User IDs with a privilege class of Customer1 or Customer2 can be provisioned through TL1 but cannot be used to log in to an Optical Metro 5100/5200 shelf using TL1 interfaces.

Target identifier and source identifier

Every TL1 command includes a target identifier (TID) as part of the syntax. The TID is a non-confidential code used to identify the network element being addressed. In TL1, the TID functions as the name of the network element.

The TL1 interface uses the TID value to route non-autonomous messages to the network element. The TID value is equivalent to the source identifier (SID) used in autonomous messages. Both the TID and the SID can have the same value.

> ***Note:*** Source identifier (SID) is the term used to identify the TID in a received message or response.

TID naming rules

TIDs must be between 1 and 20 alphanumeric characters. TIDs are assigned using the SET-SID command. Only characters 0-9, a-z, A-Z and hyphen (-) are supported. The first character must be a letter. The TID is case insensitive.

Default TID

The TID identifies the network element to which you are sending a command. When you have multiple sessions active, you can issue commands to any of the network elements that you are logged in to.

If a TID is omitted from a command, the TL1 interpreter, by default, inserts the TID of the network element to which you are currently connected.

The TID can have the following values depending on the commissioning state of the Optical Metro 5100/5200 shelf:

- a default TID (uncommissioned TID)
- predefined TID (commissioned TID)
- user-defined TID (defined using the SET-SID command)

If you do not commission a shelf, the default TID or SID is “OPTERA”.

If you do not define the TID using the TL1 interface but you commission the shelf using the System Manager, the TL1 interface uses the predefined TID. The predefined TID has the following format:

```
OM5000-<site-id>-<shelf_id>
```

For example, if the site ID is 4 and the shelf ID is 12, the predefined TID is:

```
OM5000-4-12
```

Multiple sessions

You can use the ACT-USER command to log in to up to 64 network elements in a ring at a time.

TL1 configuration

To make the Transaction Language 1 (TL1) interface operational with Optical Metro 5100/5200, you must commission the Optical Metro 5100/5200 network element. As part of the commissioning procedure, assign an Internet Protocol (IP) address to the network element. Use the IP address to establish a TL1 session with the network element.

Except for the target identifier (TID), you cannot change the network element TL1 configuration.

You can access the TL1 interface through TRUE TCP/IP, or through a TCP/IP Telnet session.

When you access the TL1 interface through TRUE TCP/IP, you do not require Telnet functionality. The functionality and messages supported by the Telnet TL1 interface are identical to those of the TRUE TCP/IP TL1 interface.

The advantages of TCP/IP include:

- lower costs, because TCP/IP removes the need for end-to-end X.25 circuits
- a significant increase in bandwidth
- multiple login capabilities for users in remote locations

Table 1-2 lists the maximum number of different types of TL1 sessions.

Table 1-2
TL1 maximum sessions

Type of session	Maximum number
TRUE TCP/IP sessions at TCP port 10001 for EMS interface	10 - (minus) active telnet sessions at TCP port 10002
TL1 Telnet sessions at TCP port 10002 for craft interface	4
Total TL1 sessions connected to a single network element	10
Network elements in a ring/network that can be managed using the TL1 gateway functionality	64

To start a TL1 interface, open a Telnet session to connect to the Optical Metro 5100/5200 network element, as described in Procedure 1-1 in this chapter.

TL1 message notation

Table 1-3 lists the table notation used to define the syntax of TL1 messages.

Table 1-3
Message syntax

Symbol	Meaning
cr	ASCII carriage return
lf	ASCII line feed
^	ASCII space
[]	Optional parameter when using editing and entering commands, such as ENT-CRS
<>	Required parameter
&	The & in a command applies to multiple equipment and facility objects. You can use the & when a command is identified as listable. For example, the DLT-EQPT::OCI-5 command deletes OCI-5, but can also be used to delete the OCLD-1 and SRM-13 at the same time: DLT-EQPT::OCI-5&OCLD-1&SRM-13.
&&	The && is used in rangeable commands. When a parameter is rangeable, identify the equipment with the lower slot or port number first. For example, to retrieve equipment data for the OCLDs in slots 1, 2, 3, and 4, enter the command as follows: RTRV-EQPT::OCLD-1&&OCLD-4.

Access identifier

An access identifier (AID) appears in most command argument strings. The AID identifies the equipment or facilities to be accessed by the command. For more information on access identifiers see the section on Access identifiers on page 1-13.

Correlation tag

The TL1 interface requires a sequential command identifier to be used with every command input. The identifier is called a correlation tag (CTAG). If a CTAG is not entered as part of a command, the system uses “0” as a default CTAG.

The system returns the CTAG with all response messages, including confirmation, failed and syntax error messages, and retrieved reports. The system does not return the CTAG with an autonomous report.

The CTAG correlates the command to the result of the command. The format of the CTAG is alphanumeric and can be up to six characters in length.

Automatic tag

An automatically generated message has an automatic tag (ATAG) instead of a CTAG. The ATAG is a unique numeric string that the system generates. The ATAG value is “0” when an NE reboots and it increments by “1” up to “999999” for each automatic message.

Command structure

TL1 commands use a rigid structure. A command always begins with a verb, followed by a hyphen, and a modifier. A second hyphen and a secondary modifier can follow. The TID and AID follow, then the CTAG, and any additional parameters used by the command:

```
VERB-MODIFIER:TID:AID:CTAG::parameter-list;
```

Command elements are separated by punctuation marks. Fields are separated by colons (:) and subfields are separated by commas (,). The order of AID, CTAG, and additional parameters can vary from one command group to another.

Modifiers

Table 1-4 shows some of the modifiers used in the TL1 commands that apply to different circuit packs.

Table 1-4
TL1 modifiers

TL1 modifier	Applies to circuit pack
OCI	• OCI • OCI GbE • OCI ISC • OCI OC-48/STM-16 • OCI SONET/SDH
SRM	• OCI SRM • OCI SRM ESCON • OCI SRM SONET/SDH LTE • OCI SRM SONET/SDH

Table 1-4
TL1 modifiers

TL1 modifier	Applies to circuit pack
GFSRM	• OCI SRM GbE/FC • OCI SRM GbE/FC enhanced • OCI SRM GbE
MOTR	• Muxponder 10 Gbit/s GbE/FC • Muxponder 10 Gbit/s GbE/FC with VCAT
MOTRSFP	• SFP port on the Muxponder 10 Gbit/s GbE/FC or the Muxponder 10 Gbit/s GbE/FC with VCAT

Parameter value grouping

TL1 allows the values of some parameters to be grouped. This technique saves time because you can enter a single command with multiple values for a particular parameter. The format for parameter value grouping is:

```
<Parameter value 1>&<Parameter value 2>...
```

up to a maximum of 33 parameter values in a command. For example:

```
VERB-MODIFIER:TID:AID:CTAG::<Parameter value 1>&<Parameter
value 2>...<Parameter value 33>;
```

Mandatory punctuation

TL1 commands use colons (:) and commas (,) as command element separators and a semicolon (;) to terminate the command line. TL1 also uses ampersands (&) as group item separators where command grouping is supported.

All punctuation shown in the command descriptions must be used or the command does not execute.

TL1 command acknowledgement

When a TL1 command is entered, the system responds with

- the letters IP to indicate that the command is “in progress”
- the CTAG

Until the command either completes correctly or fails, the TL1 prompt does not return. Because no other command can be executed until the prompt returns, the same CTAG can be used in every following command.

TL1 timestamps

Autonomous TL1 messages and replies are timestamped with the time of the network elements. Network elements use Greenwich Mean Time (GMT) by default. You can modify the time and date of the network.

TL1 message overview

This section describes the TL1 message types, the common elements present in all TL1 messages, and the different responses you can receive.

TL1 message types

There are two types of TL1 messages:

- autonomous
- non-autonomous

Each message consists of a header and a message block.

Autonomous messages

Autonomous messages are generated by a network element as a result of activity on the network element. These include:

- alarms
- non-alarmed events
- conditional reports
- performance monitoring reports
- performance monitoring threshold alerts
- Database change (DBCHG) message

These messages are generated automatically and are conveyed to all user sessions active for autonomous report. No information request is required to receive autonomous messages.

> ***Note:*** By default autonomous message is enabled only for observer users. For admin and operator users, you must issue the alw-msg-all, alw-pmrept-all, and alw-dbrept-all commands to enable autonomous messages.

Non-autonomous messages

Non-autonomous messages are the network element response to a TL1 command.

All TL1 autonomous and non-autonomous messages are returned in uppercase characters.

TL1 response header

A response is identified by a two-line header.

First line of a response header

The first two lines of all TL1 response messages have a common format. The first line contains

- the origin of the message, that is, the source identifier (SID) of the network element that originally sent the message
- the date and time (YY-MM-DD HH:MM:SS)

Second line of a response header (autonomous)

The second line of the TL1 message is different for autonomous messages and non-autonomous messages. For autonomous messages, the second line

- begins with an A for non-alarm messages or an alarm code as follows:
  - *C : critical alarm
  - ** : major alarm
  - * : minor alarm
  - A : automatic message
- contains a numeric alarm tag (ATAG) that the Optical Metro 5100/5200 network element generates
- contains the TL1 message type

Second line of a response header (non-autonomous)

For non-autonomous messages, the second line

- begins with an M, followed by
  - the correlation tag (CTAG) used in the original TL1 request
  - the words COMPLD (complete response), DENY (error response), or PRTL (partial modification response) after the CTAG

Error responses

If a TL1 command is not successful, the system returns a DENY response with a TL1 error. The response includes an error code. The error codes are reported along with a description of the situation under which the problem occurred.

All TL1 error codes are listed in the "Error codes" chapter of this book.

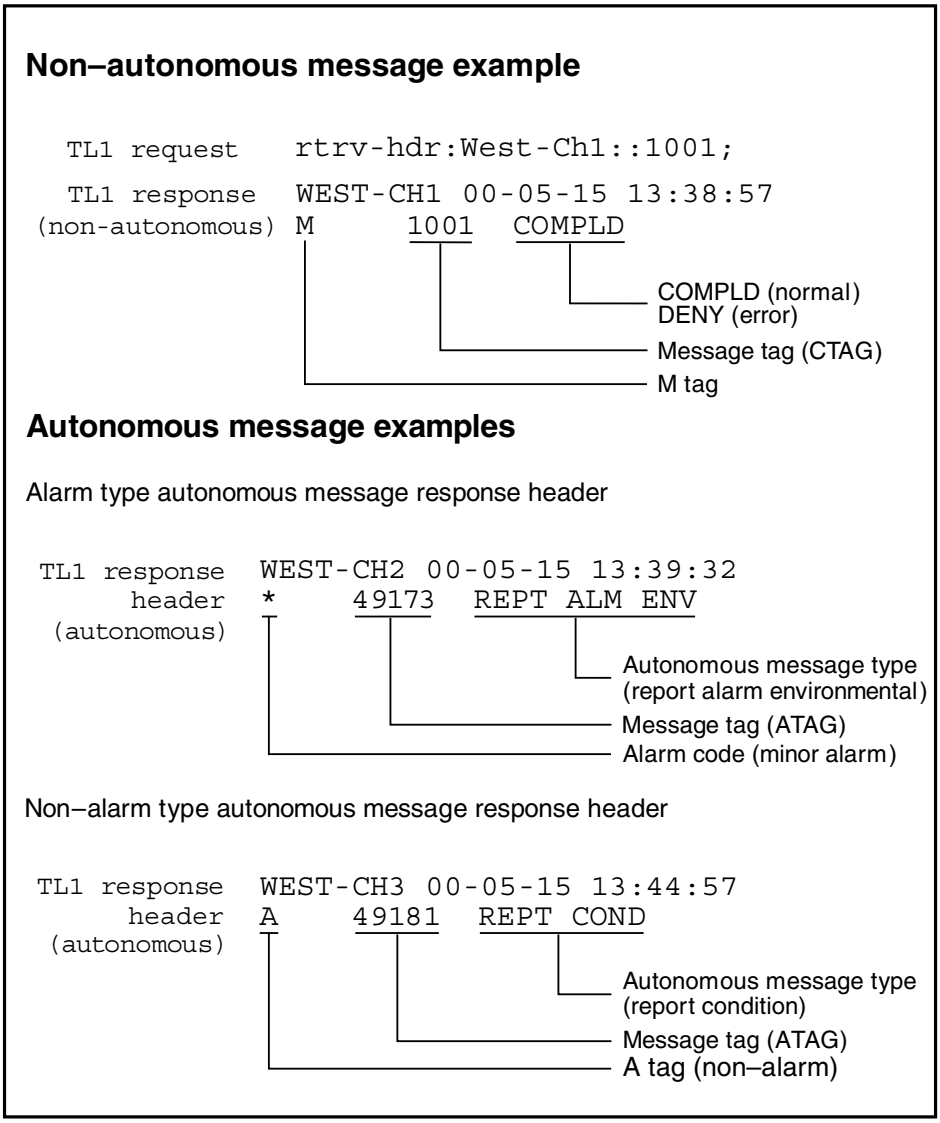
Figure 1-2 on page 1-13 shows example TL1 response message headers.

Partial modification response

If a TL1 command is not completely successful (only partially successful), the system returns a PRTL (partial modification) response. In this case, there is more than one parameter specified in the command and some of the parameters succeeded, but not all of the parameters succeeded. The message description contains a reason for which command only partially completed.

Figure 1-2
Examples of TL1 message headers

OM0222p



Access identifiers

An access identifier (AID) appears in most command argument strings. The AID identifies the equipment or facilities to be accessed by the command.

Equipment access identifiers

The general format for an equipment AID is <Equipment Type>-<Equipment slot number>. For instance, the AID of an OCI circuit pack in slot 5 would be "OCI-5". To retrieve all the equipment alarms for the OCI circuit pack in slot 5, the TL1 command would be:

RTRV-ALM-EQPT:TID:OCI-5:::,,ALL,ALL,ALL;

Table 1-5 summarizes the Optical Metro 5100/5200 equipment Access Identifiers. It is recommended that you photocopy this table and keep it as a reference page for equipment AIDs.

Table 1-5
Equipment Access Identifiers

AID entity	Description	Value or range (5200)	Value or range (5100)
ALL	Wildcard for all AID	ALL	ALL
APBE	Active Per Band Equalizer circuit pack	APBE-{2-8,12-18}	
APBE	Active Per Band Equalizer optical port	APBE-{2-8,12-18}-{1-5}	
BRK	Power source breaker	BRK-{A,B}	BRK-{A,B}
CONT	Environment control relays	CONT-{1-4}	CONT-{1-4}
DSCM	Dispersion and Slope Compensating Module	DSCM-{EIP1-EIP4}-{0-16} (see Note)	DSCM-{EIP1-EIP4}-{0-16} (see Note)
ECT	Equalizer Coupler Tray	ECT-{EIP1-EIP4}-{0-16} (see Note)	ECT-{EIP1-EIP4}-{0-16} (see Note)
EIU	Equipment Inventory Unit	EIU-{EIP1-EIP4}-0	EIU-{EIP1-EIP4}-0
ETHER	Ethernet interface	ETHER-{A,B}	ETHER-{A,B}
GFSRM	OCI SRM GbE/FC or OCI SRM GbE circuit pack	GFSRM-{1-8,11-18}	GFSRM-{1,3}
GFSRM	OCI SRM GbE/FC or OCI SRM GbE circuit pack, equipment optical port	GFSRM-{1-8,11-18}-{1-2}	GFSRM-{1,3}-{1-2}
GFSRM	OCI SRM GbE/FC or OCI SRM GbE circuit pack, equipment backplane port	GFSRM-{1-8,11-18}-{BP9,BP10}	GFSRM-{1,3}-{BP1-BP4}
GFSRM	OCI SRM GbE/FC or OCI SRM GbE circuit pack, equipment aggregate port	GFSRM-{1-8,11-18}-AG1	GFSRM-{1,3}-AG1
MOTR	Muxponder circuit pack	MOTR-{1-7,11-17}	MOTR-{1-3}
MOTR	Muxponder circuit pack, equipment optical port	MOTR-{1-7,11-17}-11	MOTR-{1-3}-11
MOTR	Muxponder circuit pack, equipment backplane port	MOTR-{1-7,11-17}-{BP9,BP10}	MOTR-{1-3}-{BP1-BP4}
MOTRSFP	Muxponder circuit pack, equipment SFP port	MOTRSFP-{1-7,11-17}-{1-10}	MOTRSFP-{1-3}-{1-10}

Table 1-5 (continued)
Equipment Access Identifiers

AID entity	Description	Value or range (5200)	Value or range (5100)
OCI	OCI circuit pack	OCI-{1-8,11-18}	OCI-{1,3}
OCI	OCI circuit pack, equipment optical port	OCI-{1-8,11-18}-1	OCI-{1,3}-1
OCI	OCI circuit pack, equipment backplane port	OCI-{1-8,11-18}-{BP9,BP10}	OCI-{1,3}-{BP1-BP4}
OCLD	OCLD circuit pack	OCLD-{1-8,11-18}	OCLD-{1-4}
OCLD	OCLD circuit pack, equipment optical port	OCLD-{1-8,11-18}-1	OCLD-{1-4}-1
OCLD	OCLD circuit pack, equipment backplane port	OCLD-{1-8,11-18}-{BP9,BP10}	OCLD-{1-4}-{BP1-BP4}
OCM	OCM circuit pack	OCM-{9,10}	
OCM	OCM circuit pack, backplane port	OCM-{9,10}-{BP1-BP8,BP11-BP18}	
OFA	OFA circuit pack	OFA-{3-8,13-18} (C-band) OFA-{3-8,13-18} (L-band) ***Note:*** Slots 3 and 13 are only available for OFA VGA circuit packs.	
OFA	OFA circuit pack, equipment optical port	OFA-{3-8,13-18}-1 (C-band) OFA-{3-8,13-18}-1 (L-band) ***Note:*** Slots 3 and 13 are only available for OFA VGA circuit packs.	
OMX	Optical Multiplexer	OMX- {EIP1-EIP4}-{0-16} (see Note)	OMX- {EIP1-EIP4}-{0-16} (see Note)
OSC	OSC circuit pack	OSC-20	OSC-6
OSC	OSC circuit pack, equipment optical port	OSC-20-{1-4}	OSC-6-{1-4}
OSCSPLT	OSC Splitter/Coupler	OSCSPLT-{EIP1-EIP4}-{0-16} (see Note)	OSCSPLT-{EIP1-EIP4}-{0-16} (see Note)
OTR	OTR circuit pack	OTR-{1-8,11-18}	OTR-{1-4}

Table 1-5 (continued)
Equipment Access Identifiers

AID entity	Description	Value or range (5200)	Value or range (5100)
OTR	OTR circuit pack, equipment optical port	OTR-{1-8,11-18}-{1-2}	OTR-{1-4}-{1-2}
PWRF	Power feed	PWRF-{A,B}	PWRF-{A,B}
PT	Environment Parallel Telemetry ports	PT-1-{1-4}	PT-1-{1-8}
SP	Shelf Processor circuit pack	SP-19	SP-5
SRM	OCI SRM circuit pack	SRM-{1-8,11-18}	SRM-{1,3}
SRM	OCI SRM, OCI SRM SONET/SDH, or OCI SRM SONET/SDH LTE circuit pack, equipment optical port	SRM-{1-8,11-18}-{1-4}	SRM-{1,3}-{1-4}
SRM	OCI SRM SONET/SDH LTE circuit pack, equipment aggregate port	SRM-{1-8,11-18}-AG1	SRM-{1,3}-AG1
SRM	OCI SRM ESCON circuit pack, equipment optical port	SRM-{1-8,11-18}-{1-8}	SRM-{1,3}-{1-8}
SRM	OCI SRM, OCI SRM SONET/SDH, or OCI SRM SONET/SDH LTE circuit pack, equipment aggregate port	SRM-{1-8,11-18}-AG1	SRM-{1,3}-AG1
SRM	OCI SRM circuit pack, equipment backplane port	SRM-{1-8,11-18}-{BP9,BP10}	SRM-{1,3}-{BP1-BP4}
TPT	Transponder Protection Tray	TPT-{EIP1-EIP4}-{0-16} (see Note)	TPT-{EIP1-EIP4}-{0-16} (see Note)
UNKNOWN	Unknown equipment	UNKNOWN-{0-255}	UNKNOWN-{0-255}
VAC	Visual Alarm Card	VAC	VAC

Table 1-5 (continued)
Equipment Access Identifiers

AID entity	Description	Value or range (5200)	Value or range (5100)
VOA	Manual Variable Optical Attenuator	VOA-{EIP1-EIP4}-{0-16} (see Note)	VOA-{EIP1-EIP4}-{0-16} (see Note)
WSPLT	1310 nm splitter/coupler	WSPLT-{EIP1-EIP4}-{0-16} (see Note)	WSPLT-{EIP1-EIP4}-{0-16} (see Note)
Note: When an EIU is connected to an OMX interface card (one of the EIP ports [EIP1-EIP4]), 0-16 represents the 16 ports of the EIU. For example, EIP2-12 represents output port 12 on the EIU connected to EIP2.			

Facility access identifiers

A facility can be a transmission line or path. The general format for a facility AID is <Equipment slot number>-<port number>. For instance, the AID of the SRM facility connected to the second port of the SRM circuit pack in slot 6 would be "6-2".

The facility name is the second modifier of the TL1 command verb. For instance, to retrieve all the facility alarms on the second port of the SRM circuit pack in slot 6, the TL1 command would be:

RTRV-ALM-SRM:TID:6-2:::,,ALL,ALL,ALL;

Table 1-6 summarizes the Optical Metro 5100/5200 facility Access Identifier. It is recommended that you photocopy this table and keep it as a reference page for facility AIDs.

Table 1-6
Facility Access Identifiers

AID entity	Description	Value or range (5200)	Value or range (5100)
ALL	Wildcard for all AID	ALL	ALL
APBE	Active Per Band Equalizer / aggregate facility	{2-8,12-18}-{1-5}	
GFSRM	OCI SRM GbE/FC or OCI SRM GbE client-side facility	{1-8,11-18}-{1-2}	{1,3}-{1-2}
GFSRM	OCI SRM GbE/FC or OCI SRM GbE WAN-side facility alarm	{1-8,11-18}-{WAN1-WAN2}	{1,3}-{WAN1-WAN2}
GFSRM	OCI SRM GbE/FC or OCI SRM GbE aggregate facility	{1-8,11-18}-AG1	{1,3}-AG1

Table 1-6 (continued)
Facility Access Identifiers

AID entity	Description	Value or range (5200)	Value or range (5100)
GFSRM	OCI SRM GbE/FC or OCI SRM GbE aggregate path facility	{1-8,11-18}-AG1-n Port 1 SONET n = 1,4,7,10,13,16,19 Port 1 SDH n = 1,2,3,4,5,6,7 Port 2 SONET n = 25, 28,31,34,37,40,43 Port 2 SDH n = 9,10,11,12,13,14,15	{1,3}-AG1-n Port 1 SONET n = 1,4,7,10,13,16,19 Port 1 SDH n = 1,2,3,4,5,6,7 Port 2 SONET n = 25,28,31,34,37,40,43 Port 2 SDH n = 9,10,11,12,13,14,15
GFSRM	OCI SRM GbE/FC or OCI SRM GbE backplane facility	{1-8,11-18}-{BP9,BP10}	{1,3}-{BP1-BP4}
MOTR	Muxponder line-side facility	{1-7,11-17}-11	{1-3}-11
MOTR	Muxponder line-side path facility	{1-7,11-17}-11-{1-x} In Rel 7.0, x=24n +1 where n=0…7 depending on the SFP port used. For example, if using SFP port 5 : n = 4, PATH = 97	{1-3}-11-{1-x} In Rel 7.0, x=24n +1 where n=0…7 depending on the SFP port used. For example, if using SFP port 5 : n = 4, PATH = 97
MOTR	Muxponder backplane facility	{1-7,11-17}-{BP9,BP10}	{1-3}-{BP1-BP4}
MOTRSFP	Muxponder SFP client-side facility	{1-7,11-17}-{1-10}	{1,3}-{1-10}
MOTRSFP	Muxponder client-side path facility	{1-7,11-17}-{1-10}-{1-192}	{1,3}-{1-10}-{1-192}
MOTRSFP	Muxponder WAN-side facility	{1-7,11-17}-{WAN1-WAN10}	{1,3}-{WAN1-WAN10}
OCI	OCI facility	{1-8,11-18}-1	{1,3}-1
OCI	OCI backplane facility alarm	{1-8,11-18}-{BP9,BP10}	{1,3}-{BP1-BP4}
OCLD	OCLD facility	{1-8,11-18}-1	{1-4}-1
OCLD	OCLD backplane facility alarm	{1-8,11-18}-{BP9,BP10}	{1-4}-{BP1-BP4}
OHCHN	OCLD overhead channel facility	{1-8,11-18}-1-OH-OCLD	{1-4}-1-OH-OCLD
OHCHN	OTR overhead channel facility	{1-8,11-18}-2-OH-OTR	{1-4}-2-OH-OTR

Table 1-6 (continued)
Facility Access Identifiers

AID entity	Description	Value or range (5200)	Value or range (5100)
OHCHN	OSC overhead channel facility	20-{EAST,WEST}-OH-OSC	6-{EAST,WEST}-OH-OSC
OHCHN	Muxponder overhead channel facility	{1-7,11-17}-11-OH-MOTR	{1-3}-11-OH-MOTR
OFA	OFA circuit pack facility	{3-8,13-18}-1 ***Note:*** Slots 3 and 13 are only available for OFA VGA circuit packs.	
OMX	Optical Multiplexer facility alarm (D-M-"OMX"-B-P)	{EAST,WEST}-{1-2}-OMX-{1-9}-{OTS,THRU}	{EAST,WEST}-{1-2}-OMX-{1-9}-{OTS,THRU}
OSC	OSC facility	20-{EAST,WEST}-OSC	6-{EAST,WEST}-OSC
OTR	OTR client-side facility	{1-8,11-18}-1	{1-4}-1
OTR	OTR line-side	{1-8,11-18}-2	{1-4}-2
SPLT	C&L Splitter Coupler facility alarm (D-1-"CNLSPLT"-P)	{EAST,WEST}-1-CNLSPLT-{OTS,C, L}	{EAST,WEST}-1-CNLSPLT-{OTS,C, L}
SPLT	OSC Splitter Coupler facility alarm (D-1-"OSCSPLT"-P)	{EAST,WEST}-1-OSCSPLT-{OTS,THRU, OSC}	{EAST,WEST}-1-OSCSPLT-{OTS,THRU, OSC}
SRM	OCI SRM, OCI SRM SONET/SDH, and OCI SRM SONET/SDH LTE client-side facility	{1-8,11-18}-{1-4}	{1,3}-{1-4}
SRM	OCI SRM ESCON client-side facility	{1-8,11-18}-{1-8}	{1,3}-{1-8}
SRM	OCI SRM backplane facility alarm	{1-8,11-18}-{BP9,BP10}	{1,3}-{BP1-BP4}
SRM	OCI SRM aggregate facility alarm	{1-8,11-18}-AG1	{1,3}-AG1
SRM	OCI SRM aggregate path facility	{1-8,11-18}-AG1-{1-4}	{1,3}-AG1-{1-4}

Table 1-6 (continued)
Facility Access Identifiers

AID entity	Description	Value or range (5200)	Value or range (5100)
SRM	OCI SRM ESCON aggregate path facility	{1-8,11-18}-AG1-n SONET n = 1,7,13,19,25,31,37,43 SDH n = 1,3,5,7,9,11,13,15	{1,3}-AG1-n SONET n = 1,7,13,19,25,31,37,43 SDH n = 1,3,5,7,9,11,13,15
SRM	OCI SRM SONET/SDH LTE aggregate path facility	{1-8,11-18}-AG1-{1-48}	{1,3}-AG1-{1-48}
UNKNOWN	Unknown facility	UNKNOWN-{0-255}	UNKNOWN-{0-255}
WSC	Wayside Channel facility	20-{EAST,WEST}-WSC	6-{EAST,WEST}-WSC

Procedure list

Table 1-7 lists the procedure in this chapter.

Table 1-7
TL1 procedures

Procedure	Page
1-1 Establishing a connection to the TL1 interface for a commissioned shelf	1-22
1-2 Establishing a connection to the TL1 interface for an uncommissioned shelf	1-25
1-3 Using the Optical Metro 5100/5200 gateway network element	1-26

Procedure 1-1
Establishing a connection to the TL1 interface for a commissioned shelf

Use this procedure to establish a connection for a commissioned shelf to the Optical Metro 5100/5200 TL1 interface, using a Transmission Control Protocol/Internet Protocol (TCP/IP) Telnet session.

You can establish a connection to the Optical Metro 5100/5200 TL1 interface through:

- TRUE TCP/IP
- TCP/IP using a Telnet session
- the Optical Metro 5100/5200 gateway network element

Requirements

Before you begin this procedure, you must know the IP address of the Optical Metro 5100/5200 network element.

Note 1: On completion of the ACT-USER command, a Warning Notice is displayed.

Note 2: For remote users (authenticated by the RADIUS server), the last login information is displayed after the ACT-USER command is complete as follows:

```
/*
uid:lastLoginTime:LastLoginLocation:LastFailedLoginLocation:FailedAtte
mpt = MXINV*/
```

Note 3: If the number of login failures equals the provisioned MXINV, the TL1 connection is lost.

Note 4: If Centralized authentication mode is used, the RADIUS server is not reachable and the alternate login method is set to Local, you must know the user ID and password of a local user provisioned at the primary shelf.

Note 5: If Centralized authentication mode is used, the RADIUS server is not reachable and the alternate login method is set to Challenge/Response, you must contact your administrator to get the Challenge Response code.

—continued—

Procedure 1-1 (continued)
Establishing a connection to the TL1 interface for a commissioned shelf

Action

Step	Action
1	**If** you want to / **Then** go to
	establish a TRUE TCP/IP connection — step 2
	establish a Telnet connection — step 3
	establish a connection using the Optical Metro 5200 gateway network element — step 4
2	Establish a TRUE TCP/IP connection using a craft interface or an operations system (OS), such as an NMA system. ***Note:*** The interface or OS must be able to open a TCP socket and request a TCP connection to the Optical Metro 5100/5200 shelf. Configure the interface to connect to the IP address of the shelf and the TRUE TCP/IP port, as described in Table 1-2 on page 1-7.

3	Establish a Telnet connection using a Telnet client, such as a UNIX shell. Use the TL1 port, as described in Table 1-2 on page 1-7, instead of the standard Telnet port. Issue the following command:
	`telnet<shelf_ip_address> <configured_port>`
	`telnet 10.0.34.21 10002`
	If the command successfully executes, you receive a TL1 prompt, such as:
	`OPTICAL-METRO-TL1>`

4	Establish a connection using the Optical Metro 5100/5200 gateway network element. ***Note 1:*** Any of the Optical Metro 5100/5200 network elements can act as a TL1 gateway. Nortel Networks recommends that you use terminal sites as gateways. Connect to the gateway network element using Procedure 1-3. You can route TL1 commands to a subtending network element by using the TID of the network element in place of the TID for the network element to which you are directly connected. You need to execute an ACT-USER (activate user session) command for the subtending network element. ***Note 2:*** An Optical Metro 5100/5200 network element can only act as a gateway for the network elements within the same Optical Metro 5100/5200 ring.
5	When you establish a connection, you must log in to the TL1 interface using the ACT-USER (activate user session) command. `ACT-USER:[TID]:<UID>:[CTAG]::<PID>;`

—continued—

Procedure 1-1 (continued)
Establishing a connection to the TL1 interface for a commissioned shelf

Step	Action	
6	**If** the following message is obtained	**Then** go to
	/*Centralized Authentication is unavailable, please use Challenge/Response.*/	step 7
	/*Login Failed.*/ or /*Login Failed. Centralized Authentication is unavailable, please use local user authentication.*/	step 10
	the Warning Notice banner or the remote authentication confirmation is displayed.	step 11
7	Use the RTRV-CHALLENGE (retrieve challenge) command to obtain the challenge string. `RTRV-CHALLENGE:[TID]:<UID>:[CTAG];`	
8	Obtain the Challenge Response code. Contact your administrator to get the Challenge Response tool, available as part of the Optical Manager Element Adaptor or as a standalone application. Refer to the Challenge Response Tool Guide for more information.	
9	Use the ENT-CHALLENGE-RESPONSE (enter challenge response) command and enter the response obtained from the Challenge Response tool. `ENT-CHALLENGE-RESPONSE:[TID]::[<UID>]:[CTAG]:<response>;` Go to step 11.	
10	Go to step 5 and enter the UID and PID that is provisioned as Local. *If Centralized authentication mode is used, the RADIUS server is unreachable and the alternate login method is set to Local,*the message /*Centralized Authentication is unavailable. You are currently logged in as a local user.*/ will be displayed *after the ACT-USER command is complete*.	
11	You are now logged in to the network element. *The Warning Notice banner is displayed.* *If Centralized authentication mode is used, the RADIUS server is reachable and the alternate login method is set to either Local or Challenge/Response, a remote authentication confirmation is displayed before the Warning Notice banner, after the ACT-USER command is complete.* *If Centralized authentication mode is used, the RADIUS server is unreachable and the alternate login method is set to Challenge/Response, a remote authentication confirmation is displayed after the ACT-USER command is complete as follows:* */*uid::::FailedAttempt = MXINV*/* **—end—**	

Procedure 1-2
Establishing a connection to the TL1 interface for an uncommissioned shelf

Use this procedure to establish a connection for an uncommissioned shelf to the Optical Metro 5100/5200 TL1 interface, using a Transmission Control Protocol/Internet Protocol (TCP/IP) Telnet session.

You can establish a connection to the Optical Metro 5100/5200 TL1 interface through:

- TRUE TCP/IP
- TCP/IP using a Telnet session
- the Optical Metro 5100/5200 gateway network element

When you establish a connection to the Optical Metro 5100/5200 TL1 interface, you must log in to TL1 as an administrator (Level 3) using the ACT-USER (activate user session) command.

Requirements

Before you begin this procedure, you must know the default IP address of the Optical Metro 5100/5200 network element. The default IP address of Ethernet port 1X is 10.1.254.1. The default DHCP address of Ethernet port 1X is 10.1.254.2.

Action

Step	Action

1	Connect your PC to an Ethernet or serial port of the network element. Make sure that the port is configured for TCP/IP. The following command format is used to initiate a TL1 Telnet session:
	`telnet<shelf_defaultip_address> <configured_port>`
	Initiate a TL1 Telnet session by entering the following command:
	`>telnet 10.1.254.1 10002`
	If the command successfully executes, you receive a TL1 prompt, such as:
	`OPTICAL-METRO-TL1>`

2	Activate the login by issuing the following command: `ACT-USER:[TID]:<UID>:[CTAG]::<PID>;`

—end—

Procedure 1-3
Using the Optical Metro 5100/5200 gateway network element

You can configure any of the Optical Metro 5100/5200 network elements as a TL1 gateway. Nortel Networks recommends that in a hubbed-ring configuration you use the terminal network element as the gateway. An Optical Metro 5100/5200 network element can only be the gateway for the network elements within the same Optical Metro 5100/5200 ring.

Requirements

Before you begin this procedure, you must know the target identifier (TID) of the network elements that you want to connect to. Use the RTRV-NE-LIST (retrieve network element list) command to see a list of all the network elements in the network.

Action

Step	Action
1	Establish a connection using the Optical Metro 5100/5200 gateway network element.
2	You route TL1 commands to a subtending network element using the TID of the network element to which you are directly connected. Execute the ACT-USER command for the subtending network element. For example to open a TL1 administration session: `ACT-USER:[TID]:<UID>:[CTAG]::<PID>;`
3	Use the RTRV-HDR (retrieve header) command to verify connectivity to the subtending network elements.

—end—

Security and administration commands

This chapter is an alphabetical summary of all TL1 commands related to security and administration. The command descriptions in this chapter identify each command, and describe the command purpose, syntax, variables, and response.

Commands in this chapter

Table 2-1 lists the security and administrative commands in this chapter.

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Security and administrative commands

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ACT-USER (activate user session)

Use the ACT-USER command to log in to the network element. You must have a valid user identifier (UID) and password identifier (PID) to use this command. For security purposes TL1 displays a question mark (?) for each character that you enter as part of your password identifier.

The Optical Metro 5200 supports three predefined user IDs. Each user ID is automatically assigned a security access level on the network element, between one and three. Up to ten TL1 user sessions using these accounts can be active at one time on one network element.

To log out, refer to the CANC-USER (cancel user session) command. You can use ACT-USER to log in to a maximum of 64 network elements at one time. To maintain multiple logins, all network elements must be interconnected. Once you have activated sessions to a number of network elements, most TL1 commands can be addressed to all the network elements simultaneously.

Note 1: On completion of the ACT-USER command, a warning banner is displayed.

Note 2: For remote users (authenticated by the RADIUS server), the last login information is displayed after the ACT-USER command is complete as follows:

/*
uid:lastLoginTime:LastLoginLocation:LastFailedLoginLocation:FailedLogin Attempt */

Security level

Level 1

Input syntax

```
ACT-USER:[TID]:<UID>:[CTAG]::<PID>;
```

Table 2-2
ACT-USER input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
UID	User identifier UID is case-insensitive.	Character string	Character string
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
PID	Password identifier PID is case-sensitive.	Character string	Character string

Example input

Log in to network element NEWYORK using the account ADMIN:

```
ACT-USER:NEWYORK:ADMIN:123::PASSWORD;
```

ALW-USER-SECU (allow user security)

Use the ALW-USER-SECU command to enable a user account.

Security level

Level 3

Input syntax

```
ALW-USER-SECU:[TID]::[CTAG]::<uid>;
```

Table 2-3
ALW-USER-SECU input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
UID	User identifier UID is case-insensitive.	Character string	Character string
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string

APPLY

Use the APPLY command to apply a new software load to the network element. Before you use the APPLY command, you must transfer the appropriate software load using the COPY-RFILE command.

CAUTION
Risk of loss of communication with the shelf
This command causes communications to be lost with the shelf. Enter an ACT-USER command to reestablish the connection. Nortel Networks recommends that you wait at least three minutes after the restart of a shelf, remotely logged in through the gateway network element (GNE), before issuing any further commands, or viewing any information from the shelf.

Security level

Level 3

Input syntax

```
APPLY:[TID]:[<aid>]:[CTAG]::[<applylevel>];
```

Table 2-4
APPLY input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string

Table 2-4 (continued)
APPLY input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
AID	Access identifier	Unused	Unused
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
APPLYLEVEL	Specifies the levels or steps of software upgrade.	CANC = Cancel the upgrade process. Should be used after load transfer or distribution complete but before NE restart. CMMT = Commit an uncommitted load. DIST = Load distribute only. REST = Restart the NE after load distribution. REVERT = Revert to previously committed load. Should be used when NE active load is uncommitted. NE will backed out to previous committed load. UCMT = Uncommitted upgrade, that is, Load Distribute and Restart. (Default).	CANC = Cancel the upgrade process. Should be used after load transfer or distribution complete but before NE restart. CMMT = Commit an uncommitted load. DIST = Load distribute only. REST = Restart the NE after load distribution. REVERT = Revert to previously committed load. Should be used when NE active load is uncommitted. NE will backed out to previous committed load. UCMT = Uncommitted upgrade, that is, Load Distribute and Restart. (Default).

CANC-PROV (cancel provisioning data)

Use the CANC-PROV command to cancel the provisioning data that has been restored to a network element by the RST-PROV (restore provisioning) command. See Procedure 15-2 on page 15-7 in the Shelf backup and restore procedures chapter of the *TL1 Interface,* 323-1701-190.

Note: This command does not clean up any backup files left in the network element by the SAV-PROV, RST-PROV, or CMMT-PROV commands.

ATTENTION
If you use the CANC-PROV command after you use RST-PROV, you cannot commit or restore the data file.

Security level

Level 3

Input syntax

```
CANC-PROV:[TID]::[CTAG];
```

Table 2-5
CANC-PROV input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string

Example input

Cancel a SAV-PROV command executed on the shelf processor for network element OTTAWA:

```
CANC-PROV:OTTAWA::99;
```

CANC-USER (cancel user session)

Use the CANC-USER command to cancel an active TL1 session with the network element. You must type logout to correctly disconnect a telnet session.

For each TL1 Telnet session you can have multiple active TL1 sessions. When you log out of a TL1 Telnet session, all the active TL1 sessions associated with that TL1 Telnet session are cancelled.

After you use the CANC-USER command, you must enter "logout" before you close a TL1 Telnet session window. Otherwise, you may generate an error on the Telnet server that may cause a shelf processor (SP) reboot.

CAUTION
Risk of shelf processor reboot
Enter "logout" before closing a TL1 Telnet session window to avoid generating an error on the Telnet server that may cause a shelf processor (SP) reboot.

Regardless of privilege, no account can be logged out by a CANC-USER command from a different user account. However, an SP restart will log out all currently active sessions.

Note: The UID must be used to log out any account. If a user remains logged in to an account on the local network element and another user wants to log the user out but does not know the UID of the first user, the only way to log out the account is to disconnect the RS-232 cable from the craft access port, or turn off the power to the VT100 terminal.

Security level

Level 1

Input syntax

```
CANC-USER:[TID]:<UID>:[CTAG];
```

Table 2-6
CANC-USER input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string ***Note:*** ALL is a valid TID.	Character string ***Note:*** ALL is a valid TID.
UID	User identifier UID is case-insensitive.	Character string	Character string
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string

Example input

Log out OBSERVER from the network element WASHINGTON:

```
CANC-USER:WASHINGTON:OBSERVER:777;
```

CHK-HLTH (request health check)

Use the CHK-HLTH command to request a health check on a network element (NE) prior to a software upgrade. A health report is generated for the NE. After this request, enter the CHK-HLTH-REPT command to see if the new health report is available.

CHK-HLTH will overwrite an existing health report stored on the NE.

Security level

Level 3

Input syntax

```
CHK-HLTH:[TID]::[CTAG]::[<userid>],[<passwd>]:[DESTTYPE=<destt
ype>],[DESTADDR=<destaddr>],[DIRECTORY=<directory>];
```

Table 2-7
CHK-HLTH input syntax definitions

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
USERID	User identifier for the remote host	Alphanumeric string	Alphanumeric string
PASSWD	Password for the remote host	Alphanumeric string	Alphanumeric string
DESTTYPE	Destination type	IP LOCAL	IP LOCAL
DESTADDR	Destination address. TID of the network element in the ring or IP address of the remote host.	URL string should be specified in double quotation marks (“ “).	URL string should be specified in double quotation marks (“ “).
DIRECTORY	Directory path/filename at destination where health check file to be stored.	URL string should be specified in double quotation marks (“ “).	URL string should be specified in double quotation marks (“ “).

Example input

Check the health of the network element WASHINGTON and send report to host “123.156.55.78”.

```
CHK-HLTH:WASHINGTON::abc123::userid,passwd:DESTTYPE=IP,DESTADD
R="123.156.55.78",DIRECTORY="D:/NortelNetworks/OPTeraMetro/Hea
lthCheck/Health.txt";
```

CHK-HLTH-REPT (check for health report)

Use the CHK-HLTH-REPT command to see if the health report generated by the CHK-HLTH command is ready. On successful completion, the path and file name are returned. You must FTP to the NE to get the report.

Use the health report to determine if a software upgrade is advisable.

Security level

Level 3

Input syntax

```
CHK-HLTH-REPT:[TID]::[CTAG];
```

Table 2-8
CHK-HLTH-REPT input syntax definitions

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string

Example input

Check the health report that is stored on the shelf processor for the network element WASHINGTON.

```
CHK-HLTH-REPT:WASHINGTON::1234;
```

CHK-PROV (check provisioning data)

Use the CHK-PROV command to check the state of the NE for which provisioning data is to be saved or restored.

Security level

Level 3

Input syntax

```
CHK-PROV:[TID]::[CTAG]::[<userid>],[<passwd>]:[DESTTYPE=<destt
ype>],[DESTADDR=<destaddr>],[CHKALM=<chkalm>];
```

Table 2-9
CHK-PROV input syntax definitions

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
USERID	User identifier	Unused	Unused
PASSWD	Password	Unused	Unused
DESTTYPE	Destination type	Unused	Unused
DESTADDR	Destination address	Unused	Unused
CHKALM	Check alarm	Unused	Unused

Example input

Check the state of network element WASHINGTON.

```
CHK-PROV:WASHINGTON::ABC123;
```

or

```
CHK-PROV:WASHINGTON::1::,:,,,;
```

CMMT-PROV (commit provisioning)

Use the CMMT-PROV command to commit the file that has been restored to a SP by the RST-PROV (restore provisioning) command. See Procedure 15-2 on page 15-7 in the Shelf backup and restore procedures chapter of the *TL1 Interface,* 323-1701-190.

CAUTION
Risk of traffic loss
Nortel Networks recommends that you only restore shelf configuration data to an out-of-service shelf.

CAUTION
Risk of loss of communication with the shelf
Nortel Networks recommends that you wait at least two minutes after committing the restore operation before issuing any further commands, or viewing any information from the shelf.

The CMMT-PROV command checks to see if there are any outstanding reasons not to commit the data at this time. If there are no reasons preventing the commitment, the data is committed and the network element reboots.

Security level

Level 3

Input syntax

```
CMMT-PROV:[TID]::[CTAG];
```

Table 2-10
CMMT-PROV input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string

Example input

Commit provisioning data that has been restored to shelf processor OTTAWA:

```
CMMT-PROV:OTTAWA::93;
```

COPY-RFILE (copy remote file)

Use the COPY-RFILE command to transfer a software load or files to and from the network element. Only binary file transfer is supported.

For a successful software upgrade, the network element's current load must be in committed state. Use RTRV-SW-VER command to verify the state of the network element.

> ***Note:*** This command will return COMPLD after initial system validation and initiating the FTP session. This command does not indicate the success nor the failure of the file transfer. The network element will generate a series of autonomous messages (REPT EVT FXFR) that will indicate the status of file transfer. The last REPT EVT FXFR message will indicate success or failure of the file transfer where COMPLD,SUCCESS indicates a successful file transfer and COMPLD,FAILURE indicates failure in the file transfer.

Security level

Level 3

Input syntax

```
COPY-RFILE:[TID]:[<AID>]:[CTAG]::TYPE=<xfertype>,SRC=<srcurl>,
[DEST=<desturl>],[OVWRT=<overwrite>],[FTTD=<fttdurl>];
```

Table 2-11
COPY-RFILE input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AID	Access identifier	Unused	Unused
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
TYPE	Type and direction of the file transfer	RFBU = Remote File Backup (NE to Remote Server) RFR = Remote File Restore (Remote Server to NE) SWBU = Software Backup (NE to Remote Server) SWDL = Software Download (Remote Server to NE)	RFBU = Remote File Backup (NE to Remote Server) RFR = Remote File Restore (Remote Server to NE) SWBU = Software Backup (NE to Remote Server) SWDL = Software Download (Remote Server to NE)

Table 2-11
COPY-RFILE input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
SRC	Source URL (FTP <ftpurl> or File <fileurl>) specifies the source of the file to be transferred	FTP URL format: "ftp://<userid>:<password>@<ftphost>[:<port>]/<url-path>" File URL format: "file://<localhost>/<url-path>" where: <ftphost> is the domain name or IP address of FTP server. <localhost> is the domain name or IP address of local host. <port> is the FTP port number to connect to. If omitted, default 21 will be used. <url-path> is the file path detail. Consists of drive letter, directory levels and the file name to be accessed. ***Note:*** URL string should be specified in double quotation marks (“ “).	FTP URL format: "ftp://<userid>:<password>@<ftphost>[:<port>]/<url-path>" File URL format: "file://<localhost>/<url-path>" where: <ftphost> is the domain name or IP address of FTP server. <localhost> is the domain name or IP address of local host. <port> is the FTP port number to connect to. If omitted, default 21 will be used. <url-path> is the file path detail. Consists of drive letter, directory levels and the file name to be accessed. ***Note:*** URL string should be specified in double quotation marks (“ “).

Table 2-11
COPY-RFILE input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
DEST	Destination URL (FTP <ftpurl> or File <fileurl>) specifies the destination to store the transferred files.	FTP URL format: "ftp://<userid>:<password>@<ftphost>[:<port>]/<url-path>" File URL format: "file://<localhost>/<url-path>" where: <ftphost> is the domain name or IP address of FTP server. <localhost> is the domain name or IP address of local host. <port> is the FTP port number to connect to. If omitted, default 21 will be used. <url-path> is the file path detail. Consists of drive letter, directory levels and the file name to be accessed. ***Note:*** URL string should be specified in double quotation marks (“ “).	FTP URL format: "ftp://<userid>:<password>@<ftphost>[:<port>]/<url-path>" File URL format: "file://<localhost>/<url-path>" where: <ftphost> is the domain name or IP address of FTP server. <localhost> is the domain name or IP address of local host. <port> is the FTP port number to connect to. If omitted, default 21 will be used. <url-path> is the file path detail. Consists of drive letter, directory levels and the file name to be accessed. ***Note:*** URL string should be specified in double quotation marks (“ “).
OVWRT	Overwrite existing file of same directory location and filename. Default is No	Yes No (Default)	Yes No (Default)
FTTD	File transfer translation device URL	Unused	Unused

Example input

Operate a software upgrade to release 6.1.40.2 at BELLEVUE:

```
COPY-RFILE:BELLEVUE::1::TYPE=SWDL,SRC="FTP://userId:password@1
23.156.77.93:21/C:/NortelNetworks/OPTeraMetro/ShelfLoadFiles/6
.1.40.2",OVWRT=YES;
```

DLT-BANNER (delete banner)

Use the DLT-BANNER command to delete the user provisioned warning banner. After you enter this command, the default warning banner is displayed.

Security level

Level 3

Input syntax

```
DLT-BANNER:[TID]::[CTAG];
```

Table 2-12
DLT-BANNER input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string

DLT-USER-SECU (delete user security)

Use the DLT-USER-SECU command to delete a local user account.

Security level

Level 3

Input syntax

```
DLT-USER-SECU:[TID]:<UID>:[CTAG];
```

Table 2-13
DLT-USER-SECU input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
UID	User identifier	Character string	Character string
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string

ED-DAT (edit date and time)

Use the ED-DAT command to instruct the network element to change its system date and time clock to the value specified. The date and time are set up on the network element as part of commissioning, with the default time set at Greenwich Mean Time (GMT). You must verify the date and time after a system restart. When the command is successful, an event log is generated.

All network elements automatically and periodically synchronize their time to that of the primary network element. Network elements pick up the time change according to their synchronization schedule.

Note 1: When you use the TID parameter in the ED-DAT command, the command is sent to the specified network element. When the TID parameter is null, the ED-DAT command is sent to the default network element.

Note 2: If the time is set on a remote NE, the time will be overwritten by the time of the primary NE.

Security level

Level 3

Input syntax

```
ED-DAT:[TID]::[CTAG]::[<ydate>],[<dtime>];
```

Table 2-14
ED-DAT input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
YDATE	Current date	YY-MM-DD, where YY = year MM = month DD = date	YY-MM-DD, where YY = year MM = month DD = date
DTIME	Current time	HH-MM-SS, where HH = hour MM = minutes SS = seconds	HH-MM-SS, where HH = hour MM = minutes SS = seconds

Example input

Set the date and time to January 15, 2001, 9:30 a.m.:

```
ED-DAT:NEWYORK::12::01-01-15,09-30-00;
```

ED-PID (edit password identifier)

Use the ED-PID command to edit the user account password for any user on the network element or modify the centralized user password through RADIUS. You must be an Admin user to edit your own password, or the password of another user with this command. The password field will not be echoed.

If you change any password on the primary shelf, it automatically changes that password for all the shelves in the network.

Edit the password identifier at the primary shelf. If you edit the password identifier at a remote shelf, it will be overwritten by the primary shelf password.

Password identifiers (PIDs) are between 8 and 10 characters. PIDs are case-sensitive, can include letters, numbers, and the following symbols:

! “ # $ % ` ( ) * + - . / < = > @ [ ] ^ _ ' { | } ~

The password must contain at least one alphanumeric character.

You must precede the double quote (“) with a backslash (\). The TL1 interface considers the backslash to be a character, so using it adds to the length of the password.

Unsupported characters include: semicolon (;), colon (:), ampersand (&), comma (,), spaces, double quotes (“”) all control characters, and question mark (?).

Security level

Level 3

Input syntax

```
ED-PID:[TID]:<UID>:[CTAG]::<OLDPID>,<NEWPID>;
```

Table 2-15
ED-PID input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
UID	User identifier UID is case-insensitive.	Character string	Character string
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
OLDPID	Old password identifier Password is case-sensitive.	Character string	Character string
NEWPID	New password identifier Password is case-sensitive.	Character string	Character string

Example input

Change the old password identifier from OLDPASSWD to NEWPASSWD:

```
ED-PID:MONTREAL:ADMIN:3::OLDPASSWD,NEWPASSWD;
```

ED-SECU-PID (edit security private identifier)

Use the ED-SECU-PID command to edit the password identifier for the current user. The password field will not be echoed.

> ***Note:*** The same password rules as defined for the ED-PID (edit password identifier) command apply.

Edit the password identifier at the primary shelf. If you edit the password identifier at a remote shelf, it will be overwritten by the primary shelf password.

Security level

Level 1

Input syntax

```
ED-SECU-PID:[TID]:<UID>:[CTAG]::<OLDPID>,<NEWPID>,<NEWPID>;
```

Table 2-16
ED-SECU-PID input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
UID	User identifier UID is case-insensitive.	Character string	Character string
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
OLDPID	Old password identifier Password is case-sensitive.	Character string	Character string
NEWPID	New password identifier Password is case-sensitive.	Character string	Character string
NEWPID	New password identifier Password is case-sensitive.	Character string	Character string

Example input

Change the current password identifier from OLDPASSWD to NEWPASSWD:

```
ED-SECU-PID:MONTREAL:OBSERVER:1::OLDPASSWD,NEWPASSWD,NEWPASSWD
;
```

ED-USER-CMNTY (edit user community)

Use the ED-USER-CMNTY command to change the SNMP community string for the specified user privilege class.

Security level

Level 3

Input syntax

```
ED-USER-CMNTY:[TID]:<UAP>:[CTAG]::<cstr>;
```

Table 2-17
ED-USER-CMNTY input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
UAP	User Access Privileges for which the community string is to be set.	ADMIN OPERATOR OBSERVER SURVEILLANCE CUSTOMER1 CUSTOMER2	ADMIN OPERATOR OBSERVER SURVEILLANCE CUSTOMER1 CUSTOMER2
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
CSTR	User community string	Character string (1-8 characters)	Character string (1-8 characters)

Example input

Change the current user community string for an observer user:

```
ED-USER-CMNTY:MONTREAL:OBSERVER:1::CMNTYSTR;
```

ED-USER-SECU (edit user security)

Use the ED-USER-SECU command to edit a local user account.

Security level

Level 3

Input syntax

```
ED-USER-SECU:[TID]:<UID>:[CTAG]::[<newuid>],[<newpid>],
[<cid>],[<uap>]: [ATAGBEH=<atagbeh>],[TMOUT=<tmout>];
```

Table 2-18
ED-USER-SECU input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
UID	User identifier	Character string	Character string
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
NEWUID	New user identifier	Character string (from 5 to 8 characters)	Character string (from 5 to 8 characters)
NEWPID	New password	Character string (from 8 to 10 characters)	Character string (from 8 to 10 characters)
CID	Channel identifier	Unused	Unused
UAP	User Access Privilege	ADMIN OPERATOR OBSERVER CUSTOMER1 CUSTOMER2	ADMIN OPERATOR OBSERVER CUSTOMER1 CUSTOMER2
ATAGBEH	ATAG sequence behavior ***Note:*** This parameter can only be changed when the user is not logged in.	COMMON = Shelf level ATAG sequence.Common to all users. Initialize by cold restart (0-999999). SPECIFIC = User specific ATAG sequence. Initialize (0) when a user session starts (0-999999). (Default)	COMMON = Shelf level ATAG sequence.Common to all users. Initialize by cold restart (0-999999). SPECIFIC = User specific ATAG sequence. Initialize (0) when a user session starts (0-999999). (Default)
TMOUT	Idle Timeout	Integer	Integer

ENT-CHALLENGE-RESPONSE (enter challenge response)

Use the ENT-CHALLENGE-RESPONSE command to enter a response for a Challenge Response Authentication.

Security level

Level 1

Input syntax

```
ENT-CHALLENGE-RESPONSE:[TID]:[<uid>]:[CTAG]::<response>;
```

Table 2-19
ENT-CHALLENGE-RESPONSE input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
UID	User identifier	Unused	Unused
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
RESPONSE	Response for a Challenge	Alphanumeric string	Alphanumeric string

ENT-USER-SECU (enter user security)

Use the ENT-USER-SECU command to create a new local user account.

Security level

Level 3

Input syntax

```
ENT-USER-SECU:[TID]:<uid>:[CTAG]::<pid>,[<cid>],<uap>:
[ATAGBEH=<atagbeh>],[TMOUT=<tmout>];
```

Table 2-20
ENT-USER-SECU input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
UID	User identifier	Character string	Character string
CTAG	Correlation tag	Alphanumeric string (5 to 8 characters)	Alphanumeric string (5 to 8 characters)
PID	New password	Character string (8 to 10 characters)	Character string (8 to 10 characters)
CID	Channel identifier	Unused	Unused

Table 2-20 (continued)
ENT-USER-SECU input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
UAP	User Access Privilege	ADMIN OPERATOR OBSERVER CUSTOMER1 CUSTOMER2	ADMIN OPERATOR OBSERVER CUSTOMER1 CUSTOMER2
ATAGBEH	ATAG sequence behavior	COMMON = Shelf level ATAG sequence. Common to all users. Initialize by cold restart (0-999999). SPECIFIC = User specific ATAG sequence. Initialize (0) when a user session starts (0-999999). (Default)	COMMON = Shelf level ATAG sequence. Common to all users. Initialize by cold restart (0-999999). SPECIFIC = User specific ATAG sequence. Initialize (0) when a user session starts (0-999999). (Default)
TMOUT	Idle Timeout	Integer	Integer

INH-USER-SECU (inhibit user security)

Use the INH-USER-SECU command to disable a local user account.

Security level

Level 3

Input syntax

```
INH-USER-SECU:[TID]::[CTAG]::<uid>;
```

Table 2-21
INH-USER-SECU input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
UID	User identifier	Alphanumeric string (from 5 to 8 characters)	Alphanumeric string (from 5 to 8 characters)

INIT-WARM (initialize warm)

Use the INIT-WARM command to reboot a network element. A warm initialization does not affect traffic.

CAUTION
Risk of loss of communication with the shelf
This command causes communications to be lost with the shelf. Enter an ACT-USER command to reestablish the connection. Nortel Networks recommends that you wait at least three minutes after the restart of a shelf, remotely logged in through the GNE, before issuing any further commands, or viewing any information from the shelf.

Security level

Level 3

Input syntax

```
INIT-WARM:[TID]::[CTAG];
```

Table 2-22
INIT-WARM input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string

RST-PROV (restore provisioning)

Use the RST-PROV command to restore the provisioning data from the backup file which is available in the local network element file system or from the given IP address. See Procedure 15-2 on page 15-7 in the Shelf backup and restore procedures chapter of the *TL1 Interface,* 323-1701-190.

CAUTION
Risk of traffic loss
Nortel Networks recommends that you only restore shelf configuration data to an out-of-service shelf.

The RST-PROV command

- does some basic checks on the integrity of the restored data
- compares the software release listed in the backup data with the current software release running on the network element (NE). If they are not the same, the restoration fails.
- if CHKTID=Y or CHKTID is omitted, the RST-PROV command compares the TID of the network element to which provisioning data is being restored with the stored TID. If they are different, the restore fails.
- if CHKALM=Y or CHKALM is omitted, the RST-PROV command checks for alarms on the network element

RST-PROV fails if there are any alarms on the network element.

Security level

Level 3

Input syntax

```
RST-PROV:[TID]::[CTAG]::[<userid>],[<passwd>]:
[DESTTYPE=<desttype>],[DESTADDR=<destaddr>],
[DIRECTORY=<directory>],[CHKTID=<chktid>],[CHKALM=<chkalm>],
[PRESERVE=<preserve>];
```

Table 2-23
RST-PROV input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
USERID	UserID for the remote host in the source URL	Character string	Character string
PASSWD	User password for the remote host in the source URL	Character string	Character string
DESTTYPE	Destination type	IP = Restore from or save to an IP address. LOCAL = Restore from or save to local NE file system. TID = Restore from or save to the NE of given TID.	IP = Restore from or save to an IP address. LOCAL = Restore from or save to local NE file system. TID = Restore from or save to the NE of given TID.
DESTADDR	Destination address. TID of the network element in the ring or IP address of the remote host.	Character string. Should be specified in double quotation marks (“ “).	Character string. Should be specified in double quotation marks (“ “).
DIRECTORY	Dirctory path/filename at destination where backup file is stored	Character string. Should be specified in double quotation marks (“ “).	Character string. Should be specified in double quotation marks (“ “).

Table 2-23 (continued)
RST-PROV input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
CHKTID	Check TID Specifies whether or not to compare the TID from which the backup was saved, with the TID of the shelf to which the backup is being restored.	Y = compare TID from backup file with the current shelf TID N = do not compare TID	Y = compare TID from backup file with the current shelf TID N = do not compare TID
CHKALM	Check alarm status	Y = check alarm status N = do not check alarm status	Y = check alarm status N = do not check alarm status
PRESERVE	Preserve network element commissioning data and/or user profile. Do not restore from the backup file. Preserve is listable.	Character string COMMDATA or USERPROF	Character string COMMDATA or USERPROF

RTRV-ATTR-CSA (retrieve attributes centralized security attributes)

Use the RTRV-ATTR-CSA command to retrieve configured centralized security gateway NE attributes.

Security level

Level 3

Input syntax

```
RTRV-ATTR-CSA:[TID]::[CTAG];
```

Table 2-24
RTRV-ATTR-CSA input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string

Output syntax

```
SID DATE TIME
M CTAG COMPLD
"[STATE=<state>],[ALTERNATE=<alternate>],[PRIMARY=<primary>],
[SECONDARY=<secondary>]";
```

Table 2-25
RTRV-ATTR-CSA output syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
STATE	Centralized Authentication State.	DISABLE ENABLE	DISABLE ENABLE
ALTERNATE	Alternate Authentication method if state is ENABLE	CHALLENGE = Challenge-Response Authentication method LOCAL = Local Authentication method (Default).	CHALLENGE = Challenge-Response Authentication method LOCAL = Local Authentication method (Default).
PRIMARY	TID of the Primary security gateway NE	Character string	Character string
SECONDARY	TID of the Secondary security gateway NE	Character string	Character string

RTRV-ATTR-REMAUTH (retrieve attributes remote authentication)

Use the RTRV-ATTR-REMAUTH command to retrieve RADIUS server attributes for remote authentication on a security gateway NE.

Security level

Level 3

Input syntax

```
RTRV-ATTR-REMAUTH:[TID]::[CTAG];
```

Table 2-26
RTRV-ATTR-REMAUTH input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string

Output syntax

```
SID DATE TIME
M CTAG COMPLD
"<server>:RADIUS=<radius>,PORT=<port>,TO=<to>";
```

Table 2-27
RTRV-ATTR-REMAUTH output syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
SERVER	RADIUS server	PRIMARY SECONDARY	PRIMARY SECONDARY
RADIUS	RADIUS server IP address	x.x.x.x	x.x.x.x
PORT	RADIUS Server UDP port	Integer number (Default:1812)	Integer number (Default:1812)
TO	RADIUS Server time out (seconds)	Numeric value (Default:10)	Numeric value (Default:10)

RTRV-AUDIT-SECULOG (retrieve audit security log)

Use the RTRV-AUDIT-SECULOG command to retrieve security logs.

Security level

Level 3

Input syntax

```
RTRV-AUDIT-SECULOG:[TID]:[<AID>]:[CTAG]:::[UID=<uid>],
[LOGEVENT=<logevent>];
```

Table 2-28
RTRV-AUDIT-SECULOG input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AID	Access identifier	A null value is equivalent to "ALL".	A null value is equivalent to "ALL".
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
UID	User identifier	A null value is equivalent to "ALL".	A null value is equivalent to "ALL".
LOGEVENT	SECUALMTYPE or TL1 command for DBCHG message.	A null value is equivalent to "ALL".	A null value is equivalent to "ALL".

Output syntax

```
SID DATE TIME
M CTAG COMPLD
"[<aid>]:<ocrdat>,<ocrtm>:LOGINDEX=<logindex>,LOGEVENT=<logeve
nt>,[NTFNCDE=<ntfncde>],[UID=<uid>],[UAP=<uap>],[LINKID=<linki
d>],[STATUS=<status>],[LOGDESC=<logdesc>]"
```

Table 2-29
RTRV-AUDIT-SECULOG output syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
AID	Access identifier	Character string	Character string
OCRDAT	Date of event.	YY-MM-DD, where YY = year MM = month DD = date	YY-MM-DD, where YY = year MM = month DD = date
OCRTM	Time of event	HH-MM-SS, where HH = hour MM = minutes SS = seconds	HH-MM-SS, where HH = hour MM = minutes SS = seconds

Table 2-29 (continued)
RTRV-AUDIT-SECULOG output syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
LOGINDEX	Log index	Integer number	Integer number
LOGEVENT	SECUALMTYPE or TL1 command for DBCHG	Character string	Character string
NTFNCDE	Notification code	CL = Condition Cleared CR = Critical Condition MJ = Major Condition MN = Minor Condition NA = Warning or Non-Alarmed Condition.	CL = Condition Cleared CR = Critical Condition MJ = Major Condition MN = Minor Condition NA = Warning or Non-Alarmed Condition.
UID	User identifier	Character string	Character string
UAP	User Access Privilege	ADMIN OPERATOR OBSERVER	ADMIN OPERATOR OBSERVER
LINKID	User host IP address	x.x.x.x	x.x.x.x
STATIS	TL1 command status	COMPLD DENY PRTL	COMPLD DENY PRTL
LOGDESC	Description of log	Alphanumeric string	Alphanumeric string

RTRV-BANNER (retrieve banner)

Use the RTRV-BANNER command to retrieve the current warning banner.

Security level

Level 3

Input syntax

```
RTRV-BANNER:[TID]::[CTAG];
```

Table 2-30
RTRV-BANNER input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string

Output syntax

```
SID DATE TIME
M  CTAG COMPLD
"<banner>"
;
```

Table 2-31
RTRV-BANNER input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
Banner	Banner text	Character string - maximum 20 lines and 80 characters/line	Character string - maximum 20 lines and 80 characters/line

RTRV-CHALLENGE (retrieve challenge)

Use the RTRV-CHALLENGE command to retrieve Challenge for Challenge-Response Authentication.

Security level

Level 1

Input syntax

```
RTRV-CHALLENGE:[TID]:<UID>:[CTAG];
```

Table 2-32
RTRV-CHALLENGE input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
UID	User identifier	Character string (must not be null)	Character string (must not be null)
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string

Output syntax

```
SID DATE TIME
M CTAG COMPLD
"<challenge>"
```

Table 2-33
RTRV-CHALLENGE output syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
CHALLENGE	Challenge string generated by NE	Alphanumeric string	Alphanumeric string

RTRV-DFLT-SECU (retrieve default security)

Use the RTRV-DFLT-SECU command to retrieve shelf level default security attributes.

Security level

Level 3

Input syntax

```
RTRV-DFLT-SECU:[TID]:[<AID>]:[CTAG];
```

Table 2-34
RTRV-DFLT-SECU input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AID	Access identifier	Unused	Unused
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string

Output syntax

```
SID DATE TIME
M CTAG COMPLD
"[<aid>]:[MXINV=<mxinv>],[DURAL=<dural>],[TMOUT=<tmout>]"
```

Table 2-35
RTRV-DFLT-SECU output syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
AID	Access identifier	Unused	Unused
MXINV	Maximum number of invalid login attempts before an Intrusion alarm is raised.	1 to 20 (default is 5)	1 to 20 (default is 5)
DURAL	Maximum time duration when NE is locked out after an Intrusion alarm is raised.	Format HH-MM-SS (default 00-01-00)	Format HH-MM-SS (default 00-01-00)
TMOUT	Inactivity time out (minutes) after which session is terminated.	0 to 999 (default is 30) 0 disables time out.	0 to 999 (default is 30) 0 disables time out.

RTRV-HDR (retrieve header)

Use the RTRV-HDR command to ping the network element and return the current time and TID of the network element.

> ***Note:*** If you do not know a TID, you can find out the TID in the RTRV-HDR response.

Security level

Level 1

Input syntax

```
RTRV-HDR:[TID]::[CTAG];
```

Table 2-36
RTRV-HDR input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string

Example input

Retrieve the header message from network element SEATTLE to verify you are still logged in to the network element and that the session is still active:

```
RTRV-HDR:SEATTLE::55;
```

RTRV-USER (retrieve user)

Use the RTRV-USER command to query the user's own account attributes.

> ***Note:*** User Access Privilege cannot be retrieved for Customer1 and Customer2 because these user accounts are only available through the System Manager Interface.

Security level

Level 1

Input syntax

```
RTRV-USER:[TID]:[<uid>]:[CTAG];
```

Table 2-37
RTRV-USER input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
UID	User identifier	Character string - a null value is default to own user identifier	Character string - a null value is default to own user identifier
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string

Output syntax

```
SID DATE TIME
M CTAG COMPLD
"<uid>:[<cid>],<uap>:[ATAGBEH=<atagbeh>],STATUS=<status>,
TMOUT=<tmout>"
```

Table 2-38
RTRV-USER output syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
UID	User identifier	Character string	Character string
CID	Channel identifier	Unused	Unused
UAP	User Access Privileges	ADMIN OPERATOR OBSERVER	ADMIN OPERATOR OBSERVER
ATAGBEH	ATAG sequence behavior	COMMON = Shelf level ATAG sequence.Common to all users. Initialize by cold restart (0-999999). SPECIFIC = User specific ATAG sequence. Initialize (0) when a user session starts (0-999999). (Default)	COMMON = Shelf level ATAG sequence.Common to all users. Initialize by cold restart (0-999999). SPECIFIC = User specific ATAG sequence. Initialize (0) when a user session starts (0-999999). (Default)
STATUS	User account status	ENABLE DISABLE	ENABLE DISABLE
TMOUT	Idle Timeout	Integer	Integer

RTRV-USER-SECU (retrieve user security)

Use the RTRV-USER-SECU command to query all local user accounts provisioned on the NE.

Security level

Level 3

Input syntax

```
RTRV-USER-SECU:[TID]:[<uid>]:[CTAG];
```

Table 2-39
RTRV-USER-SECU input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
UID	User identifier	Character string - a null value is equivalent to ALL	Character string - a null value is equivalent to ALL
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string

Output syntax

```
SID DATE TIME
M CTAG COMPLD
"<uid>:[<cid>],<uap>:[ATAGBEH=<atagbeh>],STATUS=<status>,TMOUT
=<tmout>"
```

Table 2-40
RTRV-USER-SECU output syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
UID	User identifier	Character string	Character string
CID	Channel identifier	Unused	Unused
UAP	User Access Privileges	ADMIN OPERATOR OBSERVER CUSTOMER1 CUSTOMER2	ADMIN OPERATOR OBSERVER CUSTOMER1 CUSTOMER2
ATAGBEH	ATAG sequence behavior	COMMON = Shelf level ATAG sequence.Common to all users. Initialize by cold restart (0-999999). SPECIFIC = User specific ATAG sequence. Initialize (0) when a user session starts (0-999999). (Default)	COMMON = Shelf level ATAG sequence.Common to all users. Initialize by cold restart (0-999999). SPECIFIC = User specific ATAG sequence. Initialize (0) when a user session starts (0-999999). (Default)
STATUS	User account status	ENABLE DISABLE	ENABLE DISABLE
TMOUT	Idle Timeout	Integer	Integer

SAV-PROV (save provisioning)

Use the SAV-PROV command to save the provisioning data to the local network element file system. See Procedure 15-1 on page 15-2 in the Shelf backup and restore procedures chapter of the *TL1 Interface,* 323-1701-190.

Security level

Level 3

Input syntax

```
SAV-PROV:[TID]::[CTAG]::[<userid>],[<passwd>]:
[DESTTYPE=<desttype>],[DESTADDR=<destaddr>],
[DIRECTORY=<directory>],[CHKALM=<chkalm>];
```

Table 2-41
SAV-PROV input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
USERID	UserID for the remote host in the source URL	Character string.	Character string.
PASSWD	User password for the remote host in the source URL	Character string.	Character string.
DESTTYPE	Destination type	IP = Restore from or save to an IP address. LOCAL = Restore from or save to local NE file system.	IP = Restore from or save to an IP address. LOCAL = Restore from or save to local NE file system.
DESTADDR	Destination address. IP address of the remote host.	Character string. Should be specified in double quotation marks (“ “).	Character string. Should be specified in double quotation marks (“ “).
DIRECTORY	Dirctory path/filename at destination where backup file is stored	Character string. Should be specified in double quotation marks (“ “).	Character string. Should be specified in double quotation marks (“ “).
CHKALM	Check alarm status	Y = check alarm status N = do not check alarm status	Y = check alarm status N = do not check alarm status

SET-ATTR-CSA (set attributes centralized security attributes)

Use the SET-ATTR-CSA command to configure the centralized security gateway NE attributes.

Security level

Level 3

Input syntax

```
SET-ATTR-CSA:[TID]::[CTAG]:::[STATE=<state>],
[ALTERNATE=<alternate>],[PRIMARY=<primary>],
[SECONDARY=<secondary>];
```

Table 2-42
SET-ATTR-CSA input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
STATE	Centralized Authentication State	ENABLE DISABLE	ENABLE DISABLE
ALTERNATE	Alternate Authentication method when STATE is ENABLE	CHALLENGE = Challenge-Response Authentication method LOCAL = Local Authentication method (Default).	CHALLENGE = Challenge-Response Authentication method LOCAL = Local Authentication method (Default).
PRIMARY	TID of the Primary security gateway	Character string. NIL deletes the entry.	Character string. NIL deletes the entry.
SECONDARY	TID of the Secondary security gateway	Character string. NIL deletes the entry.	Character string. NIL deletes the entry.

SET-ATTR-REMAUTH (set attributes remote authentication)

Use the SET-ATTR-REMAUTH command to configure RADIUS server attributes for remote authentication on a security gateway NE.

Security level

Level 3

Input syntax

```
SET-ATTR-REMAUTH:[TID]::[CTAG]::<server>,[<secret>],
[<secret1>]: [RADIUS=<radius>],[PORT=<port>],[TO=<to>];
```

Table 2-43
SET-ATTR-REMAUTH input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
SERVER	RADIUS server	PRIMARY = Primary RADIUS Server SECONDARY = Secondary RADIUS Server	PRIMARY = Primary RADIUS Server SECONDARY = Secondary RADIUS Server
SECRET	Shared secret string	Character string	Character string
SECRET1	Shared secret string - repeated	Character string	Character string
RADIUS	RADIUS server IP address	x.x.x.x	x.x.x.x
PORT	RADIUS server UDP port	Numeric value (Default: 1812)	Numeric value (Default: 1812)
TO	RADIUS Server time out (seconds)	Numeric value (Default: 10)	Numeric value (Default: 10)

SET-ATTR-SECUDFLT (set attributes security default)

Use the SET-ATTR-SECUDFLT command to configure shelf level default security attributes.

Security level

Level 3

Input syntax

```
SET-ATTR-SECUDFLT:[TID]::[CTAG]:::[MXINV=<mxinv>],
[DURAL=<dural>], [TMOUT=<tmout>];
```

Table 2-44
SET-ATTR-SECUDFLT input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
MXINV	Maximum number of invalid login attempts before an Intrusion alarm is raised.	Integer number 2 to 20 (default is 5)	Integer number 2 to 20 (default is 5)
DURAL	Maximum time duration when NE is locked out after an Intrusion alarm is raised.	Format HH-MM-SS 00-00-00 to 00-01-00 (default 00-01-00)	Format HH-MM-SS 00-00-00 to 00-01-00 (default 00-01-00)
TMOUT	Inactivity time out (minutes) after which session is terminated.	Integer number 0 to 999 (default is 30) 0 disables time out.	Integer number 0 to 999 (default is 30) 0 disables time out.

SET-BANNER-LINE (set banner line)

Use the SET-BANNER-LINE command to set or edit the user provisioned warning banner line. Add warning banner lines one at a time.

Note 1: While SMI displays the warning banner in a paragraph format, TL1 displays it in a line-by-line format.

Note 2: If a line is left blank, SMI will display the layout as two different paragraphs.

Note 3: If a "-" is inserted at the end of a line, and no space is left at the beginning of the next line, then the SMI warning banner will display both lines as merged.

Security level

Level 3

Input syntax

```
SET-BANNER-LINE:[TID]::[CTAG]::<linenum>,<line>;
```

Table 2-45
SET-BANNER-LINE input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
LINENUM	Banner line number to edit	1 to 20	1 to 20
LINE	Line text to enter	Character string - maximum 80 characters. To delete a line enter two double quotation marks (“”).	Character string - maximum 80 characters. To delete a line enter two double quotation marks (“”).

Example input

Set the first line of the banner to display OPTICAL METRO 5200 SHELF RELEASE 8.0:

```
SET-BANNER-LINE:::1::1,OPTICAL METRO 5200 SHELF RELEASE 8.0;
```

SET-CHALLENGE-SECRET (set challenge secret)

Use the SET-CHALLENGE-SECRET command to set the Challenge Secret string for a Challenge Response Authentication on the Primary shelf.

Security level

Level 3

Input syntax

```
SET-CHALLENGE-SECRET:[TID]::[CTAG]::<secret>,<secret1>;
```

Table 2-46
SET-CHALLENGE-SECRET input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
SECRET	Challenge Secret string	Character string	Character string
SECRET1	Challenge Secret string - repeated	Character string	Character string

SET-SID (set system identifier)

Use the SET-SID command to instruct the network element to change its system identification (SID) code to a given value. Nortel Networks recommends that you set the code to the CLLI code. Changing the SID can result in a mismatch of the SID value in the response headers with TID value in commands received before the change.

For each uncommissioned shelf, the default SID and TID is “OPTERA”. After commissioning, all network elements are preset with a default SID of OM5000-<site_id>-<shelf_id>. If the network element is connected to another network element, the two network elements must have different SIDs.

For more information about the TID and the SID, refer to “Target identifier and source identifier” on page 1-5 of the “Introducing TL1” chapter.

CAUTION

Risk of data loss or an Upgrade Fail alarm

Do not change the SID during an upgrade or during a Save and Restore operation. Changing the SID of either the source or destination network element during an upgrade or a Save and Restore operation causes an incomplete load lineup and an Upgrade Fail alarm.

Security level

Level 3

Input syntax

```
SET-SID:[TID]::[CTAG]::<SID>;
```

Table 2-47
SET-SID input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
SID	Source identifier	Character string	Character string

Example input

Change the name of a network element called NEWYORK to BOSTON2:

```
SET-SID:NEWYORK::999::BOSTON2;
```

VALD-PROV (validate provisioning)

Use the VALD-PROV command to validate the provisioning data in a backup file. See Procedure 15-1 on page 15-2 in the Shelf backup and restore procedures chapter of the *TL1 Interface,* 323-1701-190.

Security level

Level 3

Input syntax

```
VALD-PROV:[TID]::[CTAG];
```

Table 2-48
VALD-PROV input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string

Example input

Validate the provisioning data on the network element MONTREAL:

```
VALD-PROV:MONTREAL::23;
```

System commands

This chapter is an alphabetical summary of all TL1 commands related to

- setting or retrieving the network element IP, type, and configuration information
- retrieving the routing table
- retrieving the software version

The command descriptions in this chapter identify each command, and describe the command purpose, syntax, variables, and response.

Commands in this chapter

Table 3-1 lists the system commands in this chapter.

Table 3-1
System commands

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Table 3-1 (continued)
System commands

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ACT-LASER (activate LASER)

Use the ACT-LASER command to activate the laser after a fiber cut is repaired. This command is applied at the shelf level and covers all the spans in the automatic laser shutdown mode.

Security level

Level 1

Input syntax

```
ACT-LASER:[TID]::[CTAG];
```

Table 3-2
ACT-LASER input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string

Example input

Activate laser on shelf OM5000-1-44:

```
ACT-LASER:OM5000-1-44::ABC123;
```

ED-IP (edit IP)

Use the ED-IP command to edit the network element IP address parameters.

After changing those parameters that do not require a reboot, TL1 returns this response from the network element:

```
"/* Database modification completed */"
```

After changing the shelf IP or any of the configuration parameters that require a reboot, TL1 returns this response from the network element:

```
"/* Database modification completed:Please reboot the NE */"
```

You must restart the shelf using the INIT-WARM (initialize warm) command for the changes to take effect. If you want to change several parameters using the ED-IP, ED-IP-OSPF or ED-NE-CFG commands, make these changes before you use the INIT-WARM command, so that you only have to use INIT-WARM once.

TL1 returns a partial modification (PRTL) response if more than one parameter is specified in this command and some of the parameters succeed, but not all of the parameters succeed. The message description contains a reason and the name of the parameter that failed and a reboot instruction if the succeeded parameter requires that the network element be rebooted.

CAUTION
Loss of contact with shelf
Do not reboot the NE until the command succeeds completely and TL1 returns a COMPLD response and the message "`/* Database modification completed:Please reboot the NE */`", otherwise you may lose contact with the shelf.

CAUTION
Unsupported configuration
The Intrasite Fault Sectionalization (IFS) feature does not support a user provisioned IP address or subnet mask on the Enet-2 interface.

CAUTION
Loss of contact with shelf
You must have the correct IP address/config information to use the ED-IP, ED-IP-OSPF or ED-NE-CFG commands, otherwise you may lose contact with the shelf.

CAUTION
Risk of loss of communication with the shelf
Nortel Networks recommends that you wait at least three minutes after the restart of a shelf, remotely logged in through the gateway network element (GNE), before issuing any further commands, or viewing any information from the shelf.

Security level

Level 2

Input syntax

```
ED-IP:[TID]::[CTAG]::<ipaddress1>,[<ipaddress2>]:[NETMASK1=<ne
tmask1>],[DHCP1ADDR=<dhcp1addr>],[NETMASK2=<netmask2>],[DHCP2A
DDR=<dhcp2addr>],[GATEWAY=<gateway>],[PRIMARY=<primary>],[HUBB
INGGROUP=<hubbinggroup>],[SER1LADDR=<ser1Laddr>],[SER1RADDR=<s
er1Raddr>],[SER2LADDR=<ser2Laddr>],[SER2RADDR=<ser2Raddr>],[DC
NGATEWAY=<dcngateway>], [EXTROUTING=<extrouting>];
```

Table 3-3
ED-IP input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
IPADDRESS1	IP address of the 10Base-T 1X port	Address between 0.0.0.0 (default) and 255.255.255.255 See also Table 3-4, generic restrictions #1, #2, #3, #4.	Address between 0.0.0.0 (default) and 255.255.255.255 See also Table 3-4, generic restrictions #1, #2, #3, #4.
IPADDRESS2	IP address of the 10Base-T 2X port	Address between 0.0.0.0 (default) and 255.255.255.255 See also Table 3-4, generic restrictions #1, #2, #3, #4.	Address between 0.0.0.0 (default) and 255.255.255.255 See also Table 3-4, generic restrictions #1, #2, #3, #4.
NETMASK1	Netmask for 10Base-T 1X port For a gateway network element (GNE), the netmask of the shelf is the netmask of the router.	Address between 0.0.0.0 (default) and 255.255.255.255 If shelf is GNE, must be less than or equal to 30 bits.	Address between 0.0.0.0 (default) and 255.255.255.255 If shelf is GNE, must be less than or equal to 30 bits.
DHCP1ADDR	DCHP address for 10Base-T 1X port	0.0.0.0 = DHCP address of the GNE or any single-IP shelf IP+1 = DHCP of a multiple-IP shelf If shelf is GNE, must be “0.0.0.0” If shelf is not GNE, generic restrictions #1, #2, #3, #4 apply (see Table 3-4), plus address must be in same subnet as Shelf address.	0.0.0.0 = DHCP address of the GNE or any single-IP shelf IP+1 = DHCP of a multiple-IP shelf If shelf is GNE, must be “0.0.0.0” If shelf is not GNE, generic restrictions #1, #2, #3, #4 apply (see Table 3-4), plus address must be in same subnet as Shelf address.
NETMASK2	Netmask for 10Base-T 2X port	Address between 0.0.0.0 (default) and 255.255.255.255	Address between 0.0.0.0 (default) and 255.255.255.255

Table 3-3 (continued)
ED-IP input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
DHCP2ADDR	DHCP address for 10Base-T 2X port	- DHCP address of the GNE or any single-IP shelf is 0.0.0.0 - DHCP of a multiple-IP shelf is the IP+1 See also Table 3-4, generic restrictions #1, #2, #3, #4.	- DHCP address of the GNE or any single-IP shelf is 0.0.0.0 - DHCP of a multiple-IP shelf is the IP+1 See also Table 3-4, generic restrictions #1, #2, #3, #4.
GATEWAY	Gateway address The gateway address is used to define a gateway network element (GNE). The GNE is a communication path between the Optical Metro 5200 network and a customer's data communications network (DCN).	- 0.0.0.0 (default) - n.n.n.n See also Table 3-4, generic restrictions #1, #2, #3, #4. Can only be set to non-zero address if OSFP and BGP are disabled, DHCP address is 0.0.0.0, and mask is less than or equal to 30 bits.	- 0.0.0.0 (default) - n.n.n.n See also Table 3-4, generic restrictions #1, #2, #3, #4. Can only be set to non-zero address if OSFP and BGP are disabled, DHCP address is 0.0.0.0, and mask is less than or equal to 30 bits.
PRIMARY	Primary shelf The primary shelf acts as a time and date server and maintains a shelf list for the network.	n.n.n.n See also Table 3-4, generic restrictions #1, #2, #3, #4.	n.n.n.n See also Table 3-4, generic restrictions #1, #2, #3, #4.
HUBBINGGROUP	Hubbing group for the network element	Number from 1 through 8	Number from 1 through 8
SER1LADDR	Serial port 1 local address	n.n.n.n See also Table 3-4, generic restrictions #1, #2, #3, #4.	n.n.n.n See also Table 3-4, generic restrictions #1, #2, #3, #4.
SER1RADDR	Serial port 1 remote address	n.n.n.n See also Table 3-4, generic restrictions #1, #2, #3, #4.	n.n.n.n See also Table 3-4, generic restrictions #1, #2, #3, #4.
SER2LADDR	Serial port 2 local address	n.n.n.n See also Table 3-4, generic restrictions #1, #2, #3, #4.	n.n.n.n See also Table 3-4, generic restrictions #1, #2, #3, #4.

Table 3-3 (continued)
ED-IP input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
SER2RADDR	Serial port 2 remote address	n.n.n.n See also Table 3-4, generic restrictions #1, #2, #3, #4.	n.n.n.n See also Table 3-4, generic restrictions #1, #2, #3, #4.
DCNGATEWAY	DCN Gateway	Y = Yes N = No	Y = Yes N = No
EXTROUTING	External Routing Mode	BGP = BGP NONE = None OSPF = OSPF PROXYARP = Proxy ARP	BGP = BGP NONE = None OSPF = OSPF PROXYARP = Proxy ARP

Table 3-4 lists the generic restrictions that apply to user-assignable IP addresses.

Table 3-4
Generic IP address restrictions

Restriction #	Description
#1	Not permitted: any IP address with a first octet of “0” (0.n.n.n)
#2	Not permitted: any IP address with a first octet of “127” (127.n.n.n)
#3	Not permitted: any IP address with a first octet of “10” and a second octet of “0” (10.0.n.n)
#4	Not permitted: any IP address with a first octet of “224 or greater” (224.n.n.n or 225.n.n.n)

ED-IP-BGP (edit IP BGP)

Use the ED-IP-BGP command to edit Border Gateway Protocol (BGP) specific parameters of the Optical Metro 5100/5200 NE. After you edit the BGP parameters, an INIT-WARM command may be necessary.

After changing the parameters that do not require a reboot, TL1 returns this response from the network element:

```
"/* Database modification completed */"
```

After changing the shelf IP or any of the configuration parameters that require a reboot, TL1 returns this response from the network element:

```
"/* Database modification completed:Please reboot the NE */
```

TL1 returns a partial modification (PRTL) response if more than one parameter is specified in this command and some of the parameters succeed, but not all of the parameters succeed. The message description contains a reason and the name of the parameter that failed and a reboot instruction if the succeeded parameter requires that the network element be rebooted.

CAUTION
Loss of contact with shelf
Do not reboot the NE until the command succeeds completely and TL1 returns a COMPLD response and the message "`/* Database modification completed:Please reboot the NE */`", otherwise you may lose contact with the shelf.

CAUTION
Risk of loss of communication with the shelf
Nortel Networks recommends that you wait at least three minutes after the restart of a shelf, remotely logged in through the gateway network element (GNE), before issuing any further commands, or viewing any information from the shelf.

Security level

Level 2

Input syntax

```
ED-IP-BGP:[TID]::[CTAG]:::[LOCALASNUMBER=<localasnumber>],
[LOCALASWEIGHT=<localasweight>],[PEER1IPADDRESS=
<peer1ipaddress>],[PEER1ASNUMBER=<peer1asnumber>],
[PEER2IPADDRESS=<peer2ipaddress>],[PEER2ASNUMBER=
<peer2asnumber>],[RETRYINTERVAL=<retryinterval>],
[HOLDDOWNTIME=<holddowntime>],[ROUTINGENABLE=<RoutingEnable>];
```

Table 3-5
ED-IP-BGP input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
LOCALASNUMBER	BGP local autonomous system number	Integer string Number 0 through 65535 Default=0	Integer string Number 0 through 65535 Default=0
LOCALASWEIGHT	BGP local autonomous system weight	Integer string Number 1 through 15, and 65535 Default=10	Integer string Number 1 through 15, and 65535 Default=10
PEER1IPADDRESS	BGP peer 1 IP address, must be in the same subnet as the local BGP identifier.	Default = 0.0.0.0 See also Table 3-4, generic restrictions #1, #2, #3, #4.	Default = 0.0.0.0 See also Table 3-4, generic restrictions #1, #2, #3, #4.
PEER1ASNUMBER	BGP Peer 1 Autonomous System Number	Number 0 through 65535 Default=0	Number 0 through 65535 Default=0
PEER2IPADDRESS	BGP Peer 2 IP Address, must be in the same subnet as the local BGP identifier.	Default=0.0.0.0 See also Table 3-4, generic restrictions #1, #2, #3, #4.	Default=0.0.0.0 See also Table 3-4, generic restrictions #1, #2, #3, #4.
PEER2ASNUMBER	BGP Peer 2 Autonomous System Number.	Number 0 through 65535 Default=0	Number 0 through 65535 Default=0
RETRYINTERVAL	BGP Retry Interval.	Number 0 through 65535 Default=120	Number 0 through 65535 Default=120
HOLDDOWNTIME	BGP Holddown time.	Number 0 through 65535 Default=90	Number 0 through 65535 Default=90
ROUTINGENABLE	BGP Routing Enable.	Default=N Y	Default=N Y

ED-IP-DNS (edit IP DNS)

Use the ED-IP-DNS command to edit Domain Name Server (DNS) specific parameters of the Optical Metro 5100/5200 NE. After you edit the DNS parameters, an INIT-WARM command may be necessary.

After changing the shelf configuration parameters, TL1 returns this response from the network element:

```
"/* Database modification completed:Please reboot all NEs in
ring with DNS enabled*/"
```

You must restart the shelf using the INIT-WARM (initialize warm) command for the changes to take effect. If you want to change several parameters using the ED-IP, ED-IP-OSPF or ED-NE-CFG commands, make these changes before you use the INIT-WARM command, so that you only have to use INIT-WARM once.

Note: The DNS Proxy server must be disabled in order to allow the settings to be modified as it takes up to three minutes for the changes to take place.

TL1 returns a partial modification (PRTL) response if more than one parameter is specified in this command and some of the parameters succeed, but not all of the parameters succeed. The message description contains a reason and the name of the parameter that failed and a reboot instruction if the succeeded parameter requires that the network element be rebooted.

CAUTION
Loss of contact with shelf
Do not reboot the NE until the command succeeds completely and TL1 returns a COMPLD response and the message "/* Database modification completed: Please reboot all NEs in ring with DNS enabled*/", otherwise you may lose contact with the shelf.

CAUTION
Risk of loss of communication with the shelf
Nortel Networks recommends that you wait at least three minutes after the restart of a shelf, remotely logged in through the gateway network element (GNE), before issuing any further commands, or viewing any information from the shelf.

Note: After editing DNS suffix parameter, reboot all the NEs in the ring with DNS enable.

Security level

Level 2

Input syntax

```
ED-IP-DNS:[TID]::[CTAG]:::[SRVR1ADDR=<srvr1addr>],
[SRVR2ADDR=<srvr2addr>],[SUFFIX=
<suffix>],[DNSENABLE=<dnsenable>];
```

Table 3-6
ED-IP-DNS input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
SRVR1ADDR	DNS server 1 IP address	n.n.n.n See also Table 3-4, generic restrictions #1, #2, #4.	n.n.n.n See also Table 3-4, generic restrictions #1, #2, #4.
SRVR2ADDR	DNS server 2 IP address	n.n.n.n See also Table 3-4, generic restrictions #1, #2, #4.	n.n.n.n See also Table 3-4, generic restrictions #1, #2, #4.
SUFFIX	DNS suffix	string	string
DNSENABLE	DNS Proxy Enable/Disable	Y N	Y N

Example input

Modify the DNS suffix at NE OM5000-1-44:

```
ED-IP-DNS:OM5000-1-44::ABC123:::,,SUFFIX=DNS SERVER,;
```

ED-IP-NAT (edit IP NAT)

Use the ED-IP-NAT command to edit Network Address Translation (NAT) specific parameters of the Optical Metro 5100/5200 NE. After you edit the NAT parameters, a INIT-WARM command may be necessary.

After changing those parameters that do not require a reboot, TL1 returns this response from the network element:

```
"/* Database modification completed */"
```

After changing the shelf IP or any of the configuration parameters that require a reboot, TL1 returns this response from the network element:

```
"/* Database modification completed:Please reboot the NE */"
```

You must restart the shelf using the INIT-WARM (initialize warm) command for the changes to take effect. If you want to change several parameters using the ED-IP, ED-IP-OSPF or ED-NE-CFG commands, make these changes before you use the INIT-WARM command, so that you only have to use INIT-WARM once.

TL1 returns a partial modification (PRTL) response if more than one parameter is specified in this command and some of the parameters succeed, but not all of the parameters succeed. The message description contains a reason and the name of the parameter that failed and a reboot instruction if the succeeded parameter requires that the network element be rebooted.

CAUTION
Loss of contact with shelf
Do not reboot the NE until the command succeeds completely and TL1 returns a COMPLD response and the message "`/* Database modification completed:Please reboot the NE */`", otherwise you may lose contact with the shelf.

CAUTION
Risk of loss of communication with the shelf
Nortel Networks recommends that you wait at least three minutes after the restart of a shelf, remotely logged in through the gateway network element (GNE), before issuing any further commands, or viewing any information from the shelf.

Security level

Level 2

Input syntax

```
ED-IP-NAT:[TID]::[CTAG]:::[INBNATEN=<inbnaten>],[INBNATALIAS=<
inbnatalias>];
```

Table 3-7
ED-IP-NAT input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
inbnaten	Inbound NAT enable/disable	Y N	Y N
inbnatalias	Inbound NAT Alias	Number 1 through 126 Default=47	Number 1 through 126 Default=47

Example input

Disable the NAT functionality from OM5000-1-44

```
ED-IP-NAT:OM5000-1-44::ABC123:::INBNATEN=N;
```

ED-IP-OSPF (edit OSPF)

Use the ED-IP-OSPF command to edit the network element OSPF parameters.

After changing those parameters that do not require a reboot, TL1 returns this response from the network element:

```
"/* Database modification completed */"
```

After changing the shelf IP or any of the configuration parameters that require a reboot, TL1 returns this response from the network element:

```
"/* Database modification completed:Please reboot the NE */"
```

You must restart the shelf using the INIT-WARM (initialize warm) command for the changes to take effect. If you want to change several parameters using the ED-IP, ED-IP-OSPF or ED-NE-CFG commands, make these changes before you use the INIT-WARM command, so that you only have to use INIT-WARM once.

TL1 returns a partial modification (PRTL) response if more than one parameter is specified in this command and some of the parameters succeed, but not all of the parameters succeed. The message description contains a reason and the name of the parameter that failed and a reboot instruction if the succeeded parameter requires that the network element be rebooted.

CAUTION
Loss of contact with shelf
Do not reboot the NE until the command succeeds completely and TL1 returns a COMPLD response and the message "`/* Database modification completed:Please reboot the NE */`", otherwise you may lose contact with the shelf.

CAUTION
Loss of contact with shelf
You must have the correct IP address/config information to use the ED-IP, ED-IP-OSPF or ED-NE-CFG commands; otherwise you may lose contact with the shelf.

CAUTION
Risk of loss of communication with the shelf
Nortel Networks recommends that you wait at least three minutes after the restart of a shelf, remotely logged in through the gateway network element (GNE), before issuing any further commands, or viewing any information from the shelf.

Security level

Level 2

Input syntax

```
ED-IP-OSPF:[TID]::[CTAG]:::[INAREA=<inarea>],
[EXAREA=<exarea>],[BACKBONE=<backbone>],[COST=<cost>],[PASSWOR
DENABLE=<passworden>],[PASSWORD=<password>],[TRANSITDELAY=<tra
nsitdelay>],[RETRANSMITINTERVAL=<retransmitinterval>],[HELLOIN
TERVAL=<hellointerval>],[ROUTERDEADINTERVAL=<routerdeadinterva
l>];
```

Table 3-8
ED-IP-OSPF input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
INAREA	OSPF internal area address This field defines the OSPF area used for internal Optical Metro 5200 communication.	n.n.n.n ***Note:*** If you use 0.0.0.0 (default), the Optical Metro 5100/5200 network uses the primary node IP address as the Area ID. You must assign all shelves in the network the same Area ID.	n.n.n.n ***Note:*** If you use 0.0.0.0 (default), the Optical Metro 5100/5200 network uses the primary node IP address as the Area ID. You must assign all shelves in the network the same Area ID.
EXAREA	External area address	Unused	Unused

Table 3-8 (continued)
ED-IP-OSPF input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
BACKBONE	OSPF backbone tag This field indicates if the 10Base-T 1X interface communicates with external OSPF routers. The OSPF backbone parameters are only activated when you select OSPF Backbone and the router address is on the same subnet as the 10Base-T 1X interface. They configure the 10Base-T 1X interface as an OSPF interface to communicate with a router that supports the OSPF protocol. Password Enabled, Password, Transit Delay, Retransmit Interval, Hello Interval, and Router Dead Interval must be the same at the GNE and the router to be OSPF neighbors.	Y = OSPF enabled N = OSPF disabled If you enable shelves, they can act as a GNE for the network using the 10Base-T 1X port. The 10Base-T 1X port is always in area ID 0.0.0.0 (the backbone). If you disable shelves, they use the default gateway address to activate Proxy ARP server.	Y = OSPF enabled N = OSPF disabled If you enable shelves, they can act as a GNE for the network using the 10Base-T 1X port. The 10Base-T 1X port is always in area ID 0.0.0.0 (the backbone). If you disable shelves, they use the default gateway address to activate Proxy ARP server.
COST	OSPF cost of the network element This field indicates the cost of sending a data packet on the interface.	Number 1 through 200 Default=10	Number 1 through 200 Default=10
PASSWORD ENABLE	Enable or disable password This field indicates if there is a password assigned to the OSPF backbone. The password is for “simple password authentication”.	Y N If there is more than one GNE shelf in the network, you must choose Enabled in all GNE shelves.	Y N If there is more than one GNE shelf in the network, you must choose Enabled in all GNE shelves.
PASSWORD	String password This field allows the authentication procedure to generate (or check) the incoming and outgoing OSPF packets.	Character string: 1 to 8 characters If there is more than one GNE shelf in the network, you must assign the same password to all the GNE shelves on the same subnet.	Character string: 1 to 8 characters If there is more than one GNE shelf in the network, you must assign the same password to all the GNE shelves on the same subnet.

Table 3-8 (continued)
ED-IP-OSPF input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TRANSITDELAY	OSPF transit delay This field indicates the number of seconds to transmit a link state update packet over the 10Base-T 1X port.	Number 1 through 100 Default=1	Number 1 through 100 Default=1
RETRANSMITINTERVAL	OSPF retransmit interval This field indicates the number of seconds between link state advertisement retransmission.	Number 1 through 100 Default=5	Number 1 through 100 Default=5
HELLOINTERVAL	OSPF hello interval This field indicates the number of seconds between Hello packets that the router sends on the interface.	Number 1 through 1800 Default=10 All routers attached to the same subnet must have the same parameter value.	Number 1 through 1800 Default=10 All routers attached to the same subnet must have the same parameter value.
ROUTERDEADINTERVAL	OSPF router dead time interval This field indicates the number of seconds before the router's neighbors determine that it is out-of-service (when they stop receiving the Hello packet from the router).	Number 1 through 3600 Default=40 All routers attached to the same subnet must have the same parameter value.	Number 1 through 3600 Default=40 All routers attached to the same subnet must have the same parameter value.

Example input
Edit the IP OSPF parameters on the network element OTTAWA:

```
ED-IP-OSPF:OTTAWA::9::INAREA=0.0.0.0,
EXAREA=0.0.0.0,BACKBONE=n,COST=10,
PASSWORDENABLE=y,PASSWORD=OPTERA45,PRIORITY=0,TRANSMITDELAT=1,
RETRANSMITINTERVAL=3,HELLOINTERVAL=15,ROUTERDEADINTERVAL=55;
```

ED-NE-CFG (edit network element configuration)

Use the ED-NE-CFG command to edit the network element configuration parameters, such as serial numbers, Ethernet ports (10Base-T 1X port, 10Base-T 2X port), and alarm and commissioning state.

You can also use this command to decommission a shelf.

After changing the parameters that do not require a reboot, TL1 returns this response from the network element:

```
"/* Database modification completed */"
```

After changing the shelf IP or any of the configuration parameters that require a reboot, TL1 returns this response from the network element:

```
"/* Database modification completed:Please reboot the NE */"
```

You must restart the shelf using the INIT-WARM (initialize warm) command for the changes to take effect. If you want to change several parameters using the ED-IP, ED-IP-OSPF or ED-NE-CFG commands, make these changes before you use the INIT-WARM command, so that you only have to use INIT-WARM once.

TL1 returns a partial modification (PRTL) response if more than one parameter is specified in this command and some of the parameters succeed, but not all of the parameters succeed. The message description contains a reason and the name of the parameter that failed and a reboot instruction if the succeeded parameter requires that the network element be rebooted.

CAUTION
Loss of contact with shelf
Do not reboot the NE until the command succeeds completely and TL1 returns a COMPLD response and the message "`/* Database modification completed:Please reboot the NE */`", otherwise you may lose contact with the shelf.

CAUTION
Loss of contact with shelf
You must have the correct IP address/config information to use the ED-IP, ED-IP-OSPF or ED-NE-CFG commands, otherwise you may lose contact with the shelf.

CAUTION
Loss of contact with shelf
If you disable the ethernet port of the shelf to which you are connected or send the ED-NE-CFG without specifying a TID, you may lose contact with the shelf.

CAUTION
Risk of loss of communication with the shelf
Nortel Networks recommends that you wait at least three minutes after the restart of a shelf, remotely logged in through the gateway network element (GNE), before issuing any further commands, or viewing any information from the shelf.

Security level

Level 2

Input syntax

```
ED-NE-CFG:[TID]::[CTAG]:::[ENET1EN=<enet1en>],[ENET2EN=<enet2e
n>],[ENET1ALM=<enet1Alm>],[ENET2ALM=<enet2Alm>],
[ENET2ACC=<enet2Acc>],[SER1EN=<ser1en>],[SER2EN=<ser2en>],[COM
MISSIONED=<commissioned>],[ENET1IPFWD=<enet1ipfwd>];
```

Table 3-9
ED-NE-CFG input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
ENET1EN	Ethernet 1X port	Y = enables the Ethernet 1x port N = disables the Ethernet 1x port	Y = enables the Ethernet 1x port N = disables the Ethernet 1x port
ENET2EN	Ethernet 2X port	Y = enables the Ethernet 2x port N = disables the Ethernet 2x port	Y = enables the Ethernet 2x port N = disables the Ethernet 2x port
ENET1ALM	Ethernet 1X port alarms	Y = enables the Ethernet 1x port alarms N = disables the Ethernet 1x port alarms	Y = enables the Ethernet 1x port alarms N = disables the Ethernet 1x port alarms
ENET2ALM	Ethernet 2X port alarms	Y = enables the Ethernet 2x port alarms N = disables the Ethernet 2x port alarms	Y = enables the Ethernet 2x port alarms N = disables the Ethernet 2x port alarms
ENET2ACC	Ethernet 2X port access control	ENCRYPT = encrypted access control FILTER = filtered access control NIL = disabled or access control is not enforced	ENCRYPT = encrypted access control FILTER = filtered access control NIL = disabled or access control is not enforced

Table 3-9 (continued)
ED-NE-CFG input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
SER1EN	Serial port 1 The RS232 V24 1 (DTE) connector is a panel mounted female 25-pin D-subminiature connector that connects to a modem (DCE) with a straight-through Ethernet cable (male/male).	Y = enables serial port 1 N = disables serial port 1	Y = enables serial port 1 N = disables serial port 1
SER2EN	Serial port 2	Unused	Unused
COMMISSIONED	Network element commissioning state	Y = network element in commissioned state N = network element in uncommissioned state	Y = network element in commissioned state N = network element in uncommissioned state
ENET1IPFWD	Enet1 IP Forwarding Enabled	Y = enabled N = not enabled	Y = enabled N = not enabled

Example input
Enable serial port 1 on the network element LONDON:

```
ED-NE-CFG:LONDON::123:::,,,,,SER1EN=Y,,;
```

Decommission the network element YORK:

```
ED-NE-CFG:YORK::438:::,,,,,,,COMMISSIONED=N;
```

ED-NE-FEAT (edit NE features)

Use the ED-NE-FEAT command to enable or disable the following features:

- automatic laser shutdown (ALS)
- intrasite fault sectionalization (IFS)
- automatic laser recovery (ALR)
- Remote Fault Notification (RFN)
- shelf name to TID mapping
- TL1 TID enforcement

Security level

Level 2

Input syntax

```
ED-NE-FEAT:[TID]::[CTAG]:::[FAIFS=<faifs>],[FAALS=<faals>],[FA
ALR=<faalr>],[FARFN=<farfn>],[FANTM=<fantm>],[FATTE=<fatte>] ;
```

Table 3-10
ED-NE-FEAT input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
FAIFS	Feature Active Intrasite Fault Sectionalization	Y = enables Intrasite Fault Sectionalization N = disables Intrasite Fault Sectionalization	Y = enables Intrasite Fault Sectionalization N = disables Intrasite Fault Sectionalization
FAALS	Feature Active Automatic Laser Shutdown	Y = enables Automatic Laser Shutdown N = disables Automatic Laser Shutdown	Y = enables Automatic Laser Shutdown N = disables Automatic Laser Shutdown
FAALR	Feature Active Automatic Laser Recovery	Y = enables Automatic Laser Recovery N = disables Automatic Laser Recovery	Y = enables Automatic Laser Recovery N = disables Automatic Laser Recovery
FARFN	Feature Active Remote Fault Notification	Y = enables Remote Fault Notification N = disables Remote Fault Notification	Y = enables Remote Fault Notification N = disables Remote Fault Notification
FANTM	Feature Active Shelf Name to TID Mapping	Y = TID is set to the shelf name N = TID is not set to the shelf name	Y = TID is set to the shelf name N = TID is not set to the shelf name
FATTE	Feature Active TL1 TID Enforcement	Y = TID must be used for all TL1 commands N = TID must not be used for all TL1 commands	Y = TID must be used for all TL1 commands N = TID must not be used for all TL1 commands

Example input

Enable Automatic Laser Shutdown feature (ALS) on shelf OM5000-1-44:

```
ED-NE-FEAT:OM5000-1-44::ABC123:::,FAALS=Y,;
```

Enable Intrasite Fault Sectionalization feature (IFS) on shelf OM5000-1-44:

```
ED-NE-FEAT:OM5000-1-44::ABC123:::FAIFS=Y;
```

Enable Automatic Laser Recovery feature (ALR) on shelf OM5000-1-44:

```
ED-NE-FEAT:OM5000-1-44::ABC123:::,,FAALR=Y;
```

Enable Remote Fault Notification feature (RFN) on shelf OM5000-1-44:

```
ED-NE-FEAT:OM5000-1-44::ABC123:::,,,FARFN=Y;
```

Activate the shelf name to TID mapping and TL1 TID enforcement on shelf OM5000-1-44:

```
ED-NE-FEAT:OM5000-1-44::ABC123:::,,,,FANTM=Y,FATTE=Y;
```

ED-NE-NAME (edit network element name)

Use the ED-NE-NAME command to edit the network element name parameters.

After changing the shelf IP or configuration parameters, TL1 returns this response from the network element:

```
"/* Database modification completed:Please reboot the NE */"
```

You must restart the shelf using the INIT-WARM (initialize warm) command for the changes to take effect.

Note: If you are using Optical Networks Manager (ONM) AP/OMEA to manage Optical Metro 5100/5200 network elements, you must keep the NE name to a maximum of 20 characters.

CAUTION
Risk of loss of contact with System Manager
Changing the parameters for the network element name can cause a loss of contact with System Manager. Close all System Manager sessions for Optical Metro 5100/5200 sessions before entering this command.

Security level

Level 2

Input syntax

```
ED-NE-NAME:[TID]::[CTAG]:::[NET_NAME=<netName>],[SITE_NAME=<si
teName>],[NE_NAME=<neName>],[NE_DESC=<neDesc>],[NE_ID=<neId>],
[SITE_ID=<siteId>],[SUBNET_ID=<subnetId>];
```

Table 3-11
ED-NE-NAME input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
NET_NAME	Name of the network	Character string	Character string

Table 3-11 (continued)
ED-NE-NAME input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
SITE_NAME	Name of the site	Character string	Character string
NE_NAME	Name of the network element	Character string	Character string
NE_DESC (see Note 1 and Note 2)	Description of the network element	Character string	Character string
NE_ID	Network element identifier	Number 1 through 64	Number 1 through 64
SITE_ID	Site identifier	Number 1 through 16	Number 1 through 16
SUBNET_ID	Subnetwork identifier	Unused	Unused
Note 1: The Shelf Description (NE_DESC) cannot contain leading zeros. ***Note 2:*** If you are changing the Shelf Description (NE_DESC), and you are managing the network element through OMEA, refer to the *OMEA User and Installation Guide* to make sure that the network element re-appears on the Optical Networks Manager (ONM) AP after the change.			

Example input

Change the network name bungalow to chalet:

```
ED-NE-NAME:BUNGALOW::1234:::NET_NAME=CHALET,,,,,,;
```

ENT-NE-CFG (enter network element configuration)

Use the ENT-NE-CFG command to commission an uncommissioned shelf.

After changing the parameters that do not require a reboot, TL1 returns this response from the network element:

```
"/* Database modification completed */"
```

After changing the shelf IP or any of the configuration parameters that require a reboot, TL1 returns this response from the network element:

```
"/* Database modification completed:Please reboot the NE */"
```

You must restart the shelf using the INIT-WARM (initialize warm) command for the changes to take effect.

TL1 returns a partial modification (PRTL) response if more than one parameter is specified in this command and some of the parameters succeed, but not all of the parameters succeed. The message description contains a reason and the name of the parameter that failed and a reboot instruction if the succeeded parameter requires that the network element be rebooted.

CAUTION
Loss of contact with shelf
Do not reboot the NE until the command succeeds completely and TL1 returns a COMPLD response and the message "`/* Database modification completed:Please reboot the NE */`", otherwise you may lose contact with the shelf.

CAUTION
Loss of contact with shelf
You must have the correct IP address/config information to use the ENT-NE-CFG command, otherwise you may lose contact with the shelf.

If this command fails, TL1 returns the error /*Database Modification Failed*/. Do not restart the shelf until the command succeeds; otherwise you may lose contact with the shelf.

Security level

Level 3

Input syntax

```
ENT-NE-CFG:[TID]::[CTAG]:::NETYPE=<netype>,NE_ID=<neId>,SITE_I
D=<siteId>,[NET_NAME=<netName>],[SITE_NAME=<siteName>],NE_NAME
=<neName>,[SHELF_DESC=<shelfDesc>],ENET1_ADDR=<enet1Addr>,NETM
ASK=<netmask>,[DHCP1ADDR=<dhcp1addr>],[GATEWAY=<gateway>],PRIM
ARY=<primary>,[HUBBINGGROUP=<hubbinggroup>],[ENET1EN=<enet1En>
],[ENET2EN=<enet2En>],[ENET1ALM=<enet1Alm>],[ENET2ALM=<enet2Al
m>],[SER1EN=<ser1En>],[SER2EN=<ser2En>];
```

Table 3-12
ENT-NE-CFG input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
NETYPE	Network element type	TERMINAL OADM OFA MIXED	TERMINAL OADM
NE_ID	Network element identifier	Number 1 through 64	Number 1 through 64
SITE_ID	Site identifier	Number 1 through 16	Number 1 through 16
NET_NAME	Name of the network	Character string (maximum 31 characters)	Character string (maximum 31 characters)
SITE_NAME	Name of the site	Character string	Character string
NE_NAME	Name of the network element	Character string	Character string
SHELF_DESC	Description of shelf	Character string	Character string
ENET1_ADDR	IP address of the 10Base-T 1X port	n.n.n.n	n.n.n.n
NETMASK1	Netmask address of the 10Base-T 1X port	Address between 0.0.0.0 (default) and 255.255.255.255	Address between 0.0.0.0 (default) and 255.255.255.255
DCHP1ADDR	DCHP address for 10Base-T 1X port	0.0.0.0 = DHCP address of the GNE or any single-IP shelf IP+1 = DHCP of a multiple-IP shelf	0.0.0.0 = DHCP address of the GNE or any single-IP shelf IP+1 = DHCP of a multiple-IP shelf

Table 3-12 (continued)
ENT-NE-CFG input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
GATEWAY	Gateway address The gateway address is used to define a gateway network element (GNE). The GNE is a communication path between the Optical Metro 5100/5200 network and a customer's data communications network (DCN).	n.n.n.n	n.n.n.n
PRIMARY	Primary shelf IP address The primary shelf acts as a time and date server and maintains a shelf list for the network.	n.n.n.n	n.n.n.n
HUBBINGGROUP	Hubbing group for the network element	Number 1 through 16	Number 1 through 16
ENET1EN	Ethernet 1X port	Y = enables the Ethernet 1x port N = disables the Ethernet 1x port	Y = enables the Ethernet 1x port N = disables the Ethernet 1x port
ENET2EN	Ethernet 2X port	Y = enables the Ethernet 2x port N = disables the Ethernet 2x port	Y = enables the Ethernet 2x port N = disables the Ethernet 2x port
ENET1ALM	Ethernet 1X port alarms	Y = enables the Ethernet 1x port alarms N = disables the Ethernet 1x port alarms	Y = enables the Ethernet 1x port alarms N = disables the Ethernet 1x port alarms

Table 3-12 (continued)
ENT-NE-CFG input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
ENET2ALM	Ethernet 2X port alarms	Y = enables the Ethernet 2x port alarms N = disables the Ethernet 2x port alarms	Y = enables the Ethernet 2x port alarms N = disables the Ethernet 2x port alarms
SER1EN	Serial port 1 The RS232 V24 1 (DTE) connector is a panel mounted female 25-pin D-subminiature connector that connects to a modem (DCE) with a straight-through Ethernet cable (male/male).	Y = enables serial port 1 N = disables serial port 1	Y = enables serial port 1 N = disables serial port 1
SER2EN	Serial port 2	Y = enables serial port 2 N = disables serial port 2	Y = enables serial port 2 N = disables serial port 2

Example input

```
ENT-NE-CFG:TID::1234:::NETYPE=OADM,NE_ID=1,SITE_ID=2,NET_NAME=
”NET”,SITE_NAME=”SITE”,NE_NAME=”NE”,SHELF_DESC=”DESC”,ENET1_AD
DR=0.0.0.0,NETMASK=0.0.0.0,DHCP1ADDR=0.0.0.0,GATEWAY=0.0.0.0,P
RIMARY=0.0.0.0,HUBBINGGROUP=2,ENET1EN=Y,ENET2EN=Y,ENET1ALM=Y,E
NET2ALM=Y,SER1EN=Y,SER2EN=Y;
```

RTRV-ATTR-IFS (retrieve attributes of IFS feature)

Use the RTRV-ATTR-IFS command to retrieve attributes associated with the intrasite fault sectionalization feature.

Security level

Level 1

Input syntax

```
RTRV-ATTR-IFS:[TID]::[CTAG];
```

Table 3-13
RTRV-ATTR-IFS input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string

Example input
Retrieve IFS attributes from network element NEWYORK:

```
RTRV-ATTR-IFS:NEWYORK::2436;
```

Output syntax

```
SID DATE TIME
M  CTAG COMPLD
"TOPOLOGY=<topology>,CONFIG=<config>"
;
```

Table 3-14
RTRV-ATTR-IFS output syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
TOPOLOGY	Fibering topology	SINGLEOADM STACKED STANDARD NIL	SINGLEOADM STACKED STANDARD NIL
CONFIG	Fibering configuration	PARALLEL SERIAL NIL	PARALLEL SERIAL NIL

Example output

```
NEWYORK 00-12-11 04:06:54
M 2436 COMPLD
"TOPOLOGY=NIL,CONFIG=NIL”
;
```

RTRV-IP (retrieve IP)

Use the RTRV-IP command to retrieve the IP address and associated parameters assigned to the network element.

Security level

Level 1

Input syntax

```
RTRV-IP:[TID]::[CTAG];
```

Table 3-15
RTRV-IP input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string

Example input
Retrieve the IP address of the network element OHIO:

```
RTRV-IP:OHIO::1234;
```

Output syntax

```
SID DATE TIME
M CTAG COMPLD
"IPADDRESS1=<ipaddress>,NETMASK1=<netmask1>,DHCP1ADDR=<dhcp1ad
dr>,IPADDRESS2=<ipaddress2>,NETMASK2=<netmask2>,DHCP2ADDR=<dhc
p2addr>,GATEWAY=<gateway>,PRIMARY=<primary>,HUBBINGGROUP=<hubb
inggroup>,MAC=<mac>,SER1LADDR=<ser1Laddr>,SER1RADDR=<ser1Raddr
>,SER2LADDR=<ser2Laddr>,SER2RADDR=<ser2Raddr>,>,DCNGATEWAY=<dc
ngateway>,EXTROUTING=<extrouting>,[PROXYBASEPORT=<proxybasepor
t>]";
```

Table 3-16
RTRV-IP output syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
IPADDRESS1	IP address of the 10Base-T 1X port	Address between 0.0.0.0 (default) and 255.255.255.255	Address between 0.0.0.0 (default) and 255.255.255.255
NETMASK1	Netmask for 10Base-T 1X port For a gateway network element (GNE), the netmask of the shelf is the netmask of the router.	Address between 0.0.0.0 (default) and 255.255.255.255	Address between 0.0.0.0 (default) and 255.255.255.255
DHCP1ADDR	DCHP address for 10Base-T 1X port	• DHCP address of the GNE or any single-IP shelf is 0.0.0.0 DHCP of a multiple-IP shelf is the IP+1	• DHCP address of the GNE or any single-IP shelf is 0.0.0.0 DHCP of a multiple-IP shelf is the IP+1

Table 3-16 (continued)
RTRV-IP output syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
IPADDRESS2	IP address of the 10Base-T 2X port	Address between 0.0.0.0 (default) and 255.255.255.255	Address between 0.0.0.0 (default) and 255.255.255.255
NETMASK2	Netmask for 10Base-T 2X port	Address between 0.0.0.0 (default) and 255.255.255.255	Address between 0.0.0.0 (default) and 255.255.255.255
DHCP2ADDR	DHCP address for 10Base-T 2X port	• DHCP address of the GNE or any single-IP shelf is 0.0.0.0 • DHCP of a multiple-IP shelf is the IP+1	• DHCP address of the GNE or any single-IP shelf is 0.0.0.0 • DHCP of a multiple-IP shelf is the IP+1
GATEWAY	Gateway address The gateway address is used to define a gateway network element (GNE). The GNE is a communication path between the Optical Metro 5200 network and a customer's data communications network (DCN).	Address between 0.0.0.0 (default) and 255.255.255.255	Address between 0.0.0.0 (default) and 255.255.255.255
PRIMARY	Primary shelf IP address The primary shelf acts as a time and date server and maintains a shelf list for the network.	• Address between 0.0.0.0 (default) and 255.255.255.255 • n.n.n.n	• Address between 0.0.0.0 (default) and 255.255.255.255 • n.n.n.n
HUBBINGGROUP	Hubbing group for the network element	Number 1 through 8	Number 1 through 8
MAC	Media access control (MAC) address.	00:00:00:00:00:00	00:00:00:00:00:00
SER1LADDR	Serial port 1 local address	Address between 0.0.0.0 (default) and 255.255.255.255	Address between 0.0.0.0 (default) and 255.255.255.255
SER1RADDR	Serial port 1 remote address	Address between 0.0.0.0 (default) and 255.255.255.255	Address between 0.0.0.0 (default) and 255.255.255.255

Table 3-16 (continued)
RTRV-IP output syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
SER2LADDR	Serial port 2 local address	Address between 0.0.0.0 (default) and 255.255.255.255	Address between 0.0.0.0 (default) and 255.255.255.255
SER2RADDR	Serial port 2 remote address	Address between 0.0.0.0 (default) and 255.255.255.255	Address between 0.0.0.0 (default) and 255.255.255.255
DCNGATEWAY	DCN Gateway	Y = Yes N = No	Y = Yes N = No
EXTROUTING	External Routing Mode	BGP = BGP NONE = None OSPF = OSPF PROXYARP = Proxy ARP	BGP = BGP NONE = None OSPF = OSPF PROXYARP = Proxy ARP
PROXYBASEPORT	Proxy Service Base Port	Integer	Integer

RTRV-IP-BGP (retrieve IP BGP)

Use the RTRV-IP-BGP command to retrieve the Border Gateway Protocol (BGP) specific parameters of the Optical Metro 5100/5200 NE.

Security level

Level 1

Input syntax

```
RTRV-IP-BGP:[TID]::[CTAG];
```

Table 3-17
RTRV-IP-BGP input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string

Example input

Retrieve the BGP parameters from NE OM5000-1-44:

```
RTRV-IP-BGP:OM5000-1-44::ABC123;
```

Output Syntax

```
SID DATE TIME
M  CTAG COMPLD
"LOCALASNUMBER=<localasnumber>,LOCALASWEIGHT=<localasweight>,
PEER1IPADDRESS=<peer1ipaddress>,PEER1ASNUMBER=<peer1asnumber>,
PEER2IPADDRESS=<peer2ipaddress>,PEER2ASNUMBER=<peer2asnumber>,
RETRYINTERVAL=<retryinterval>,HOLDDOWNTIME=<holddowntime>,ROUT
INGENABLE=<routingenable>";
```

Table 3-18
RTRV-IP-BGP output syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
LOCALASNUMBER	BGP Local Autonomous System Number.	Number 0 through 65535 Default=0	Number 0 through 65535 Default=0
LOCALASWEIGHT	BGP Local Autonomous System Weight.	Number 0 through 15 Default=10, Infinity=65535	Number 0 through 15 Default=10, Infinity=65535
PEER1IPADDRESS	BGP Peer 1 IP Address, must be in the same subnet as the local BGP identifier.	Default = 0.0.0.0	Default = 0.0.0.0

Table 3-18 (continued)
RTRV-IP-BGP output syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
PEER1ASNUMBER	BGP Peer 1 Autonomous System Number.	Number 0 through 65535 Default=0	Number 0 through 65535 Default=0
PEER2IPADDRESS	BGP Peer 2 IP Address, must be in the same subnet as the local BGP identifier.	Default = 0.0.0.0	Default = 0.0.0.0
PEER2ASNUMBER	BGP Peer 2 Autonomous System Number.	Number 0 through 65535 Default=0	Number 0 through 65535 Default=0
RETRYINTERVAL	BGP Retry Interval	Number 0 through 65535 Default=120	Number 0 through 65535 Default=120
HOLDDOWNTIME	BGP Holddown time	Default = 90	Default = 90
ROUTINGENABLE	BGP Routing Enable	Default=N	Default=N

Example output

```
OM5000-1-44 03-02-20 14-30-00
M ABC123 COMPLD
"LOCALASNUMBER=0,LOCALASWEIGHT=0,PEER1IPADDRESS=0.0.0.0,
PEER1ASNUMBER=0,PEER2IPADDRESS=0.0.0.0,PEER2ASNUMBER=0,
RETRYINTERVAL=0,KEEPALIVEINTERVAL=0,HOLDDOWNTIME=0,
ROUTINGENABLE=N"
;
```

RTRV-IP-DNS (retrieve IP DNS)

Use the RTRV-IP-DNS command to retrieve Domain Name Server (DNS) specific parameters of the Optical Metro 5100/5200 NE.

Security level

Level 1

Input syntax

```
RTRV-IP-DNS:[TID]::[CTAG];
```

Table 3-19
RTRV-IP-DNS input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string

Example input

Retrieve the DNS parameters for OM5000-1-44 NE:

```
RTRV-IP-DNS:OM5000-1-44::ABC123;
```

Output syntax

```
SID DATE TIME
M CTAG COMPLD
"SRVR1ADDR=<srvr1addr>, SRVR2ADDR=<srvr2addr>,SUFFIX=
<suffix>,DNSENABLE=<dnsenable>";
```

Table 3-20
RTRV-IP-DNS output syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
SRVR1ADDR	DNS server 1 IP address	Address between 0.0.0.0 (default) and 255.255.255.255	Address between 0.0.0.0 (default) and 255.255.255.255
SRVR2ADDR	DNS server 2 IP address	Address between 0.0.0.0 (default) and 255.255.255.255	Address between 0.0.0.0 (default) and 255.255.255.255
SUFFIX	DNS suffix	string	string
DNSENABLE	DNS Proxy Enable/Disable	Y N	Y N

Example output

```
OM5000-1-44 02-07-18 04:16:03
M  ABC123 COMPLD
"SRVR1ADD=178.115.232.17,SRVR2ADDR=0.0.0.0,SUFFIX=,DNSENABLE=N
"
;
```

RTRV-IP-NAT (retrieve IP NAT)

Use the RTRV-IP-NAT command to retrieve Network Address Translation (NAT) specific parameters of the Optical Metro 5100/5200 NE.

Security level

Level 1

Input syntax

```
RTRV-IP-NAT:[TID]::[CTAG];
```

Table 3-21
RTRV-IP-NAT input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string

Example input

Retrieve the NAT parameters for OM5000-1-44:

```
RTRV-IP-NAT:OM5000-1-44::ABC123;
```

Output syntax

```
SID DATE TIME
M CTAG COMPLD
"[INBNATEN=<inbnaten>],[INBNATALIAS=<inbnatalias>],"
;
```

Table 3-22
RTRV-IP-NAT output syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
inbnaten	Inbound NAT enable/disable	Y N	Y N
inbnatalias	Inbound NAT Alias	Number 1 through 126 Default=47	Number 1 through 126 Default=47

Example output

```
OM5000-1-44 02-02-13 19:55:24
M  ABC123 COMPLD
"INBNATEN=N,INBNATALIAS=47,"
;
```

RTRV-IP-OSPF (retrieve IP OSPF)

Use the RTRV-IP-OSPF command to retrieve the OSPF configuration information.

Security level

Level 1

Input syntax

```
RTRV-IP-OSPF:[TID]::[CTAG];
```

Table 3-23
RTRV-IP-OSPF input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string

Example input

Retrieve the OSPF configuration data for the network element VANCOUVER:

```
RTRV-IP-OSPF:VANCOUVER::ABC123;
```

Output syntax

```
SID DATE TIME
M CTAG COMPLD
"INAREA=<inarea>,EXAREA=<exarea>,BACKBONE=<backbone>,COST=<cos
t>,PASSWORDENABLE=<passworden>,TRANSITDELAY=<transitdelay>,RET
RANSMITINTERVAL=<retransmitinterval>,HELLOINTERVAL=<hellointer
val>,ROUTERDEADINTERVAL=<routerdeadinterval>"
;
```

Table 3-24
RTRV-IP-OSPF output syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
INAREA	OSPF internal area	n.n.n.n	n.n.n.n
EXAREA	OSPF external area	Unused	Unused
BACKBONE	OSPF backbone tag	Y = OSPF enabled N = OSPF disabled	Y = OSPF enabled N = OSPF disabled
COST	OSPF cost of the network element	Number 1 through 200 Default=10.	Number 1 through 200 Default=10.
PASSWORDENABLE	Enables or disable passwords	Y = enable password N = disable password	Y = enable password N = disable password
TRANSITDELAY	OSPF transit delay (seconds)	Number 1 through 100 Default=1	Number 1 through 100 Default=1
RETRANSMITINTERVAL	OSPF retransmit interval (seconds)	Number 1 through 100. Default=5	Number 1 through 100. Default=5
HELLOINTERVAL	OSPF hello interval (seconds)	Number 1 through 1800 Default=10 ***Note:*** All routers attached to the same subnet must have the same parameter value.	Number 1 through 1800 Default=10 ***Note:*** All routers attached to the same subnet must have the same parameter value.
ROUTERDEADINTERVAL	OSPF router dead time interval (seconds)	Number 1 through 3600 Default=40 ***Note:*** All routers attached to the same subnet must have the same parameter value.	Number 1 through 3600 Default=40 ***Note:*** All routers attached to the same subnet must have the same parameter value.

Example output

```
VANCOUVER 00-12-11 04:12:23
M ABC123 COMPLD
"INAREA=0.0.0.0,EXAREA=0.0.0.0,BACKBONE=N,COST=10,PASSWORDENAB
LE=Y,TRANSITDELAY=1,RETRANSMITINTERVAL=5,HELLOINTERVAL=10,ROUT
ERDEADINTERVAL=40"
;
```

RTRV-NE-CFG (retrieve network element configuration)

Use the RTRV-NE-CFG command to retrieve the ethernet and/or serial ports and commissioning configuration of the network element.

Security level

Level 1

Input syntax

```
RTRV-NE-CFG:[TID]::[CTAG];
```

Table 3-25
RTRV-NE-CFG input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string

Example input

Retrieve the network element configuration type for the MILANO network element:

```
RTRV-NE-CFG:MILANO::ABC123;
```

Output syntax

```
SID DATE TIME
M CTAG COMPLD
"[ENET1EN=<enet1En>],[ENET2EN=<enet2En>],[ENET1ALM=<enet1Alm>]
,[ENET2ALM=<enet2Alm>],[ENET2ACC=<enet2Acc1>],[SER1EN=<ser1En>
],[SER2EN=<ser2En>],[BRIDGENE=<bridgeNe>],[COMMISSIONED=<commi
ssioned>],[ENET1IPFWD=<enet1ipfwd>]""
;
```

Table 3-26
RTRV-NE-CFG output syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
ENET1EN	Ethernet 1X port	Y = Ethernet 1x port enabled N = Ethernet 1x port disabled	Y = Ethernet 1x port enabled N = Ethernet 1x port disabled
ENET2EN	Ethernet 2X port	Y = Ethernet 2x port enabled N = Ethernet 2x port disabled	Y = Ethernet 2x port enabled N = Ethernet 2x port disabled
ENET1ALM	Ethernet 1X port alarms	Y = Ethernet 1x port alarms enabled N = Ethernet 1x port alarms disabled	Y = Ethernet 1x port alarms enabled N = Ethernet 1x port alarms disabled
ENET2ALM	Ethernet 2X port alarms	Y = Ethernet 2x port alarms enabled N = Ethernet 2x port alarms disabled	Y = Ethernet 2x port alarms enabled N = Ethernet 2x port alarms disabled
ENET2ACC	Ethernet 2X port access control	ENCRYPT = encrypted access control FILTER = filtered access control NIL = disabled or access control is not enforced	ENCRYPT = encrypted access control FILTER = filtered access control NIL = disabled or access control is not enforced
SER1EN	Serial port 1 Use the serial port 1 to connect a modem to the shelf with a straight-through Ethernet cable.	Y = enables serial port 1 N = disables serial port 1	Y = enables serial port 1 N = disables serial port 1
SER2EN	Serial port 2	Y = enable N = disable	Y = enable N = disable
BRIDGENE	Network element bridge state	Y N	Y N
COMMISSIONED	Network element commissioning state	Y N	Y N
ENET1IPFWD	Enet1 IP Forwarding Enabled	Y = enabled N = not enabled	Y = enabled N = not enabled

Example output

```
MILANO 00-12-11 04:12:23
M ABC123 COMPLD
"ENET1EN=Y,ENET2EN=Y,ENET1ALM=N,ENET2ALM=N,SER1EN=Y,SER2EN=Y,B
RIDGENE=N,COMMISSIONED=Y,ENET1IPFWD=Y";
```

RTRV-NE-FEAT (retrieve network element feature)

Use the RTRV-NE-FEAT command to query the network element feature status for the forllowing features:

- automatic laser shutdown (ALS)
- intrasite fault sectionalization (IFS)
- automatic laser recovery (ALR)
- Remote Fault Notification (RFN)
- shelf name to TID mapping
- TL1 TID enforcement

Security level

Level 1

Input syntax

```
RTRV-NE-FEAT:[TID]::[CTAG];
```

Table 3-27
RTRV-NE-FEAT input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string

Example input

Retrieve the NE feature information for the shelf OM5000-1-44:

```
RTRV-NE-FEAT:OM5000-1-44::ABC123;
```

Output syntax

```
   SID DATE TIME
M  CTAG COMPLD
"FAIFS=<faifs>,FAALS=<faals>,FAALR=<faalr>,FARFN=<farfn>,FANTM
=<fantm>,FATTE=<fatte>"
;
```

Table 3-28
RTRV-NE-FEAT output syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
FAIFS	Feature Active Intra-site Fault Sectionalization	Y= Feature is active N = Feature is not active	Y= Feature is active N = Feature is not active
FAALS	Feature Active Automatic Laser Shutdown	Y = Feature is active N = Feature is not active	Y = Feature is active N = Feature is not active
FAALR	Feature Active Automatic Laser Recovery	Y = Feature is active N = Feature is not active	Y = Feature is active N = Feature is not active
FARFN	Feature Active Remote Fault Notification	Y = Feature is active N = Feature is not active	Y = Feature is active N = Feature is not active
FANTM	Feature Active Shelf Name to TID Mapping	Y = Feature is active N = Feature is not active	Y = Feature is active N = Feature is not active
FATTE	Feature Active TL1 TID Enforcement	Y = Feature is active N = Feature is not active	Y = Feature is active N = Feature is not active

Example output

```
TERMINAL-MONTREAL 04-04-29 15:08:24
M  vero COMPLD
"FAIFS=N,FAALS=N,FAALR=N,FARFN=N,FANTM=Y,FATTE=N"
;
```

RTRV-NE-LIST (retrieve network element list)

Use the RTRV-NE-LIST command to return a report with a standard header and a display array listing all network entities on the network. The report display lists the network element TID, shelf ID, subnet ID, SNMP port (161), network element name and the unique ID.

Security level

Level 1

Input syntax

```
RTRV-NE-LIST:[TID]::[CTAG];
```

Table 3-29
RTRV-NE-LIST input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string

Example input

Retrieve the network element list for the network element LONDON:

```
RTRV-NE-LIST:LONDON::12345;
```

Output syntax

```
SID DATE TIME
M CTAG COMPLD
"TID=<tid>,TL1_PORT=<tl1port>,IP_ADDR=<ipaddr>,
SNMP_PORT=<snmpport>,NE_ID=<shelfid>,SITE_ID=<siteid>,SUBNET_I
D=<subnetid>,NE_NAME=<nename>,UNIQ_ID=<uniqid>,DCNGATEWAY=<dcn
gateway>,EXTROUTING=<extrouting>"
```

Table 3-30
RTRV-NE-LIST output syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
TL1_PORT	Terminal TL1 gateway port	10101	10101
IP_ADDR	IP address	n.n.n.n	n.n.n.n
SNMP_PORT	SNMP port	161	161
NE_ID	Network element identifier	Number 1 through 64	Number 1 through 64
SITE_ID	Site identifier	Number 1 through 8	Number 1 through 8
SUBNET_ID	Subnetwork identifier	Number 1 through 64	Number 1 through 64
NE_NAME	Name of the network element	Character string	Character string

Table 3-30 (continued)
RTRV-NE-LIST output syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
UNIQ_ID	Unique identifier	SiteId-ShelfId values	SiteId-ShelfId values
DCNGATEWAY	DCN Gateway	Y = Yes N = No	Y = Yes N = No
EXTROUTING	External Routing Mode	BGP = BGP NONE = None OSPF = OSPF PROXYARP = Proxy ARP	BGP = BGP NONE = None OSPF = OSPF PROXYARP = Proxy ARP

RTRV-NE-NAME (retrieve network element name)

Use the RTRV-NE-NAME command to retrieve the network element naming information.

Security level

Level 1

Input syntax

```
RTRV-NE-NAME:[TID]::[CTAG];
```

Table 3-31
RTRV-NE-NAME input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string

Example input

Retrieve the naming information for the network element JERSEY:

```
RTRV-NE-NAME:JERSEY::124;
```

Output syntax

```
SID DATE TIME
M CTAG COMPLD
"[NET_NAME=<netName>],[SITE_NAME=<siteName>],[NE_NAME=<neName>
],[NE_DESC=<nedesc>],[NE_ID=<neId>],[SITE_ID=<siteId>],[SUBNET
_ID=<subnetId>]";
```

Table 3-32
RTRV-NE-NAME output syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
NET_NAME	Name of the network	Character string	Character string
SITE_NAME	Name of the site	Character string	Character string
NE_NAME	Name of the network element	Character string	Character string
NE_DESC	Description of the network element	Character string	Character string
NE_ID	Network element identifier	Number 1 through 64	Number 1 through 64
SITE_ID	Site identifier	Number 1 through 8	Number 1 through 8
SUBNET_ID	Subnetwork identifier	Number 1 through 64	Number 1 through 64

Example output

```
JERSEY 98-06-20 14-30-00
M 124 COMPLD
"NET_NAME=\"JERSEY\",SITE_NAME=\"TERMINAL\",NE_NAME=\"Site 1-
TOP SHELF\",NE_DESC=TERMINAL,NE_ID=7,SITE_ID=7,SUBNET_ID=0";
```

RTRV-NETYPE (retrieve network element type)

Use the RTRV-NETYPE command to determine the network element functionality currently supported. When a shelf hosts your current session, the RTRV-NETYPE command retrieves the current network element type setting, shelf vendor, model, and the software version for a network element.

Security level

Level 1

Input syntax

```
RTRV-NETYPE:[TID]::[CTAG];
```

Table 3-33
RTRV-NETYPE input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string

Example input

Retrieve the network element type for the NEW YORK network element:

```
RTRV-NETYPE:NEWYORK::3499;
```

Output syntax

```
SID DATE TIME
M CTAG COMPLD
"<vendor>,<model>,<netype>,<swIssue>";
```

Table 3-34
RTRV-NETYPE output syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
VENDOR	Vendor name	Nortel Networks	Nortel Networks
MODEL	Model of the network element	Optical Metro	Optical Metro
NETYPE	Network element type	TERMINAL OADM OFA MIXED	TERMINAL OADM
SWISSUE	Software version	Character string	Character string

Example output

```
NEWYORK 00-06-20 14-30-00
M 3499 COMPLD
"\"NORTEL\",\"OPTera Metro 5200\",TERMINAL,\"6.0.0.0\"";
```

RTRV-STATUS (retrieve status)

Use the RTRV-STATUS command to display all users logged into the same network element.

Security level

Level 1

Input syntax

```
RTRV-STATUS:[TID]:[<AID>]:[CTAG];
```

Table 3-35
RTRV-STATUS input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AID	Access identifier	Unused	Unused
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string

Example input

Retrieve the status of users logged into network element KOOTENAY:

```
RTRV-STATUS:KOOTENAY::ABC123;
```

Output syntax

```
SID DATE TIME
M CTAG COMPLD
":<cids>,<uids>";
```

Table 3-36
RTRV-STATUS output syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
CIDS	List of connection identifications for active TL1 or SMI sessions separated by “&”	Character string	Character string
UID	List of logged in user identifiers separated by “&”	Character string	Character string

Example output

```
KOOTENAY 02-02-07 01:08:13
M ABC123 COMPLD
":TL1-0&SMI-0&TL1-1,admin&admin&observer,"
;
```

RTRV-SW-VER (retrieve software version)

Use the RTRV-SW-VER command to retrieve the version of the software running on the network element.

Security level

Level 1

Input syntax

```
RTRV-SW-VER:[TID]::[CTAG];
```

Table 3-37
RTRV-SW-VER input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string

Example input

For the SEATTLE network element, retrieve the current software version:

```
RTRV-SW-VER:SEATTLE::99;
```

Output syntax

```
SID DATE TIME
M CTAG COMPLD
"<swVersion1>,[<swVersion2>],<upgStatus>"
;
```

Table 3-38
RTRV-SW-VER output syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
SWVERSION1	Software version (active or running load)	Character string	Character string
SWVERSION2	Software version - 2nd load being upgrade or previous committed load (if upgStatus is uncommitted)	Character string Null for committed load.	Character string Null for committed load.
UPGSTATUS	Software upgrade status	BKUPCOMPL = Backup Original Load Completed BKUPIP = Backup Original Load in Progress BOUTCOMPL = Backout Completed BOUTIP = Backout in Progress BOUTUIP = Backout Upgrade in Progress CMMT = Committed CMMTIP = Commit in Progress DISTCOMPL = Distribute Shelf Load Completed DISTFAIL = Distribute Shelf Load Failed DISTIP = Distribute Shelf Load in Progress DISTZCOMPL = Distribute Zone Load Completed DISTZIP = Distribute Zone Load in Progress ERROR = Error in Upgrade HCIP = Health Check in Progress RESTIP = Restore Original Load in Progress UCMT = Uncommitted UNKNOWN = Unknown upgrade state WTR = Waiting To Restore Original Load XFRCOMPL = Transfer Completed XFRIP = Transfer in Progress	BKUPCOMPL = Backup Original Load Completed BKUPIP = Backup Original Load in Progress BOUTCOMPL = Backout Completed BOUTIP = Backout in Progress BOUTUIP = Backout Upgrade in Progress CMMT = Committed CMMTIP = Commit in Progress DISTCOMPL = Distribute Shelf Load Completed DISTFAIL = Distribute Shelf Load Failed DISTIP = Distribute Shelf Load in Progress DISTZCOMPL = Distribute Zone Load Completed DISTZIP = Distribute Zone Load in Progress ERROR = Error in Upgrade HCIP = Health Check in Progress RESTIP = Restore Original Load in Progress UCMT = Uncommitted UNKNOWN = Unknown upgrade state WTR = Waiting To Restore Original Load XFRCOMPL = Transfer Completed XFRIP = Transfer in Progress

Example output

```
SEATTLE 03-10-21 03:42:21
M 99 COMPLD
"\"6.1.40.1\",\"\",CMMT"
;
```

SET-ATTR-IFS (set attribute IFS feature)

Use the SET-ATTR-IFS command to set attributes associated with the intra-site fault sectionalization feature.

Security level

Level 2

Input syntax

```
SET-ATTR-IFS:[TID]::[CTAG]:::[TOPOLOGY=<topology>],[CONFIG=<co
nfig>];
```

Table 3-39
SET-ATTR-IFS input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
TOPOLOGY	Fibering topology	SINGLEOADM STACKED STANDARD NIL	SINGLEOADM STACKED STANDARD NIL
CONFIG	Fibering configuration	PARALLEL SERIAL NIL	PARALLEL SERIAL NIL

Example input

```
SET-ATTR-IFS:OM5000-1-44::ABC123:::TOPOLOGY=STANDARD,
CONFIG=PARALLEL;
```

SET-NETYPE (set network element type)

Use the SET-NETYPE command to modify the type of network element. A network element can be designated as either a terminal, OADM, or OFA site.

You must restart the shelf using the INIT-WARM (initialize warm) command for the changes to take effect.

Security level

Level 2

Input syntax

```
SET-NETYPE:[TID]::[CTAG]::<netype>;
```

Table 3-40
SET-NETYPE input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
NETYPE	Shelf type	TERMINAL OADM OFA MIXED	TERMINAL OADM

Example input

Designate network element NEWYORK as a terminal site:

```
SET-NETYPE:NEWYORK::2436::TERMINAL;
```

Equipment commands

This chapter is an alphabetical summary of all TL1 commands related to managing equipment. The command descriptions in this chapter identify each command, and describe the command purpose, syntax, variables, and response.

Table 1-5 on page 1-14 lists the access identifiers (AID) for Optical Metro 5100/5200 equipment. The command tables list the most common AID parameters.

Commands in this chapter

Table 4-1 lists the equipment related commands in this chapter.

Table 4-1
Equipment commands

Command	Page
DLT-EQPT (delete equipment)	4-2
ED-EQPT (edit equipment)	4-3
ENT-EQPT (enter equipment)	4-4
RMV-EQPT (remove equipment)	4-9
RST-EQPT (restore equipment)	4-11
RTRV-EQPT (retrieve equipment)	4-12
RTRV-INVENTORY (retrieve inventory)	4-18
SET-NE-OSID (set optical system identifier)	4-24

DLT-EQPT (delete equipment)

Use the DLT-EQPT command to delete a specified circuit pack group or equipment object.

When you delete a piece of equipment, you delete all the provisioning data for that piece of equipment.

> ***Note:*** Before you can delete equipment, such as an OCI SRM, you must take the equipment out of service, and delete all of the facilities associated with the circuit pack. For more information, refer to the "Facility commands" chapter in this book.

Security level

Level 3

Input syntax

```
DLT-EQPT:[TID]:<AID>:[CTAG];
```

Table 4-2
DLT-EQPT input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AID	Access identifier Grouping is allowed. AID is listable and rangeable.	For AID values see Table 1-5 on page 1-14	For AID values see Table 1-5 on page 1-14
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string

Example input

Delete the OCI circuit packs in slot 5 and 8 for the network element COLORADO :

```
DLT-EQPT:COLORADO:OCI-5&OCI-8:1;
```

ED-EQPT (edit equipment)

Use the ED-EQPT command to edit the parameters associated with the equipment for a network element.

Security level

Level 2

Input syntax

```
ED-EQPT:[TID]:<AID>:[CTAG]:::[MAX_BR=<maxBitrate>],
[FBRDIRN=<fbrDirn>],[AMPLOCN=<ampLocn>],[OSID=<osid>],
[OFATYPE=<ofatype>],[DSCMTYPE=<dscmtype>],[DESCRIPTION=<descri
ption>],[FEWAVELENGTH=<fewavelength>],[FLEXTYPE=<flextype>],[W
NBRPROVSITE=<wnbrprovsite>],[ENBRPROVSITE=<enbrprovsite>];
```

Table 4-3
ED-EQPT input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AID	Access identifier AID is listable and rangeable	For AID values see Table 1-5 on page 1-14	For AID values see Table 1-5 on page 1-14
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
MAX_BR	Maximum bit rate for OCM equipment	1.25GB 2.5GB	1.25GB 2.5GB
FBRDIRN	Fiber direction for OFA and APBE equipment	EAST WEST	EAST WEST
AMPLOCN	Amplifier location for OFA and APBE equipment	NIL POSTA PRE2A PREA THRU2A THRUA	
OSID	Optical system identifier for OMX, OSC, OCLD, OTR, MOTR, OFA, and APBE equipment	Alphanumeric string Maximum 8 characters	Alphanumeric string Maximum 8 characters
	Note: The OSID value may be cleared by using the value OSID= “ ”.		

Table 4-3 (continued)
ED-EQPT input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
OFATYPE	Supporting OFA type for APBE equipment: - Variable Gain Amplifier (VGA) - High Input Power (HIP) - Standard Input Power (STANDARD	VG HIP STANDARD	
DSCMTYPE	Supported DSCM type for APBE equipment	1 = When a DSCM follows an APBE Nil = When an OFA follows an APBE	1 Nil
DESCRIPTION	Description of equipment for OMX, ECT, OSCSPLT, VOA, WSPLT, TPT, EIU, DSCM.	Character string. Maximum 16 characters.	Character string. Maximum 16 characters.
FEWAVELENGTH	Expected Far End Wavelength for OCLD, OTR, and MOTR.	ANY = Any Lambda NIL = Nil or Unassigned SAME = Same Lambda	
FLEXTYPE	Supported OCLD or OTR 2.5 Gbit/s equipment type ***Note:*** This field is optional	Standard Universal	Standard Universal
WNBRPROVSITE	West neighbor provisioned on the OSC for SLEC ***Note:*** This field is optional	Connected Not_Connected	Connected Not_Connected
ENBRPROVSITE	East neighbor provisioned on the OSC for SLEC ***Note:*** This field is optional	Connected Not_Connected	Connected Not_Connected

ENT-EQPT (enter equipment)

Use the ENT-EQPT command to provision a circuit pack and its facility in a network element. This command informs the network element that a specific circuit pack is supposed to be in a specific slot. If the system does a self test and finds a circuit pack in a slot that does not match the description provisioned, an alarm is raised.

Note: This command may return a partial modification (PRTL) response if the equipment provisioning is successful, but the assigning of the OSID parameter failed (if the OSID parameter was specified in the command).

Security level

Level 3

Input syntax

```
ENT-EQPT:[TID]:<AID>:[CTAG]::[:[BAND=<band>],[CHAN=<chan>],[MI
N_BR=<minBr>],[MAX_BR=<maxBr>],[INTERSHELFPROTOCOL=<intershelf
protocol>],[WAVELENGTH=<wavelength>],[BANDTYPE=<ofaBandType>],
[OMX_WAVELEN=<omxWavelen>],[ECTTYPE=<ecttype>],[WDMTYPE=<wdmty
pe>],[FBRDIRN=<fbrDirn>],[AMPLOCN=<ampLocn>],[OSID=<osid>],[OF
ATYPE=<ofatype>],[TPTTYPE=<tpttype>],[DSCMTYPE=<dscmtype>],[DS
CMDIST=<dscmdist>],[OSCSPLTTYPE=<oscspllttype>],[VOATYPE=<voaty
pe>],[EIUTYPE=<eiutype>],[WSPLTTYPE=<wspllttype>],[NUMPORTS=<nu
mports>],[DESCRIPTION=<description>],[FEWAVELENGTH=<fewaveleng
th>],[FLEXTYPE=<flextype>],[WNBRPROVSITE=<wnbrprovsite>],[ENBR
PROVSITE=<enbrprovsite>]]:[<pst>];
```

Table 4-4
ENT-EQPT input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AID	Access identifier Grouping is not allowed.	For AID values see Table 1-5 on page 1-14	For AID values see Table 1-5 on page 1-14
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
BAND	Band of the OCLD, OTR, MOTR, OMX	OCLD, OTR, or MOTR: Number from 1 through 9 OMX: Number 1 through 8 = OMX 1CH OADM ITU CWDM C = CWDM OMX Band C L = CWDM OMX Band L ITU4_1471nm_1531nm = OMX 4CH OADM ITU CWDM ITU4_1551nm_1611nm = OMX 4CH OADM ITU CWDM ITU4_1511nm_1571nm = OMX 4CH ITU CWDM ITU8 = OMX Band ITU-8	OCLD, OTR, or MOTR: Number from 1 through 9 OMX: Number 1 through 8 = OMX 1CH OADM ITU CWDM C = CWDM OMX Band C L = CWDM OMX Band L ITU4_1471nm_1531nm = OMX 4CH OADM ITU CWDM ITU4_1551nm_1611nm = OMX 4CH OADM ITU CWDM ITU4_1511nm_1571nm = OMX 4CH ITU CWDM ITU8 = OMX Band ITU-8
CHAN	Channel ID of OCLD, OTR, MOTR	Number from 1 through 4 ITU-compliant must be 1	Number from 1 through 4 ITU-compliant must be 1
MIN_BR	***Note:*** Minimum bit rate for the Flex OCLD or OTR	16MB (1.25G OCLD, 2.5G flex rate OCLD and OTR) 2.5GB (2.5G fix rate OCLD) 10GB (10G OTR)	16MB (1.25G OCLD, 2.5G flex rate OCLD and OTR) 2.5GB (2.5G fix rate OCLD) 10GB (10G OTR enhanced)

Table 4-4 (continued)
ENT-EQPT input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
MAX_BR	Maximum bit rate The 622MB bit rate can only apply to OCI and SRM circuit packs.	622MB 1GB 1.25GB 2.5GB 10GB 10.3GB 10.7GB	622MB 1GB 1.25GB 2.5GB 10.3GB 10.7GB
INTERSHELF PROTOCOL	Inter-shelf protocol for the OCI, GFSRM, SRM, OTR, or MOTR.	ISC = IBM ISC SONETSDH = Sonet or SDH SONETSDHLTE = Sonet or SDH LTE protocol TRANSPARENT = transparent protocol GIGE = Gigabit Ethernet GEFC-ENH = Enhanced Gigabit Ethernet GEFC = Gigabit Eithernet, Fiber Channel ESCON = ESCON protocol	ISC = IBM ISC SONETSDH = Sonet or SDH SONETSDHLTE = Sonet or SDH LTE protocol TRANSPARENT = transparent protocol GIGE=Gigabit Ethernet GEFC-ENH = Enhanced Gigabit Ethernet GEFC = Gigabit Eithernet, Fiber Channel ESCON = ESCON protocol
WAVELENGTH	Wavelength of the OCI, GFSRM, SRM, OTR, or MOTRSFP.	1310NM (Default) 850NM	1310NM (Default) 850NM
BANDTYPE	OFA or APBE band type	CONVENTIONAL LONG	Not applicable
OMX_ WAVELEN	Number of supported wavelengths by OMX	Number from 1 through 4	Number from 1 through 4
ECTTYPE	Type of Equalizer Coupler Tray (ECT)	CONVENTIONAL LONG BOTH PBEC PBECNL PBEL SPLITTER	Not applicable
WDMTYPE	WDM type for OMX, OCLD, OTR, MOTR	CWDM DWDM-100GHZ DWDM-200GHZ ITU-CWDM	CWDM DWDM-100GHZ DWDM-200GHZ ITU-CWDM
FBRDIRN	Fiber direction for OFA, APBE	EAST WEST	EAST WEST

Table 4-4 (continued)
ENT-EQPT input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
AMPLOCN	Amplifier location for OFA and APBE	NIL POSTA PRE2A PREA THRU2A THRUA	Not applicable
OSID	Optical system identifier for OMX, OSC, OCLD, OTR, MOTR, OFA, and APBE equipment	Alphanumeric string Maximum 8 characters	Alphanumeric string Maximum 8 characters
OFATYPE	Supporting OFA type for APBE equipment - Variable Gain Amplifier (VGA) - High Input Power (HIP) - Standard Input Power (STANDARD)	VG HIP STANDARD NIL	Not applicable
TPTTYPE	Transponder Protection Tray type	2FLTMULTI = 2 Filter Multi mode type 2FLTSINGLE = 2 Filter Single mode type 4FLTMULTI = 4 Filter Multi mode type 4FLTSINGLE = 4 Filter Single Mode type NIL = Nil or Unassigned.	2FLTMULTI = 2 Filter Multi mode type 2FLTSINGLE = 2 Filter Single mode type 4FLTMULTI = 4 Filter Multi mode type 4FLTSINGLE = 4 Filter Single Mode type NIL = Nil or Unassigned.
DSCMTYPE	Supported DSCM type for DSCM and APBE equipment	1 = When a DSCM follows an APBE Nil = When an OFA follows an APBE	

Table 4-4 (continued)
ENT-EQPT input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
DSCMDIST	Supported distance for DSCM equipment	140KM 130KM 120KM 110KM 100KM 90KM 80KM 70KM 60KM 50KM 40KM 30KM 20KM 10KM 5KM Nil	
OSCSPLTTYPE	OSC Splitter/Coupler type	NIL = Nil or Unassigned NOTAP = No Tap type WITHTAP= With Tap type DUALTAP=Dual Taps type	NIL = Nil or Unassigned NOTAP = No Tap type WITHTAP= With Tap type DUALTAP=Dual Taps type
VOATYPE	Variable Optical Attenuator type	MANUAL = Manual type NIL = Nil or Unassigned.	MANUAL = Manual type NIL = Nil or Unassigned.
EIUTYPE	Equipment Inventory Unit type	I2C = I2C type NIL = Nil or Unassigned	I2C = I2C type NIL = Nil or Unassigned
WSPLTTYPE	Wavelength Splitter Coupler type	1310NM = 1310 NM type NIL = Nil or Unassigned.	1310NM = 1310 NM type NIL = Nil or Unassigned.
NUMPORTS	Number of ports supported by EIU	Integer	Integer
DESCRIPTION	Description of equipment for OMX, ECT, OSCSPLT, VOA, WSPLT, TPT, EIU.	Character string. Maximum 16 characters.	Character string. Maximum 16 characters.
FEWAVELENGTH	Expected Far End Wavelength for OCLD, OTR, and MOTR.	ANY = Any Lambda NIL = Nil or Unassigned SAME = Same Lambda	ANY = Any Lambda NIL = Nil or Unassigned SAME = Same Lambda
FLEXTYPE	Supported OCLD or OTR 2.5Gbit/s equipment type ***Note:*** This field is optional	Standard Universal	Standard Universal

Table 4-4 (continued)
ENT-EQPT input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
WNBRPROVSITE	West neighbor provisioned on the OSC for SLEC ***Note:*** This field is optional	Connected Not_Connected	Connected Not_Connected
ENBRPROVSITE	East neighbor provisioned on the OSC for SLEC ***Note:*** This field is optional	Connected Not_Connected	Connected Not_Connected
PST	Primary state	IS = in-service OOS = out-of-service	IS = in-service OOS = out-of-service

Example input

Add a 10G OTR Enhanced in slot 6, in an out-of-service state:

```
ENT-EQPT:MONTREAL:OTR-6:1:::BAND=1,CHAN=1,MIN_BR=10GB,MAX_BR=1
0.3GB,INTERSHELFPROTOCOL=TRANSPARENT,WAVELENGTH=1310nm,osid=1,
FEWAVELENGTH=SAME:OOS;
```

RMV-EQPT (remove equipment)

Use the RMV-EQPT command to remove the specified equipment from service and put it in an OOS maintenance state. Before you can enter this command, you must put all facilities on the specified equipment OOS.

For more information about putting facilities OOS, refer to the "Facility commands" chapter in this book.

Security level

Level 2

Input syntax

```
RMV-EQPT:[TID]:<AID>:[CTAG]::[<mode>],[<state>];
```

Table 4-5
RMV-EQPT input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AID	Access identifier Grouping allowed. AID is listable and rangeable.	For AID values see Table 1-5 on page 1-14	For AID values see Table 1-5 on page 1-14
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
MODE	Mode	Unused	Unused
STATE	State	Unused	Unused

Example input
Put the OCLD circuit pack in slot 3 in an OOS state:

```
RMV-EQPT:MONTREAL:OCLD-3:1::,;
```

RST-EQPT (restore equipment)

Use the RST-EQPT command to bring a specified type of equipment back into an in-service state from an out-of-service maintenance (OOS-MA) state.

Security level

Level 2

Input syntax

```
RST-EQPT:[TID]:<AID>:[CTAG]::[<mode>];
```

Table 4-6
RST-EQPT input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AID	Access identifier AID is listable and rangeable.	For AID values see Table 1-5 on page 1-14	For AID values see Table 1-5 on page 1-14
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
MODE	Mode	Unused	Unused

Example input

Put the OCI circuit pack in slot 5, in network element MONTREAL, in an IS state:

```
RST-EQPT:MONTREAL:OCI-5:1::;
```

RTRV-EQPT (retrieve equipment)

Use the RTRV-EQPT command to display the details of the current data and state parameters of the provisioned equipment.

Security level

Level 1

Input syntax

```
RTRV-EQPT:[TID]:[AID]:[CTAG];
```

Table 4-7
RTRV-EQPT input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AID	Access identifier AID is listable and rangeable.	For AID values see Table 1-5 on page 1-14	For AID values see Table 1-5 on page 1-14
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string

Example input

Retrieve the equipment data for the OCI SRM GbE/FC circuit pack in slot 7 for the network element MONTREAL:

```
RTRV-EQPT:MONTREAL:GFSRM-7,12DK;
```

Output syntax

```
SID DATE TIME
M CTAG COMPLD
"<aid>:[SUBCARDTYPE=<subcardtype>],[BAND=<band>],[CHAN=<chan>]
,[MIN_BR=minBr],[MAX_BR=<maxBitrate>],[INTERSHELFPROTOCOL=<int
ershelfprotocol>],[BANDTYPE=<ofabandtype>],[WAVELENGTH=<wavele
ngth>],[OMX_WAVELEN=<omxWavelen>],[ECTTYPE=<ecttype],[WDMTYPE=
<wdmtype>],[FBRDIRN=<fbrDirn>],[AMPLOCN=<ampLocn>],[OSID=<osid
>],[OFATYPE=<ofatype>],[SYNCACTIVE=<syncactive>],[TPTTYPE=<tpt
type>],[DSCMTYPE=<dscmtype>],[DSCMDIST=<dscmdist>],[OSCSPLTTYP
E=<oscsplttype>],[VOATYPE=<voatype>],[EIUTYPE=<eiutype>],[WSPL
TTYPE=<wsplttype>],
[NUMPORTS=<numports>],[DESCRIPTION=<description>],
[FEWAVELENGTH=<fewavelength>],[DIVERSEROUTE=<diverseroute>],
[TXWAVELENGTH=<txwavelength>],[FLEXTYPE=<flextype>],[WNBRPROVS
ITE=<wnbrprovsite>],[ENBRPROVSITE=<enbrprovsite>]:
<pst>,<sst>,<ost>";
```

Table 4-8
RTRV-EQPT output syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
AID	Access identifier	For AID values see Table 1-5 on page 1-14	For AID values see Table 1-5 on page 1-14
SUBCARDTYPE	Sub card type value	Character String 10.7GB GEFC DWDM 200GHz 2.5GB DWDM 200GHz Flex 10.7GB GEFC DWDM 100GHz 2.5GB DWDM 100GHz Flex 2.5GB DWDM 200GHz Universal 2.5GB 1310nm 2.5GB 850nm 2.5GB Unspecified 2.5GB SONET/SDH DWDM 200GHz CWDM 200GHz 2.5GB Transparent I2CEIU	Character String 10.7GB GEFC DWDM 200GHz 2.5GB DWDM 200GHz Flex 10.7GB GEFC DWDM 100GHz 2.5GB DWDM 100GHz Flex 2.5GB DWDM 200GHz Universal 2.5GB 1310nm 2.5GB 850nm 2.5GB Unspecified 2.5GB SONET/SDH DWDM 200GHz CWDM 200GHz I2CEIU
BAND	Band of the OCLD, OTR, MOTR, OMX	OCLD, OTR, or MOTR: Number 1 through 9 OMX: Number 1 through 8 = OMX 1CH OADM ITU CWDM C = CWDM OMX Band C L = CWDM OMX Band L ITU4_1471nm_1531nm = OMX 4CH OADM ITU CWDM ITU4_1551nm_1611nm = OMX 4CH OADM ITU CWDM ITU4_1511nm_1571nm = OMX 4CH ITU CWDM ITU8 = OMX Band ITU-8	OCLD, OTR, or MOTR: Number 1 through 9 OMX: Number 1 through 8 = OMX 1CH OADM ITU CWDM C = CWDM OMX Band C L = CWDM OMX Band L ITU4_1471nm_1531nm = OMX 4CH OADM ITU CWDM ITU4_1551nm_1611nm = OMX 4CH OADM ITU CWDM ITU4_1511nm_1571nm = OMX 4CH ITU CWDM ITU8 = OMX Band ITU-8
CHAN	Channel ID of OCLD, OTR, or MOTR	Number 1 through 4	Number 1 through 4
MIN_BR	***Note:*** Minimum bit rate for the OCLD or OTR	16MB (1.25G OCLD, 2.5G flex rate OCLD and OTR) 2.5GB (2.5G fix rate OCLD) 10GB (10G OTR)	16MB (1.25G OCLD, 2.5G flex rate OCLD and OTR) 2.5GB (2.5G fix rate OCLD) 10GB (10G OTR)

Table 4-8 (continued)
RTRV-EQPT output syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
MAX_BR	Maximum bit rate ***Note:*** The 622MB bit rate can only apply to OCI and SRM circuit packs.	622MB 1GB 1.25GB 2.5GB 10GB 10.3GB 10.7GB	622MB 1GB 1.25GB 2.5GB 10.3GB 10.7GB
INTERSHELF PROTOCOL	Inter-shelf protocol for OCI, GFSRM, SRM, OTR, MOTR, or MOTRSFP	ISC = IBM ISC SONETSDH = SONET or SDH SONETSDHLTE = Sonet SDH LTE TRANSPARENT = transparent protocol GIGE = Gigabit Ethernet GEFC = Gigabit Ethernet, Fiber Channel GEFC-ENH = Enhanced Gigabit Ethernet ESCON = ESCON protocol	ISC = IBM ISC SONETSDH = SONET or SDH SONETSDHLTE = Sonet SDH LTE TRANSPARENT = transparent protocol GIGE = Gigabit Ethernet GEFC = Gigabit Ethernet, Fiber Channel GEFC-ENH = Enhanced Gigabit Ethernet ESCON = ESCON protocol
BANDTYPE	OFA, APBE band type	CONVENTIONAL LONG	Not applicable
WAVELENGTH	Wavelength of OCI, GFSRM, SRM, OTR, or MOTRSFP	1310NM 850NM	1310NM 850NM
OMX_WAVELEN	Number of supported wavelengths	Number 1 through 4	Number 1 through 4
ECTTYPE	Type of ECT	CONVENTIONAL LONG BOTH PBEC PBECNL PBEL SPLITTER	Not applicable
WDMTYPE	WDM type for OMX, OCLD, OTR, MOTR	CWDM DWDM-100GHZ DWDM-200GHZ ITU-CWDM	CWDM DWDM-100GHZ DWDM-200GHZ ITU-CWDM
FBRDIRN	Fiber direction for OFA, APBE, OTR, MOTR, or OCLD	EAST WEST	EAST WEST

Table 4-8 (continued)
RTRV-EQPT output syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
AMPLOCN	Amplifier location for OFA and APBE	NIL POSTA PRE2A PREA THRU2A THRUA	Not applicable
OSID	Optical system identifier for OMX, OSC, OCLD, OTR, OFA, MOTR, and APBE equipment	Alphanumeric string Maximum 8 characters	Alphanumeric string Maximum 8 characters
OFATYPE	Supporting OFA type for APBE equipment - Variable Gain Amplifier (VGA) - High Input Power (HIP) - Standard Input Power (STANDARD)	VG HIP STANDARD NIL	Not applicable
SYNCACTIVE	Active Synchronization state for SRM equipment	FAIL = Synchronization Failed FREERUN = Freerun mode HOLDOVER = Holdover mode NIL = Nil or circuit pack does not support synchronization PRIMARY = Primary timing reference is active SECONDARY = Secondary timing reference is active	FAIL = Synchronization Failed FREERUN = Freerun mode HOLDOVER = Holdover mode NIL = Nil or circuit pack does not support synchronization PRIMARY = Primary timing reference is active SECONDARY = Secondary timing reference is active
TPTTYPE	Transponder Protection Tray type	2FLTMULTI = 2 Filter Multi mode type 2FLTSINGLE = 2 Filter Single mode type 4FLTMULTI = 4 Filter Multi mode type 4FLTSINGLE = 4 Filter Single Mode type NIL = Nil or Unassigned.	2FLTMULTI = 2 Filter Multi mode type 2FLTSINGLE = 2 Filter Single mode type 4FLTMULTI = 4 Filter Multi mode type 4FLTSINGLE = 4 Filter Single Mode type NIL = Nil or Unassigned.
DSCMTYPE	Supported DSCM type for DSCM and APBE equipment	1 = When a DSCM follows an APBE Nil = When an OFA follows an APBE	

Table 4-8 (continued)
RTRV-EQPT output syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
DSCMDIST	Supported distance for DSCM equipment	140KM 130KM 120KM 110KM 100KM 90KM 80KM 70KM 60KM 50KM 40KM 30KM 20KM 10KM 5KM Nil	
OSCSPLTTYPE	OSC Splitter/Coupler type	NIL = Nil or Unassigned NOTAP = No Tap type WITHTAP= With Tap type DUALTAP=Dual Taps type	NIL = Nil or Unassigned NOTAP = No Tap type WITHTAP= With Tap type DUALTAP=Dual Taps type
VOATYPE	Variable Optical Attenuator type	MANUAL = Manual type NIL = Nil or Unassigned.	MANUAL = Manual type NIL = Nil or Unassigned.
EIUTYPE	Equipment Inventory Unit type	I2C = I2C type NIL = Nil or Unassigned	I2C = I2C type NIL = Nil or Unassigned
WSPLTTYPE	Wavelength Splitter Coupler type	1310NM = 1310 NM type NIL = Nil or Unassigned.	1310NM = 1310 NM type NIL = Nil or Unassigned.
NUMPORTS	Number of ports supported by EIU	Integer	Integer
DESCRIPTION	Description of equipment for OMX, ECT, OSCSPLT, VOA, WSPLT, TPT, EIU	Character string. Maximum 16 characters.	Character string. Maximum 16 characters.
FEWAVELENGTH	Expected Far End Wavelength for OCLD , OTR, and MOTR	ANY = Any Lambda NIL = Nil or Unassigned SAME = Same Lambda	ANY = Any Lambda NIL = Nil or Unassigned SAME = Same Lambda
DIVERSEROUTE	Diverse Routing status	ENABLE DISABLE	ENABLE DISABLE

Table 4-8 (continued)
RTRV-EQPT output syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TXWAVELENGTH	Wavelength of the line-side laser	Transmitter wavelength (nm)	Transmitter wavelength (nm)
FLEXTYPE	Supported OCLD or OTR 2.5Gbit/s equipment type ***Note:*** This field is optional	Standard Universal	Standard Universal
WNBRPROVSITE	West neighbor provisioned on the OSC for SLEC ***Note:*** This field is optional	Connected Not_Connected	Connected Not_Connected
ENBRPROVSITE	East neighbor provisioned on the OSC for SLEC ***Note:*** This field is optional	Connected Not_Connected	Connected Not_Connected
PST	Primary state	IS = in-service OOS = out-of-service UNASSIGNED = unassigned	IS = in-service OOS = out-of-service UNASSIGNED = unassigned
SST	Secondary state	FLT = failed MEA = mismatched SGEO = supporting entity outage UEQ = unequipped	FLT = failed MEA = mismatched SGEO = supporting entity outage UEQ = unequipped
OST	Operational state	IS-ANR = in-service abnormal IS-NR = in-service normal operation OOS-AU = out-of-service autonomous OOS-AU-MA = out-of-service autonomous/maintenance OOS-MA = out-of-service maintenance OOS-MA-ANR = out-of-service maintenance and abnormal	IS-ANR = in-service abnormal IS-NR = in-service normal operation OOS-AU = out-of-service autonomous OOS-AU-MA = out-of-service autonomous/maintenance OOS-MA = out-of-service maintenance OOS-MA-ANR = out-of-service maintenance and abnormal

RTRV-INVENTORY (retrieve inventory)

Use the RTRV-INVENTORY command to identify the type of circuit pack present in each slot. This command does not retrieve circuit packs that have been logically provisioned, but what is actually in the slots. You can use this command to identify incorrectly situated circuit packs with the RTRV-EQPT command.

Security level

Level 1

Input syntax

```
RTRV-INVENTORY:[TID]:[<AID>]:[CTAG];
```

Table 4-9
RTRV-INVENTORY input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AID	Equipment access identifier Grouping is allowed. AID is listable and rangeable.	For AID values see Table 1-5 on page 1-14	For AID values see Table 1-5 on page 1-14
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string

Example input

Retrieve information about all circuit packs in the network element TORONTO:

```
RTRV-INVENTORY:TORONTO:ALL:ABC123;
```

Output syntax

```
SID DATE TIME
M CTAG COMPLD
"<aid>:[SUBCARDTYPE=<subcardtype>][PEC=<pec>],[CLEI=<clei>],
[SER=<ser>],[REV=<rev>],[BAND=<band>],[CHAN=<chan>],
[MIN_BR=minBr],[MAX_BR=<maxBr>],[CDR=<cdr>],[INTERSHELFPROTOCO
L=<intershelfprotocol>],[BANDTYPE=<ofabandtype>],[WAVELENGTH=<
wavelength>],[OMX_WAVELEN=<omxWavelen>],[ECTTYPE=<ecttype>],[W
DMTYPE=<wdmtype>],[OFATYPE=<ofatype>],[TPTTYPE=<tpttype>],[DSC
MTYPE=<dscmtype>],[DSCMDIST=<dscmdist>],[OSCSPLTTYPE=<oscspltt
ype>],[VOATYPE=<voatype>],[EIUTYPE=<eiutype>],[WSPLTTYPE=<wspl
ttype>],
[NUMPORTS=<numports>],[TXWAVELENGTH=<txwavelength>],[FLEXTYPE=
<flextype>],[MAC1=<mac1>],[MAC2=<mac2>],[MAC3=<mac3>],
```

```
[MAC4=<mac4>],[MAC5=<mac5>],[MAC6=<mac6>],[MAC7=<mac7>],
[MAC8=<mac8>],[MAC9=<mac9>],[MAC10=<mac10>]
;
```

Table 4-10
RTRV-INVENTORY output syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
AID	Equipment access identifier ALL is a null value.	For AID values see Table 1-5 on page 1-14	For AID values see Table 1-5 on page 1-14
SUBCARDTYPE	Sub card type value ***Note:*** This attribute is visible in OSMINE and OMEA.	Character String 10.7GB GEFC DWDM 200GHz 2.5GB DWDM 200GHz Flex 10.7GB GEFC DWDM 100GHz 2.5GB DWDM 100GHz Flex 2.5GB DWDM 200GHz Universal 2.5GB 1310nm 2.5GB 850nm 2.5GB Unspecified 2.5GB SONET/SDH DWDM 200GHz CWDM 200GHz 2.5GB Transparent I2CEIU	Character String 10.7GB GEFC DWDM 200GHz 2.5GB DWDM 200GHz Flex 10.7GB GEFC DWDM 100GHz 2.5GB DWDM 100GHz Flex 2.5GB DWDM 200GHz Universal 2.5GB 1310nm 2.5GB 850nm 2.5GB Unspecified 2.5GB SONET/SDH DWDM 200GHz CWDM 200GHz I2CEIU
PEC	Product engineering code	Character string	Character string
CLEI	Common Language Equipment Identifier	Character string	Character string
SER	Serial number	Character string	Character string
REV	Revision number	Character string	Character string

Table 4-10 (continued)
RTRV-INVENTORY output syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
BAND	Band of the OCLD, OTR, MOTR, OMX	OCLD, OTR, or MOTR: Number from 1 through 9 OMX: Number 1 through 8 = OMX 1CH OADM ITU CWDM C = CWDM OMX Band C L = CWDM OMX Band L ITU4_1471nm_1531nm = OMX 4CH OADM ITU CWDM ITU4_1551nm_1611nm = OMX 4CH OADM ITU CWDM ITU4_1511nm_1571nm = OMX 4CH ITU CWDM ITU8 = OMX Band ITU-8	OCLD, OTR, or MOTR: Number from 1 through 9 OMX: Number 1 through 8 = OMX 1CH OADM ITU CWDM C = CWDM OMX Band C L = CWDM OMX Band L ITU4_1471nm_1531nm = OMX 4CH OADM ITU CWDM ITU4_1551nm_1611nm = OMX 4CH OADM ITU CWDM ITU4_1511nm_1571nm = OMX 4CH ITU CWDM ITU8 = OMX Band ITU-8
CHAN	Channel ID of OCLD, OTR, or MOTR	Number 1 through 4	Number 1 through 4
MIN_BR	Minimum bit rate for the OCLD or OTR	1.25GB 2.5GB 10GB	1.25GB 2.5GB 10GB
MAX_BR	Maximum bit rate ***Note:*** The 622MB bit rate can only apply to OCI and SRM circuit packs.	622 MB 1GB 1.25GB 2.5GB 10GB 10.3GB 10.7GB	622 MB 1GB 1.25GB 2.5GB 10.3GB 10.7GB
CDR	Clock and data recovery A device which is part of OCI, OCLD, GFSRM, OTR, MOTR, and SRM circuit packs.	YES = the equipment has a CDR NO = the equipment does not have a CDR	YES = the equipment has a CDR NO = the equipment does not have a CDR

Table 4-10 (continued)
RTRV-INVENTORY output syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
INTERSHELF PROTOCOL	Inter-shelf protocol for OCI, GFSRM, SRM, OTR, or MOTR	ISC = IBM ISC SONETSDH = Sonet or SDH SONETSDHLTE = Sonet SDH LTE TRANSPARENT = transparent protocol GIGE = Gigabit Ethernet GEFC = Gigabit Ethernet, Fiber Channel GEFC-ENH = Enhanced Gigabit Ethernet ESCON = ESCON protocol	ISC = IBM ISC SONETSDH = SONET or SDH SONETSDHLTE = Sonet SDH LTE TRANSPARENT = transparent protocol GIGE = Gigabit Ethernet GEFC = Gigabit Ethernet, Fiber Channel GEFC-ENH = Enhanced Gigabit Ethernet ESCON = ESCON protocol
BANDTYPE	OFA or APBE band type	CONVENTIONAL LONG	Not applicable
WAVELENGTH	Wavelength of OCI, SRM, GFSRM, OTR, or MOTRSFP	1310NM 850NM	1310NM 850NM
OMX_ WAVELEN	Number of supported wavelengths by OMX	Number 1 through 4	Number 1 through 4
ECTTYPE	Type of ECT	CONVENTIONAL LONG BOTH PBEC PBECNL PBEL SPLITTER	Not applicable
WDMTYPE	WDM type for OMX, OCLD, OTR, MOTR	CWDM DWDM-100GHZ DWDM-200GHZ ITU-CWDM	CWDM DWDM-100GHZ DWDM-200GHZ ITU-CWDM
OFATYPE	Supporting OFA type for APBE equipment - Variable Gain Amplifier (VGA) - High Input Power (HIP) - Standard Input Power (STANDARD)	VG HIP STANDARD NIL	Not applicable

Table 4-10 (continued)
RTRV-INVENTORY output syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TPTTYPE	Transponder Protection Tray type	2FLTMULTI = 2 Filter Multi mode type 2FLTSINGLE = 2 Filter Single mode type 4FLTMULTI = 4 Filter Multi mode type 4FLTSINGLE = 4 Filter Single Mode type NIL = Nil or Unassigned.	2FLTMULTI = 2 Filter Multi mode type 2FLTSINGLE = 2 Filter Single mode type 4FLTMULTI = 4 Filter Multi mode type 4FLTSINGLE = 4 Filter Single Mode type NIL = Nil or Unassigned.
DSCMTYPE	Supported DSCM type for DSCM and APBE equipment	1 = When a DSCM follows an APBE Nil = When an OFA follows an APBE	
DSCMDIST	Supported distance for DSCM equipment	140KM 130KM 120KM 110KM 100KM 90KM 80KM 70KM 60KM 50KM 40KM 30KM 20KM 10KM 5KM Nil	
OSCSPLTTYPE	OSC Splitter/Coupler type	NIL = Nil or Unassigned NOTAP = No Tap type WITHTAP= With Tap type DUALTAP=Dual Taps type	NIL = Nil or Unassigned NOTAP = No Tap type WITHTAP= With Tap type DUALTAP=Dual Taps type
VOATYPE	Variable Optical Attenuator type	MANUAL = Manual type NIL = Nil or Unassigned.	MANUAL = Manual type NIL = Nil or Unassigned.
EIUTYPE	Equipment Inventory Unit type	I2C = I2C type NIL = Nil or Unassigned	I2C = I2C type NIL = Nil or Unassigned
WSPLTTYPE	Wavelength Splitter Coupler type	1310NM = 1310 NM type NIL = Nil or Unassigned.	1310NM = 1310 NM type NIL = Nil or Unassigned.
NUMPORTS	Number of ports supported by EIU.	Integer	Integer

Table 4-10 (continued)
RTRV-INVENTORY output syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TXWAVELENGTH	Wavelength of the line-side laser	Transmitter wavelength (nm)	Transmitter wavelength (nm)
FLEXTYPE	Supported OCLD or OTR 2.5Gbit/s equipment type ***Note:*** This field is optional	Standard Universal	Standard Universal
MAC1	Port 1 MAC address for GFSRM or MOTR equipment	MAC address string nn:nn:nn:nn:nn:nn	MAC address string nn:nn:nn:nn:nn:nn
MAC2	Port 2 MAC address for GFSRM or MOTR equipment	MAC address string nn:nn:nn:nn:nn:nn	MAC address string nn:nn:nn:nn:nn:nn
MAC3	Port 3 MAC address for MOTR equipment	MAC address string nn:nn:nn:nn:nn:nn	MAC address string nn:nn:nn:nn:nn:nn
MAC4	Port 4 MAC address for MOTR equipment	MAC address string nn:nn:nn:nn:nn:nn	MAC address string nn:nn:nn:nn:nn:nn
MAC5	Port 5 MAC address for MOTR equipment	MAC address string nn:nn:nn:nn:nn:nn	MAC address string nn:nn:nn:nn:nn:nn
MAC6	Port 6 MAC address for MOTR equipment	MAC address string nn:nn:nn:nn:nn:nn	MAC address string nn:nn:nn:nn:nn:nn
MAC7	Port 7 MAC address for MOTR equipment	MAC address string nn:nn:nn:nn:nn:nn	MAC address string nn:nn:nn:nn:nn:nn
MAC8	Port 8 MAC address for MOTR equipment	MAC address string nn:nn:nn:nn:nn:nn	MAC address string nn:nn:nn:nn:nn:nn
MAC9	Port 9 MAC address for MOTR equipment	MAC address string nn:nn:nn:nn:nn:nn	MAC address string nn:nn:nn:nn:nn:nn
MAC10	Port 10 MAC address for MOTR equipment	MAC address string nn:nn:nn:nn:nn:nn	MAC address string nn:nn:nn:nn:nn:nn

SET-NE-OSID (set optical system identifier)

Use the SET-NE-OSID command to set the value of the shelf-level optical system identifier (OSID). This command assigns a specific OSID value to all the currently provisioned equipment where OSID is applicable. Equipment that is provisioned after this command is issued is not automatically assigned this OSID value.

Security level

Level 2

Input syntax

```
SET-NE-OSID:[TID]::[CTAG]::<osid>;
```

Table 4-11
SET-NE-OSID input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
OSID	Optical system identifier for OMX, OSC, OCLD, OTR, MOTR, OFA, and APBE equipment	Alphanumeric string Maximum 8 characters	Alphanumeric string Maximum 8 characters

Example input

Set the optical system identifier for the network element TORONTO:

```
SET-NE-OSID:TORONTO::ABC123::osid63;
```

Facility commands

This chapter is an alphabetical summary of all TL1 commands related to provisioning circuit pack facilities. The command descriptions in this chapter identify each command, and describe the command purpose, syntax, variables, and response.

Table 1-6 on page 1-17 lists all the access identifiers (AID) for Optical Metro 5100/5200 facilities. The individual command tables list the most common AID parameters.

Commands in this chapter

Table 5-1 lists the facility commands in this chapter.

Table 5-1
Facility commands

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DLT-GFSRM (delete GFSRM)	5-6
DLT-MOTR (delete MOTR)	5-7
DLT-MOTRSFP (delete MOTRSFP)	5-8
DLT-OCI (delete OCI)	5-9
DLT-OCLD (delete OCLD)	5-10
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DLT-OSC (delete OSC facility)	5-12
DLT-OTR (delete OTR facility)	5-13
DLT-SRM (delete SRM)	5-14
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Table 5-1 (continued)
Facility commands

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Facility commands

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Table 5-1 (continued)
Facility commands

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DLT-APBE (delete APBE)

Use the DLT-APBE command to delete the APBE facility. When you use this command, you delete all the provisioning information for the specified APBE facility, and all other information (such as errors, alarms, performance monitoring data) for that facility is also deleted.

Before you can delete an APBE facility, you must put all facilities out-of-service (OOS). Before you can delete an APBE aggregate facility (port 5), you must delete all APBE band facilities (port 1 to 4).

This command does not delete the APBE circuit pack itself. For more information about deleting APBE circuit packs, refer to the "Equipment commands" chapter in this book.

Security level

Level 2

Input syntax

```
DLT-APBE:[TID]:<AID>:[CTAG];
```

Table 5-2
DLT-APBE input syntax definition

Parameter	Description	Possible values (5200)
TID	Target identifier	Character string
AID	Access identifier for APBE facility AID is listable and rangeable.	For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string

Example input

Delete the APBE facility in slot 2, port 1:

```
DLT-APBE:MANITOBA:2-1:ABC123;
```

DLT-GFSRM (delete GFSRM)

Use the DLT-GFSRM command to delete a client-side or aggregate facility from an OCI SRM GbE/FC or OCI SRM GbE circuit pack. When you use this command, you delete all the provisioning information for the specified facility, and all other information (such as errors, alarms, performance monitoring data) for that facility is ignored.

Before you can delete a facility, you must delete all cross-connects on the facility and put the facility OOS.

Before you can delete the aggregate facility, you must delete all the client-side facilities.

This command does not delete the circuit pack itself. For more information about deleting circuit packs, refer to the "Equipment commands" chapter in this book.

Security level

Level 2

Input syntax

```
DLT-GFSRM:[TID]:<AID>:[CTAG];
```

Table 5-3
DLT-GFSRM input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AID	Access identifier for GFSRM facility	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string

Example input

Delete the aggregate facility from the OCI SRM GbE/FC circuit pack in slot 1:

```
DLT-GFSRM:DUBAI:1-AG1:3644;
```

DLT-MOTR (delete MOTR)

Use the DLT-MOTR command to delete the line-side facility from a Muxponder 10 Gbit/s GbE/FC circuit pack. When you use this command, you delete all the provisioning information for the specified facility, and all other information (such as errors, alarms, performance monitoring data) for that facility is also deleted.

Before you can delete the facility, you must delete all cross-connects on the facility and put the facility OOS.

This command does not delete the circuit pack itself. For more information about deleting circuit packs, refer to the "Equipment commands" chapter in this book.

Security level

Level 2

Input syntax

```
DLT-MOTR:[TID]:<AID>:[CTAG];
```

Table 5-4
DLT-MOTR input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AID	Access identifier for MOTR facility	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string

Example input

Delete the MOTR facility in slot 7:

```
DLT-MOTR:MANITOBA:7-11:99;
```

DLT-MOTRSFP (delete MOTRSFP)

Use the DLT-MOTRSFP command to delete the client-side facility from the SFP port of a Muxponder 10 Gbit/s GbE/FC circuit pack. When you use this command, you delete all the provisioning information for the specified facility, and all other information (such as errors, alarms, performance monitoring data) for that facility is also deleted.

Before you can delete a facility, you must delete all cross-connects on the facility and put the facility OOS.

This command does not delete the circuit pack itself. For more information about deleting circuit packs, refer to the "Equipment commands" chapter in this book.

Security level

Level 2

Input syntax

```
DLT-MOTRSFP:[TID]:<AID>:[CTAG];
```

Table 5-5
DLT-MOTRSFP input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AID	Access identifier for SFP client-side facility	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string

Example input

Delete the MOTRSFP facility from SFP port 2 of the MOTR circuit pack in slot 7:

```
DLT-MOTRSFP:MANITOBA:7-2:99;
```

DLT-OCI (delete OCI)

Use the DLT-OCI command to delete the OCI facility from an OCI circuit pack. When you use this command, you delete all the provisioning information for the specified OCI facility, and all other information (such as errors, alarms, performance monitoring data) for that facility is also deleted.

Before you can delete an OCI facility, you must delete all cross-connects on the facility and put the facility OOS.

This command does not delete the OCI circuit pack itself. For more information about deleting OCI circuit packs, refer to the "Equipment commands" chapter in this book.

Security level

Level 2

Input syntax

```
DLT-OCI:[TID]:<AID>:[CTAG];
```

Table 5-6
DLT-OCI input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AID	Access identifier for OCI facility	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string

Example input

Delete the OCI facility in slot 8:

```
DLT-OCI:MANITOBA:8-1:99;
```

DLT-OCLD (delete OCLD)

Use the DLT-OCLD command to delete the OCLD facility from an OCLD circuit pack. When you use this command, you delete all the provisioning information for the specified OCLD facility, and all other information (such as errors, alarms, performance monitoring data) for that facility is also deleted.

Before you can delete an OCLD facility, you must delete all cross-connects on the facility and put the facility OOS.

This command does not delete the OCLD circuit pack itself. For more information about deleting OCLD circuit packs, refer to the "Equipment commands" chapter in this book.

Security level

Level 2

Input syntax

```
DLT-OCLD:[TID]:<AID>:[CTAG];
```

Table 5-7
DLT-OCLD input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AID	Access identifier for OCLD facility	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string

Example input

Delete the OCLD facility in slot 1 at the Manitoba NE:

```
DLT-OCLD:MANITOBA:1-1:86;
```

DLT-OFA (delete OFA)

Use the DLT-OFA command to delete the OFA facility from an OFA circuit pack. When you use this command, you delete all the provisioning information for the specified OFA facility, and all other information (such as errors, alarms, performance monitoring data) for that facility is deleted.

Before you can delete the OFA facility, you must put the facility OOS.

Security level

Level 2

Input syntax

```
DLT-OFA:[TID]:<AID>:[CTAG];
```

Table 5-8
DLT-OFA input syntax definition

Parameter	Description	Possible values (5200)
TID	Target identifier	Character string
AID	Access identifier for OFA facility	For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string

Example input

Delete the OFA facility in slot 14 (L-band east):

```
DLT-OFA:OTTAWA:14-1:1234;
```

DLT-OSC (delete OSC facility)

Use the DLT-OSC command to delete an OSC facility for an OSC circuit pack. When you use this command, you delete all the provisioning information for the specified OSC facility, and all other information (such as errors and alarms) for that facility is deleted.

> ***Note:*** Before deleting an OSC facility, you must delete the supporting WSC facilities first be deleted by using the DLT-WSC command.

Security level

Level 2

Input syntax

```
DLT-OSC:[TID]:<AID>:[CTAG];
```

Table 5-9
DLT-OSC input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AID	Access identifier for OSC facility	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string

Example input

Delete the east OSC facility at the Montreal NE.

```
DLT-OSC:MONTREAL:20-EAST-OSC:123;
```

DLT-OTR (delete OTR facility)

Use the DLT-OTR command to delete an OTR facility for an OTR circuit pack. When you use this command, you delete all the provisioning information for the specified OTR facility, and all other information (such as errors and alarms) for that facility is ignored.

Before you can delete an OTR facility, you must delete all cross-connects on the facility and put the facility OOS.

Security level

Level 2

Input syntax

```
DLT-OTR:[TID]:<AID>:[CTAG];
```

Table 5-10
DLT-OTR input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AID	Access identifier for OTR facility	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string

Example input

Delete both OTR facilities in slot 5 at the Montreal NE.

```
DLT-OTR:MONTREAL:5-1:123;
DLT-OTR:MONTREAL:5-2:123;
```

DLT-SRM (delete SRM)

Use the DLT-SRM command to delete an SRM facility from an OCI SRM, OCI SRM ESCON, OCI SRM SONET/SRM LTE, or OCI SRM SONET/SDH circuit pack. When you use this command, you delete all the provisioning information for the specified SRM facility, and all other information (such as errors, alarms, performance monitoring data) for that facility is ignored.

Before you can delete an SRM facility, you must delete all cross-connects on the facility and put the facility OOS.

This command does not delete the SRM circuit pack itself. For more information about deleting SRM circuit packs, refer to the "Equipment commands" chapter in this book.

Security level

Level 2

Input syntax

```
DLT-SRM:[TID]:<AID>:[CTAG];
```

Table 5-11
DLT-SRM input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AID	Access identifier for SRM facility AID is listable and rangeable	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string

Example input

Delete all SRM facilities from the OCI SRM circuit pack in slot 5:

```
DLT-SRM:DUBAI:5-1&5-2&5-3&5-4:3644;
```

DLT-WSC (delete wayside channel facility)

Use the DLT-WSC command to delete a WSC facility for an OSC circuit pack. When you use this command, you delete all the provisioning information for the specified OSC facility, and all other information (such as errors, alarms) for that facility is deleted.

Before you can delete a WSC facility, you must put the facility OOS.

Security level

Level 2

Input syntax

```
DLT-WSC:[TID]:<AID>:[CTAG];
```

Table 5-12
DLT-WSC input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AID	Access identifier for WSC facility	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string

Example input

Delete the east WSC facility at the Montreal NE.

```
DLT-WSC:MONTREAL:20-EAST-WSC:123;
```

ED-APBE (edit APBE)

Use the ED-APBE command to edit the attributes of an APBE facility.

Note: You can remotely adjust APBE power levels using this command.

Security level

Level 2

Input syntax

```
ED-APBE:[TID]:<AID>:[CTAG]:::[NAME=<name>],[NUMCHAN=<numchan>]
,[PROVMODE=<provmode>],[PWRPBAND=<pwrpband>],[PWRPCHAN=<pwrpch
an>];
```

Table 5-13
ED-APBE input syntax definition

Parameter	Description	Possible values (5200)
TID	Target identifier	Character string
AID	Access identifier for APBE facility	For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string
NAME	Name of facility	Character string (maximum of 32 characters)
NUMCHAN	Number of channels	Integer {1-4}
PROVMODE	Provisioning mode	BANDPOWER CHANNELPOWER NIL
PWRPBAND	Power per band	Floating point number
PWRPCHAN	Power per channel	Floating point number

ED-GFSRM (edit GFSRM)

Use the ED-GFSRM command to edit the attributes of an OCI SRM GbE/FC or OCI SRM GbE client-side or aggregate facility.

Security level

Level 2

Input syntax for aggregate facility

```
ED-GFSRM:[TID]:<aid>:[CTAG]:::[NAME=<name>],
[CONCAT=<concat>],[TIMING=<timing>],
[TRANSPORTMODE=<transportmode>];
```

Input syntax for client-side facility

```
ED-GFSRM:[TID]:<aid>:[CTAG]:::[NAME=<name>],
[ANENABLE=<anenable>], [ETHDPX=<ethdpx>],[SPEED=<speed>],
[FLOWCTRL=<flowctrl>], [PAUSETX=<pausetx>],[MTU=<mtu>],
[PASSCTRL=<passctrl>],[SUBRATE=<subrate>],
[EXTREACH=<extreach>],[BBCOVERRIDE=<bbcoverride>],
[GFPCOND=<gfpcond>],[GFPFCS=<gfpfcs>];
```

Table 5-14
ED-GFSRM input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AID	Access identifier for GFSRM facility	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
NAME	Name of the GFSRM facility	Character string (Maximum 32 characters)	Character string (Maximum 32 characters)
CONCAT	Aggregate facility concatenation type	CCAT = contiguous concatenation VCAT = virtual concatenation	CCAT = contiguous concatenation VCAT = virtual concatenation
TIMING	Aggregate facility timing source	LOCAL = Local timing source LOOP = Loop timing source	LOCAL = Local timing source LOOP = Loop timing source
TRANSPORTMODE	Aggregate facility transport mode	SDH SONET	SDH SONET
ANENABLE	Auto-negotiation enable	N = No Y = Yes	N = No Y = Yes

Table 5-14 (continued)
ED-GFSRM input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
ETHDPX	Advertised duplex operation capability	BOTH = Both Duplex FULL = Full Duplex HALF = Half Duplex NULL = No Duplex	BOTH = Both Duplex FULL = Full Duplex HALF = Half Duplex NULL = No Duplex
SPEED	Advertised link speed	10 = 10 Mbps 10/100 = 10/100 Mbps 100 = 100 Mbps 1000 = 1000 Mbps 10000 = 10000 Mbps NIL = Nil	10 = 10 Mbps 10/100 = 10/100 Mbps 100 = 100 Mbps 1000 = 1000 Mbps 10000 = 10000 Mbps NIL = Nil
FLOWCTRL	Advertised flow control capability	ASYM = Asymmetric Pause Flow Control BOTH = Both Pause Flow Control NIL = Nil Pause Flow Control NONE = No Pause Flow Control SYM = Symmetric Pause Flow Control	ASYM = Asymmetric Pause Flow Control BOTH = Both Pause Flow Control NIL = Nil Pause Flow Control NONE = No Pause Flow Control SYM = Symmetric Pause Flow Control
PAUSETX	PAUSE transmission enable	N = No Y = Yes	N = No Y = Yes
MTU	Maximum Ethernet frame size supported	Integer	Integer
PASSCTRL	Enable Ethernet control frames handling	N = No Y = Yes	N = No Y = Yes
SUBRATE	Sub-rate enable	N = No Y = Yes	N = No Y = Yes
EXTREACH	Extended reach enable	N = No Y = Yes	N = No Y = Yes
BBCOVERRIDE	Override the buffer-to-buffer credit value	1, 2, 4, 8, 16, 32, 64, 128	1, 2, 4, 8, 16, 32, 64, 128
GFPFCS	GFP frame check sequence enable	N = No Y = Yes	N = No Y = Yes

Example input

Edit the name of the aggregate facility for the OCI GFSRM circuit pack in slot 1:

```
ED-GFSRM:OTTAWA:1-AG1:1234:::NAME="Aggregate 1",CONCAT=CCAT,
TIMING=LOCAL,TRANSPORTMODE=SONET;
```

ED-MOTR (edit MOTR)

Use the ED-MOTR command to edit the attributes of a Muxponder 10 Gbit/s GbE/FC line-side facility.

Security level

Level 2

Input syntax

```
ED-MOTR:[TID]:<aid>:[CTAG]::[]:[NAME=<name>],[TIMING=<timing>]
, [TRANSPORTMODE=<transportmode>];
```

Table 5-15
ED-MOTR input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AID	Access identifier for MOTR facility	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
NAME	Name of the MOTR facility	Character string (Maximum 32 characters)	Character string (Maximum 32 characters)
TIMING	Facility timing source	LOCAL = Local timing source LOOP = Loop timing source	LOCAL = Local timing source LOOP = Loop timing source
TRANSPORTMODE	Facility transport mode	SDH SONET	SDH SONET

Example input

Edit the name of the MOTR facility in slot 5:

```
ED-MOTR:NEVADA:5-11:1:::NAME=MOTR FACILITY 5;
```

ED-MOTRSFP (edit MOTRSFP)

Use the ED-MOTRSFP command to edit the attributes of the client-side facility on the SFP port of a Muxponder 10 Gbit/s GbE/FC circuit pack.

Security level

Level 2

Input syntax

```
ED-MOTRSFP:[TID]:<aid>:[CTAG]::[]:[NAME=<name>],
[ANENABLE=<anenable>],[ETHDPX=<ethdpx>],[SPEED=<speed>],
[FLOWCTRL=<flowctrl>],[PAUSETX=<pausetx>],[MTU=<mtu>],
[PASSCTRL=<passctrl>],[PREAMBLECTRL=<preamblectrl>,
[GFPFCS=<gfpfcs>];
```

Table 5-16
ED-MOTRSFP input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AID	Access identifier for MOTRSFP facility	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
NAME	Name of the MOTRSFP facility	Character string (Maximum 32 characters)	Character string (Maximum 32 characters)
ANENABLE	Auto-negotiation enable	***Note 1:*** For the Muxponder 10 Gbit/s GbE/FC VCAT circuit pack these parameters are not provisionable when the Gigabit Ethernet (GE) signal is encapsulated using T-GFP. ***Note 2:*** For the Muxponder 10 Gbit/s GbE/FC circuit pack these parameters are not provisionable.	***Note 1:*** For the Muxponder 10 Gbit/s GbE/FC VCAT circuit pack these parameters are not provisionable when the Gigabit Ethernet (GE) signal is encapsulated using T-GFP. ***Note 2:*** For the Muxponder 10 Gbit/s GbE/FC circuit pack these parameters are not provisionable.
ETHDPX	Advertised duplex operation capability		
SPEED	Advertised link speed		
FLOWCTRL	Advertised flow control capability		
PAUSETX	PAUSE transmission enable		
MTU	Maximum Ethernet frame size supported		
PASSCTRL	Enable Ethernet control frames handling		
PREAMBLE CTRL	Preamble control enable	N = No Y = Yes	N = No Y = Yes
GFPFCS	GFP frame check sequence enable	N = No Y = Yes	N = No Y = Yes

Example input
Edit the name of the MOTRSFP facility in slot 5:

```
ED-MOTRSFP:NEVADA:5-1:1:::NAME=MOTRSFP FACILITY 5;
```

ED-OCI (edit OCI)

Use the ED-OCI command to edit the attributes of an OCI facility.

Security level

Level 2

Input syntax

```
ED-OCI:[TID]:<AID>:[CTAG]:::NAME=<name>;
```

Table 5-17
ED-OCI input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AID	Access identifier for OCI facility	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
NAME	Name of the OCI facility	Character string (Maximum 32 characters)	Character string (Maximum 32 characters)

Example input

Edit the name of the OCI facility in slot 5:

```
ED-OCI:NEVADA:5-1:1:::NAME=OCI FACILITY 5;
```

ED-OCLD (edit OCLD)

Use the ED-OCLD command to edit the attributes of an OCLD facility.

Security level

Level 2

Input syntax

```
ED-OCLD:[TID]:<AID>:[CTAG]:::NAME=<name>;
```

Table 5-18
ED-OCLD input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AID	Access identifier for OCLD facility	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
NAME	Name of the OCLD facility	Character string (Maximum 32 characters)	Character string (Maximum 32 characters)

Example input

Edit the name of the OCLD facility in slot 17:

```
ED-OCLD:ABUDHABI:17-1:1:::NAME=BAND 3 CHANNEL EAST;
```

ED-OFA (edit OFA)

Use the ED-OFA command to edit the attributes of an OFA facility.

Security level

Level 2

Input syntax

```
ED-OFA:[TID]:<AID>:[CTAG]:::[NAME=<name>],[NUMCHAN=<numchan>],
[PWRPCHAN=<pwrpchan>];
```

Table 5-19
ED-OFA input syntax definition

Parameter	Description	Possible values (5200)
TID	Target identifier	Character string
AID	Access identifier for OFA facility	For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string
NAME	Name of the OFA facility	Character string (Maximum 32 characters)
NUMCHAN	Number of channels ***Note:*** This field is only populated with the VGA.	Number 1 to 16
PWRPCHN	Power per channel ***Note:*** This field is only populated with the VGA.	Floating point number

Example input

Edit the name of the OFA facility in slot 4:

```
ED-OFA:BAFFIN:4-1:123:::NAME="OFA SLOT 4",NUMCHAN=3,
PWRPCHAN=-17.0;
```

ED-OSC (edit OSC)

Use the ED-OSC command to edit the attributes of an OSC facility.

Security level

Level 2

Input syntax

```
ED-OSC:[TID]:<AID>:[CTAG]:::NAME=<name>;
```

Table 5-20
ED-OSC input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AID	Access identifier for OSC facility	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
NAME	Name of the OSC facility	Character string (Maximum 32 characters)	Character string (Maximum 32 characters)

Example input

Edit the name of the east OSC facility at the Montreal NE.

```
ED-OSC:MONTREAL:20-EAST-OSC:1234:::NAME=OSC EAST FACILITY;
```

ED-OTR (edit OTR)

Use the ED-OTR command to edit the attributes of an OTR facility.

Security level

Level 2

Input syntax

```
ED-OTR:[TID]:<AID>:[CTAG]:::NAME=<name>;
```

Table 5-21
ED-OTR input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AID	Access identifier for OTR facility	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
NAME	Name of the OTR facility	Character string (Maximum 32 characters)	Character string (Maximum 32 characters)

Example input

Edit the name of the OTR facility in slot 6, port 2, at the Montreal NE.

```
ED-OTR:MONTREAL:6-2:1234:::NAME=OTR FACILITY;
```

ED-SRM (edit SRM)

Use the ED-SRM command to edit the attributes of an OCI SRM, OCI SRM ESCON, OCI SRM SONET/SDH LTE, or OCI SRM SONET/SDH facility.

Security level

Level 2

Input syntax for client-side facility

```
ED-SRM:[TID]:<AID>:[CTAG]:::[NAME=<name>],[SDTH=<sdth>],
[SSM=<ssm>],[PATHMON=<pathmon>];
```

Input syntax for OCI SRM SONET/SDH LTE aggregate facility

```
ED-SRM:[TID]:<AID>:[CTAG]:::[NAME=<name>],
[ENCODINGMODE=<encodingmode>];
```

Table 5-22
ED-SRM input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AID	Access identifier for SRM facility	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
NAME	Name of the SRM facility	Character string (Maximum 32 characters)	Character string (Maximum 32 characters)
SDTH	Signal Degrade Threshold for SSRM-LTE	(10E-5) = 10E-5 (10E-6) = 10E-6(Default) (10E-7) = 10E-7 (10E-8) = 10E-8 (10E-9) = 10E-9 NIL = Nil or unused.	(10E-5) = 10E-5 (10E-6) = 10E-6 (Default) (10E-7) = 10E-7 (10E-8) = 10E-8 (10E-9) = 10E-9 NIL = Nil or unused.
SSM	Synchronization Status Message for SSRM-LTE	AUTO = Automatic Synchronization Message (Default) DUS = Don't Use for Synchronization Message NIL = Nil or Unused.	AUTO = Automatic Synchronization Message (Default) DUS = Don't Use for Synchronization Message NIL = Nil or Unused.
ENCODING MODE	Aggregate Encoding Mode for SSRM-LTE	NIL = Nil or unused PROPRIETARY = Proprietary for Bookend topology (Default)	NIL = Nil or unused PROPRIETARY = Proprietary for Bookend topology (Default)
PATHMON	Path Monitoring for SSRM-LTE	DISABLE = Disable ENABLE = Enable	DISABLE = Disable ENABLE = Enable

ED-WSC (edit wayside channel)

Use the ED-WSC command to edit the attributes of a WSC facility.

Security level

Level 2

Input syntax

```
ED-WSC:[TID]:<AID>:[CTAG]:::[NAME=<name>]:
[CONNECTION=<connection>];
```

Table 5-23
ED-WSC input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AID	Access identifier for WSC facility	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
NAME	Name of the WSC facility	Character string	Character string
CONNECTION	WSC connection attribute	ADDROP (default) PASSTHRU	ADDROP (default) PASSTHRU

Example input

Edit the name and connection attribute of the east WSC facility at the Montreal NE.

```
ED-WSC:MONTREAL:20-EAST-WSC:1234:::NAME=WSC EAST FACILITY1:
CONNECTION=PASSTHRU;
```

ENT-APBE (enter APBE)

Use the ENT-APBE command to provision the attributes of an APBE facility on a network element.

You must provision the APBE circuit pack before you can provision the APBE facility.

> ***Note:*** APBE aggregate facility (port 5) must be provisioned before you provision any APBE band (port 1-4) facility.

Security level

Level 2

Input syntax

```
ENT-APBE:[TID]:<AID>:[CTAG]::[:[NAME=<name>],[NUMCHAN=<numchan
>],[PROVMODE=<provmode>],[PWRPBAND=<pwrpband>],[PWRPCHAN=<pwrp
chan>]]:<pst>;
```

Table 5-24
ENT-APBE input syntax definition

Parameter	Description	Possible values (5200)
TID	Target identifier	Character string
AID	Access identifier for APBE facility	For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string
NAME	Name of facility	Character string (maximum of 32 characters)
NUMCHAN	Number of channels	Integer {1-4}
PROVMODE	Provisioning mode	BANDPOWER CHANNELPOWER NIL
PWRPBAND	Power per band	Floating point number
PWRPCHAN	Power per channel	Floating point number
PST	Primary state	IS = in-service OOS = out-of-service

ENT-GFSRM (enter GFSRM)

Use the ENT-GFSRM command to provision a client-side or aggregate facility for an OCI SRM GbE/FCor OCI SRM GbE port.

You must provision the circuit pack before you can provision the facility.

Note: You must provision the aggregate facility before you provision the client-side facility.

Security level

Level 2

Input syntax for GFSRM aggregate facility

```
ENT-GFSRM:[TID]:<AID>:[CTAG]::[:[NAME=<name>]
[,CONCAT=<concat>][,TIMING=<timing>]
[,TRANSPORTMODE=<transportmode>]]:<pst>;
```

Input syntax for GFSRM client-side facility

```
ENT-GFSRM:[TID]:<AID>:[CTAG]::[:[NAME=<name>]]:<pst>;
```

Table 5-25
ENT-GFSRM input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AID	Access identifier for GFSRM facility	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
NAME	Name of the GFSRM client-side or aggregate facility	Character string	Character string
CONCAT	Aggregate facility concatenation type	CCAT = contiguous concatenation (Default) VCAT = virtual concatenation	CCAT = contiguous concatenation (Default) VCAT = virtual concatenation
TIMING	Aggregate facility timing source	LOCAL = Local timing source (Default) LOOP = Loop timing source	LOCAL = Local timing source (Default) LOOP = Loop timing source
TRANSPORTMODE	Aggregate facility transport mode	SDH SONET (Default)	SDH SONET (Default)
PST	Primary state	IS = in-service OOS = out-of-service	IS = in-service OOS = out-of-service

Example input
Provision an OCI GFSRM client facility in slot 5, port 2, in an OOS state:

```
ENT-GFSRM:KANATA:5-2:1:::NAME=GFSRM SLOT 5 PORT 2:OOS;
```

ENT-MOTR (enter MOTR)

Use the ENT-MOTR command to provision the attributes of a Muxponder 10 Gbit/s GbE/FC line-side facility on a network element.

You must provision the circuit pack before you can provision the facility.

Security level

Level 2

Input syntax

```
ENT-MOTR:[TID]:<aid>:[CTAG]::[:[NAME=<name>],
[TIMING=<timing>], [TRANSPORTMODE=<transportmode>]]:<pst>;
```

Table 5-26
ENT-MOTR input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AID	Access identifier for MOTR facility	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
NAME	Name of the MOTR facility	Character string	Character string
TIMING	Facility timing source	LOCAL = Local timing source LOOP = Loop timing source	LOCAL = Local timing source LOOP = Loop timing source
TRANSPORTMODE	Facility transport mode	SDH SONET	SDH SONET
PST	Primary state	IS = in-service OOS = out-of-service	IS = in-service OOS = out-of-service

Example input
Provision an MOTR facility in slot 7:

```
ENT-MOTR:BRAMPTON:7-11:1:::NAME=MOTR FACILITY 7,TIMING=LOCAL,
TRANSPORTMODE=SONET:OOS;
```

ENT-MOTRSFP (enter MOTRSFP)

Use the ENT-MOTRSFP command to provision the attributes of a client-side facility on an SFP port of a Muxponder 10 Gbit/s GbE/FC circuit pack.

You must provision the circuit pack before you can provision the facility.

Security level

Level 2

Input syntax

```
ENT-MOTRSFP:[TID]:<aid>:[CTAG]::[:[NAME=<name>]]:<pst>;
```

Table 5-27
ENT-MOTRSFP input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AID	Access identifier for MOTRSFP facility	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
NAME	Name of the facility	Character string	Character string
PST	Primary state	IS = in-service OOS = out-of-service	IS = in-service OOS = out-of-service

Example input

Provision a MOTRSFP facility on SFP port 2 of the MOTR in slot 7:

```
ENT-MOTRSFP:BRAMPTON:7-2:1:::NAME=MOTRSFP FACILITY 2:OOS;
```

ENT-OCI (enter OCI)

Use the ENT-OCI command to provision the attributes of an OCI facility on a network element.

You must provision the OCI circuit pack before you can provision the OCI facility.

Security level

Level 2

Input syntax

```
ENT-OCI:[TID]:<AID>:[CTAG]::[:[NAME=<name>]]:<pst>;
```

Table 5-28
ENT-OCI input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AID	Access identifier for OCI facility	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
NAME	Name of the OCI facility	Character string	Character string
PST	Primary state	IS = in-service OOS = out-of-service	IS = in-service OOS = out-of-service

Example input

Provision an OCI facility in slot 7:

```
ENT-OCI:BRAMPTON:7-1:1:::NAME=OCI FACILITY 7:OOS;
```

ENT-OCLD (enter OCLD)

Use the ENT-OCLD command to provision the attributes of an OCLD facility on a network element.

You must provision the OCLD circuit pack before you can provision the OCLD facility.

Security level

Level 2

Input syntax

```
ENT-OCLD:[TID]:<AID>:[CTAG]::[:[NAME=<name>]]:<pst>;
```

Table 5-29
ENT-OCLD input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AID	Access identifier for OCLD facility	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
NAME	Name of the OCLD facility	Character string (Maximum 32 characters)	Character string (Maximum 32 characters)
PST	Primary state	IS = in-service OOS = out-of-service	IS = in-service OOS = out-of-service

Example input

Provision an OCLD facility in slot 15 in an OOS state:

```
ENT-OCLD:VANCOUVER:15-1::::NAME=OCLD SLOT 15:OOS;
```

ENT-OFA (enter OFA)

Use the ENT-OFA command to provision the attributes of an OFA facility on a network element.

You must provision the OFA circuit pack before you can provision the OFA facility.

Security level

Level 2

Input syntax

```
ENT-OFA:[TID]:<AID>:[CTAG]::[:[NAME=<name>],[NUMCHAN=<numchan>
],[PWRPCHAN=<pwrpchan>]]:<pst>;
```

Table 5-30
ENT-OFA input syntax definition

Parameter	Description	Possible values (5200)
TID	Target identifier	Character string
AID	Access identifier for OFA facility	For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string
NAME	Name of the OFA facility	Character string (Maximum 32 characters)
NUMCHAN	Number of channels ***Note:*** This field is only populated with the VGA.	Number 1 to 16
PWRPCHN	Power per channel ***Note:*** This field is only populated with the VGA.	Floating point number
PST	Primary state	IS = in-service OOS = out-of-service

Example input

Provision an IS OFA facility in slot 4:

```
ENT-OFA:CHICAGO:4-1::::IS;
```

ENT-OSC (enter OSC)

Use the ENT-OSC command to provision the attributes of an OSC facility on a network element.

You must provision the OSC circuit pack before you can provision the OSC facility.

Security level

Level 2

Input syntax

```
ENT-OSC:[TID]:<AID>:[CTAG]::[:[NAME=<name>]]:<pst>;
```

Table 5-31
ENT-OSC input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AID	Access identifier for OSC facility	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
NAME	Name of the OSC facility	Character string	Character string
PST	Primary state	IS = in-service OOS = out-of-service	IS = in-service OOS = out-of-service

Example input

Provision the east OSC facility at the Montreal NE in an IS state.

```
ENT-OSC:MONTREAL:20-EAST-OSC:1234:::NAME=OSC EAST FACILITY:IS;
```

ENT-OTR (enter OTR)

Use the ENT-OTR command to provision the attributes of an OTR facility on a network element.

You must provision the OTR circuit pack before you can provision the OTR facility.

Security level

Level 2

Input syntax

```
ENT-OTR:[TID]:<AID>:[CTAG]::[:[NAME=<name>]]:<pst>;
```

Table 5-32
ENT-OTR input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AID	Access identifier for OTR facility	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
NAME	Name of the OTR facility	Character string (Maximum 32 characters)	Character string (Maximum 32 characters)
PST	Primary state	IS = in-service OOS = out-of-service	IS = in-service OOS = out-of-service

Example input

Provision the OTR facilities in slot 7 at the Montreal NE in an IS state.

```
ENT-OTR:MONTREAL:7-1:1234:::NAME=OTR FACILITY 1:IS;

ENT-OTR:MONTREAL:7-2:1234:::NAME=OTR FACILITY 2:IS;
```

ENT-SRM (enter SRM)

Use the ENT-SRM command to provision a facility for an OCI SRM, OCI SRM ESCON, OCI SRM SONET/SDH LTE, or OCI SRM SONET/SDH port.

You must provision the SRM circuit pack before you can provision an SRM facility.

Note: The OCI SRM SONET/SDH LTE aggregate facility is not user-provisionable. The aggregate facility is automatically provisioned and deprovisioned with the equipment.

Security level

Level 2

Input syntax for client-side facility

```
ENT-SRM:[TID]:<AID>:[CTAG]::[:[NAME=<name>],[SDTH=<sdth>],
[PATHMON=<pathmon>]]:<pst>;
```

Table 5-33
ENT-SRM input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AID	Access identifier for SRM facility	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
NAME	Name of the SRM facility	Character string	Character string
SDTH	Signal Degrade Threshold for SSRM-LTE	(10E-5) = 10E-5 (10E-6) = 10E-6 (Default) (10E-7) = 10E-7 (10E-8) = 10E-8 (10E-9) = 10E-9 NIL = Nil or unused	(10E-5) = 10E-5 (10E-6) = 10E-6 (Default) (10E-7) = 10E-7 (10E-8) = 10E-8 (10E-9) = 10E-9 NIL = Nil or unused
PATHMON	Path Monitoring for SSRM-LTE	DISABLE = Disable ENABLE = Enable	DISABLE = Disable ENABLE = Enable
PST	Primary state	IS = in-service OOS = out-of-service	IS = in-service OOS = out-of-service

ENT-WSC (enter WSC)

Use the ENT-WSC command to provision the attributes of a WSC facility.

You must provision the OSC circuit pack before you can provision the WSC facility.

> ***Note:*** Associated OSC facilities must be provisioned first before you provision the WSC facility.

Security level

Level 2

Input syntax

```
ENT-WSC:[TID]:<AID>:[CTAG]::[:[NAME=<name>],
[,CONNECTION=<connection>]]:<pst>;
```

Table 5-34
ENT-WSC input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AID	Access identifier for WSC facility	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
NAME	Name of the WSC facility	Character string	Character string
CONNECTION	WSC connection attribute	ADDDROP (Default) PASSTHRU	ADDDROP (Default) PASSTHRU
PST	Primary state	IS = in-service OOS = out-of-service	IS = in-service OOS = out-of-service

Example input

Provision the east WSC facility at the Montreal NE in an OOS state.

```
ENT-WSC:MONTREAL:20-EAST-WSC:1234:::NAME=WSC EAST FACILITY1,
CONNECTION=ADDDROP:OOS;
```

EQ-APBE (equalize APBE)

Use the EQ-APBE command to instruct the network element to equalize an APBE facility.

Security level

Level 2

Input syntax

```
EQ-APBE:[TID]:<AID>:[CTAG];
```

Table 5-35
EQ-APBE input syntax definition

Parameter	Description	Possible values (5200)
TID	Target identifier	Character string
AID	Access identifier for APBE facility	For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string

Example input

Equalize the APBE in slot 2:

```
EQ-APBE:JUPITER:2-1:ABC123;
```

EQ-OFA (equalize OFA)

Use the EQ-OFA command to instruct the network element to equalize a VGA facility.

Security level

Level 2

Input syntax

```
EQ-OFA:[TID]:<AID>:[CTAG];
```

Table 5-36
EQ-OFA input syntax definition

Parameter	Description	Possible values (5200)
TID	Target identifier	Character string
AID	Access identifier for OFA facility	For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string

Example input

Equalize the OFA in slot 5:

```
EQ-OFA:JUPITER:5-1:HKL579;
```

RMV-APBE (remove APBE)

Use the RMV-APBE command to instruct the network element to change the state of an APBE facility from IS to OOS.

Security level

Level 2

Input syntax

```
RMV-APBE:[TID]:<AID>:[CTAG]::[<mode>],[<state>];
```

Table 5-37
RMV-APBE input syntax definition

Parameter	Description	Possible values (5200)
TID	Target identifier	Character string
AID	Access identifier for APBE facility	For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string
MODE	Mode	Unused
STATE	State	Unused

Example input

Put the APBE facility in slot 2, port 1 in an OOS state:

```
RMV-APBE:JUPITER:2-1:ABC123::;
```

RMV-GFSRM (remove GFSRM)

Use the RMV-GFSRM command to instruct the network element to change the state of an OCI SRM GbE/FC or OCI SRM GbE client-side or aggregate facility from IS to OOS.

Security level

Level 2

Input syntax

```
RMV-GFSRM:[TID]:<AID>:[CTAG]::[<mode>],[<state>];
```

Table 5-38
RMV-GFSRM input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AID	Access identifier for GFSRM facility AID is listable and rangeable	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
MODE	Mode	Unused	Unused
STATE	State	Unused	Unused

Example input

Put both client-side ports on the OCI SRM GbE/FC circuit pack in slot 5 in an OOS state:

```
RMV-GFSRM:UKRAINE:5-1&5-2:36::;
```

Put the aggregate facility on the OCI SRM GbE/FC circuit pack in slot 5 in an OOS state:

```
RMV-GFSRM:UKRAINE:5-AG1:123::;
```

RMV-MOTR (remove MOTR)

Use the RMV-MOTR command to instruct the network element to change the state of a Muxponder 10 Gbit/s GbE/FC line-side facility from IS to OOS.

Security level

Level 2

Input syntax

```
RMV-MOTR:[TID]:<AID>:[CTAG]::[<mode>],[<state>];
```

Table 5-39
RMV-MOTR input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AID	Access identifier for MOTR facility	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
MODE	Mode	Unused	Unused
STATE	State	Unused	Unused

Example input

Put the MOTR facility in slot 7 in an OOS state:

```
RMV-MOTR:JUPITER:7-11:1::;
```

RMV-MOTRSFP (remove MOTRSFP)

Use the RMV-MOTRSFP command to instruct the network element to change the state of a client-side facility of an SFP port on a Muxponder 10 Gbit/s GbE/FC from IS to OOS.

Security level

Level 2

Input syntax

```
RMV-MOTRSFP:[TID]:<AID>:[CTAG]::[<mode>],[<state>];
```

Table 5-40
RMV-MOTRSFP input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AID	Access identifier for MOTRSFP facility	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
MODE	Mode	Unused	Unused
STATE	State	Unused	Unused

Example input

Put the MOTRSFP client-side facility of the SFP port 2 on the Muxponder 10 Gbit/s GbE/FC in slot 12 in an OOS state:

```
RMV-MOTRSFP:JUPITER:12-2:1::;
```

RMV-OCI (remove OCI)

Use the RMV-OCI command to instruct the network element to change the state of an OCI facility from IS to OOS.

Security level

Level 2

Input syntax

```
RMV-OCI:[TID]:<AID>:[CTAG]::[<mode>],[<state>];
```

Table 5-41
RMV-OCI input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AID	Access identifier for OCI facility AID is listable and rangeable	For AID values see Table 1-6 on page 1-17 ALL = all applicable values	For AID values see Table 1-6 on page 1-17 ALL = all applicable values
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
MODE	Mode	Unused	Unused
STATE	State	Unused	Unused

Example input

Put the OCI facility in slot 12 in an OOS state:

```
RMV-OCI:JUPITER:12-1:1::;
```

RMV-OCLD (remove OCLD)

Use the RMV-OCLD command to instruct the network element to change the state of an OCLD facility from IS to OOS.

Security level

Level 2

Input syntax

```
RMV-OCLD:[TID]:<AID>:[CTAG]::[<mode>],[<state>];
```

Table 5-42
RMV-OCLD input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AID	Access identifier for OCLD facility AID is listable and rangeable	For AID values see Table 1-6 on page 1-17 ALL = all applicable values	For AID values see Table 1-6 on page 1-17 ALL = all applicable values
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
MODE	Mode	Unused	Unused
STATE	State	Unused	Unused

Example input

Put the OCLD facilities in slots 2, 3, and 4 in an OOS state:

```
RMV-OCLD:MARS:2-1&3-1&4-1:99::;
```

RMV-OFA (remove OFA)

Use the RMV-OFA command to instruct the network element to change the state of an OFA facility from IS to OOS.

Security level

Level 2

Input syntax

```
RMV-OFA:[TID]:<AID>:[CTAG]::[<mode>],[<state>];
```

Table 5-43
RMV-OFA input syntax definition

Parameter	Description	Possible values (5200)
TID	Target identifier	Character string
AID	Access identifier for OFA facility AID is listable and rangeable.	For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string
MODE	Mode	Unused
STATE	State	Unused

Example input

Put the OFA facility in slot 4 in an OOS state:

```
RMV-OFA:VALLEY:4-1:1234::;
```

RMV-OHCHN (remove OHCHN)

Use the RMV-OHCHN command to instruct the network element to disable the specified overhead channel.

Security level

Level 2

Input syntax

```
RMV-OHCHN:[TID]:<AID>:[CTAG]::[<mode>],[<state>];
```

Table 5-44
RMV-OHCHN input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AID	Access identifier for OCLD, OTR, or MOTR overhead channel facility	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
MODE	Mode	Unused	Unused
STATE	State	Unused	Unused

Example input

Disable the MOTR overhead channel facility in slot 5:

```
RMV-OHCHN:VALLEY:5-11-OH-MOTR:1234::;
```

RMV-OSC (remove OSC)

Use the RMV-OSC command to instruct the network element to change the state of an OSC facility from IS to OOS.

Note: The associated WSC facility must be removed first (RMV-WSC).

Security level

Level 2

Input syntax

```
RMV-OSC:[TID]:<AID>:[CTAG]::[<mode>],[<state>];
```

Table 5-45
RMV-OSC input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AID	Access identifier for OSC facility AID is listable.	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
MODE	Mode	Unused	Unused
STATE	State	Unused	Unused

Example input

Put the east OSC facility at the Montreal NE in an OOS state:

```
RMV-OSC:MONTREAL:20-EAST-OSC:1234::;
```

RMV-OTR (remove OTR)

Use the RMV-OTR command to instruct the network element to change the state of an OTR facility from IS to OOS.

Security level

Level 2

Input syntax

```
RMV-OTR:[TID]:<AID>:[CTAG]::[<mode>],[<state>];
```

Table 5-46
RMV-OTR input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AID	Access identifier for OTR facility AID is listable and rangeable.	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
MODE	Mode	Unused	Unused
STATE	State	Unused	Unused

Example input

Put the OTR facility in slot 6, port 2 at the Montreal NE in an OOS state:

```
RMV-OTR:MONTREAL:6-2:1234::;
```

RMV-SRM (remove SRM)

Use the RMV-SRM command to instruct the network element to change the state of an OCI SRM, OCI SRM ESCON, OCI SRM SONET/SDH, or OCI SRM SONET/SDH LTE facility from IS to OOS.

Security level

Level 2

Input syntax

```
RMV-SRM:[TID]:<AID>:[CTAG]::[<mode>],[<state>];
```

Table 5-47
RMV-SRM input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AID	Access identifier for SRM facility AID is listable and rangeable	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
MODE	Mode	Unused	Unused
STATE	State	Unused	Unused

Example input

Put all four ports on the OCI SRM SONET/SDH circuit pack in slot 5 in an OOS state:

```
RMV-SRM:UKRAINE:5-1&5-2&5-3&5-4:36::;
```

RMV-WSC (remove wayside channel)

Use the RMV-WSC command to instruct the network element to change the state of a WSC facility from IS to OOS.

Security level

Level 2

Input syntax

```
RMV-WSC:[TID]:<AID>:[CTAG]::[<mode>],[<state>];
```

Table 5-48
RMV-WSC input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AID	Access identifier for WSC facility AID is listable.	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
MODE	Mode	Unused	Unused
STATE	State	Unused	Unused

Example input

Put the east WSC facility at the Montreal NE in an OOS state:

```
RMV-WSC:MONTREAL:20-EAST-WSC:1234::;
```

RST-APBE (restore APBE)

Use the RST-APBE command to instruct the network element to put an OOS APBE facility back IS.

Security level

Level 2

Input syntax

```
RST-APBE:[TID]:<AID>:[CTAG]::[<mode>];
```

Table 5-49
RST-APBE input syntax definition

Parameter	Description	Possible values (5200)
TID	Target identifier	Character string
AID	Access identifier for APBE facility AID is listable and rangeable.	For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string
MODE	Mode	Unused

Example input

Put the APBE facility in slot 2, port 1 back in an IS state:

```
RST-APBE:SEATTLE:2-1:ABC123::;
```

RST-GFSRM (restore GFSRM)

Use the RST-GFSRM command to instruct the network element to put an OCI SRM GbE/FC or OCI SRM GbE client-side or aggregate facility back IS.

> ***Note:*** You must first put the aggregate facility in-service before you can restore the client-side facility.

Security level

Level 2

Input syntax

```
RST-GFSRM:[TID]:<AID>:[CTAG]::[<mode>];
```

Table 5-50
RST-GFSRM input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AID	Access identifier for GFSRM facility AID is listable.	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
MODE	Mode	Unused	Unused

Example input

Put both OCI SRM GbE/FC client-side facilities in slot 11 in an IS state:

```
RST-GFSRM:VERMONT:11-1&11-2:882::;
```

Put the aggregate facility of the OCI SRM GbE/FC in slot 11 in an IS state:

```
RST-GFSRM:VERMONT:11-AG1:883::;
```

RST-MOTR (restore MOTR)

Use the RST-MOTR command to instruct the network element to put the state of a Muxponder 10 Gbit/s GbE/FC line-side facility back IS.

Security level

Level 2

Input syntax

```
RST-MOTR:[TID]:<AID>:[CTAG]::[<mode>];
```

Table 5-51
RST-MOTR input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AID	Access identifier for MOTR facility	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
MODE	Mode	Unused	Unused

Example input

Put the MOTR facility in slot 7 in an IS state:

```
RST-MOTR:JUPITER:7-11:1::;
```

RST-MOTRSFP (restore MOTRSFP)

Use the RST-MOTRSFP command to instruct the network element to change the state of a client-side facility of an SFP port on a Muxponder 10 Gbit/s GbE/FC back to IS.

Security level

Level 2

Input syntax

```
RST-MOTRSFP:[TID]:<AID>:[CTAG]::[<mode>];
```

Table 5-52
RST-MOTRSFP input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AID	Access identifier for MOTRSFP facility	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
MODE	Mode	Unused	Unused

Example input

Put the MOTRSFP client-side facility of the SFP port 2 on the MOTR in slot 12 in an IS state:

```
RMV-MOTRSFP:JUPITER:12-2:1::;
```

RST-OCI (restore OCI)

Use the RST-OCI command to instruct the network element to put an OOS OCI facility back IS.

Security level

Level 2

Input syntax

```
RST-OCI:[TID]:<AID>:[CTAG]::[<mode>];
```

Table 5-53
RST-OCI input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AID	Access identifier for OCI facility AID is listable and rangeable	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
MODE	Mode	Unused	Unused

Example input

Put the OCI facility in slot 12 back in an IS state:

```
RST-OCI:SEATTLE:12-1:334::;
```

RST-OCLD (restore OCLD)

Use the RST-OCLD command to instruct the network element to put an OOS OCLD facility back IS.

Security level

Level 2

Input syntax

```
RST-OCLD:[TID]:<AID>:[CTAG]::[<mode>];
```

Table 5-54
RST-OCLD input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AID	Access identifier for OCLD facility AID is listable and rangeable	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
MODE	Mode	Unused	Unused

Example input

Put the OCLD facilities in slots 2, 3, and 4 back in a IS state:

```
RST-OCLD:TORONTO:2-1&3-1&4-1:21::;
```

RST-OFA (restore OFA)

Use the RST-OFA command to instruct the network element to put an OOS OFA facility back IS.

Security level

Level 2

Input syntax

```
RST-OFA:[TID]:<AID>:[CTAG]::[<mode>];
```

Table 5-55
RST-OFA input syntax definition

Parameter	Description	Possible values (5200)
TID	Target identifier	Character string
AID	Access identifier for OFA facility AID is listable and rangeable.	For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string
MODE	Mode	Unused

Example input

Put the OFA facility in slot 8 back in an IS state:

```
RST-OFA:MANITOBA:8-1:123::;
```

RST-OHCHN (restore OHCHN)

Use the RST-OHCHN command to instruct the network element to enable a specified overhead channel.

Security level

Level 2

Input syntax

```
RST-OHCHN:[TID]:<AID>:[CTAG]::[<mode>];
```

Table 5-56
RST-OHCHN input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AID	Access identifier for OCLD, OTR, or MOTR overhead channel facility	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
MODE	Mode	Unused	Unused

Example input

Enable the MOTR overhead channel facility in slot 5:

```
RST-OHCHN:VALLEY:5-11-OH-MOTR:1234::;
```

RST-OSC (restore OSC)

Use the RST-OSC command to instruct the network element to put an OOS OSC facility back IS.

Security level

Level 2

Input syntax

```
RST-OSC:[TID]:<AID>:[CTAG]::[<mode>];
```

Table 5-57
RST-OSC input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AID	Access identifier for OSC facility AID is listable and rangeable	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
MODE	Mode	Unused	Unused

Example input

Put the east OSC facility at the Montreal NE back in an IS state:

```
RST-OSC:MONTREAL:20-EAST-OSC:1234::;
```

RST-OTR (restore OTR)

Use the RST-OTR command to instruct the network element to put an OOS OTR facility back IS.

Security level

Level 2

Input syntax

```
RST-OTR:[TID]:<AID>:[CTAG]::[<mode>];
```

Table 5-58
RST-OTR input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AID	Access identifier for OTR facility AID is listable and rangeable	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
MODE	Mode	Unused	Unused

Example input

Put the OTR facility in slot 7, port 1 at the Montreal NE back in an IS state:

```
RST-OTR:MONTREAL:7-1:1234::;
```

RST-SRM (restore SRM)

Use the RST-SRM command to instruct the network element to put an OOS OCI SRM, OCI SRM ESCON, OCI SRM SONET/SDH, or OCI SRM SONET/SDH LTE facility back IS.

Security level

Level 2

Input syntax

```
RST-SRM:[TID]:<AID>:[CTAG]::[<mode>];
```

Table 5-59
RST-SRM input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AID	Access identifier for SRM facility AID is listable and rangeable	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
MODE	Mode	Unused	Unused

Example input

Put all four OCI SRM facilities in slot 11 in an IS state:

```
RST-SRM:VERMONT:11-1&11-2&11-3&11-4:882::;
```

RST-WSC (restore WSC)

Use the RST-WSC command to instruct the network element to put an OOS WSC facility back IS.

Note: To execute this command, OSC must be in an in-service (IS) state.

Security level

Level 2

Input syntax

```
RST-WSC:[TID]:<AID>:[CTAG]::[<mode>];
```

Table 5-60
RST-WSC input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AID	Access identifier for WSC facility AID is listable and rangeable	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
MODE	Mode	Unused	Unused

Example input

Put the east WSC facility at the Montreal NE back in an IS state:

```
RST-WSC:MONTREAL:20-EAST-WSC:1234::;
```

RTRV-AGG (retrieve aggregate)

Use the RTRV-AGG command to retrieve the aggregate facilities for OCI SRM SONET/SDH LTE, OCI SRM GbE/FC, OCI SRM GbE, or OCI SRM GbE/FC Enhanced.

Security level

Level 1

Input syntax

```
RTRV-AGG:[TID]:[<AID>]:[CTAG];
```

Table 5-61
RTRV-AGG input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AID	Access identifier for GFSRM, OCI SRM SONET/SDH LTE facility AID is listable and rangeable.	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string

Example input

Retrieve the aggregate facility for the GFSRM facilities on NE VANCOUVER:

```
RTRV-AGG:VANCOUVER:ALL:1;
```

Output syntax

```
SID DATE TIME
M CTAG COMPLD
"<aid>,<aidtype>:NAME=<name>,CONNECTED=<connected>,LOOPBACK=<l
oopback>: <pst>,<sst>,<ost>";
```

Table 5-62
RTRV-AGG output syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
AID	Access identifier for GFSRM, SRM OCI facility AID is listable and rangeable.	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
AIDTYPE	Access identifier type for GFSRM and OCI SRM SONET/SDH LTE	GFSRM SRM	GFSRM SRM
NAME	Name	Character string	Character string
CONNECTED	Facility connected in a cross-connect	CONNECTED NOT_CONNECTED	CONNECTED NOT_CONNECTED
LOOPBACK	Loopback type	FAC= facility TERM= terminal NIL=unknown or no loopback	FAC= facility TERM= terminal NIL=unknown or no loopback
PST	Primary state	IS = in-service OOS = out-of-service	IS = in-service OOS = out-of-service
SST	Secondary state	FLT= failed MEA = mismatched NIL = not available SGEO = supporting entity outage UEQ = unequipped	FLT= failed MEA = mismatched NIL = not available SGEO = supporting entity outage UEQ = unequipped
OST	Operational state	IS-ANR = in-service abnormal IS-NR = in-service normal operation OOS-AU = out-of-service autonomous OOS-AU-MA = out-of-service autonomous/maintenance OOS-MA = out-of-service maintenance OOS-MA-ANR = out-of-service - maintenance and abnormal UNDEFINED = unknown state	IS-ANR = in-service abnormal IS-NR = in-service normal operation OOS-AU = out-of-service autonomous OOS-AU-MA = out-of-service autonomous/maintenance OOS-MA = out-of-service maintenance OOS-MA-ANR = out-of-service - maintenance and abnormal UNDEFINED = unknown state

Example output

```
VANVOUVER 03-10-27 19:47:43
M  1 COMPLD
"1-AG1,GFSRM:NAME=\"GFSRM Aggregate Facility
1\",CONNECTED=NOT_CONNECTED,LOOPBACK=NIL:OOS,SGEO,OOS-AU-MA"
"3-AG1,SRM:NAME=\"SRM Aggregate Facility
3\",CONNECTED=CONNECTED,LOOPBACK=NIL:OOS,SGEO,OOS-AU-MA"
;
```

RTRV-APBE (retrieve APBE)

Use the RTRV-APBE command to retrieve the data and state parameters for provisioned APBE facilities.

Security level

Level 1

Input syntax

```
RTRV-APBE:[TID]:[<AID>]:[CTAG];
```

Table 5-63
RTRV-APBE input syntax definition

Parameter	Description	Possible values (5200)
TID	Target identifier	Character string
AID	Access identifier for APBE facility AID is listable and rangeable.	For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string

Example input

Retrieve the provisioning and service states for the APBE facilities on NE Columbus:

```
RTRV-APBE:COLUMBUS:ALL:ABC123;
```

Retrieve the provisioning and service states for the APBE facility in slot 2, port 1 on NE Columbus:

```
RTRV-APBE:COLUMBUS:2-1:ABC123;
```

Output syntax

```
SID DATE TIME
M CTAG COMPLD
"<aid>:NAME=<name>,[NUMCHAN=<numchan>],[PWRPBAND=<pwrpband>],[
```

```
PWRPCHAN=<pwrpchan>],[TXPWR=<txpwr>],[RXPWR=<rxpwr>],[AGGPWR=<
aggpwr>],[PROVMODE=<provmode>],[EQSTATUS=<eqstatus>]:<pst>,<ss
t>,<ost>";
```

Table 5-64
RTRV-APBE output syntax definition

Parameter	Description	Possible values (5200)
AID	Access identifier for APBE facility AID is listable and rangeable.	For AID values see Table 1-6 on page 1-17
NAME	Name	Character string
NUMCHAN	Number of channels	Integer
PWRPBAND	Power per band	Floating point number
PWRPCHAN	Power per channel	Floating point number
TXPWR	Transmit optical power (optional)	Floating point number
RXPWR	Receive power (optional)	Floating point number
AGGRPWR	Aggregate optical power	Floating point number
PROVMODE	Provisioning mode	BANDPOWER CHANNELPOWER NIL
EQSTATUS	Equalization status	COMPLD = Equalization completed FAIL = Equalization failed IP = Equalization in progress NIL = Nil or Unassigned NREQR = Equalization not required REQD = Equalization required

Table 5-64 (continued)
RTRV-APBE output syntax definition

Parameter	Description	Possible values (5200)
PST	Primary state	IS = in-service OOS = out-of-service
SST	Secondary state	FLT= failed MEA = mismatched NIL = not available SGEO = supporting entity outage UEQ = unequipped
OST	Operational state	IS-ANR = in-service abnormal IS-NR = in-service normal operation OOS-AU = out-of-service autonomous OOS-AU-MA = out-of-service autonomous/maintenance OOS-MA = out-of-service maintenance OOS-MA-ANR = out-of-service - maintenance and abnormal UNDEFINED = unknown state

Example output

```
COLUMBUS 02-01-21 04:48:08
M ABC123 COMPLD
"2-1-0:NAME=\"APBE EVOA Facility 2, port
1\",PWRPBAND=-20.000000,TXPWR=12345.000000,RXPWR=12345.000000,
PROVMODE=BANDPOWER:IS,SGEO,OOS-AU"
"2-2-0:NAME=\"APBE EVOA Facility 2, port
2\",TXPWR=12345.000000,RXPWR=12345.000000,PROVMODE=NIL:OOS,SGE
O,OOS-AU-MA"
"2-3-0:NAME=\"APBE EVOA Facility 2, port
3\",TXPWR=12345.000000,RXPWR=12345.000000,PROVMODE=NIL:OOS,SGE
O,OOS-AU-MA"
"2-4-0:NAME=\"APBE EVOA Facility 2, port
4\",TXPWR=12345.000000,RXPWR=12345.000000,PROVMODE=NIL:OOS,SGE
O,OOS-AU-MA"
"2-5-0:NAME=\"APBE Facility 2, port
5\",TXPWR=12345.000000,:IS,SGEO,OOS-AU"
;
```

RTRV-CLIENT (retrieve client)

Use the RTRV-CLIENT command to retrieve the client-side facilities.

Security level

Level 1

Input syntax

```
RTRV-CLIENT:[TID]:[<AID>]:[CTAG];
```

Table 5-65
RTRV-CLIENT input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AID	Access identifier for OCI, SRM OCI, GFSRM, OTR, and MOTRSFP facility AID is listable and rangeable.	For AID values see Table 1-6 on page 1-17 A null value is equivalent to "ALL"	For AID values see Table 1-6 on page 1-17 A null value is equivalent to "ALL"
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string

Example input

Retrieve the client-side facilities on NE LUXEMBOURG:

```
RTRV-CLIENT:LUXEMBOURG:ALL:123;
```

Output syntax

```
SID DATE TIME
M CTAG COMPLD
"<aid>,<aidtype>:NAME=<name>,CONNECTED=<connected>,
LOOPBACK=<loopback>: <pst>,<sst>,<ost>";
```

Table 5-66
RTRV-CLIENT output syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
AID	Access identifier for OCI, SRM OCI, GFSRM, OTR, and MOTRSFP facility AID is listable and rangeable.	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
AIDTYPE	Access identifier type for OCI, SRM OCI, GFSRM, OTR, and MOTRSFP	GFSRM MOTRSFP OCI OTR SRM	GFSRM MOTRSFP OCI OTR SRM
NAME	Name	Character string	Character string

Table 5-66 (continued)
RTRV-CLIENT output syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
CONNECTED	Facility connected in a cross-connect	CONNECTED NOT_CONNECTED	CONNECTED NOT_CONNECTED
LOOPBACK	Loopback type	FAC= facility TERM= terminal NIL=unknown or no loopback	FAC= facility TERM= terminal NIL=unknown or no loopback
PST	Primary state	IS = in-service OOS = out-of-service	IS = in-service OOS = out-of-service
SST	Secondary state	FLT= failed MEA = mismatched NIL = not available SGEO = supporting entity outage UEQ = unequipped	FLT= failed MEA = mismatched NIL = not available SGEO = supporting entity outage UEQ = unequipped
OST	Operational state	IS-ANR = in-service abnormal IS-NR = in-service normal operation OOS-AU = out-of-service autonomous OOS-AU-MA = out-of-service autonomous/maintenance OOS-MA = out-of-service maintenance OOS-MA-ANR = out-of-service - maintenance and abnormal UNDEFINED = unknown state	IS-ANR = in-service abnormal IS-NR = in-service normal operation OOS-AU = out-of-service autonomous OOS-AU-MA = out-of-service autonomous/maintenance OOS-MA = out-of-service maintenance OOS-MA-ANR = out-of-service - maintenance and abnormal UNDEFINED = unknown state

Example output

```
LUXEMBOURG 03-10-27 12:47:43
M  123 COMPLD
"1-1,GFSRM:NAME=\"GFSRM Facility 1, port
1\",CONNECTED=NOT_CONNECTED,LOOPBACK=NIL:OOS,SGEO,OOS-AU-MA"
"1-2,GFSRM:NAME=\"GFSRM Facility 1, port
2\",CONNECTED=NOT_CONNECTED,LOOPBACK=NIL:OOS,SGEO,OOS-AU-MA"
"7-1,OTR:NAME=\"OTR Facility 7, port 1
client\",CONNECTED=CONNECTED,LOOPBACK=NIL:IS,NIL,IS-NR"
"12-1,OCI:NAME=\"OCI Facility
12\",CONNECTED=CONNECTED,LOOPBACK=NIL:IS,NIL,IS-NR"
```

```
TERMINAL-MONTREAL 04-04-30 14:59:51
M  x COMPLD
"3-1,MOTRSFP:NAME=\"MOTRSFP Facility 3, port
1\",CONNECTED=CONNECTED,LOOPBACK=NIL:IS,NIL,IS-NR"
```

RTRV-GFSRM (retrieve GFSRM)

Use the RTRV-GFSRM command to retrieve the data and state parameters of an OCI SRM GbE/FC or OCI SRM GbE client-side or aggregate facility.

Security level

Level 1

Input syntax

```
RTRV-GFSRM:[TID]:[<AID>]:[CTAG]::[:[RDRTDLY=<rdrtdly>],
[RDHWSTAT=<rdhwstat>]];
```

Table 5-67
RTRV-GFSRM input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AID	Access identifier for GFSRM facility AID is listable and rangeable	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
RDRTDLY	Read round trip latency delay from the circuit pack.	N = No Y = Yes	N = No Y = Yes
RDHWSTAT	Read hardware status from the circuit pack. If "N", the circuit pack read-only parameters are not displayed.	N = No Y = Yes	N = No Y = Yes

Example input

Retrieve all provisioning and state data for facility 1 on the OCI SRM GbE/FC in slot 7 for NE OM5000-1-7:

```
RTRV-GFSRM:OM5000-1-7:7-1&7-AG1:ABC123;
```

Output syntax for GFSRM aggregate facility

```
SID DATE TIME
M CTAG COMPLD
"<aid>:[NAME=<name>],[LOOPBACK=<loopback>],[CONCAT=<concat>],
[TIMING=<timing>],[TRANSPORTMODE=<transportmode>]:
<pst>,<sst>,<ost>";
```

Output syntax for GFSRM client-side facility

```
SID DATE TIME
M CTAG COMPLD
"<aid>:[NAME=<name>],[CONNECTED=<connected>],
[LOOPBACK=<loopback>],[ANENABLE=<anenable>],
[ANSTATE=<anstate>],[ETHDPX=<ethdpx>],[SPEED=<speed>],
[FLOWCTRL=<flowctrl>],[PAUSETX=<pausetx>],[PAUSERX=<pauserx>],
[PAUSERXOVRRIDE=<pauserxovrride>],[ANETHDPX=<anethdpx>],
[ANSPEED=<anspeed>],[ANPAUSETX=<anpausetx>],
[ANPAUSERX=<anpauserx>],[ADVETHDPX=<advethdpx>],
[ADVSPEED=<advspeed>],[ADVFLOWCTRL=<advflowctrl>],[MTU=<mtu>],
[PASSCTRL=<passctrl>][SUBRATE=<subrate>],[EXTREACH=<extreach>]
,[BBC=<bbc>],[BBCOVERRIDE=<bbcoverride>],[FCLINKSTATE=<fclinks
tate>],[RTDELAY=<rtdelay>],[GFPCOND=<gfpcond>],[GFPFCS=<gfpfcs
>],[PHYSADDR=<physaddr>]:<pst>,<sst>,<ost>";
```

Table 5-68
RTRV-GFSRM output syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
AID	Access identifier for GFSRM facility	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
NAME	Name	Character string	Character string
CONCAT	Aggregate facility concatenation type	CCAT = contiguous concatenation VCAT = virtual concatenation	CCAT = contiguous concatenation VCAT = virtual concatenation
TIMING	Aggregate facility timing source	LOCAL = Local timing source LOOP = Loop timing source	LOCAL = Local timing source LOOP = Loop timing source
TRANSPORTMODE	Aggregate facility transport mode	SDH SONET	SDH SONET
CONNECTED	Facility connected in a crossconnect (channel assignment)	CONNECTED NOT_CONNECTED	CONNECTED NOT_CONNECTED
LOOPBACK	Loopback type	FAC = facility TERM = terminal NIL = unknown or no loopback	FAC = facility TERM = terminal NIL = unknown or no loopback
ANENABLE	Auto-Negotiation Enable	N = No Y = Yes	N = No Y = Yes

Table 5-68 (continued)
RTRV-GFSRM output syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
ANSTATE	Auto-negotiation Status	COMPLETED DISABLED FAILED INPROGRESS	COMPLETED DISABLED FAILED INPROGRESS
ETHDPX	Advertised Duplex Operation Capability	BOTH = Both Duplex FULL = Full Duplex HALF = Half Duplex NULL = No Duplex	BOTH = Both Duplex FULL = Full Duplex HALF = Half Duplex NULL = No Duplex
SPEED	Advertised Link Speed	10 = 10 Mbps 10/100 = 10/100 Mbps 100 = 100 Mbps 1000 = 1000 Mbps 10000 = 10000 Mbps NIL = Nil	10 = 10 Mbps 10/100 = 10/100 Mbps 100 = 100 Mbps 1000 = 1000 Mbps 10000 = 10000 Mbps NIL = Nil
FLOWCTRL	Advertised Flow Control Capability	ASYM = Asymmetric Pause Flow Control BOTH = Both Pause Flow Control NIL = Nil Pause Flow Control NONE = No Pause Flow Control SYM = Symmetric Pause Flow Control	ASYM = Asymmetric Pause Flow Control BOTH = Both Pause Flow Control NIL = Nil Pause Flow Control NONE = No Pause Flow Control SYM = Symmetric Pause Flow Control
PAUSETX	PAUSE Transmission Enable	N = No Y = Yes	N = No Y = Yes
PAUSERX	PAUSE Reception Enable	N = No Y = Yes	N = No Y = Yes
PAUSERXOVERRIDE	PAUSE Reception Override	N = No Y = Yes	N = No Y = Yes
ANETHDPX	Negotiated Duplex Operation	BOTH = Both Duplex FULL = Full Duplex HALF = Half Duplex NULL = No Duplex	BOTH = Both Duplex FULL = Full Duplex HALF = Half Duplex NULL = No Duplex
ANSPEED	Negotiated Link Speed	10 = 10 Mbps 10/100 = 10/100 Mbps 100 = 100 Mbps 1000 = 1000 Mbps 10000 = 10000 Mbps NIL = Nil	10 = 10 Mbps 10/100 = 10/100 Mbps 100 = 100 Mbps 1000 = 1000 Mbps 10000 = 10000 Mbps NIL = Nil

Table 5-68 (continued)
RTRV-GFSRM output syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
ANPAUSETX	Negotiated Pause Transmit	N = No Y = Yes	N = No Y = Yes
ANPAUSERX	Negotiated Pause Receiver	N = No Y = Yes	N = No Y = Yes
ADETHDPX	Link Partner Advertised Duplex Capability	BOTH = Both Duplex FULL = Full Duplex HALF = Half Duplex NULL = No Duplex	BOTH = Both Duplex FULL = Full Duplex HALF = Half Duplex NULL = No Duplex
ADVSPEED	Link Partner Advertised Speed	10 = 10 Mbps 10/100 = 10/100 Mbps 100 = 100 Mbps 1000 = 1000 Mbps 10000 = 10000 Mbps NIL = Nil	10 = 10 Mbps 10/100 = 10/100 Mbps 100 = 100 Mbps 1000 = 1000 Mbps 10000 = 10000 Mbps NIL = Nil
ADVFLOWCTRL	Link Partner Advertised Flow Control Capability	ASYM = Asymmetric Pause Flow Control BOTH = Both Pause Flow Control NIL = Nil Pause Flow Control NONE = No Pause Flow Control SYM = Symmetric Pause Flow Control	ASYM = Asymmetric Pause Flow Control BOTH = Both Pause Flow Control NIL = Nil Pause Flow Control NONE = No Pause Flow Control SYM = Symmetric Pause Flow Control
MTU	Maximum Ethernet Frame Size Supported	Integer	Integer
PASSCTRL	Enable Ethernet Control Frames Handling	N = No Y = Yes	N = No Y = Yes
SUBRATE	Sub-rate enable	N = No Y = Yes	N = No Y = Yes
EXTREACH	Extended reach enable	N = No Y = Yes	N = No Y = Yes
BBC	Buffer-to-buffer credit	1 through 65536 or unknown	1 through 65536 or unknown
BBCOVERRIDE	Override the buffer-to-buffer credit value	1, 2, 4, 8, 16, 32, 64, 128	1, 2, 4, 8, 16, 32, 64, 128

Table 5-68 (continued)
RTRV-GFSRM output syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
FCLINKSTATE	State of the fiber channel link	ACTIVE LINKFAILURE LINKRECOVERY OFFLINE UNKNOWN	ACTIVE LINKFAILURE LINKRECOVERY OFFLINE UNKNOWN
RTDELAY	Round Trip latency delay. This parameter is displayed only when input RDRTDLY=Y.	0 through 100000 or unknown	0 through 100000 or unknown
GFPCOND	GFP conditioning enable	N = No Y = Yes	N = No Y = Yes
GFPFCS	GFP frame check sequence enable	N = No Y = Yes	N = No Y = Yes
PHYSADDR	Ethernet MAC Address	Character string	Character string
PST	Primary state	IS = in-service OOS = out-of-service	IS = in-service OOS = out-of-service
SST	Secondary state	FLT= failed MEA = mismatched NIL = not available SGEO = supporting entity outage UEQ = unequipped	FLT= failed MEA = mismatched NIL = not available SGEO = supporting entity outage UEQ = unequipped
OST	Operational state	IS-ANR = in-service abnormal IS-NR = in-service normal operation OOS-AU = out-of-service autonomous OOS-AU-MA = out-of-service autonomous/maintenance OOS-MA = out-of-service maintenance OOS-MA-ANR = out-of-service - maintenance and abnormal UNDEFINED = unknown state	IS-ANR = in-service abnormal IS-NR = in-service normal operation OOS-AU = out-of-service autonomous OOS-AU-MA = out-of-service autonomous/maintenance OOS-MA = out-of-service maintenance OOS-MA-ANR = out-of-service - maintenance and abnormal UNDEFINED = unknown state

Example output

```
OM5000-1-44 02-01-22 03:49:45
M  ABC123 COMPLD
"7-1-AG1:NAME=\"GFSRM Facility 7, AG1\",CONCAT=CCAT,
TIMING=LOCAL,TRANSPORTMODE=SONET:OOS,FLT,OOS-AU-MA"
"7-1:NAME=\"GFSRM Facility 7, port
1\",CONNECTED=NOT_CONNECTED,LOOPBACK=NIL:OOS,FLT,OOS-AU-MA"
"7-2:NAME=\"GFSRM Facility 7, port
2\",CONNECTED=NOT_CONNECTED,LOOPBACK=NIL:OOS,FLT,OOS-AU-MA"
;
```

RTRV-LINE (retrieve line)

Use the RTRV-LINE command to retrieve the line-side facilities.

Security level

Level 1

Input syntax

```
RTRV-LINE:[TID]:[<AID>]:[CTAG];
```

Table 5-69
RTRV-LINE input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AID	Access identifier for OCLD, OTR, and MOTR facility AID is listable and rangeable.	For AID values see Table 1-6 on page 1-17 A null value is equivalent to “ALL”	For AID values see Table 1-6 on page 1-17 A null value is equivalent to “ALL”
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string

Example input

Retrieve the line-side facilities on NE NICE:

```
RTRV-LINE:NICE:ALL:3;
```

Output syntax

```
SID DATE TIME
M CTAG COMPLD
"<aid>,<aidtype>:NAME=<name>,CONNECTED=<connected>,
LOOPBACK=<loopback>: <pst>,<sst>,<ost>";
```

Table 5-70
RTRV-LINE output syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
AID	Access identifier for OCLD, OTR, MOTR facility AID is listable and rangeable.	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
AIDTYPE	Access identifier type for OCLD, OTR, and MOTR	OCLD OTR MOTR	OCLD OTR MOTR
NAME	Name	Character string	Character string
CONNECTED	Facility connected in a cross-connect	CONNECTED NOT_CONNECTED	CONNECTED NOT_CONNECTED

Table 5-70 (continued)
RTRV-LINE output syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
LOOPBACK	Loopback type	FAC= facility TERM= terminal NIL=unknown or no loopback	FAC= facility TERM= terminal NIL=unknown or no loopback
PST	Primary state	IS = in-service OOS = out-of-service	IS = in-service OOS = out-of-service
SST	Secondary state	FLT= failed MEA = mismatched NIL = not available SGEO = supporting entity outage UEQ = unequipped	FLT= failed MEA = mismatched NIL = not available SGEO = supporting entity outage UEQ = unequipped
OST	Operational state	IS-ANR = in-service abnormal IS-NR = in-service normal operation OOS-AU = out-of-service autonomous OOS-AU-MA = out-of-service autonomous/maintenance OOS-MA = out-of-service maintenance OOS-MA-ANR = out-of-service - maintenance and abnormal UNDEFINED = unknown state	IS-ANR = in-service abnormal IS-NR = in-service normal operation OOS-AU = out-of-service autonomous OOS-AU-MA = out-of-service autonomous/maintenance OOS-MA = out-of-service maintenance OOS-MA-ANR = out-of-service - maintenance and abnormal UNDEFINED = unknown state

Example output

```
NICE 03-10-27 12:47:43
M 3 COMPLD
"2-1,OCLD:NAME=\"OCLD Facility
2\",CONNECTED=CONNECTED,LOOPBACK=NIL:OOS,SGEO,OOS-AU-MA"
"4-1,OCLD:NAME=\"OCLD Facility
4\",CONNECTED=NOT_CONNECTED,LOOPBACK=NIL:OOS,FLT,OOS-AU-MA"
"5-1,OCLD:NAME=\"OCLD Facility
5\",CONNECTED=CONNECTED,LOOPBACK=NIL:IS,NIL,IS-NR"
"7-2,OTR:NAME=\"OTR Facility 7, port 2
line\",CONNECTED=CONNECTED,LOOPBACK=NIL:IS,NIL,IS-NR"
TERMINAL-MONTREAL 04-04-30 15:08:52
M  x COMPLD
"3-11,MOTR:NAME=\"MOTR Line Facility
3\",CONNECTED=CONNECTED,LOOPBACK=NIL:IS,NIL,IS-NR"
```

RTRV-MOTR (retrieve MOTR)

Use the RTRV-MOTR command to retrieve the data and state parameters for provisioned Muxponder 10 Gbit/s GbE/FC line-side facilities.

Security level

Level 1

Input syntax

```
RTRV-MORT:[TID]:[<AID>]:[CTAG];
```

Table 5-71
RTRV-MOTR input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AID	Access identifier for MOTR line-side facility AID is listable and rangeable	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string

Example input

Retrieve the provisioning and service states for all the MOTR facilities:

```
RTRV-MOTR:OM5000-1-44:ALL:ABC123;
```

Output syntax

```
SID DATE TIME
M CTAG COMPLD
"<aid>:[NAME=<name>],[CONNECTED=<connected>],[LOOPBACK=<loopba
ck>],[TIMING=<timing>],[TRANSPORTMODE=<transportmode>]:<pst>,
<sst>,<ost>";
```

Table 5-72
RTRV-MOTR output syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
AID	Access identifier for MOTR facility	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
NAME	Name	Character string	Character string
CONNECTED	Facility connected in a cross connect (channel assignment)	CONNECTED NOT_CONNECTED	CONNECTED NOT_CONNECTED

Table 5-72 (continued)
RTRV-MOTR output syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
LOOPBACK	Loopback type	FAC = facility TERM = terminal NIL = unknown or no loopback	FAC = facility TERM = terminal NIL = unknown or no loopback
TIMING	Aggregate facility timing source	LOCAL = Local timing source LOOP = Loop timing source MATE = Mate timing	LOCAL = Local timing source LOOP = Loop timing source MATE = Mate timing
TRANSPORT MODE	Facility transport mode	SDH SONET	SDH SONET
PST	Primary state	IS = in-service OOS = out-of-service	IS = in-service OOS = out-of-service
SST	Secondary state	FLT= failed MEA = mismatched NIL = not available SGEO = supporting entity outage UEQ = unequipped	FLT= failed MEA = mismatched NIL = not available SGEO = supporting entity outage UEQ = unequipped
OST	Operational state	IS-ANR = in-service abnormal IS-NR = in-service normal operation OOS-AU = out-of-service autonomous OOS-AU-MA = out-of-service autonomous/maintenance OOS-MA = out-of-service maintenance OOS-MA-ANR = out-of-service - maintenance and abnormal UNDEFINED = unknown state	IS-ANR = in-service abnormal IS-NR = in-service normal operation OOS-AU = out-of-service autonomous OOS-AU-MA = out-of-service autonomous/maintenance vOOS-MA = out-of-service maintenance OOS-MA-ANR = out-of-service - maintenance and abnormal UNDEFINED = unknown state

Example output

```
OM5000-1-44 02-01-22 03:45:22
M  ABC123 COMPLD
"7-11:NAME=\"MOTR Facility\"
,CONNECTED=NOT_CONNECTED,LOOPBACK=NIL,TIMING=LOCAL,
TRANSPORTMODE=SONET:IS,SGEO,OOS-AU"
;
```

RTRV-MOTRSFP (retrieve MOTRSFP)

Use the RTRV-MOTRSFP command to retrieve the data and state parameters for provisioned Muxponder 10 Gbit/s GbE/FC SFP client-side facilities.

Security level

Level 1

Input syntax

```
RTRV-MOTRSFP:[TID]:[<aid>]:[CTAG]::[:[RDRTDLY=<rdrtdly>],
[RDHWSTAT=<rdhwstat>]];
```

Table 5-73
RTRV-MOTRSFP input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AID	Access identifier for MOTRSFP client-side facility AID is listable and rangeable	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
RDRTDLY	Read round trip latency delay from the circuit pack.	N = No Y = Yes	N = No Y = Yes
RDHWSTAT	Read hardware status from the circuit pack. If "N", the circuit pack read-only parameters are not displayed.	N = No Y = Yes	N = No Y = Yes

Example input

Retrieve the provisioning and service states for all the MOTRSFP facilities:

```
RTRV-MOTRSFP:OM5000-1-7:ALL:ABC123;
```

Output syntax

```
SID DATE TIME
M CTAG COMPLD
"<aid>:[NAME=<name>],[CONNECTED=<connected>],
[LOOPBACK=<loopback>],[ANENABLE=<anenable>],
[ANSTATE=<anstate>],[ETHDPX=<ethdpx>],[SPEED=<speed>],
[FLOWCTRL=<flowctrl>],[PAUSETX=<pausetx>],[PAUSERX=<pauserx>],
[PAUSERXOVRRIDE=<pauserxovrride>],[ANETHDPX=<anethdpx>],
[ANSPEED=<anspeed>],[ANPAUSETX=<anpausetx>],
[ANPAUSERX=<anpauserx>],[ADVETHDPX=<advethdpx>],
[ADVSPEED=<advspeed>],[ADVFLOWCTRL=<advflowctrl>],[MTU=<mtu>],
[PASSCTRL=<passctrl>],[RTDELAY=<rtdelay>],
[PHYSADDR=<physaddr>],[PREAMBLECTRL=<preamblectrl>,
[GFPFCS=<gfpfcs>]:<pst>,<sst>,<ost>";
```

Table 5-74
RTRV-MOTRSFP output syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
AID	Access identifier for MOTRSFP facility	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
NAME	Name	Character string	Character string
CONNECTED	Facility connected in a crossconnect (channel assignment)	CONNECTED NOT_CONNECTED	CONNECTED NOT_CONNECTED
LOOPBACK	Loopback type	FAC = facility TERM = terminal NIL = unknown or no loopback	FAC = facility TERM = terminal NIL = unknown or no loopback
ANENABLE	Auto-Negotiation Enable	N = No Y = Yes	N = No Y = Yes
ANSTATE	Auto-negotiation Status	COMPLETED DISABLED FAILED INPROGRESS	COMPLETED DISABLED FAILED INPROGRESS
ETHDPX	Advertised Duplex Operation Capability	BOTH = Both Duplex FULL = Full Duplex HALF = Half Duplex NULL = No Duplex	BOTH = Both Duplex FULL = Full Duplex HALF = Half Duplex NULL = No Duplex
SPEED	Advertised Link Speed	10 = 10 Mbps 10/100 = 10/100 Mbps 100 = 100 Mbps 1000 = 1000 Mbps 10000 = 10000 Mbps NIL = Nil	10 = 10 Mbps 10/100 = 10/100 Mbps 100 = 100 Mbps 1000 = 1000 Mbps 10000 = 10000 Mbps NIL = Nil
FLOWCTRL	Advertised Flow Control Capability	ASYM = Asymmetric Pause Flow Control BOTH = Both Pause Flow Control NIL = Nil Pause Flow Control NONE = No Pause Flow Control SYM = Symmetric Pause Flow Control	ASYM = Asymmetric Pause Flow Control BOTH = Both Pause Flow Control NIL = Nil Pause Flow Control NONE = No Pause Flow Control SYM = Symmetric Pause Flow Control
PAUSETX	PAUSE Transmission Enable	N = No Y = Yes	N = No Y = Yes

Table 5-74 (continued)
RTRV-MOTRSFP output syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
PAUSERX	PAUSE Reception Enable	N = No Y = Yes	N = No Y = Yes
PAUSERXOVERRIDE	PAUSE Reception Override	N = No Y = Yes	N = No Y = Yes
ANETHDPX	Negotiated Duplex Operation	BOTH = Both Duplex FULL = Full Duplex HALF = Half Duplex NULL = No Duplex	BOTH = Both Duplex FULL = Full Duplex HALF = Half Duplex NULL = No Duplex
ANSPEED	Negotiated Link Speed	10 = 10 Mbps 10/100 = 10/100 Mbps 100 = 100 Mbps 1000 = 1000 Mbps 10000 = 10000 Mbps NIL = Nil	10 = 10 Mbps 10/100 = 10/100 Mbps 100 = 100 Mbps 1000 = 1000 Mbps 10000 = 10000 Mbps NIL = Nil
ANPAUSETX	Negotiated Pause Transmit	N = No Y = Yes	N = No Y = Yes
ANPAUSERX	Negotiated Pause Receiver	N = No Y = Yes	N = No Y = Yes
ADETHDPX	Link Partner Advertised Duplex Capability	BOTH = Both Duplex FULL = Full Duplex HALF = Half Duplex NULL = No Duplex	BOTH = Both Duplex FULL = Full Duplex HALF = Half Duplex NULL = No Duplex
ADVSPEED	Link Partner Advertised Speed	10 = 10 Mbps 10/100 = 10/100 Mbps 100 = 100 Mbps 1000 = 1000 Mbps 10000 = 10000 Mbps NIL = Nil	10 = 10 Mbps 10/100 = 10/100 Mbps 100 = 100 Mbps 1000 = 1000 Mbps 10000 = 10000 Mbps NIL = Nil
ADVFLOWCTRL	Link Partner Advertised Flow Control Capability	ASYM = Asymmetric Pause Flow Control BOTH = Both Pause Flow Control NIL = Nil Pause Flow Control NONE = No Pause Flow Control SYM = Symmetric Pause Flow Control	ASYM = Asymmetric Pause Flow Control BOTH = Both Pause Flow Control NIL = Nil Pause Flow Control NONE = No Pause Flow Control SYM = Symmetric Pause Flow Control
MTU	Maximum Ethernet Frame Size Supported	Integer	Integer

Table 5-74 (continued)
RTRV-MOTRSFP output syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
PASSCTRL	Enable Ethernet Control Frames Handling	N = No Y = Yes	N = No Y = Yes
SUBRATE	Sub-rate enable	N = No Y = Yes	N = No Y = Yes
EXTREACH	Extended reach enable	N = No Y = Yes	N = No Y = Yes
BBC	Buffer-to-buffer credit	1 through 65536 or unknown	1 through 65536 or unknown
BBCOVERRIDE	Override the buffer-to-buffer credit value	1, 2, 4, 8, 16, 32, 64, 128	1, 2, 4, 8, 16, 32, 64, 128
FCLINKSTATE	State of the fiber channel link	ACTIVE LINKFAILURE LINKRECOVERY OFFLINE UNKNOWN	ACTIVE LINKFAILURE LINKRECOVERY OFFLINE UNKNOWN
RTDELAY	Round Trip latency delay. This parameter is displayed only when input RDRTDLY=Y.	0 through 100000 or unknown	0 through 100000 or unknown
GFPCOND	GFP conditioning enable	N = No Y = Yes	N = No Y = Yes
PHYSADDR	Ethernet MAC Address	Character string	Character string
PREAMBLECTRL	Preamble control enable	N = No Y = Yes	N = No Y = Yes
GFPFCS	GFP frame check sequence enable	N = No Y = Yes	N = No Y = Yes
PST	Primary state	IS = in-service OOS = out-of-service	IS = in-service OOS = out-of-service
SST	Secondary state	FLT= failed MEA = mismatched NIL = not available SGEO = supporting entity outage UEQ = unequipped	FLT= failed MEA = mismatched NIL = not available SGEO = supporting entity outage UEQ = unequipped

Table 5-74 (continued)
RTRV-MOTRSFP output syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
OST	Operational state	IS-ANR = in-service abnormal IS-NR = in-service normal operation OOS-AU = out-of-service autonomous OOS-AU-MA = out-of-service autonomous/maintenance OOS-MA = out-of-service maintenance OOS-MA-ANR = out-of-service - maintenance and abnormal UNDEFINED = unknown state	IS-ANR = in-service abnormal IS-NR = in-service normal operation OOS-AU = out-of-service autonomous OOS-AU-MA = out-of-service autonomous/maintenance OOS-MA = out-of-service maintenance OOS-MA-ANR = out-of-service - maintenance and abnormal UNDEFINED = unknown state
PST	Primary state	IS = in-service OOS = out-of-service	IS = in-service OOS = out-of-service
SST	Secondary state	FLT= failed MEA = mismatched NIL = not available SGEO = supporting entity outage UEQ = unequipped	FLT= failed MEA = mismatched NIL = not available SGEO = supporting entity outage UEQ = unequipped
OST	Operational state	IS-ANR = in-service abnormal IS-NR = in-service normal operation OOS-AU = out-of-service autonomous OOS-AU-MA = out-of-service autonomous/maintenance OOS-MA = out-of-service maintenance OOS-MA-ANR = out-of-service - maintenance and abnormal UNDEFINED = unknown state	IS-ANR = in-service abnormal IS-NR = in-service normal operation OOS-AU = out-of-service autonomous OOS-AU-MA = out-of-service autonomous/maintenance OOS-MA = out-of-service maintenance OOS-MA-ANR = out-of-service - maintenance and abnormal UNDEFINED = unknown state

Example output

```
TERMINAL-MONTREAL 04-04-29 21:12:15move the
M  vero COMPLD
"5-1:NAME=\"SFP 1
vero\",CONNECTED=NOT_CONNECTED,LOOPBACK=NIL,ANENABLE=N,ANST
ATE=DISABLED,ETHDPX=NIL,SPEED=NIL,FLOWCTRL=NIL,PAUSETX=N,PAUSE
RX=N,PAUSERXOVRRIDE=N,ANETHDPX=NIL,ANSPEED=NIL,ANPAUSETX=N,ANP
AUSERX=N,ADVETHDPX=NIL,ADVSPEED=NIL,ADVFLOWCTRL=NIL,MTU=0,PASS
CTRL=N,PHYSADDR=\"00:00:00:00:00:00\":OOS,SGEO,OOS-AU-MA"
;
```

RTRV-OCI (retrieve OCI)

Use the RTRV-OCI command to retrieve the data and state parameters for provisioned OCI facilities.

Security level

Level 1

Input syntax

```
RTRV-OCI:[TID]:[<AID>]:[CTAG];
```

Table 5-75
RTRV-OCI input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AID	Access identifier for OCI facility AID is listable and rangeable	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string

Example input

Retrieve the provisioning and service states for all the OCI facilities:

```
RTRV-OCI:OM5000-1-44:ALL:ABC123;
```

Output syntax

```
SID DATE TIME
M CTAG COMPLD
"<aid>:[NAME=<name>],[CONNECTED=<connected>],[LOOPBACK=<loopba
ck>]:<pst>,<sst>,<ost>";
```

Table 5-76
RTRV-OCI output syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
AID	Access identifier for OCI facility slot#-1, where AID is listable and rangeable	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
NAME	Name	Character string	Character string
CONNECTED	Facility connected in a cross connect (channel assignment)	CONNECTED NOT_CONNECTED	CONNECTED NOT_CONNECTED
LOOPBACK	Loopback type	FAC = facility TERM = terminal NIL = unknown or no loopback	FAC = facility TERM = terminal NIL = unknown or no loopback
PST	Primary state	IS = in-service OOS = out-of-service	IS = in-service OOS = out-of-service
SST	Secondary state	FLT= failed MEA = mismatched NIL = not available SGEO = supporting entity outage UEQ = unequipped	FLT= failed MEA = mismatched NIL = not available SGEO = supporting entity outage UEQ = unequipped
OST	Operational state	IS-ANR = in-service abnormal IS-NR = in-service normal operation OOS-AU = out-of-service autonomous OOS-AU-MA = out-of-service autonomous/maintenance OOS-MA = out-of-service maintenance OOS-MA-ANR = out-of-service - maintenance and abnormal UNDEFINED = unknown state	IS-ANR = in-service abnormal IS-NR = in-service normal operation OOS-AU = out-of-service autonomous OOS-AU-MA = out-of-service autonomous/maintenance vOOS-MA = out-of-service maintenance OOS-MA-ANR = out-of-service - maintenance and abnormal UNDEFINED = unknown state

Example output

```
OM5000-1-44 02-01-22 03:45:22
M  ABC123 COMPLD
"5-1:NAME=\"OCI Facility
5\",CONNECTED=NOT_CONNECTED,LOOPBACK=NIL:IS,SGEO,OOS-AU"
;
```

RTRV-OCLD (retrieve OCLD)

Use the RTRV-OCLD command to retrieve the data and state parameters for provisioned OCLD facilities.

Security level

Level 1

Input syntax

```
RTRV-OCLD:[TID]:[<AID>]:[CTAG];
```

Table 5-77
RTRV-OCLD input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AID	Access identifier for OCLD facility	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string

Example input

Retrieve the provisioning and service states for all the OCLD facilities:

```
RTRV-OCLD:OM5000-1-44:ALL:ABC123;
```

Output syntax

```
SID DATE TIME
M CTAG COMPLD
"<aid>:[NAME=<name>],[CONNECTED=<connected>],[LOOPBACK=<loopba
ck>]:<pst>,<sst>,<ost>";
```

Table 5-78
RTRV-OCLD output syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
AID	Access identifier for OCLD facility	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
NAME	Name	Character string	Character string
CONNECTED	Facility connected in a cross connect (channel assignment)	CONNECTED NOT_CONNECTED	CONNECTED NOT_CONNECTED
LOOPBACK	Loopback type	FAC = facility TERM = terminal NIL = unknown or no loopback	FAC = facility TERM = terminal NIL = unknown or no loopback

Table 5-78 (continued)
RTRV-OCLD output syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
PST	Primary state	IS = in-service OOS = out-of-service	IS = in-service OOS = out-of-service
SST	Secondary state	FLT= failed MEA = mismatched NIL = not available SGEO = supporting entity outage UEQ = unequipped	FLT= failed MEA = mismatched NIL = not available SGEO = supporting entity outage UEQ = unequipped
OST	Operational state	IS-ANR = in-service abnormal IS-NR = in-service normal operation OOS-AU = out-of-service autonomous OOS-AU-MA = out-of-service autonomous/maintenance OOS-MA = out-of-service maintenance OOS-MA-ANR = out-of-service - maintenance and abnormal UNDEFINED = unknown state	IS-ANR = in-service abnormal IS-NR = in-service normal operation OOS-AU = out-of-service autonomous OOS-AU-MA = out-of-service autonomous/maintenance OOS-MA = out-of-service maintenance OOS-MA-ANR = out-of-service - maintenance and abnormal UNDEFINED = unknown state

Example output

```
OM5000-1-44 02-01-22 03:44:53
M  ABC123 COMPLD
"1-1-0-4-1-WEST:NAME=\"OCLD Facility
1\",CONNECTED=NOT_CONNECTED,LOOPBACK=NIL:IS,SGEO,OOS-AU"
"2-1-0-4-2-WEST:NAME=\"OCLD Facility
2\",CONNECTED=NOT_CONNECTED,LOOPBACK=NIL:OOS,SGEO,OOS-AU-MA"
"17-1-0-4-2-EAST:NAME=\"OCLD Facility
17\",CONNECTED=NOT_CONNECTED,LOOPBACK=NIL:OOS,SGEO,OOS-AU-MA"
"18-1-0-4-1-EAST:NAME=\"OCLD Facility
18\",CONNECTED=NOT_CONNECTED,LOOPBACK=NIL:OOS,SGEO,OOS-AU-MA"
;
```

RTRV-OFA (retrieve OFA)

Use the RTRV-OFA command to retrieve the OFA facility.

Security level

Level 1

Input syntax

```
RTRV-OFA:[TID]:[<AID>]:[CTAG];
```

Table 5-79
RTRV-OFA input syntax definition

Parameter	Description	Possible values (5200)
TID	Target identifier	Character string
AID	Access identifier for OFA facility AID is listable and rangeable.	For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string

Example input

Retrieve the provisioning and state data for the OFA facility in slot 8:

```
RTRV-OFA:OM5000-1-49:8-1:ABC123;
```

Output syntax

```
SID DATE TIME
M CTAG COMPLD
"<aid>:[NAME=<name>],[CONNECTED=<connected>],[LOOPBACK=<loopba
ck>],[NUMCHAN=<numchan>],[PWRPCHAN=<pwrpchan>],[TXPWR=<txpwr>]
,[RXPWR=<rxpwr>],[AGGPWR=<aggpwr>],[EQSTATUS=<eqstatus>]:<pst>
,<sst>,<ost>";
```

Table 5-80
RTRV-OFA output syntax definition

Parameter	Description	Possible values (5200)
AID	Access identifier for OFA facility	For AID values see Table 1-6 on page 1-17
NAME	Name	Character string
CONNECTED	Facility connected in a cross connect (channel assignment)	CONNECTED NOT_CONNECTED
LOOPBACK	Loopback type	FAC = facility TERM = terminal NIL = unknown or no loopback

Table 5-80 (continued)
RTRV-OFA output syntax definition

Parameter	Description	Possible values (5200)
NUMCHAN	Number of channels ***Note:*** This field is only populated with the VGA.	Number 1 to 16
PWRPCHN	Power per channel ***Note:*** This field is only populated with the VGA.	Floating point number
TXPWR	Transmit optical power	Floating point number
RXPWR	Receive optical power	Floating point number
AGGRPWR	Aggregate optical power ***Note:*** This field is only populated with the VGA.	Floating point number
EQSTATUS	Equalization status ***Note:*** This field is only populated with the VGA.	COMPLD = Equalization completed FAIL = Equalization failed IP = Equalization in progress NIL = Nil or Unassigned NREQR = Equalization not required REQD = Equalization required
PST	Primary state	IS = in-service OOS = out-of-service
SST	Secondary state	FLT= failed MEA = mismatched NIL = not available SGEO = supporting entity outage UEQ = unequipped
OST	Operational state	IS-ANR = in-service abnormal IS-NR = in-service normal operation OOS-AU = out-of-service autonomous OOS-AU-MA = out-of-service autonomous/maintenance OOS-MA = out-of-service maintenance OOS-MA-ANR = out-of-service - maintenance and abnormal UNDEFINED = unknown state

Example output

```
OM5000-1-49 02-02-11 23:19:30
M  ABC123 COMPLD
"8-1-0:NAME=\"OFA Facility 8
\",CONNECTED=NOT_CONNECTED,LOOPBACK=NIL:IS,SGEO,OOS-AU"
;
```

RTRV-OHCHN (retrieve overhead channel)

Use the RTRV-OHCHN command to query the state of a specified overhead channel.

Security level

Level 1

Input syntax

```
RTRV-OHCHN:[TID]:[AID]:[CTAG];
```

Table 5-81
RTRV-OHCHN input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
AID	Access identifier for OCLD, OTR, or MOTR overhead channel facility	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17

Example input

Retrieve the overhead channel status information for the OTR in slot 3:

```
RTRV-OHCHN:OM5000-1-44:3-2-OH-OTR:ABC125;
```

Output syntax

```
SID DATE TIME
M CTAG COMPLD
"<aid>:OHSTATE=<ohstate>";
```

Table 5-82
RTRV-OHCHN output syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
AID	Access identifier for OCLD, OTR, or MOTR overhead channel facility	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
OHSTATE	Overhead channel state	DISABLE = Disable ENABLE = Enable	DISABLE = Disable ENABLE = Enable

RTRV-OSC (retrieve OSC)

Use the RTRV-OSC command to retrieve the status of an OSC facility.

Security level

Level 1

Input syntax

```
RTRV-OSC:[TID]:[<AID>]:[CTAG];
```

Table 5-83
RTRV-OSC input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AID	Access identifier for OSC facility AID is listable and rangeable	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string

Example input

Retrieve the attributes for the east OSC facility at the OM5000-1-44 NE:

```
RTRV-OSC:OM5000-1-44:20-EAST-OSC:ABC123;
```

Output syntax

```
SID DATE TIME
M CTAG COMPLD
"<aid>:[NAME=<name>],[LOOPBACK=<loopback>],[NBRNEID=<nbrneid>]
,[NBRSITEID=<nbrsiteid>],[NBRTID=<nbrtid>]:<pst>,<sst>,
<ost>";
```

Table 5-84
RTRV-OSC output syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
AID	Access identifier for OSC facility AID is listable and rangeable.	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
NAME	Name of OSC facility	Character string	Character string
LOOPBACK	OSC loopback	FAC = facility NIL = unknown or no loopback	FAC = facility NIL = unknown or no loopback
NBRNEID	OSC neighbor NE ID	Unused	Unused
NBRSITEID	OSC neighbor NE SITE ID	Unused	Unused
NBRTID	OSC neighbor NE TID	Unused	Unused

Table 5-84 (continued)
RTRV-OSC output syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
PST	Primary state	IS = in-service OOS = out-of-service	IS = in-service OOS = out-of-service
SST	Secondary state	FLT= failed MEA = mismatched NIL = not available SGEO = supporting entity outage UEQ = unequipped	FLT= failed MEA = mismatched NIL = not available SGEO = supporting entity outage UEQ = unequipped
OST	Operational state	IS-ANR = in-service abnormal IS-NR = in-service normal operation OOS-AU = out-of-service autonomous OOS-AU-MA = out-of-service autonomous/maintenance OOS-MA = out-of-service maintenance OOS-MA-ANR = out-of-service - maintenance and abnormal UNDEFINED = unknown state	IS-ANR = in-service abnormal IS-NR = in-service normal operation OOS-AU = out-of-service autonomous OOS-AU-MA = out-of-service autonomous/maintenance OOS-MA = out-of-service maintenance OOS-MA-ANR = out-of-service - maintenance and abnormal UNDEFINED = unknown state

Example output

```
OM5000-1-44 02-02-11 21:03:35
M  ABC123 COMPLD
"20-EAST-OSC-0:NAME=\"OSC EAST
Facility\",LOOPBACK=NIL,NBRNEID=0,NBRSITEID=0,NBRTID=Nil:IS,SG
EO,OOS-AU"
"20-WEST-OSC-0:NAME=\"OSC WEST
Facility\",LOOPBACK=NIL,NBRNEID=0,NBRSITEID=0,NBRTID=Nil:IS,SG
EO,OOS-AU"
;
```

RTRV-OTR (retrieve OTR)

Use the RTRV-OTR command to retrieve the status of an OTR facility.

Security level

Level 1

Input syntax

```
RTRV-OTR:[TID]:[<AID>]:[CTAG];
```

Table 5-85
RTRV-OTR input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AID	Access identifier for OTR facility AID is listable and rangeable	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string

Example input

Retrieve the attributes for the OTR facility in slot 5, port 2 at the Montreal NE:

```
RTRV-OTR:MONTREAL:5-2:1234;
```

Output syntax

```
SID DATE TIME
M CTAG COMPLD
"<aid>:[NAME=<name>],[CONNECTED=<connected>],[LOOPBACK=<loopba
ck>]:<pst>,<sst>,<ost>";
```

Table 5-86
RTRV-OTR output syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
AID	Access identifier for OTR facility AID is listable and rangeable	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
NAME	Name	Character string	Character string
CONNECTED	Facility connected in a cross connect (channel assignment)	CONNECTED NOT_CONNECTED	CONNECTED NOT_CONNECTED
LOOPBACK	Loopback type	FAC = facility NIL = unknown or no loopback	FAC = facility NIL = unknown or no loopback

Table 5-86 (continued)
RTRV-OTR output syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
PST	Primary state	IS = in-service OOS = out-of-service	IS = in-service OOS = out-of-service
SST	Secondary state	FLT= failed MEA = mismatched NIL = not available SGEO = supporting entity outage UEQ = unequipped	FLT= failed MEA = mismatched NIL = not available SGEO = supporting entity outage UEQ = unequipped
OST	Operational state	IS-ANR = in-service abnormal IS-NR = in-service normal operation OOS-AU = out-of-service autonomous OOS-AU-MA = out-of-service autonomous/maintenance OOS-MA = out-of-service maintenance OOS-MA-ANR = out-of-service - maintenance and abnormal UNDEFINED = unknown state	IS-ANR = in-service abnormal IS-NR = in-service normal operation OOS-AU = out-of-service autonomous OOS-AU-MA = out-of-service autonomous/maintenance OOS-MA = out-of-service maintenance OOS-MA-ANR = out-of-service - maintenance and abnormal UNDEFINED = unknown state

Example output

```
MONTREAL 02-01-14 21:24:24
M ABC123 COMPLD
“7-1:NAME=\”COLUMBUS\”,CONNECTED=CONNECTED,LOOPBACK=FAC:IS,NIL
,IS-NR”
"3-1:NAME=\"OTR Facility 3, port 1
client\",CONNECTED=CONNECTED,LOOPBACK=NIL:IS,SGEO,OOS-AU"
"3-2-0-4-3-WEST:NAME=\"OTR Facility 3, port 2
line\",CONNECTED=CONNECTED,LOOPBACK=NIL:IS,SGEO,OOS-AU"
"15-1:NAME=\"OTR Facility 15, port 1
client\",CONNECTED=CONNECTED,LOOPBACK=NIL:IS,SGEO,OOS-AU"
"15-2-0-4-3-EAST:NAME=\"OTR Facility 15, port 2
line\",CONNECTED=CONNECTED,LOOPBACK=NIL:IS,SGEO,OOS-AU"
;
```

RTRV-SRM (retrieve SRM)

Use the RTRV-SRM command to retrieve the OCI SRM, OCI SRM ESCON, OCI SRM SONET/SDH LTE, or OCI SRM SONET/SDH facility.

Security level

Level 1

Input syntax

```
RTRV-SRM:[TID]:[<AID>]:[CTAG];
```

Table 5-87
RTRV-SRM input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AID	Access identifier for SRM facility AID is listable and rangeable	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string

Example input

Retrieve all provisioning and state data for the four ports on the OCI SRM in slot 7:

```
RTRV-SRM:OM5000-1-7:ALL:ABC123;
```

Output syntax for client-side facility

```
SID DATE TIME
M CTAG COMPLD
"<aid>:[NAME=<name>],[CONNECTED=<connected>],
[LOOPBACK=<loopback>],[SDTH=<sdth>],[SSM=<ssm>],
[PATHMON=<pathmon>]:<pst>,<sst>,<ost>";
```

Output syntax for OCI SRM SONET/SDH LTE aggregate facility

```
SID DATE TIME
M CTAG COMPLD
"<aid>:[NAME=<name>],[ENCODINGMODE=<encodingmode>],[SSM=<ssm>]
:<pst>,<sst>,<ost>";
```

Table 5-88
RTRV-SRM output syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
AID	Access identifier for SRM facility	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
NAME	Name	Character string	Character string
CONNECTED	Facility connected in a cross connect (channel assignment)	CONNECTED NOT_CONNECTED	CONNECTED NOT_CONNECTED
LOOPBACK	Loopback type	FAC = facility TERM = terminal NIL = unknown or no loopback	FAC = facility TERM = terminal NIL = unknown or no loopback
SDTH	Signal Degrade Threshold for SSRM-LTE	(10E-5) = 10E-5 (10E-6) = 10E-6 (Default) (10E-7) = 10E-7 (10E-8) = 10E-8 (10E-9) = 10E-9 NIL = Nil or unused.	(10E-5) = 10E-5 (10E-6) = 10E-6 (Default) (10E-7) = 10E-7 (10E-8) = 10E-8 (10E-9) = 10E-9 NIL = Nil or unused.
SSM	Synchronization Status Message for SSRM-LTE	AUTO = Automatic Synchronization Message DUS = Don't Use for Synchronization Message NIL = Nil or Unused.	AUTO = Automatic Synchronization Message DUS = Don't Use for Synchronization Message NIL = Nil or Unused.
ENCODINGMODE	Aggregate Encoding Mode for SSRM-LTE	NIL = Nil or unused PROPRIETARY = Proprietary for Bookend topology (Default)	NIL = Nil or unused PROPRIETARY = Proprietary for Bookend topology (Default)
PATHMON	Path Monitoring for SSRM-LTE	DISABLE = Disable ENABLE = Enable	DISABLE = Disable ENABLE = Enable

Table 5-88 (continued)
RTRV-SRM output syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
PST	Primary state	IS = in-service OOS = out-of-service	IS = in-service OOS = out-of-service
SST	Secondary state	FLT= failed MEA = mismatched NIL = not available SGEO = supporting entity outage UEQ = unequipped	FLT= failed MEA = mismatched NIL = not available SGEO = supporting entity outage UEQ = unequipped
OST	Operational state	IS-ANR = in-service abnormal IS-NR = in-service normal operation OOS-AU = out-of-service autonomous OOS-AU-MA = out-of-service autonomous/maintenance OOS-MA = out-of-service maintenance OOS-MA-ANR = out-of-service - maintenance and abnormal UNDEFINED = unknown state	IS-ANR = in-service abnormal IS-NR = in-service normal operation OOS-AU = out-of-service autonomous OOS-AU-MA = out-of-service autonomous/maintenance OOS-MA = out-of-service maintenance OOS-MA-ANR = out-of-service - maintenance and abnormal UNDEFINED = unknown state

RTRV-WSC (retrieve WSC)

Use the RTRV-WSC command to retrieve the attributes of a WSC facility.

Security level

Level 1

Input syntax

```
RTRV-WSC:[TID]:[<AID>]:[CTAG];
```

Table 5-89
RTRV-WSC input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AID	Access identifier for WSC facility AID is listable and rangeable	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string

Example input

Retrieve the attributes of the east WSC facility at the OM5000-1-44 facility:

```
RTRV-WSC:OM5000-1-44:20-EAST-WSC:ABC123;
```

Output syntax

```
SID DATE TIME
M CTAG COMPLD
"<aid>:[NAME=<name>],[CONNECTED=<connected>],[LOOPBACK=<Loopba
ck>]:<pst>,<sst>,<ost>";
```

Table 5-90
RTRV-WSC output syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
AID	Access identifier for WSC facility AID is listable and rangeable.	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
NAME	Name of WSC facility	Character string	Character string
CONNECTED	WSC connection state	ADDDROP PASSTHRU	ADDDROP PASSTHRU
LOOPBACK	Loopback type	FAC = facility NIL = unknown or no loopback	FAC = facility NIL = unknown or no loopback
PST	Primary state	IS = in-service OOS = out-of-service	IS = in-service OOS = out-of-service
SST	Secondary state	FLT= failed MEA = mismatched NIL = not available SGEO = supporting entity outage UEQ = unequipped	FLT= failed MEA = mismatched NIL = not available SGEO = supporting entity outage UEQ = unequipped
OST	Operational state	IS-ANR = in-service abnormal IS-NR = in-service normal operation OOS-AU = out-of-service autonomous OOS-AU-MA = out-of-service autonomous/maintenance OOS-MA = out-of-service maintenance OOS-MA-ANR = out-of-service - maintenance and abnormal UNDEFINED = unknown state	IS-ANR = in-service abnormal IS-NR = in-service normal operation OOS-AU = out-of-service autonomous OOS-AU-MA = out-of-service autonomous/maintenance OOS-MA = out-of-service maintenance OOS-MA-ANR = out-of-service - maintenance and abnormal UNDEFINED = unknown state

Example output

```
OM5000-1-44 02-02-11 21:03:52
M  ABC123 COMPLD
"20-EAST-WSC-0:NAME=\"WSC EAST Facility\
",CONNECTED=ADDDROP,LOOPBACK=NIL,:IS,SGEO,OOS-AU"
"20-WEST-WSC-0:NAME=\"WSC WEST Facility\
",CONNECTED=ADDDROP,LOOPBACK=NIL,:IS,SGEO,OOS-AU"
;
```

Cross-connect commands

This chapter is an alphabetical summary of all TL1 commands related to adding, deleting, editing, or retrieving cross-connects. Cross-connects are also known as channel assignments.

The command descriptions in this chapter identify each command, and describe the command purpose, syntax, variables, and response.

Commands in this chapter

Table 6-1 lists the cross-connect commands in this chapter.

Table 6-1
Cross-connect commands

Command	Page
DLT-CRS-ALL (delete cross-connections all)	6-5
DLT-CRS-PATH (delete cross-connections path)	6-8
ED-CRS-ALL (edit cross-connections all)	6-9
ED-CRS-OC3 (edit OC-3 cross-connections)	6-15
ED-CRS-OC12 (edit OC-12 cross-connections)	6-18
ED-CRS-OC24 (edit OC-24 cross-connections)	6-21
ED-CRS-OC48 (edit OC-48 cross-connections)	6-23
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ENT-CRS-ALL (create cross-connections all)	6-28
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Table 6-1 (continued)
Cross-connect commands

Command	Page
ENT-CRS-PATH (enter cross-connections path)	6-43
RTRV-CID-ALL (retrieve connection ID all)	6-44
RTRV-CRS-ALL (retrieve cross-connections all)	6-46
RTRV-CRS-PATH (retrieve cross-connections path)	6-53
RTRV-NE-CX (retrieve network element connections)	6-56
RTRV-PROT (retrieve cross-connect protocols and PM Mode)	6-57
RTRV-PROT-CRS (retrieve all supported protocols)	6-60

Table 6-2 lists the protocols supported by TL1 for Optical Metro 5200.

Table 6-2
Protocols supported by TL1

Protocol	Bit rate	Valid value
Async FOTS SM (SR)	150 Mbit/s	ASYNCFOTS150M
	565 Mbit/s	ASYNCFOTS565M
FDDI SM (LR) FDDI MM (IR)	125 Mbit/s	FDDI
Fibre Channel MM (IR)	133 Mbit/s	FC12
Fibre Channel SM (IR) Fibre Channel MM (IR)	266 Mbit/s	FC25
Fibre Channel MM (IR)	531 Mbit/s	FC50
Fibre Channel SM (IR) Fibre Channel SM (LR)	1062 Mbit/s	FC100
FICON (IR) FICON SM (IR) FICON SM (LR)	1062 Mbit/s	FICON
Gigabit Ethernet SM (IR) Gigabit Ethernet MM (IR) Gigabit Ethernet MM (SR)	1250 Mbit/s	GIGABITETHERNET
Fast Ethernet SM (LR) Fast Ethernet MM (IR)	125 Mbit/s	FASTETHERNET
10GbE WAN PHY	9953.28 Mbit/s	ETHERNET10G

Table 6-2 (continued)
Protocols supported by TL1

Protocol	Bit rate	Valid value
10G Clear Channel	9953.28 Mbit/s	10GCLEARCHANNEL
10G Ethernet LAN	103125 Mbit/s	ETHERNET10GLAN
10G LAN PHY	103125 Mbit/s	ETHERNET10GLAN
D1 Video SM (SR)	270 Mbit/s	D1VIDEO
IBM ESCON SM (IR) IBM ESCON MM (IR)	200 Mbit/s	ESCON
CLO MM (SR)	8 Mbit/s	CLO
CLO MM (SR)	16 Mbit/s	CLO
DtDv6000	2.38 Gbit/s	DV6000
ETR MM (SR)	8 Mbit/s	ETR
ETR MM (SR)	16 Mbit/s	ETR
Fiber Channel 200	2.125 Gbit/s	FC200
FICON Express	2.125 Gbit/s	FICONEXPRESS
HDTV 29 Hz	1.483/1.4835 Gbit/s	HDTV29HZ
HDTV 30 Hz	1.485/1.4835 Gbit/s	HDTV30HZ
IBM ISC3	2.125 Gbit/s	ISC3
ISC LR SM	1062 Mbit/s	ISC
SONET OC-1 SM (SR)	52 Mbit/s	OC1
SONET OC-3 SM (SR) SONET OC-3 SM (IR)	155 Mbit/s	OC3
SONET OC-12 SM (SR) SONET OC-12 SM (IR)	622 Mbit/s	OC12
SONET OC-24 SM (SR) SONET OC-24 SM (IR)	1244 Mbit/s	OC24
SONET OC-48 SM (SR) SONET OC-48 SM (IR)	2488 Mbit/s	OC48
SONET OC-192	9953.28 Mbit/s	OC192
SDH STM-1 SM (SR) SDH STM-1 SM (IR)	155 Mbit/s	STM1

Table 6-2 (continued)
Protocols supported by TL1

Protocol	Bit rate	Valid value
SDH STM-4 SM (SR) SDH STM-4 SM (IR)	622 Mbit/s	STM4
SDH STM-16 SM (SR) SDH STM-16 SM (IR)	2488 Mbit/s	STM16
SDH STM-64	9953.28 Mbit/s	STM64
SRM (see Note)	1250 Mbit/s	SRM125G
	2488 Mbit/s	SRM250G
SRM ESCON (see Note)	2488 Mbit/s	ESRM250G
Note: Use the SRM protocols for setting up pass-through connections for OCI SRM, OCI SRM ESCON, OCI SRM SONET/SDH, and OCI SRM SONET/SDH LTE facility end points.		

DLT-CRS-ALL (delete cross-connections all)

Use the DLT-CRS-ALL command to delete existing connections.

Note: The deletion of cross-connections are independent of facility status.

CAUTION
Risk of traffic loss
A command to delete all cross-connections that are carrying traffic will not be rejected.

Security level

Level 2

Input syntax

```
DLT-CRS-ALL:[TID]:<AIDfrom>,<AIDto>:[CTAG]::<cct>:
[SWMATE=<swmate>],[TRANSPORT=<transport>];
```

Table 6-3
DLT-CRS-ALL input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AIDFROM	Access identifier The AIDfrom is always an OCLD, MOTR, or OTR line side facility involved in the cross-connect.	OCLD, OTR, MOTR facility For AID values see Table 1-6 on page 1-17	OCLD, OTR, MOTR facility For AID values see Table 1-6 on page 1-17
AIDTO	Access identifier The AIDto for pass-through is always an OCLD. For any other connections AIDto is OCI, GFSRM, SRM, MOTRSFP, or OTR client-side facility.	OCLD, OCI, OTR, GFSRM, SRM, MOTRSFP facility For AID values see Table 1-6 on page 1-17	OCLD, OCI, OTR, GFSRM, SRM, MOTRSFP facility For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string

Table 6-3 (continued)
DLT-CRS-ALL input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
CCT	Cross-connect type	2WAY = bidirectional connection 2WAYPR = bidirectional protected cross-connect	2WAY = bidirectional connection 2WAYPR = bidirectional protected cross-connect
SWMATE	Access identifier Mate OCLD, MOTR, or OTR line side facility in the protected connection.	OCLD, OTR, MOTR facility For AID values see Table 1-6 on page 1-17	OCLD, OTR, MOTR facility For AID values see Table 1-6 on page 1-17
TRANSPORT	For a MOTR connection, the transport structure defines the payload mapping within the OC-48/STM-16 signal. ***Note 1:*** If Transport is not specified, a channel assignment and a port asignment will be provisioned but no path assignment; the Transport value will be NIL; Encapsulation defaults to FGFP for GigE and TGFP for FICON/Fibre Channel ***Note 2:*** If Transport is specified, a channel assignment, a port asignment and path assignments will be provisioned; the paths will need to be supplied.	For the possible values according to provisioned protocol and transport mode, see Table 6-7 for a c-cat connection Table 6-8 for a v-cat connection	For the possible values according to provisioned protocol and transport mode, see Table 6-7 for a c-cat connection Table 6-8 for a v-cat connection

Example input

Delete an unprotected west channel assignment connected to OCLD in slot 1 and the OCI in slot 5:

```
DLT-CRS-ALL::1-1,5-1:::2WAY;
```

Delete a pass-through channel assignment connected to OCLDs in slots 1 and 18:

```
DLT-CRS-ALL::1-1,18-1:::2WAY;
```

Delete a protected SRM port 3 in slot 5 connected to OCLDs in slots 1 and 18:

```
DLT-CRS-ALL::1-1,5-3:::2WAYPR:swmate=18-1;
```

Delete a protected channel assignment where the active protection path is east, connected to the OCI in slot 6, and the OCLDs in slots 1 and 18:

```
DLT-CRS-ALL::1-1,6-1:::2WAYPR:SWMATE=18-1;
```

Delete a 10G protected channel assignment in slots 6 and 14:

```
DLT-CRS-ALL::6-2,6-1:1::2WAYPR:SWMATE=14-2;
```

Delete an unprotected channel assignment for SFP port 2 in MOTR slot 5 :

```
DLT-CRS-ALL::5-11,5-2:vero::2WAY;
```

DLT-CRS-PATH (delete cross-connections path)

Use the DLT-CRS-PATH command to deprovision an STS or VC path from an OCI SRM GbE/FC or OCI SRM GbE or Muxponder path connection.

Security level

Level 2

Input syntax

```
DLT-CRS-PATH:[TID]:<from>,<to>:[CTAG]::<cct>:
TRANSPORT=<transport>;
```

Table 6-4
DLT-CRS-PATH input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
FROM	GFSRM client-side facility or MOTRSFP client-side path facility AID	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
TO	GFSRM aggregate or MOTR line-side path facility AID	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
CCT	Cross-connect type	2WAY = bidirectional connection 2WAYPR = bidirectional protected cross-connect	2WAY = bidirectional connection 2WAYPR = bidirectional protected cross-connect
TRANSPORT	Type of transport payload	STS3C VC4	STS3C VC4

Example input

```
DLT-CRS-PATH:BOSTON:8-1,8-AG1-1:1234::2WAY:TRANSPORT=STS3C;
```

Delete a Muxponder path:

```
DLT-CRS-PATH:OM5000-1-1:11-2-2,11-11-20:1234::2WAY:TRANSPORT=S
TS3C;
```

ED-CRS-ALL (edit cross-connections all)

Use the ED-CRS-ALL command to edit any cross-connection. You can only edit the cross-connection fields applicable to the specific connection or traffic requirement.

CAUTION
Risk of traffic loss
Accidently editing the wrong cross-connect command also causes the protocol to be reset.

Security level

Level 2

Input syntax

```
ED-CRS-ALL:[TID]:<from>,<to>:[CTAG]::[<cct>]:[SWMATE=<swmate>]
,[NAME=<name>], [CHANDESC=<chandesc>],[PROTOCOL=<protocol>],
[TRANSPORT=<transport>], [PATHS=<paths>],
[ENCAPSULATION=<encapsulation], [HOLDOFF=<holdoff>],
[CONNECTIONDESC=<connectiondesc>],
[CONNECTIONNAME=<connectionname>],
[REVERTIVE=<revertive>], [WAITTORESTORE=<waittorestore>],
[SYNCPRI=<syncpri>],[SYNCSEC=<syncsec>],
[PROTNSCHM=<protnschm>],[PROTNMODE=<protnmode>],[PCT=<pct>];
```

Table 6-5
ED-CRS-ALL input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
FROM	Access identifier The FROM is an OCLD, MOTR, or OTR line-side involved in the cross-connect.	OCLD, OTR, MOTR facility For AID values see Table 1-6 on page 1-17	OCLD, OTR, MOTR facility For AID values see Table 1-6 on page 1-17
TO	Access identifier The AIDto for pass-through is always an OCLD. For any other connections AIDto is an OCI, GFSRM, SRM, MOTRSFP, or OTR client-side facility.	OCLD, OCI, OTR, GFSRM, SRM, MOTRSFP facility For AID values see Table 1-6 on page 1-17	OCLD, OCI, OTR, GFSRM, SRM, MOTRSFP facility For AID values see Table 1-6 on page 1-17

Table 6-5 (continued)
ED-CRS-ALL input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
CCT	Cross-connect type	2WAY = bidirectional connection 2WAYPR = bidirectional protected cross-connect	2WAY = bidirectional connection 2WAYPR = bidirectional protected cross-connect
SWMATE	Access identifier Mate OCLD, OTR, or MOTR in the protected channel assignment.	OCLD, OTR, MOTR facility For AID values see Table 1-6 on page 1-17	OCLD, OTR, MOTR facility For AID values see Table 1-6 on page 1-17
NAME	Name of the connection.	Character string Maximum 32 characters.	Character string Maximum 32 characters.
CHANDESC	Channel description.	Character string Maximum 64 characters.	Character string Maximum 64 characters.
PROTOCOL	Protocol of the cross-connect	For possible values and more information about protocols in TL1, refer to Table 6-2 on page 6-2.	For possible values and more information about protocols in TL1, refer to Table 6-2 on page 6-2.
TRANSPORT	For an OCI GFSRM or MOTR connection, the transport structure defines the payload mapping within the OC-48/STM-16 signal.	For the possible values according to provisioned protocol and transport mode, see Table 6-6 or Table 6-7 for a c-cat connection Table 6-8 for a v-cat connection	For the possible values according to provisioned protocol and transport mode, see Table 6-6 or Table 6-7 for a c-cat connection Table 6-8 for a v-cat connection
PATHS	List of STS path numbers for MOTR connection, separated by &.	In Rel 7.0, this value is 24n+1 where n= 0…7, depending on the SFP port used. For example, if using SFP port 5 : n = 4, PATH = 97.	In Rel 7.0, this value is 24n+1 where n= 0…7, depending on the SFP port used. For example, if using SFP port 5 : n = 4, PATH = 97.
ENCAPSULATION	For a MOTR connection, the encapsulation mode	FGFP TFGP	FGFP TFGP

Table 6-5 (continued)
ED-CRS-ALL input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
HOLDOFF	Hold off time for GFSRM or MOTR connection	0 100 200 300 400 500 600 700 800 900	0 100 200 300 400 500 600 700 800 900
CONNECTIONDESC	Description of the end-to-end connection.	Character string Maximum 64 characters.	Character string Maximum 64 characters.
CONNECTIONNAME	Name of the end-to-end connection.	Character string Maximum 32 characters.	Character string Maximum 32 characters.
REVERTIVE	Indicates whether the connection is to be revertive or non-revertive.	Y = connection is revertive N = connection is non-revertive	Y = connection is revertive N = connection is non-revertive
WAITTORESTORE	The time it takes to restore a connection for protection, expressed in one minute intervals.	Number from 1 through 12	Number from 1 through 12
SYNCPRI	The OCI SRM SONET/SDH or OCI SRM SONET/SDH LTE port used for the primary clock reference	SRM equipment optical port AID for client signal SRM equipment aggregate port AID for aggregate signal SRM equipment AID for local clock on SRM circuit pack For AID values see Table 1-5 on page 1-14.	SRM equipment optical port AID for client signal SRM equipment aggregate port AID for aggregate signal SRM equipment AID for local clock on SRM circuit pack For AID values see Table 1-5 on page 1-14.

Table 6-5 (continued)
ED-CRS-ALL input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
SYNCSEC	The OCI SRM SONET/SDH or OCI SRM SONET/SDH LTE port used for the secondary clock reference	SRM equipment optical port AID for client signal SRM equipment aggregate port AID for aggregate signal SRM equipment AID for local clock on SRM circuit pack For AID values see Table 1-5 on page 1-14.	SRM equipment optical port AID for client signal SRM equipment aggregate port AID for aggregate signal SRM equipment AID for local clock on SRM circuit pack For AID values see Table 1-5 on page 1-14.
PROTNSCHM	Protection scheme for MOTR connections	1FOR1 = one for one protection (not available in Rel 7.0) 1PLUS1 = one plus one protection	1FOR1 = one for one protection (not available in Rel 7.0) 1PLUS1 = one plus one protection
PROTNMODE	Protection mode for MOTR connections	UNIDIR = unidirectional BIDIR = bidirectional	UNIDIR = unidirectional BIDIR = bidirectional
PCT	Client port connection type for MOTR connections	ADD = add BIDIR = bidirectional DROP = drop	ADD = add BIDIR = bidirectional DROP = drop

Table 6-6
Possible values for GFSRM c-cat connection

Protocol	SONET transport mode	SDH transport mode
FC-100 FICON GigabitEthernet	STS12C (see Note 1)	VC4X4C (see Note 1)
	STS24C	VC4X8C
	STS48C (see Note 2)	VC4X16C (see Note 2)
Note 1: This option is only available with the OCI SRM GbE/FC Enhanced for FICON and FC-100. ***Note 2:*** You can configure this option on Port 1 only. If you choose this rate, Port 2 is not available.		

Table 6-7
Possible values for MOTR c-cat connection

Protocol	SONET transport mode	SDH transport mode
FC-100 FICON GigabitEthernet	STS24C	VC4X8C
FC-200 FICON Express	STS48C	VC4X16C

Table 6-8
Possible values for a v-cat connection

Protocol	SONET transport mode	SDH transport mode
FC-100 FICON GigabitEthernet	STS3CX1V	VC4X1V
	STS3CX2V	VC4X2V
	STS3CX3V	VC4X3V
	STS3CX4V	VC4X4V
	STS3CX5V	VC4X5V
	STS3CX6V	VC4X6V
	STS3CX7V	VC4X7V

Example input
Change a protected channel assignment for the OCI in slot 6, port 1 that uses OCLDs in slots 1 and 18, to the SONET protocol OC-24. Configure the channel assignment to be revertive and set the WTR time to six minutes:

```
ED-CRS-ALL::1-1,6-1:1234::2WAYPR:SWMATE=18-1,PROTOCOL=OC24,,RE
VERTIVE=Y,WAITTORESTORE=6;
```

Change a pass-through connection that uses the OCLDs in slots 2 and 17, so that its protocol is D1 Video:

```
ED-CRS-ALL::2-1,17-1:57::2WAY:PROTOCOL=D1Video;
```

Provision the ports 3 and 1 as the primary and secondary clock reference timers for a SONET/SDH SRM OCI circuit pack in slot 7:

```
ED-CRS-ALL::2-1,7-2:98:::SYNCPRI=3,SYNCSEC=1;
```

Change a protected channel assignment for the OTR in slot 3 that uses the OTR in slot 13. Configure the channel assignment to be unprotected:

```
ED-CRS-ALL::3-2,3-1:1234::2WAY:PROTOCOL=OC192,REVERTIVE=N;
```

Change an unprotected channel assignment for the OTR in slot 3. Configure the channel assignment to be protected, using the OTR in slot 13:

```
ED-CRS-ALL::3-2,3-1:1234::2WAYPR:SWMATE=13-2&13-1,
PROTOCOL=OC192,REVERTIVE=Y,WAITTORESTORE=6;
```

Change the v-cat paths to four and the name and protocol to FICON of the unprotected connection between the OCI SRM GbE/FC in slot 5 port 1 and the OCLD in slot 17:

```
ED-CRS-ALL::17-1,5-1::::PROTOCOL=FICON,NAME="FICON connection
on GFSRM port 1";
```

Change a protected channel assignment for the SFP port 5 of MOTR slot 5 to be unprotected, to change several description names, to change the protocol to FICON, and to change client port connection type to bidirectional:

```
ED-CRS-ALL::5-11,5-5:vero::2WAY:16-11,NAME=Mai4,CHANDESC=MAi4d
esc,PROTOCOL=FICON,PCT=bidir;
```

ED-CRS-OC3 (edit OC-3 cross-connections)

Use the ED-CRS-OC3 command to edit a cross-connection that uses the OC-3 standard SONET bit rate. You can edit all the cross-connection fields..

CAUTION
Risk of traffic loss
Accidently editing the wrong cross-connect command will also cause the protocol to be reset.

Security level

Level 2

Input syntax

```
ED-CRS-OC3:[TID]:<AIDfrom>,<AIDto>:[CTAG]::[<cct>]:
[SWMATE=<swmate>],[NAME=<name>],[CHANDESC=<chandesc>],
[CONNECTIONDESC=<connectiondesc>],[CONNECTIONNAME=<connectionn
ame>],[REVERTIVE=<revertive>],[WAITTORESTORE=<waittorestore>],
[SYNCPRI=<syncpri>],[SYNCSEC=<syncsec>];
```

Table 6-9
ED-CRS-OC3 input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AIDFROM	Access identifier The AIDfrom is always an OCLD or OTR line-side involved in the cross-connect.	OCLD or OTR line-side facility For AID values see Table 1-6 on page 1-17	OCLD or OTR line-side facility For AID values see Table 1-6 on page 1-17
AIDTO	Access identifier The AIDto for pass-through is always an OCLD or OTR line-side. For any other connections AIDto is OCI, SRM or OTR client side facility.	OCLD, OCI, OTR, SRM facility For AID values see Table 1-6 on page 1-17	OCLD, OCI, OTR, SRM facility For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
CCT	Cross-connect type	2WAY = bidirectional connection 2WAYPR = bidirectional protected cross-connect	2WAY = bidirectional connection 2WAYPR = bidirectional protected cross-connect

Table 6-9 (continued)
ED-CRS-OC3 input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
SWMATE	Access identifier Mate OCLD or OTR line-side in the protected channel assignment.	OCLD or OTR line-side facility For AID values see Table 1-6 on page 1-17	OCLD or OTR line-side facility For AID values see Table 1-6 on page 1-17
NAME	Name of the connection.	Character string Maximum 32 characters.	Character string Maximum 32 characters.
CHANDESC	Channel description.	Character string Maximum 64 characters.	Character string Maximum 64 characters.
CONNECTIONDESC	Description of the end-to-end connection.	Character string Maximum 64 characters.	Character string Maximum 64 characters.
CONNECTIONNAME	Name of the end-to-end connection.	Character string Maximum 32 characters.	Character string Maximum 32 characters.
REVERTIVE	Indicates whether the connection is to be revertive or nonrevertive.	Y = connection is revertive N = connection is non-revertive	Y = connection is revertive N = connection is non-revertive

Table 6-9 (continued)
ED-CRS-OC3 input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
WAITTORESTORE	The time it takes to restore a connection for protection, expressed in one minute intervals.	Number from 1 through 12	Number from 1 through 12
SYNCPRI	SONET SRM port for Primary timing reference.	SRM equipment optical port AID for client signal SRM equipment aggregate port AID for aggregate signal SRM equipment AID for local clock on SRM circuit pack For AID values see Table 1-5 on page 1-14.	SRM equipment optical port AID for client signal SRM equipment aggregate port AID for aggregate signal SRM equipment AID for local clock on SRM circuit pack For AID values see Table 1-5 on page 1-14.
SYNCSEC	SONET SRM port for Secondary timing reference.	SRM equipment optical port AID for client signal SRM equipment aggregate port AID for aggregate signal SRM equipment AID for local clock on SRM circuit pack For AID values see Table 1-5 on page 1-14.	SRM equipment optical port AID for client signal SRM equipment aggregate port AID for aggregate signal SRM equipment AID for local clock on SRM circuit pack For AID values see Table 1-5 on page 1-14.

Example input

Edit the OC-3 protected path channel assignment between OCLD slot 3 and OCLD slot 16, and OCI slot 11. Enable the revertive mode and set the WTR time to five minutes:

```
ED-CRS-OC3:MTL1:3-1,11-1:4::2WAYPR:SWMATE=16-1,NAME=SHELF1,CHA
NDESC=CHANNEL1,CONNECTIONDESC=CONNECTION1,CONNECTIONNAME=NAME1
,REVERTIVE=Y,WAITTORESTORE=5,SYNCPRI=SRM-11-1,SYNCSEC=SRM-11-2
;
```

ED-CRS-OC12 (edit OC-12 cross-connections)

Use the ED-CRS-OC12 command to edit a cross-connection that uses the OC-12 standard SONET bit rate. You can edit all the cross-connection fields.

CAUTION
Risk of traffic loss
Accidently editing the wrong cross-connect command will also cause the protocol to be reset.

Security level

Level 2

Input syntax

```
ED-CRS-OC12:[TID]:<AIDfrom>,<AIDto>:[CTAG]::[<cct>]:
[SWMATE=<swmate>],[NAME=<name>],[CHANDESC=<chandesc>],
[CONNECTIONDESC=<connectiondesc>],[CONNECTIONNAME=<connectionn
ame>],[REVERTIVE=<revertive>],[WAITTORESTORE=<waittorestore>],
[SYNCPRI=<syncpri>],[SYNCSEC=<syncsec>];
```

Table 6-10
ED-CRS-OC12 input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AIDFROM	Access identifier The AIDfrom is always an OCLD or OTR line-side involved in the cross-connect.	OCLD or OTR line-side facility For AID values see Table 1-6 on page 1-17	OCLD or OTR line-side facility For AID values see Table 1-6 on page 1-17
AIDTO	Access identifier The AIDto for pass-through is always an OCLD or OTR line-side. For any other connections AIDto is OCI, OTR or SRM client side facility.	OCLD, OTR, OCI, SRM facility For AID values see Table 1-6 on page 1-17	OCLD, OTR, OCI, SRM facility For AID values see Table 1-6 on page 1-17
CTAG	Correlation tags	Alphanumeric string	Alphanumeric string

Table 6-10 (continued)
ED-CRS-OC12 input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
CCT	Cross-connect type	2WAY = bidirectional connection 2WAYPR = bidirectional protected cross-connect	2WAY = bidirectional connection 2WAYPR = bidirectional protected cross-connect
SWMATE	Access identifier Mate OCLD or OTR line-side in the protected channel assignment.	OCLD or OTR line-side facility For AID values see Table 1-6 on page 1-17	OCLD or OTR line-side facility For AID values see Table 1-6 on page 1-17
NAME	Name of the connection.	Character string Maximum 32 characters.	Character string Maximum 32 characters.
CHANDESC	Channel description.	Character string Maximum 64characters.	Character string Maximum 64characters.
CONNECTIONDESC	Description of the end-to-end connection.	Character string Maximum 64 characters.	Character string Maximum 64 characters.
CONNECTIONNAME	Name of the end-to-end connection.	Character string Maximum 32 characters.	Character string Maximum 32 characters.
REVERTIVE	Indicates whether the connection is to be revertive or non-revertive.	Y = connection is revertive N = connection is non-revertive	Y = connection is revertive N = connection is non-revertive

Table 6-10 (continued)
ED-CRS-OC12 input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
WAITTORESTORE	The time it takes to restore a connection for protection, expressed in one minute intervals.	Number from 1 through 12	Number from 1 through 12
SYNCPRI	The SONET/SDH SRM OCI port used for the primary clock reference	SRM equipment optical port AID for client signal SRM equipment aggregate port AID for aggregate signal SRM equipment AID for local clock on SRM circuit pack For AID values see Table 1-5 on page 1-14.	SRM equipment optical port AID for client signal SRM equipment aggregate port AID for aggregate signal SRM equipment AID for local clock on SRM circuit pack For AID values see Table 1-5 on page 1-14.
SYNCSEC	The SONET/SDH SRM OCI port used for the secondary clock reference	SRM equipment optical port AID for client signal SRM equipment aggregate port AID for aggregate signal SRM equipment AID for local clock on SRM circuit pack For AID values see Table 1-5 on page 1-14.	SRM equipment optical port AID for client signal SRM equipment aggregate port AID for aggregate signalv SRM equipment AID for local clock on SRM circuit pack For AID values see Table 1-5 on page 1-14.

Example input

Edit the OC-12 protected path channel assignment for the OCLD in slot 3, OCLD in slot 16 and SONET/SDH SRM OCI slot 11, port 2. Set the revertive mode as enabled and the WTR time at 10 minutes. Set port 3 of the SRM as the primary clock reference, and set port 2 as the secondary clock reference:

```
ED-CRS-OC12:DUBLIN:3-1,11-2:44::2WAYPR:SWMATE=16-1,NAME=SHELF1
,CHANDESC=CHANNEL1,CONNECTIONDESC=SSRM Path 1,CONNECTIONNAME
=SSRMPath,REVERTIVE=Y,WAITTORESTORE=10,SYNCPRI=SRM-11-3,SYNCSE
C=SRM-11-2;
```

Edit the OC-12 unprotected path channel assignment for OCLD in slot 3, and SONET/SDH SRM OCI slot 11, port 3:

```
ED-CRS-OC12:CARLETON:3-1,11-3:44::2WAY,NAME=SHELF1,CHANDESC=CH
ANNEL1,CONNECTIONDESC=SSRMPath3,CONNECTIONNAME=SSRMPath;
```

ED-CRS-OC24 (edit OC-24 cross-connections)

Use the ED-CRS-OC24 command to edit a cross-connection that uses the OC-24 standard SONET bit rate. You can edit all the cross-connection fields.

CAUTION
Risk of traffic loss
Accidently editing the wrong cross-connect command will also cause the protocol to be reset.

Security level

Level 2

Input syntax

```
ED-CRS-OC24:[TID]:<AIDfrom>,<AIDto>:[CTAG]::[<cct>]:
[SWMATE=<swmate>],[NAME=<name>],[CHANDESC=<chandesc>],
[CONNECTIONDESC=<connectiondesc>],[CONNECTIONNAME=<connectionn
ame>],[REVERTIVE=<revertive>],[WAITTORESTORE=<waittorestore>],
[SYNCPRI=<syncpri>],[SYNCSEC=<syncsec>];
```

Table 6-11
ED-CRS-OC24 input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AIDFROM	Access identifier The AIDfrom is always an OCLD involved in the cross-connect.	OCLD facility For AID values see Table 1-6 on page 1-17	OCLD facility For AID values see Table 1-6 on page 1-17
AIDTO	Access identifier The AIDto for pass-through is always an OCLD. For any other connections AIDto is OCI or GFSRM facility.	GFSRM, OCLD, OCI facility For AID values see Table 1-6 on page 1-17	GFSRM, OCLD, OCI facility For AID values see Table 1-6 on page 1-17
CTAG	Correlation tags	Alphanumeric string	Alphanumeric string
CCT	Cross-connect type	2WAY = bidirectional connection 2WAYPR = bidirectional protected cross-connect	2WAY = bidirectional connection 2WAYPR = bidirectional protected cross-connect

Table 6-11 (continued)
ED-CRS-OC24 input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
SWMATE	Access identifier Mate OCLD in the protected channel assignment.	OCLD facility For AID values see Table 1-6 on page 1-17	OCLD facility For AID values see Table 1-6 on page 1-17
NAME	Name of the connection.	Character string Maximum 32 characters.	Character string Maximum 32 characters.
CHANDESC	Channel description.	Character string Maximum 64 characters.	Character string Maximum 64 characters.
CONNECTIONDESC	Description of the end-to-end connection.	Character string Maximum 64 characters.	Character string Maximum 64 characters.
CONNECTIONNAME	Name of the end-to-end connection.	Character string Maximum 32 characters.	Character string Maximum 32 characters.
REVERTIVE	Indicates whether the connection is to be revertive or non-revertive.	Y = connection is revertive N = connection is non-revertive	Y = connection is revertive N = connection is non-revertive

Table 6-11 (continued)
ED-CRS-OC24 input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
WAITTORESTORE	The time it takes to restore a connection for protection, expressed in one minute intervals.	Number from 1 through 12	Number from 1 through 12
SYNCPRI	The SONET/SDH SRM OCI port used for the primary clock reference	SRM equipment optical port AID for client signal SRM equipment aggregate port AID for aggregate signal SRM equipment AID for local clock on SRM circuit pack For AID values see Table 1-5 on page 1-14.	SRM equipment optical port AID for client signal SRM equipment aggregate port AID for aggregate signal SRM equipment AID for local clock on SRM circuit pack For AID values see Table 1-5 on page 1-14.
SYNCSEC	The SONET/SDH SRM OCI port used for the secondary clock reference	SRM equipment optical port AID for client signal SRM equipment aggregate port AID for aggregate signal SRM equipment AID for local clock on SRM circuit pack For AID values see Table 1-5 on page 1-14.	SRM equipment optical port AID for client signal SRM equipment aggregate port AID for aggregate signalv SRM equipment AID for local clock on SRM circuit pack For AID values see Table 1-5 on page 1-14.

ED-CRS-OC48 (edit OC-48 cross-connections)

Use the ED-CRS-OC48 command to edit a cross-connection that uses the OC-48 standard SONET bit rate. You can edit all the cross-connection fields..

CAUTION
Risk of traffic loss
Accidently editing the wrong cross-connect command will also cause the protocol to be reset.

Security level

Level 2

Input syntax

```
ED-CRS-OC48:[TID]:<AIDfrom>,<AIDto>:[CTAG]::[<cct>]:
[SWMATE=<swmate>],[NAME=<name>],[CHANDESC=<chandesc>],
[CONNECTIONDESC=<connectiondesc>],[CONNECTIONNAME=<connectionn
ame>],[REVERTIVE=<revertive>],[WAITTORESTORE=<waittorestore>],
[SYNCPRI=<syncpri>],[SYNCSEC=<syncsec>];
```

Table 6-12
ED-CRS-OC48 input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AIDFROM	Access identifier The AIDfrom is an OCLD or OTR line-side involved in the cross-connect.	OCLD or OTR line-side facility For AID values see Table 1-6 on page 1-17	OCLD or OTR line-side facility For AID values see Table 1-6 on page 1-17
AIDTO	Access identifier The AIDto for pass-through is always an OCLD or OTR line-side. For any other connections AIDto is an OCI, GFSRM or OTR client-side facility.	GFSRM, OCLD, OCI, OTR facility For AID values see Table 1-6 on page 1-17	GFSRM, OCLD, OCI, OTR facility For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
CCT	Cross-connect type	2WAY = bidirectional connection 2WAYPR = bidirectional protected cross-connect	2WAY = bidirectional connection 2WAYPR = bidirectional protected cross-connect
SWMATE	Access identifier Mate OCLD or OTR line-side in the protected channel assignment.	OCLD or OTR line-side facility For AID values see Table 1-6 on page 1-17	OCLD or OTR line-side facility For AID values see Table 1-6 on page 1-17
NAME	Name of the connection.	Character string Maximum 32 characters.	Character string Maximum 32 characters.
CHANDESC	Channel description.	Character string Maximum 64characters.	Character string Maximum 64 characters.

Table 6-12 (continued)
ED-CRS-OC48 input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
CONNECTIONDESC	Description of the end-to-end connection.	Character string Maximum 64 characters.	Character string Maximum 64 characters.
CONNECTIONNAME	Name of the end-to-end connection.	Character string Maximum 32 characters.	Character string Maximum 32 characters.
REVERTIVE	Indicates whether the connection is to be revertive or nonrevertive.	Y = connection is revertive N = connection is non-revertive	Y = connection is revertive N = connection is non-revertive
WAITTORESTORE	The time it takes to restore a connection for protection, expressed in one minute intervals.	Number from 1 through 12	Number from 1 through 12
SYNCPRI	The SONET/SDH SRM OCI port used for the primary clock reference	SRM equipment optical port AID for client signal SRM equipment aggregate port AID for aggregate signal SRM equipment AID for local clock on SRM circuit pack For AID values see Table 1-5 on page 1-14.	SRM equipment optical port AID for client signal SRM equipment aggregate port AID for aggregate signal SRM equipment AID for local clock on SRM circuit pack For AID values see Table 1-5 on page 1-14.
SYNCSEC	The SONET/SDH SRM OCI port used for the secondary clock reference	SRM equipment optical port AID for client signal SRM equipment aggregate port AID for aggregate signal SRM equipment AID for local clock on SRM circuit pack For AID values see Table 1-5 on page 1-14.	SRM equipment optical port AID for client signal SRM equipment aggregate port AID for aggregate signalv SRM equipment AID for local clock on SRM circuit pack For AID values see Table 1-5 on page 1-14.

Example input

Edit the OC-48 protected patch channel assignment for OCLD slot 1, OCLD slot 18, and OCI slot 5. Enable the revertive mode and set the WTR time to 5 minutes:

```
ED-CRS-OC48:HAMILTON:1-1,5-1:1234::2WAYPR:SWMATE=18-1,NAME=SHE
LF1,CHANDESC=CHANNEL1,CONNECTIONDESC=CONNECTION1,CONNECTIONNAM
E=CONNECTION1,REVERTIVE=Y,WAITTORESTORE=5,SYNCPRI=SRM-5-3,SYNC
SEC=SRM-5-2;
```

ED-CRS-OC192 (edit OC-192 cross-connections)

Use the ED-CRS-OC192 command to edit a cross-connection that uses the OC-192 standard SONET bit rate. You can edit all the cross-connection fields.

CAUTION
Risk of traffic loss
Accidently editing the wrong cross-connect command will also cause the protocol to be reset.

Security level

Level 2

Input syntax

```
ED-CRS-OC192:[TID]:<AIDfrom>,<AIDto>:[CTAG]::[<cct>]:
[SWMATE=<swmate>],[NAME=<name>],[CHANDESC=<chandesc>],
[CONNECTIONDESC=<connectiondesc>],[CONNECTIONNAME=<connectionn
ame>],[REVERTIVE=<revertive>],[WAITTORESTORE=<waittorestore>];
```

Table 6-13
ED-CRS-OC192 input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AIDFROM	Access identifier The AIDfrom is an OTR line side facility involved in the cross-connect.	OTR facility For AID values see Table 1-6 on page 1-17	OTR facility For AID values see Table 1-6 on page 1-17
AIDTO	Access identifier The AIDto is always an OTR client side facility in the client side connection.	OTR facility For AID values see Table 1-6 on page 1-17	OTR facility For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string

Table 6-13 (continued)
ED-CRS-OC192 input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
CCT	Cross-connect type	2WAY = bidirectional connection 2WAYPR = bidirectional protected cross-connect	2WAY = bidirectional connection 2WAYPR = bidirectional protected cross-connect
SWMATE	Access identifier Mate OTR line side facility in the protected channel assignment.	OTR facility For AID values see Table 1-6 on page 1-17	OTR facility For AID values see Table 1-6 on page 1-17
NAME	Name of the connection.	Character string Maximum 32 characters.	Character string Maximum 32 characters.
CHANDESC	Channel description.	Character string Maximum 64 characters.	Character string Maximum 64 characters.
CONNECTIONDESC	Description of the end-to-end connection.	Character string Maximum 64 characters.	Character string Maximum 64 characters.
CONNECTIONNAME	Name of the end-to-end connection.	Character string Maximum 32 characters.	Character string Maximum 32 characters.
REVERTIVE	Indicates whether the connection is to be revertive or nonrevertive.	Y = connection is revertive N = connection is non-revertive	Y = connection is revertive N = connection is non-revertive
WAITTORESTORE	The time it takes to restore a connection for protection, expressed in one minute intervals.	Number from 1 through 12	Number from 1 through 12

Example input

Edit the OC-192 protected path channel assignment for OTR, slot 1 and OTR, slot 17. Enable the revertive mode and set the WTR time to 5 minutes:

```
ED-CRS-OC192:HAMILTON:1-2,1-1:1234::2WAYPR:SWMATE=17-2&17-1,
NAME=SHELF1,CHANDESC=CHANNEL1,CONNECTIONDESC=CONNECTION1,CONNE
CTIONNAME=CONNECTION1,REVERTIVE=Y,WAITTORESTORE=5;
```

Change a protected channel assignment for the OTR in slot 3 that uses the OTR in slot 13. Configure the channel assignment to be unprotected:

```
ED-CRS-OC192::3-2,3-1:1234::2WAY:,REVERTIVE=N,;
```

Change an unprotected channel assignment for the OTR in slot 3. Configure the channel assignment to be protected, using the OTR in slot 13:

```
ED-CRS-OC192::3-2,3-1:1234::2WAYPR:SWMATE=13-2&13-1,
REVERTIVE=Y,WAITTORESTORE=6;
```

ENT-CRS-ALL (create cross-connections all)

The ENT-CRS-ALL command creates a cross-connection on the network element.

> ***Note:*** For a multi-port circuit pack, the following field can only be modified upon creation of the first connection: Revertive, waitorestore, wcv, protnschm, and protnmode.

Security level

Level 2

Input syntax

```
ENT-CRS-ALL:[TID]:<AIDfrom>,<AIDto>:[CTAG]::<cct>:
[SWMATE=<swmate>],[NAME=<name>], [CHANDESC=<chandesc>],
PROTOCOL=<protocol>,[TRANSPORT=<transport>],
[ENCAPSULATION=<encapsulation>],[HOLDOFF=<holdoff>],
[PATHS=<paths>],[CONNECTIONDESC=<connectiondesc>],
[CONNECTIONNAME=<connectionname>],[REVERTIVE=<revertive>],
[WAITTORESTORE=<waittorestore>],[WCV=<wcv>],
[PROTNSCHM=<protnschm>],[PROTNMODE=<protnmode>],[PCT=<pct>];
```

Table 6-14
ENT-CRS-ALL input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AIDFROM	Access identifier The AIDfrom is an OCLD, MOTR, or line side OTR involved in the cross-connect.	OCLD, OTR, MOTR facility For AID values see Table 1-6 on page 1-17	OCLD, OTR, MOTR facility For AID values see Table 1-6 on page 1-17
AIDTO	Access identifier The AIDto for pass-through is always an OCLD. For any other connections AIDto is OCI, GFSRM, SRM, MOTRSFP, or OTR client-side facility.	OCLD, OCI, OTR, GFSRM, SRM, MOTRSFP facility For AID values see Table 1-6 on page 1-17	OCLD, OCI, OTR, GFSRM, SRM, MOTRSFP facility For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string

Table 6-14 (continued)
ENT-CRS-ALL input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
CCT	Cross-connect type	2WAY = bidirectional connection 2WAYPR = bidirectional protected cross-connect	2WAY = bidirectional connection 2WAYPR = bidirectional protected cross-connect
SWMATE	Access identifier Mate OCLD, OTR, or MOTR in the protected channel assignment.	OCLD, OTR, MOTR facility For AID values see Table 1-6 on page 1-17	OCLD, OTR, MOTR facility For AID values see Table 1-6 on page 1-17
NAME	Name of the connection.	Character string Maximum 32 characters	Character string Maximum 32 characters
CHANDESC	Channel description.	Character string Maximum 64 characters	Character string Maximum 64 characters
PROTOCOL	Protocol of the cross-connect	Character string For more information about protocols in TL1, refer to Table 6-2 on page 6-2.	Character string For more information about protocols in TL1, refer to Table 6-2 on page 6-2.

Table 6-14 (continued)
ENT-CRS-ALL input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TRANSPORT	For a GFSRM or MOTR connection, the transport structure defines the payload mapping within the OC-48/STM-16 signal. ***Note 1:*** If Transport is not specified, a channel assignment and a port asignment will be provisioned but no path assignment; the Transport value will be NIL; Encapsulation defaults to FGFP for GigE and TGFP for FICON/Fibre Channel ***Note 2:*** If Transport is specified, a channel assignment, a port asignment and path assignments will be provisioned; the paths will need to be supplied.	For the possible values according to provisioned protocol and transport mode, see Table 6-6 or Table 6-7 for a c-cat connection Table 6-8 for a v-cat connection	For the possible values according to provisioned protocol and transport mode, see Table 6-6 or Table 6-7 for a c-cat connection Table 6-8 for a v-cat connection
ENCAPSULATION	For a GFSRM or MOTR connection, the encapsulation mode	FGFP TFGP	FGFP TFGP
HOLDOFF	Hold off time for GFSRM or MOTR connection (ms)	0 100 200 300 400 500 600 700 800 900	0 100 200 300 400 500 600 700 800 900

Table 6-14 (continued)
ENT-CRS-ALL input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
PATHS	List of STS path numbers for MOTR connection	In Rel 7.0, this value is 24n+1 where n= 0…7, depending on the SFP port used. For example, if using SFP port 5 : n = 4, PATH = 97.	In Rel 7.0, this value is 24n+1 where n= 0…7, depending on the SFP port used. For example, if using SFP port 5 : n = 4, PATH = 97.
FEC	For a MOTR connection, the forward error correction code used.	4EFEC 7EFEC 7FEC	4EFEC 7EFEC 7FEC
CONNECTIONDESC	Description of the end-to-end connection.	Character string Maximum 64 characters	Character string Maximum 64 characters
CONNECTIONNAME	Name of the end-to-end connection.	Character string Maximum 64 characters	Character string Maximum 64 characters
REVERTIVE	Indicates whether the connection is to be revertive or nonrevertive.	Y = connection is revertive N = connection is non-revertive	Y = connection is revertive N = connection is non-revertive
WAITTORESTORE	The time it takes to restore a connection for protection, expressed in one minute intervals.	Number from 1 through 12	Number from 1 through 12
WCV	Wavelength consistency validation.	Y = Yes N = No	Y = Yes N = No
PROTNSCHM	Protection scheme for MOTR connections	1FOR1 = one for one protection (not available in Rel 7.0) 1PLUS1 = one plus one protection	1FOR1 = one for one protection (not available in Rel 7.0) 1PLUS1 = one plus one protection
PROTNMODE	Protection mode for MOTR connections	UNIDIR = unidirectional BIDIR = bidirectional	UNIDIR = unidirectional BIDIR = bidirectional
PCT	Client port connection type for MOTR connections	ADD = add BIDIR = bidirectional DROP = drop	ADD = add BIDIR = bidirectional DROP = drop

Example input

Create a protected 10G OTR LAN PHY connection:

```
ENT-CRS-ALL:OM5000-1-44x:6-2,6-1:1::2WAYPR:SWMATE=14-2,
NAME=”OTR 10G TESTING”,CHANDESC=”PROTECTED SIGNAL”,
PROTOCOL=ETHERNET10GLAN,CONNECTIONDESC=”CONNECTED TESTSET”,
CONNECTIONNNAME=”10G ENHANCED LANPHY”,REVERTIVE=N,;
```

Add a protected channel assignment to SRM slot 6, port 1 using OCLDs 1 and 18; the protocol is OC3; it is revertive and its wait to restore time is 5 minutes:

```
ENT-CRS-ALL::18-1,6-1:1234::2WAYPR:SWMATE=1-1,PROTOCOL=OC3,REV
ERTIVE=Y,WAITTORESTORE=5;
```

Add a pass-through connection to OCLDs 1 and 18:

```
ENT-CRS-ALL::1-1,18-1:34::2WAY:PROTOCOL=OC3;
```

Add an unprotected east OC48 channel assignment to OCI 5:

```
ENT-CRS-ALL::15-1,5-1:90::2WAY:PROTOCOL=OC48;
```

Add an unprotected c-cat connection between OCI SRM GbE/FC slot 5 port 1 and OCLD slot 17; the protocol is FC100 and the SONET transport mode is STS-24c:

```
ENT-CRS-ALL:OM5000-1-44:17-1,5-1:1234::2WAY:NAME="FC100
connection on GFSRM port 1",PROTOCOL=FC100,TRANSPORT=STS24C;
```

Add an unprotected Gigabit Ethernet connection (with two v-cat paths) between OCI SRM GbE/FC in slot 5 port 2 and OCLD slot 17:

```
ENT-CRS-ALL:OM5000-1-44:17-1,5-2:1234::2WAY:NAME="GFSRM port 2
GigE connection",PROTOCOL=GigabitEthernet,TRANSPORT=STS3CX2V,
ENCAPSULATION=TGFP,HOLDOFF=300ms;
```

Add a protected c-cat connection between SFP port 5 of MOTR slot 5, and SFP port 5 of MOTR slot 16. The protocol is FC100, the SONET transport mode is STS-24c, the protection is revertive, the WTR period is set to 6, the protection scheme is 1PLUS1, the client protection type is bidirectional:

```
ENT-CRS-ALL::5-11,5-5:vero::2WAYPR:SWMATE=16-11,NAME=”vero
connection”,CHANDESC=”vero channel”,PROTOCOL=FC100,
TRANSPORT=STS24C,PATHS=97,CONNECTIONDESC=”vero desc”,
CONNECTIONNAME=”vero conn”,REVERTIVE=Y,WAITTORESTORE=6,WCV=Y,
PROTNSCHM=1PLUS1,PROTNMODE=BIDIR,PCT=BIDIR;
```

ENT-CRS-OC3 (create OC-3 cross-connections)

Use the ENT-CRS-OC3 command to create a cross-connection on the network element using the OC-3 standard SONET bit rate.

Security level

Level 2

Input syntax

```
ENT-CRS-OC3:[TID]:<AIDfrom>,<AIDto>:[CTAG]::<cct>:[SWMATE=<swm
ate>],[NAME=<name>],[CHANDESC=<chandesc>],[CONNECTIONDESC=<con
nectiondesc>],[CONNECTIONNAME=<connectionname>],[REVERTIVE=<re
vertive>],[WAITTORESTORE=<waittorestore>],[WCV=<wcv>];
```

Table 6-15
ENT-CRS-OC3 input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AIDFROM	Access identifier The AIDfrom is an OCLD or OTR line-side involved in the cross-connect.	OCLD facility For AID values see Table 1-6 on page 1-17	OCLD facility For AID values see Table 1-6 on page 1-17
AIDTO	Access identifier The AIDto for pass-through is always an OCLD or OTR line-side. For any other connections AIDto is an OCI, OTR line-side or SRM facility.	OCLD, OCI, OTR, SRM facility For AID values see Table 1-6 on page 1-17	OCLD, OCI, OTR, SRM facility For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
CCT	Cross-connect type	2WAY = bidirectional connection 2WAYPR = bidirectional protected cross-connect	2WAY = bidirectional connection 2WAYPR = bidirectional protected cross-connect
SWMATE	Access identifier Mate OCLD or OTR line-side in the protected pair.	OCLD or OTR line-sidefacility For AID values see Table 1-6 on page 1-17	OCLD or OTR line-sidefacility For AID values see Table 1-6 on page 1-17

Table 6-15 (continued)
ENT-CRS-OC3 input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
NAME	Name of the connection.	Character string Maximum 32 characters	Character string Maximum 32 characters
CHANDESC	Channel description.	Character string Maximum 64 characters	Character string Maximum 64 characters
CONNECTIONDESC	Description of the end-to-end connection.	Character string Maximum 64 characters	Character string Maximum 64characters
CONNECTIONNAME	Name of the end-to-end connection.	Character string Maximum 32 characters	Character string Maximum 32 characters
REVERTIVE	Indicates whether the connection is to be revertive or non-revertive.	Y = connection is revertive N = connection is non-revertive	Y = connection is revertive N = connection is non-revertive
WAITTORESTORE	The time it takes to restore a connection for protection, expressed in one minute intervals.	Number from 1 through 12	Number from 1 through 12
WCV	Wavelength consistency validation.	Y = Yes N = No	Y = Yes N = No

Example input

Add an OC-3 protected path channel assignment between the OCI in slot 5 and OCLDs in slots 1 and 18. Enable the revertive mode and set the WTR time to five minutes:

```
ENT-CRS-OC3:BOSTON:1-1,5-1:1234::2WAYPR:SWMATE=18-1,NAME=SHELF
1,CHANDESC=CHANNEL1,CONNECTIONDESC=OCIPATH1,CONNECTIONNAME=OCI
PATH1,REVERTIVE=Y,WAITTORESTORE=5;
```

ENT-CRS-OC12 (create OC-12 cross-connections)

Use the ENT-CRS-OC12 command to create a cross-connection on the network element using the OC-12 standard SONET bit rate.

Note: If you create a cross-connection on a SONET/SDH SRM OCI circuit pack, the first port that you provision becomes the primary clock reference for the SONET/SDH signal, and the second port you provision becomes the secondary clock reference. To change these default settings, use the ED-CRS-OC12 command and change the SYNCPRI and SYNCSEC parameters.

Security level

Level 2

Input syntax

```
ENT-CRS-OC12:[TID]:<AIDfrom>,<AIDto>:[CTAG]::<cct>:[SWMATE=<sw
mate>],[NAME=<name>],[CHANDESC=<chandesc>],[CONNECTIONDESC=<co
nnectiondesc>],[CONNECTIONNAME=<connectionname>],[REVERTIVE=<r
evertive>],[WAITTORESTORE=<waittorestore>],[WCV=<wcv>];
```

Table 6-16
ENT-CRS-OC12 input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AIDFROM	Access identifier The AIDfrom is an OCLD or OTR line-side involved in the cross-connect.	OCLD or OTR line-side facility For AID values see Table 1-6 on page 1-17	OCLD or OTR line-side facility For AID values see Table 1-6 on page 1-17
AIDTO	Access identifier The AIDto for pass-through is always an OCLD or OTR line-side. For any other connections AIDto is an OCI, OTR client-side or SRM facility.	OCLD, OCI, OTR, SRM facility For AID values see Table 1-6 on page 1-17	OCLD, OCI, OTR, SRM facility For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string

Table 6-16 (continued)
ENT-CRS-OC12 input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
CCT	Cross-connect type	2WAY = bidirectional connection 2WAYPR = bidirectional protected cross-connect	2WAY = bidirectional connection 2WAYPR = bidirectional protected cross-connect
SWMATE	Access identifier Mate OCLD or OTR line-side in the protected channel assignment.	OCLD facility For AID values see Table 1-6 on page 1-17	OCLD facility For AID values see Table 1-6 on page 1-17
NAME	Name of the connection.	Character string Maximum 32 characters	Character string Maximum 32 characters
CHANDESC	Channel description.	Character string Maximum 64 characters	Character string Maximum 64 characters
CONNECTIONDESC	Description of the end-to-end connection.	Character string Maximum 64 characters	Character string Maximum 64 characters
CONNECTIONNAME	Name of the end-to-end connection.	Character string Maximum 32 characters	Character string Maximum 32 characters
REVERTIVE	Indicates whether the connection is to be revertive or nonrevertive.	Y = connection is revertive N = connection is non-revertive	Y = connection is revertive N = connection is non-revertive
WAITTORESTORE	The time it takes to restore a connection for protection, expressed in one minute intervals.	Number from 1 through 12	Number from 1 through 12
WCV	Wavelength consistency validation.	Y = Yes N = No	Y = Yes N = No

Example input

Create an OC-12 protected path channel assignment between OCLD slot 3 and OCLD slot 16, with the SONET/SDH SRM OCI slot 11, port 2. Enable the revertive mode and set the WTR time to ten minutes:

```
ENT-CRS-OC12:YUKON:3-1,11-2:4::2WAYPR:SWMATE=16-1,NAME=SHELF1,
CHANDESC=CHANNEL1,CONNECTIONDESC=SSRMPATH,CONNECTIONNAME=SSRMP
ATH,REVERTIVE=Y,WAITTORESTORE=10;
```

ENT-CRS-OC24 (create OC-24 cross-connections)

Use the ENT-CRS-OC24 command to create a cross-connection on the network element using the OC-24 standard SONET bit rate.

Security level

Level 2

Input syntax

```
ENT-CRS-OC24:[TID]:<AIDfrom>,<AIDto>:[CTAG]::<cct>:[SWMATE=<sw
mate>],[NAME=<name>],[CHANDESC=<chandesc>],[CONNECTIONDESC=<co
nnectiondesc>],[CONNECTIONNAME=<connectionname>],[REVERTIVE=<r
evertive>],[WAITTORESTORE=<waittorestore>],[WCV=<wcv>];
```

Table 6-17
ENT-CRS-OC24 input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AIDFROM	Access identifier The AIDfrom is an OCLD involved in the cross-connect.	OCLD facility For AID values see Table 1-6 on page 1-17	OCLD facility For AID values see Table 1-6 on page 1-17
AIDTO	Access identifier The AIDto for pass-through is always an OCLD. For any other connections AIDto is an OCI facility.	OCLD, OCI facility For AID values see Table 1-6 on page 1-17	OCLD, OCI facility For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
CCT	Cross-connect type	2WAY = bidirectional connection 2WAYPR = bidirectional protected cross-connect	2WAY = bidirectional connection 2WAYPR = bidirectional protected cross-connect
SWMATE	Access identifier Mate OCLD in the protected channel assignment.	OCLD facility For AID values see Table 1-6 on page 1-17	OCLD facility For AID values see Table 1-6 on page 1-17
NAME	Name of the connection.	Character string Maximum 32 characters	Character string Maximum 32 characters
CHANDESC	Channel description.	Character string Maximum 64 characters	Character string Maximum 64 characters

Table 6-17 (continued)
ENT-CRS-OC24 input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
CONNECTIONDESC	Description of the end-to-end connection.	Character string Maximum 64 characters	Character string Maximum 64 characters
CONNECTIONNAME	Name of the end-to-end connection.	Character string Maximum 32 characters	Character string Maximum 32 characters
REVERTIVE	Indicates whether the connection is to be revertive or nonrevertive.	Y = connection is revertive N = connection is non-revertive	Y = connection is revertive N = connection is non-revertive
WAITTORESTORE	The time it takes to restore a connection for protection, expressed in one minute intervals.	Number from 1 through 12	Number from 1 through 12
WCV	Wavelength consistency validation.	Y = Yes N = No	Y = Yes N = No

ENT-CRS-OC48 (create OC-48 cross-connections)

Use the ENT-CRS-OC48 command to create a cross-connection on the network element using the OC-48 standard SONET bit rate.

Security level

Level 2

Input syntax

```
ENT-CRS-OC48:[TID]:<AIDfrom>,<AIDto>:[CTAG]::<cct>:[SWMATE=<swmate>],[NAME=<name>],[CHANDESC=<chandesc>],[CONNECTIONDESC=<connectiondesc>],[CONNECTIONNAME=<connectionname>],[REVERTIVE=<revertive>],[WAITTORESTORE=<waittorestore>],[WCV=<wcv>];
```

Table 6-18
ENT-CRS-OC48 input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AIDFROM	Access identifier The AIDfrom is an OCLD or OTR line-side involved in the cross-connect.	OCLD or OTR line-side facility For AID values see Table 1-6 on page 1-17	OCLD or OTR line-side facility For AID values see Table 1-6 on page 1-17
AIDTO	Access identifier The AIDto for pass-through is always an OCLD or OTR line-side. For any other connections AIDto is an OCI facility.	OCLD, OCI, OTR facility For AID values see Table 1-6 on page 1-17	OCLD, OCI, OTR facility For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
CCT	Cross-connect type	2WAY = bidirectional connection 2WAYPR = bidirectional protected cross-connect	2WAY = bidirectional connection 2WAYPR = bidirectional protected cross-connect
SWMATE	Access identifier Mate OCLD or OTR line-side in the protected channel assignment.	OCLD or OTR line-side facility For AID values see Table 1-6 on page 1-17	OCLD or OTR line-side facility For AID values see Table 1-6 on page 1-17
NAME	Name of the connection.	Character string Maximum 32 characters	Character string Maximum 32 characters

Table 6-18 (continued)
ENT-CRS-OC48 input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
CHANDESC	Channel description.	Character string Maximum 64 characters	Character string Maximum 64 characters
CONNECTIONDESC	Description of the end-to-end connection.	Character string Maximum 64 characters	Character string Maximum 64characters
CONNECTIONNAME	Name of the end-to-end connection.	Character string Maximum 32 characters	Character string Maximum 32 characters
REVERTIVE	Indicates whether the connection is to be revertive or nonrevertive.	Y = connection is revertive N = connection is non-revertive	Y = connection is revertive N = connection is non-revertive
WAITTORESTORE	The time it takes to restore a connection for protection, expressed in one minute intervals.	Number from 1 through 12	Number from 1 through 12
WCV	Wavelength consistency validation.	Y = Yes N = No	Y = Yes N = No

Example input

Create an OC-48 unprotected channel assignment between the OCLD in slot 1 and the OCI in slot 5:

```
ENT-CRS-OC48:BARROW:1-1,5-1:34::2WAY:NAME=SHELF1,CHANDESC=CHAN
NEL1,CONNECTIONDESC=CONNECTION1,CONNECTIONNAME=CONNECTION1;
```

ENT-CRS-OC192 (create OC-192 cross-connections)

Use the ENT-CRS-OC192 command to create a cross-connection on the network element using the OC-192 standard SONET bit rate.

Security level

Level 2

Input syntax

```
ENT-CRS-OC192:[TID]:<AIDfrom>,<AIDto>:[CTAG]::<cct>:[SWMATE=<s
wmate>],[NAME=<name>],[CHANDESC=<chandesc>],[CONNECTIONDESC=<c
onnectiondesc>],[CONNECTIONNAME=<connectionname>],[REVERTIVE=<
revertive>],[WAITTORESTORE=<waittorestore>],[WCV=<wcv>];
```

Table 6-19
ENT-CRS-OC192 input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AIDFROM	Access identifier The AIDfrom is a line-side OTR involved in the cross-connect.	OTR facility For AID values see Table 1-6 on page 1-17	OTR facility For AID values see Table 1-6 on page 1-17
AIDTO	Access identifier The AIDto is always the client-side of the same OTR in the client-side connection.	OTR facility For AID values see Table 1-6 on page 1-17	OTR facility For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
CCT	Cross-connect type	2WAY = bidirectional connection 2WAYPR = bidirectional protected cross-connect	2WAY = bidirectional connection 2WAYPR = bidirectional protected cross-connect
SWMATE	Access identifier Mate OTR in the protected channel assignment.	OTR facility For AID values see Table 1-6 on page 1-17	OTR facility For AID values see Table 1-6 on page 1-17
NAME	Name of the connection.	Character string Maximum 32 characters	Character string Maximum 32 characters
CHANDESC	Channel description.	Character string Maximum 64 characters	Character string Maximum 64 characters
CONNECTIONDESC	Description of the end-to-end connection.	Character string Maximum 64 characters	Character string Maximum 64 characters

Table 6-19 (continued)
ENT-CRS-OC192 input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
CONNECTIONNAME	Name of the end-to-end connection.	Character string Maximum 32 characters	Character string Maximum 32 characters
REVERTIVE	Indicates whether the connection is to be revertive or nonrevertive.	Y = connection is revertive N = connection is non-revertive	Y = connection is revertive N = connection is non-revertive
WAITTORESTORE	The time it takes to restore a connection for protection, expressed in one minute intervals.	Number from 1 through 12	Number from 1 through 12
WCV	Wavelength consistency validation.	Y = Yes N = No	Y = Yes N = No

Example input

Create an OC-192 unprotected OTR channel assignment in slot 1:

```
ENT-CRS-OC192:BARROW:1-2,1-1:34::2WAY:,NAME=SHELF1,CHANDESC=CH
ANNEL1,CONNECTIONDESC=CONNECTION1,CONNECTIONNAME=CONNECTION;
```

ENT-CRS-PATH (enter cross-connections path)

Use the ENT-CRS-PATH command to provision an STS-3c or VC-4 path on an OCI SRM GbE/FC or OCI SRM GbE connection or a Muxponder path.

Note: You can only add a path with a virtual concatenation type.

Security level

Level 2

Input syntax

```
ENT-CRS-PATH:[TID]:<from>,<to>:[CTAG]::[<cct>]:
TRANSPORT=<transport>;
```

Table 6-20
ENT-CRS-PATH input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
FROM	GFSRM client-side facility or MOTRSFP client side path facility AID	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
TO	GFSRM aggregate or MOTR line side path facility AID	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
CCT	Cross-connect type	2WAY = bidirectional connection 2WAYPR = bidirectional protected cross-connect	2WAY = bidirectional connection 2WAYPR = bidirectional protected cross-connect
TRANSPORT	Type of transport payload	STS3C VC4	STS3C VC4

Example input

```
ENT-CRS-PATH:BOSTON:8-1,8-AG1-1:1234::2WAY:TRANSPORT=STS3C;
```

Create a Muxponder path:

```
ENT-CRS-PATH:OM5000-1-1:11-2-2,11-11-20:1234::2WAY:TRANSPORT=S
TS3C;
```

RTRV-CID-ALL (retrieve connection ID all)

The RTRV-CID-ALL command returns the connection ID of the cross-connection.

Security level

Level 1

Input syntax

```
RTRV-CID-ALL:[TID]:[<from>],[<to>]:[CTAG]::[]:
[SWMATE=<swmate>];
```

Table 6-21
RTRV-CID-ALL input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
FROM	Access identifier The AIDfrom is an OCLD, OTR, or MOTR involved in the cross-connect.	OCLD, OTR, MOTR facility For AID values see Table 1-6 on page 1-17	OCLD, OTR, MOTR facility For AID values see Table 1-6 on page 1-17
TO	Access identifier The AIDto for pass-through is always an OCLD. For all other connections AIDto is an OTR, an SRM port, a GFSRM, MOTRSFP port, or an OCI in the connection.	OCLD, OTR, GFSRM, SRM, OCI, MOTRSFP facility For AID values see Table 1-6 on page 1-17	OCLD, OTR, GFSRM, SRM, OCI, MOTRSFP facility For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
SWMATE	Access identifier Mate OCLD, OTR, or MOTR in the protected channel assignment.	OCLD, OTR, MOTR facility For AID values see Table 1-6 on page 1-17	OCLD, OTR, MOTR facility For AID values see Table 1-6 on page 1-17

Example input

Retrieve the connection ID for all the channel assignments on NE OM5000-1-44:

```
RTRV-DIC-ALL:OM5000-1-44;
```

Output syntax

```
SID DATE TIME
M CTAG COMPLD "<aidfrom>,<aidto>:<cct>,[SWMATE=<swmate>],
CONNECTIONID=<connectionid>" ;
```

Table 6-22
RTRV-CID-ALL output syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
AIDFROM	Access identifier The AIDfrom is an OCLD, OTR, or MOTR involved in the cross-connect.	OCLD, OTR, MOTR facility For AID values see Table 1-6 on page 1-17	OCLD, OTR, MOTR facility For AID values see Table 1-6 on page 1-17
AIDTO	Access identifier The AIDto for pass-through is always an OCLD. For all other connections AIDto is an OTR, an SRM port, a MOTRSFP port, or an OCI in the connection.	OCLD, OCI, OTR, MOTRSFP, SRM facility For AID values see Table 1-6 on page 1-17	OCLD, OCI, OTR, MOTRSFP, SRM facility For AID values see Table 1-6 on page 1-17
CCT	Cross-connect type	2WAY = bidirectional connection 2WAYPR = bidirectional protected cross-connect	2WAY = bidirectional connection 2WAYPR = bidirectional protected cross-connect
SWMATE	Access identifier Mate OCLD, OTR, or MOTR in the non-revertive protected connection.	OCLD, OTR, MOTR facility For AID values see Table 1-6 on page 1-17	OCLD, OTR, MOTR facility For AID values see Table 1-6 on page 1-17
CONNECTIONID	Connection identifier	Numeric string	Numeric string

Example output

```
TERMINAL-MONTREAL 04-05-03 18:42:10
M  xxx COMPLD
"5-11,5-1:2WAYPR,SWMATE=16-11,CONNECTIONID=0000000000000000000"
;
```

RTRV-CRS-ALL (retrieve cross-connections all)

The RTRV-CRS-ALL command returns the details of the cross-connection.

Security level

Level 1

Input syntax

```
RTRV-CRS-ALL:[TID]:[<AIDfrom>],[<AIDto>]:[CTAG]:::
[SWMATE=<swmate>];
```

Table 6-23
RTRV-CRS-ALL input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AIDFROM	Access identifier The AIDfrom is an OCLD, OTR, or MOTR involved in the cross-connect.	OCLD, OTR, MOTR facility For AID values see Table 1-6 on page 1-17	OCLD, OTR, MOTR facility For AID values see Table 1-6 on page 1-17
AIDTO	Access identifier The AIDto for pass-through is always an OCLD. For all other connections AIDto is an OTR, an SRM port, a GFSRM, MOTRSFP port, or an OCI in the connection.	OCLD, OTR, GFSRM, SRM, OCI, MOTRSFP facility For AID values see Table 1-6 on page 1-17	OCLD, OTR, GFSRM, SRM, OCI, MOTRSFP facility For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
SWMATE	Access identifier Mate OCLD, OTR, or MOTR in the protected channel assignment.	OCLD, OTR, MOTR facility For AID values see Table 1-6 on page 1-17	OCLD, OTR, MOTR facility For AID values see Table 1-6 on page 1-17

Example input

Retrieve information for all the channel assignments on NE OM5000-1-44:

```
RTRV-CRS-ALL:OM5000-1-44::ABC123;

RTRV-CRS-ALL::3-2,3-1;

RTRV-CRS-ALL::1-1,3-1;
```

Output syntax

```
SID DATE TIME
M CTAG COMPLD
"<aidfrom>,<aidto>:<cct>,<pct>:NAME=<name>,CHANDESC=<chandesc>
,CONNECTIONDESC=<connectiondesc>,CONNECTIONNAME=<connectionnam
e>,CONNECTIONID=<connectionid>,PROTOCOL=<protocol>,
TRANSPORT=<transport>,[ENCAPSULATION=<encapsulation>],
[HOLDOFF=<holdoff>],[PATHS=<paths>],OCMPATHA=<ocmpatha>,OCMPAT
HB=<ocmpathb>,LOCKOUT=<lockout>,FORCE=<force>,[FORCEDIR=<force
dir>],MANUAL=<manual>,[OCIPLANE=<ociplane>],[OCLD1PLANE=<ocld1
plane>],[OCLD2PLANE=<ocld2plane>],[SWMATE=<swmate>],REVERTIVE=
<revertive>,[WAITTORESTORE=<waittorestore>],[WORKINGPATH=<prot
ectionDirection>],[SYNCREF=<syncref>],
[SYNCSTATE=<syncstate>],[SYNCSTATUS=<syncstatus>],WCV=<wcv>,
[PROTNSCHM=<protnschm>],[PROTNMODE=<protnmode>],:<pst>";
```

Table 6-24
RTRV-CRS-ALL output syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
AIDFROM	Access identifier The AIDfrom is an OCLD, OTR, or MOTR involved in the cross-connect.	OCLD, OTR, MOTR facility For AID values see Table 1-6 on page 1-17	OCLD, OTR, MOTR facility For AID values see Table 1-6 on page 1-17
AIDTO	Access identifier The AIDto for pass-through is always an OCLD. For all other connections AIDto is an OTR, an SRM port, a MOTRSFP port, or an OCI in the connection.	OCLD, OCI, OTR, MOTRSFP, SRM facility For AID values see Table 1-6 on page 1-17	OCLD, OCI, OTR, MOTRSFP, SRM facility For AID values see Table 1-6 on page 1-17
CCT	Cross-connect type	2WAY = bidirectional connection 2WAYPR = bidirectional protected cross-connect	2WAY = bidirectional connection 2WAYPR = bidirectional protected cross-connect
PCT	Client port connection type	BIDIR = bidirectional ADD =add DROP = drop	BIDIR = bidirectional ADD =add DROP = drop
NAME	Name of the connection	Character string Maximum 32 characters	Character string Maximum 32 characters
CHANDESC	Channel description	Character string Maximum 64 characters	Character string Maximum 64 characters

Table 6-24 (continued)
RTRV-CRS-ALL output syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
CONNECTIONDESC	Description of the end-to-end connection	Character string Maximum 64 characters Empty character string is also possible.	Character string Maximum 64 characters Empty character string is also possible.
CONNECTION NAME	Name of the end-to-end connection	Character string Maximum 32 characters Empty character string is also possible.	Character string Maximum 32 characters Empty character string is also possible.
CONNECTIONID	Connection identifier	Numeric string All 0 numeric string is also possible.	Numeric string All 0 numeric string is also possible.
PROTOCOL	Protocol of the cross-connect	For more information about protocols in TL1, refer to Table 6-2 on page 6-2	For more information about protocols in TL1, refer to Table 6-2 on page 6-2

Table 6-24 (continued)
RTRV-CRS-ALL output syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TRANSPORT	For a GFSRM or MOTR connection, the transport structure defines the payload mapping within the OC-48/STM-16 signal. ***Note 1:*** If Transport is not specified, a channel assignment and a port asignment will be provisioned but no path assignment; the Transport value will be NIL; Encapsulation defaults to FGFP for GigE and TGFP for FICON/Fibre Channel ***Note 2:*** If Transport is specified, a channel assignment, a port asignment and path assignments will be provisioned; the paths will need to be supplied.	For the possible values according to provisioned protocol and transport mode, see Table 6-6 or Table 6-7 for a c-cat connection Table 6-8 for a v-cat connection	For the possible values according to provisioned protocol and transport mode, see Table 6-6 or Table 6-7 for a c-cat connection Table 6-8 for a v-cat connection
ENCAPSULATION	For a GFSRM or MOTR connection, the encapsulation mode	FGFP TFGP	FGFP TFGP
HOLDOFF	Hold off time for GFSRM or MOTR connection (ms)	0 100 200 300 400 500 600 700 800 900	0 100 200 300 400 500 600 700 800 900

Table 6-24 (continued)
RTRV-CRS-ALL output syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
PATHS	List of STS path numbers for MOTR connection		
FEC	For a MOTR connection, the forward error correction code used.	4EFEC 7EFEC 7FEC	4EFEC 7EFEC 7FEC
OCMPATHA (see Note 1)	Protection direction	These parameters are either both EAST or both WEST. EAST = OCLD or OTR in east path is active WEST = OCLD or OTR in west path is active	These parameters are either both EAST or both WEST. EAST = OCLD or OTR in east path is active WEST = OCLD or OTR in west path is active
OCMPATHB (see Note 1)	Protection direction		
LOCKOUT (see Note 1)	Indicates whether there is a lockout on the OCLD, OTR, or MOTR in the protected connection.	Y = there is a lockout N = there is not a lockout	Y = there is a lockout N = there is not a lockout
FORCE (see Note 1)	Indicates whether there is a forced switch on the OCLD, OTR, or MOTR in the protected connection.	Y = there is a forced switch N = there is not a forced switch	Y = there is a forced switch N = there is not a forced switch
FORCEDIR (see Note 1)	Indicates the direction of the forced switch if the forced switch is operated on the OCLD, OTR, or MOTR in the protected connection.	EAST = East WEST= West	EAST = East WEST= West
MANUAL (see Note 1)	Indicates whether there is a manual switch on the OCLD, OTR, or MOTR in the protected connection.	Y = there is a manual switch N = there is not a manual switch	Y = there is a manual switch N = there is not a manual switch

Table 6-24 (continued)
RTRV-CRS-ALL output syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
OCIPLANE (see Note 2)	Indicates which OCM the active path is on.	PLANEA = Plane A OCM PLANEB = Plane B OCM	NIL
OCLD1PLANE (see Note 2)	Indicates which OCM the active path is on.	PLANEA = Plane A OCM PLANEB = Plane B OCM	NIL
OCLD2PLANE (see Note 2)	Indicates which OCM the active path is on.	PLANEA = Plane A OCM PLANEB = Plane B OCM	NIL
SWMATE	Access identifier Mate OCLD, OTR, or MOTR in the non-revertive protected connection.	OCLD, OTR, MOTR facility For AID values see Table 1-6 on page 1-17	OCLD, OTR, MOTR facility For AID values see Table 1-6 on page 1-17
REVERTIVE	Revertive state in a protected connection	Y N	Y N
WAITTORESTORE	Wait to restore minutes in a protected revertive connection.	Number between 1 and 12	Number between 1 and 12
WORKINGPATH	Indicates which path (direction) is active in a protected revertive connection.	EAST WEST NIL	EAST WEST NIL
SYNCREF	Indicates whether the port is a clock reference, and if so, whether it is the primary or secondary clock reference.	NIL = not used for clock reference PRI = primary clock reference SEC = secondary clock reference	NIL = not used for clock reference PRI = primary clock reference SEC = secondary clock reference
SYNCSTATE	Indicates whether the clock reference is active or on standby.	ACTIVE NIL STANDBY	ACTIVE NIL STANDBY
SYNCSTATUS	Indicates the status of the synchronization clock.	GOOD = clock is good FAIL = clock has failed NIL = no synchronization provisioned WTR = system is waiting to restore	GOOD = clock is good FAIL = clock has failed NIL = no synchronization provisioned WTR = system is waiting to restore

Table 6-24 (continued)
RTRV-CRS-ALL output syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
WCV	Wavelength Consistency Validation	N = No Y = Yes	N = No Y = Yes
PROTNSCHM	Protection scheme for MOTR connections	1FOR1 = one for one protection 1PLUS1 = one plus one protection NIL = no protection	1FOR1 = one for one protection 1PLUS1 = one plus one protection NIL = no protection
PROTNMODE	Protection mode for MOTR connections	UNIDIR = unidirectional BIDIR = bidirectional NIL = no protection	UNIDIR = unidirectional BIDIR = bidirectional NIL = no protection
PST	Primary state	IS = in-service OOS = out-of-service	IS = in-service OOS = out-of-service
Note 1: Operating path protection using the OPR-PROTNSW-OCLD, OPR-PROTNSW-OTR, or OPR-PROTNSW-MOTR commands will change these parameters. ***Note 2:*** Operating equipment protection using the OPR-PROTNSW-EQPT command will change these parameters.			

RTRV-CRS-PATH (retrieve cross-connections path)

Use the RTRV-CRS-PATH command to retrieve STS or VC paths from an OCI SRM GbE/FC, OCI SRM GbE, or Muxponder connection.

Security level

Level 1

Input syntax

```
RTRV-CRS-PATH:[TID]:[<from>],[<to>]:[CTAG]::[:
[TRANSPORT=<transport>]];
```

Table 6-25
RTRV-CRS-PATH input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
FROM	GFSRM or MOTRSFP client-side facility AID	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
TO	GFSRM aggregate path or MOTR line side path facility AID	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
TRANSPORT	For a MOTR connection, the transport structure defines the payload mapping within the OC-48/STM-16 signal. ***Note 1:*** If Transport is not specified, all provisioned path assignments will be displayed. ***Note 2:*** If Transport is specified, only port specific provisioned path assignments will be displayed.	For the possible values according to provisioned protocol and transport mode, see Table 6-7 for a c-cat connection Table 6-8 for a v-cat connection	For the possible values according to provisioned protocol and transport mode, see Table 6-7 for a c-cat connection Table 6-8 for a v-cat connection

Example input

Retrieve the paths on all OCI SRM GbE/FC circuit packs at BOSTON NE:

```
RTRV-CRS-PATH:BOSTON:ALL:1234;
```

Retrieve the first path on the OCI SRM GbE/FC in slot 14 at BOSTON NE:

```
RTRV-CRS-PATH:BOSTON:14-1,14-AG1-1:1234;
```

Retrieve all provisioned paths on the Muxponder 10 GbE/FC VCAT in slot 11 at PARIS NE:

```
RTRV-CRS-PATH:PARIS:11-3;
"11-3-1,11-11-18:2WAY,BIDIR:TRANSPORT=STS24c:IS"
"11-8-1,11-11-20:2WAY,BIDIR:TRANSPORT=STS24c:IS"
```

Output syntax

```
SID DATE TIME
M CTAG COMPLD
"<aidfrom>,<aidto>:<cct>,<pct>:TRANSPORT=<transport>:<pst>"
```

Table 6-26
RTRV-CRS-PATH output syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
AIDFROM	GFSRM client-side facility AID or MOTRSFP client-side path facility AID	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
AIDTO	GFSRM aggregate path facility AID or MOTR line-side path facility AID	For AID values see Table 1-6 on page 1-17	For AID values see Table 1-6 on page 1-17
CCT	Cross-connect type	2WAY = bidirectional connection 2WAYPR = bidirectional protected cross-connect	2WAY = bidirectional connection 2WAYPR = bidirectional protected cross-connect
PCT	Connection type	ADD = add BIDIR = bidirectional DROP = drop	ADD = add BIDIR = bidirectional DROP = drop
TRANSPORT	Type of transport payload	STS3C, STS24C, STS48C, VC4, VC4X8C, VC4X16C	STS3C, STS24C, STS48C, VC4, VC4X8C, VC4X16C
PST	Primary state	IS = in-service OOS = out-of-service	IS = in-service OOS = out-of-service

Example output

```
BOSTON 03-03-07 19:06:50
M  1234 COMPLD
"14-1,14-AG1-1:2WAYPR,BIDIR:TRANSPORT=STS3C:OOS"
"14-1,14-AG1-4:2WAYPR,BIDIR:TRANSPORT=STS3C:OOS"
"14-1,14-AG1-7:2WAYPR,BIDIR:TRANSPORT=STS3C:OOS"
"14-1,14-AG1-10:2WAYPR,BIDIR:TRANSPORT=STS3C:OOS"
"14-1,14-AG1-13:2WAYPR,BIDIR:TRANSPORT=STS3C:OOS"
"14-1,14-AG1-16:2WAYPR,BIDIR:TRANSPORT=STS3C:OOS"
"14-1,14-AG1-19:2WAYPR,BIDIR:TRANSPORT=STS3C:OOS"
```

RTRV-NE-CX (retrieve network element connections)

The RTRV-NE-CX command retrieves the overhead channel connections in the network.

Security level

Level 1

Input syntax

```
RTRV-NE-CX:[TID]:[<AID>]:[CTAG];
```

Table 6-27
RTRV-NE-CX input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AID	Access identifier	Unused	Unused
CTAG	Correlation tag	Integer string	Integer string

Example input

Retrieve all the end-to-end OCLD connections for the network element MAINE:

```
RTRV-NE-CX:MAINE::1234;
```

Output syntax

```
SID DATE TIME
M CTAG COMPLD
"<localEqpt>:<sid>,<remoteEqpt>"
```

Table 6-28
RTRV-NE-CX output syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
LOCALEQPT	Access identifier for the local OCLD, OTR or MOTR in the connection.	OCLD, OTR or MOTR equipment For AID values see Table 1-5 on page 1-14	OCLD, OTR or MOTR equipment For AID values see Table 1-5 on page 1-14
SID	Source identifier Name of the remote network element that is the location of the remote OCLD, OTR or MOTR in the connection.	Character string	Character string
REMOTEEQPT	Access identifier for the remote OCLD, OTR or MOTR in the connection.	OCLD, OTR, MOTR equipment For AID values see Table 1-5 on page 1-14	OCLD, OTR or MOTR equipment For AID values see Table 1-5 on page 1-14

Example output

```
MAINE 03-03-07 19:06:50
M  1234 COMPLD
"OCLD-1:VERMONT,OCLD-18"
"OCLD-2:VERMONT,OCLD-17"
"OCLD-3:VERMONT,OCLD-16"
"OCLD-4:VERMONT,OCLD-15"
"OCLD-15:RHODE,OCLD-4"
"OCLD-16:RHODE,OCLD-3"
"OCLD-17:RHODE,OCLD-2"
"OCLD-18:RHODE,OCLD-1"
```

RTRV-PROT (retrieve cross-connect protocols and PM Mode)

Use RTRV-PROT command to retrieve the supported cross-connect protocol for specified facilities.

Security level

Level 1

Input syntax

```
RTRV-PROT:[TID]:<AID>:[CTAG];
```

Table 6-29
RTRV-PROT input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AID	Access identifier.	For AID values see Table 1-6 on page 1-17 A null value is equivalent to "ALL"	For AID values see Table 1-6 on page 1-17 A null value is equivalent to "ALL"
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string

Example input
Retrieve the protocols for all circuit packs in the Frankfurt NE:

```
RTRV-PROT:Frankfurt:all:prot;
```

Output syntax

```
SID DATE TIME
M CTAG COMPLD
"[<aid>],[<aidtype>]:[<protocol>],[<pmmode>]"
```

Table 6-30
RTRV-PROT output syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
AID	Access identifier	OCLD, OTR, OCI, GFSRM, SRM, MOTRSFP, MOTR facility For AID values see Table 1-6 on page 1-17	OCLD, OTR, OCI, GFSRM, SRM, MOTRSFP, MOTR facility For AID values see Table 1-6 on page 1-17

Table 6-30 (continued)
RTRV-PROT output syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
AIDTYPE	Access identifier type for OCI, SRM OCI, GFSRM, OTR, OCLD, OTR, MOTR and MOTRSFP	GFSRM MOTR MOTRSFP OCI OCLD OTR SRM	GFSRM MOTR MOTRSFP OCI OCLD OTR SRM
PROTOCOL	List of protocols supported.	See Table 6-2 on page 6-2 in this chapter.	See Table 6-2 on page 6-2 in this chapter.
PMMODE	Performance monitoring mode.	8B10B 8B10BWAN AGILE DW GIGE GIGEWAN LANPHY SONET SONET-DW SDH SDH-DW SFC NIL	8B10B 8B10BWAN AGILE DW GIGE GIGEWAN LANPHY SONET SONET-DW SDH SDH-DW SFC NIL

Example output

```
Frankfurt 04-11-21 9:37:05
M  prot COMPLD
"3-1,OCLD:OC48,SONET"
"6-1,MOTRSFP:GIGABITETHERNET,GIGEWAN"
"6-8,MOTRSFP:GIGABITETHERNET,GIGEWAN"
"6-11,MOTR:OC192,SONET-DW"
"8-1,GFSRM:GIGABITETHERNET,GIGE"
"11-1,OCI:OC48,NIL"
"13-1,OCLD:OC48,SDH"
"14-1,OCI:OC48,SFC"
```

RTRV-PROT-CRS (retrieve all supported protocols)

Use RTRV-PROT-CRS command to retrieve the supported cross-connect protocol for specified facilities.

Security level

Level 1

Input syntax

```
RTRV-PROT-CRS:[TID]:<AIDfrom>,<AIDto>:[CTAG]::[<swmate>];
```

Table 6-31
RTRV-PROT-CRS input syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
TID	Target identifier	Character string	Character string
AIDFROM	Access identifier The AIDfrom is always an OCLD, OTR, or MOTR involved in the cross-connect.	OCLD, OTR, MOTR facility For AID values see Table 1-6 on page 1-17	OCLD, OTR, MOTR facility For AID values see Table 1-6 on page 1-17
AIDTO	Access identifier The AIDto for pass-through is always an OCLD, an OTR, a GFSRM port, a SRM port, a MOTRSFP port, or an OCI in the connection.	OCLD, OTR, OCI, GFSRM, SRM, MOTRSFP facility For AID values see Table 1-6 on page 1-17	OCLD, OTR, OCI, GFSRM, SRM, MOTRSFP facility For AID values see Table 1-6 on page 1-17
CTAG	Correlation tag	Alphanumeric string	Alphanumeric string
SWMATE	Access identifier The OCLD, OTR, or MOTR in the protected channel assignment.	OCLD, OTR, MOTR facility For AID values see Table 1-6 on page 1-17	OCLD, OTR, MOTR facility For AID values see Table 1-6 on page 1-17

Example input

Retrieve the supported protocols for circuit packs in slots 1 and 6:

```
RTRV-PROT-CRS:OPT-1-19:1-1,6-1:3HK;
```

Retrieve the supported protocols for MOTR circuit pack in slot 5 and MOTRSFP in SFP slot 1 of this circuit pack:

```
RTRV-PROT-CRS::5-11,5-1:xxx::16-11;
```

Output syntax

```
SID DATE TIME
M CTAG COMPLD
"[<aidfrom>],[<aidto>],[<swmate>]:[<protocol>]"
```

Table 6-32
RTRV-PROT-CRS output syntax definition

Parameter	Description	Possible values (5200)	Possible values (5100)
AIDFROM	Access identifier The AIDfrom is always an OCLD, OTR, or MOTR involved in the cross-connect.	OCLD, OTR, MOTR facility For AID values see Table 1-6 on page 1-17	OCLD, OTR, MOTR facility For AID values see Table 1-6 on page 1-17
AIDTO	Access identifier The AIDto for pass-through is always an OCLD, an OTR, a GFSRM port, a SRM port, a MOTRSFP port, or an OCI in the connection.	OCLD, OTR, OCI, GFSRM, SRM, MOTRSFP facility For AID values see Table 1-6 on page 1-17	OCLD, OTR, OCI, GFSRM, SRM, MOTRSFP facility For AID values see Table 1-6 on page 1-17
SWMATE	Access identifier The OCLD or OTR in the protected channel assignment.	OCLD, OTR, MOTR facility For AID values see Table 1-6 on page 1-17	OCLD, OTR, MOTR facility For AID values see Table 1-6 on page 1-17
PROTOCOL	List of protocols supported.	See Table 6-2 on page 6-2 in this chapter.	See Table 6-2 on page 6-2 in this chapter.

Example output

```
OPT-1-19 01-09-21 23:50:02
M  3HK COMPLD
"1-1,6-1,15-1:FC100 & GigabitEthernet & FICON"

TERMINAL-MONTREAL 04-05-03 18:00:16
M  xxx COMPLD
"5-11,5-1,16-11:FC100 & GIGABITETHERNET & FICON & FC200 &
FICONEXPRESS"
```

Nortel

Optical Metro 5100/5200

TL1 Interface, Part 1 of 4

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