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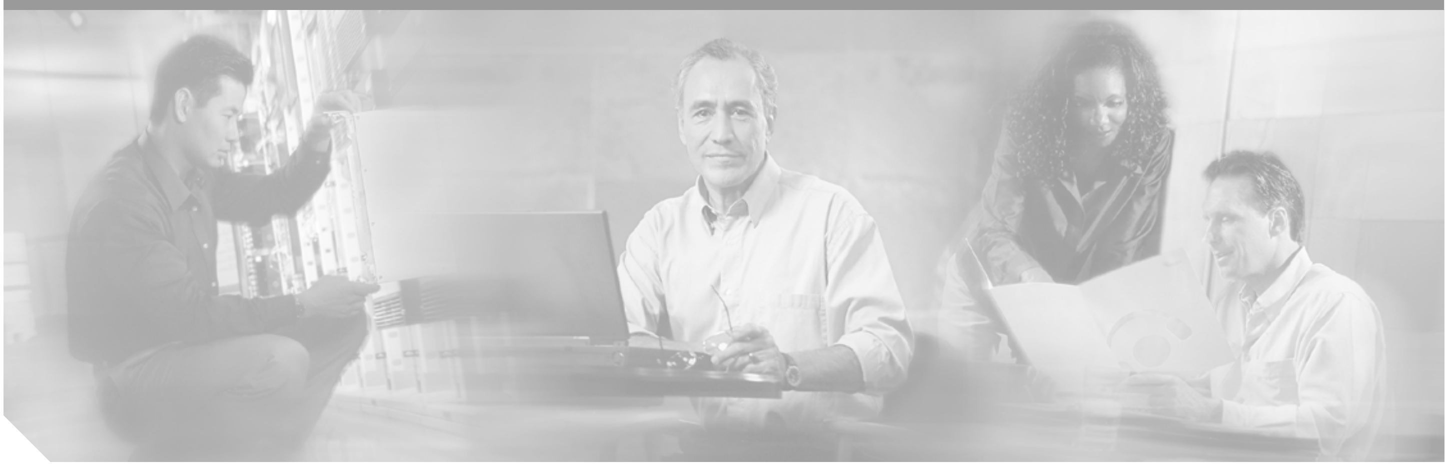

Cisco ONS 15454 and Cisco ONS 15327 TL1 Command Guide

Product and Documentation Release 4.0

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About This Guide

This section explains the objectives, intended audience, and organization of this publication and describes the conventions that convey instructions and other information.

This section provides the following information:

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Document Objectives

This guide explains the use of Transaction Language 1 (TL1) for Cisco ONS 15454 and ONS 15327 systems. Use this guide in conjunction with the appropriate publications listed in the Related Documentation section.

Audience

To use this publication, you should be familiar with Cisco or equivalent optical transmission hardware and cabling, telecommunications hardware and cabling, electronic circuitry and wiring practices, and preferably have experience as a telecommunications technician.

Document Organization

This Cisco ONS 15454 and Cisco ONS 15327 TL1 Command Guide, R4.0 is organized into the following chapters:

- Chapter 1, "Getting Started" explains how to gain access to TL1, command syntax, autonomous messages, provision a DS3E card in CTC using TL1, CTC interoperability, security level privileges associated with each command, command completion behavior, test access configurations, PCA provisioning and FTP software download.
- Chapter 2, "TL1 Gateway" describes the TL1 Gateway and provides procedures and examples for implementing TL1 Gateway on a four node ring.
- Chapter 3, "TL1 Command Descriptions" lists TL1 commands by category and then lists each command and autonomous message supported by the ONS 15454 and the ONS 15327.
- Chapter 4, "TL1 Command Components" describes the components of TL1 commands including, default values, access identifiers (AIDs), and parameter types.
- Chapter 5, "Ring Provisioning" provides sample procedures for setting up STS or VT circuits over existing unidirectional path switched ring (UPSR) and bidirectional line switch ring (BLSR) configurations.
- Chapter 6, "TL1 Performance Monitoring" provides TL1 performance monitoring (PM) information and scheduled PM report provisioning.
- Chapter 7, "TL1 Alarms and Errors" lists TL1 alarms and errors supported by the ONS 15454 and the ONS 15327 including descriptions and severity.

Related Documentation

Use this Cisco ONS 15454 and Cisco ONS 15327 TL1 Command Guide, R4.0 in conjunction with the following referenced publications:

- *Cisco ONS 15454 Procedure Guide, R4.0*
- *Cisco ONS 15454 Troubleshooting Guide, R4.0*
- *Cisco ONS 15454 Reference Manual, R4.0*
- *Cisco ONS 15327 Procedure Guide, R4.0*
- *Cisco ONS 15327 Troubleshooting Guide, R4.0*
- *Cisco ONS 15327 Reference Manual, R4.0*

Document Conventions

This publication uses the following conventions:

Convention	Application
boldface	Commands and keywords in body text.
italic	Command input that is supplied by the user.
[ ]	Keywords or arguments that appear within square brackets are optional.
{ x | x | x }	A choice of keywords (represented by x) appears in braces separated by vertical bars. The user must select one.
Ctrl	The control key. For example, where Ctrl + D is written, hold down the Control key while pressing the D key.
`screen font`	Examples of information displayed on the screen.
`boldface screen font`	Examples of information that the user must enter.
< >	Command parameters that must be replaced by module-specific codes.

Note Means *reader take note*. Notes contain helpful suggestions or references to material not covered in the document.

Caution Means *reader be careful*. In this situation, the user might do something that could result in equipment damage or loss of data.

Warning **IMPORTANT SAFETY INSTRUCTIONS**

This warning symbol means danger. You are in a situation that could cause bodily injury. Before you work on any equipment, be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents. To see translations of the warnings that appear in this publication, refer to the translated safety warnings that accompanied this device.

Note: SAVE THESE INSTRUCTIONS

Note: This documentation is to be used in conjunction with the specific product installation guide that shipped with the product. Please refer to the Installation Guide, Configuration Guide, or other enclosed additional documentation for further details.

Where to Find Safety and Warning Information

For safety and warning information, refer to the Cisco ONS 15454 and Cisco ONS 15327 TL1 Command Guide, R4.0 that accompanied the product. This publication describes the international agency compliance and safety information for the Cisco ONS 15xxx systems. It also includes translations of the safety warnings that appear in the ONS 15xxx system documentation.

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Cisco provides several ways to obtain documentation, technical assistance, and other technical resources. These sections explain how to obtain technical information from Cisco Systems.

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You can access the most current Cisco documentation on the World Wide Web at this URL:

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http://www.cisco.com/public/countries_languages.shtml

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- Registered Cisco.com users can order the Documentation CD-ROM (Customer Order Number DOC-CONDOCCD=) through the online Subscription Store:

  http://www.cisco.com/go/subscription

- Nonregistered Cisco.com users can order documentation through a local account representative by calling Cisco Systems Corporate Headquarters (California, U.S.A.) at 408 526-7208 or, elsewhere in North America, by calling 800 553-NETS (6387).

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170 West Tasman Drive
San Jose, CA 95134-9883

We appreciate your comments.

Obtaining Technical Assistance

Cisco provides Cisco.com, which includes the Cisco Technical Assistance Center (TAC) Website, as a starting point for all technical assistance. Customers and partners can obtain online documentation, troubleshooting tips, and sample configurations from the Cisco TAC website. Cisco.com registered users have complete access to the technical support resources on the Cisco TAC website, including TAC tools and utilities.

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Technical Assistance Center

The Cisco TAC is available to all customers who need technical assistance with a Cisco product, technology, or solution. Two levels of support are available: the Cisco TAC website and the Cisco TAC Escalation Center. The avenue of support that you choose depends on the priority of the problem and the conditions stated in service contracts, when applicable.

We categorize Cisco TAC inquiries according to urgency:

- Priority level 4 (P4)—You need information or assistance concerning Cisco product capabilities, product installation, or basic product configuration.
- Priority level 3 (P3)—Your network performance is degraded. Network functionality is noticeably impaired, but most business operations continue.
- Priority level 2 (P2)—Your production network is severely degraded, affecting significant aspects of business operations. No workaround is available.
- Priority level 1 (P1)—Your production network is down, and a critical impact to business operations will occur if service is not restored quickly. No workaround is available.

Cisco TAC Web Site

You can use the Cisco TAC website to resolve P3 and P4 issues yourself, saving both cost and time. The site provides around-the-clock access to online tools, knowledge bases, and software. To access the Cisco TAC website, go to this URL:

http://www.cisco.com/tac

All customers, partners, and resellers who have a valid Cisco service contract have complete access to the technical support resources on the Cisco TAC website. Some services on the Cisco TAC website require a Cisco.com login ID and password. If you have a valid service contract but do not have a login ID or password, go to this URL to register:

http://tools.cisco.com/RPF/register/register.do

If you are a Cisco.com registered user, and you cannot resolve your technical issues by using the Cisco TAC website, you can open a case online at this URL:

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If you have Internet access, we recommend that you open P3 and P4 cases through the Cisco TAC website so that you can describe the situation in your own words and attach any necessary files.

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The Cisco TAC Escalation Center addresses priority level 1 or priority level 2 issues. These classifications are assigned when severe network degradation significantly impacts business operations. When you contact the TAC Escalation Center with a P1 or P2 problem, a Cisco TAC engineer automatically opens a case.

To obtain a directory of toll-free Cisco TAC telephone numbers for your country, go to this URL:

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Before calling, please check with your network operations center to determine the level of Cisco support services to which your company is entitled: for example, SMARTnet, SMARTnet Onsite, or Network Supported Accounts (NSA). When you call the center, please have available your service agreement number and your product serial number.

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- The *Cisco Product Catalog* describes the networking products offered by Cisco Systems as well as ordering and customer support services. Access the *Cisco Product Catalog* at this URL:

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- Cisco Press publishes a wide range of networking publications. Cisco suggests these titles for new and experienced users: *Internetworking Terms and Acronyms Dictionary, Internetworking Technology Handbook, Internetworking Troubleshooting Guide,* and the *Internetworking Design Guide.* For current Cisco Press titles and other information, go to Cisco Press online at this URL:

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- *Packet* magazine is the Cisco monthly periodical that provides industry professionals with the latest information about the field of networking. You can access *Packet* magazine at this URL:

  http://www.cisco.com/en/US/about/ac123/ac114/about_cisco_packet_magazine.html

- *iQ Magazine* is the Cisco monthly periodical that provides business leaders and decision makers with the latest information about the networking industry. You can access *iQ Magazine* at this URL:

  http://business.cisco.com/prod/tree.taf%3fasset_id=44699&public_view=true&kbns=1.html

- *Internet Protocol Journal* is a quarterly journal published by Cisco Systems for engineering professionals involved in the design, development, and operation of public and private internets and intranets. You can access the *Internet Protocol Journal* at this URL:

  http://www.cisco.com/en/US/about/ac123/ac147/about_cisco_the_internet_protocol_journal.html

- Training—Cisco offers world-class networking training, with current offerings in network training listed at this URL:

  http://www.cisco.com/en/US/learning/le31/learning_recommended_training_list.html

CHAPTER 1

Getting Started

Transaction Language 1 (TL1) is a subset of the input and output messages contained in the International Telecommunications Union (ITU) Man-Machine Language (MML). TL1 provides a standard set of messages that can be used for communicating between operating systems and network elements, and personnel and network elements. The ONS 15454 and ONS 15327 can support up to 20 concurrent TL1 sessions in this release. For more information about TL1, refer to Telcordia document GR-833-CORE, *Network Maintenance: Network Element and Transport Surveillance Messages*.

This chapter provides information and procedures for getting started with TL1:

- Setting up TL1 communication
- TL1 command syntax
- Autonomous messages
- TL1 commands by user security
- Provisioning a DS3E card in CTC using TL1
- Provisioning rules for MXP_2.5G_10G and TXP_MR_10G cards
- CTC interoperability
- Mixed mode timing support
- TL1 command completion behavior
- Test access
- TL1 PCA provisioning
- FTP software download

1.1 Setting up TL1 Communication

The period during which a user is logged into the ONS 15454 or ONS 15327 is called a session. There are three options you can use to open a session (login):

- Cisco Transport Controller (CTC)
- Telnet
- Craft interface

The TL1 password (PID) is masked when accessing a TL1 session using any of these options. When you logout of any of these options, you are closing a session. The ONS 15454 and ONS 15327 allow a maximum of 20 (19 telnet sessions and one craft session) concurrent TL1 sessions using any one or any combination of the options listed above. For information on issuing commands to multiple nodes, see Chapter 2, "TL1 Gateway."

1.1.1 Open a TL1 session

Use the following procedures to open a TL1 session via the CTC, telnet, or craft interface. In the procedures the Activate and Cancel User commands are shown in their input format. For more information about these and other commands and messages, see Chapter 3, "TL1 Command Descriptions."

Open a TL1 Session Via CTC

Step 1 From the PC connected to the ONS 15454, start Netscape or Internet Explorer.

Step 2 Enter the ONS 15454 IP address of the node you want to communicate with in the Netscape or Internet Explorer Web address (URL) field.

Step 3 Log into the CTC. The IP address at the title bar should match the IP address of the node you entered in Step 2.

Step 4 Once logged into the CTC, click **Tools > Open TL1 Connection**.

Step 5 Choose the node you want to communicate with from the Select Node dialog box.

Step 6 Click **OK**.

A TL1 interface window opens. There are three sub-windows in the TL1 interface window: Request history, Message log, and TL1 request. Type commands in the TL1 request window. You will see responses in the Message log window. The Request history window allows you to recall previous commands by clicking on them.

Step 7 Verify that the Connect button is selected (grayed out).

Step 8 Type the Activate User command in the TL1 request window to open a TL1 session:

ACT-USER:[<TID>]:<UID>:<CTAG>::<PID>; and press **Enter**.

Note You must press Enter after the semicolon in each TL1 command, or the command will not be issued.

Step 9 Type the Cancel User command in the TL1 request window or press the **Disconnect** button to close a TL1 session:

CANC-USER:[<TID>]:<USERID>:<CTAG>; and press **Enter**.

Open a TL1 Session Via Telnet

To access TL1 commands in a telnet session over a craft interface or a LAN connection (TCC+/TCC2 card front panel or backplane pins) you can choose from several ports. Port number 3082 is a raw TCP/IP port; it will not echo and it will not prompt the user. Port number 3083 is a telnet port that uses the telnet protocol and associated telnet escape sequences. Port number 2361 is supported for backward compatibility with earlier releases and has the same behavior as Port 3083 (telnet port). Use the following procedure with PCs running Windows operating systems.

Step 1 At the DOS prompt, type **cmd** and click **OK**. (The same steps can also be done from a Unix prompt).

Step 2 At the DOS command prompt type:

TELNET <NODE IP ADDRESS OR NODE NAME> <PORT NUMBER> and press **Enter**.

The Node IP address or Node Name refers to the IP address or Node Name of the node you want to communicate with. Port number is the port (2361, 3082, or 3083) where TL1 commands are understood. If the connection is successful, a screen opens with a prompt.

Step 3 Type the Activate User command to open a TL1 session:

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

Note When the semicolon is typed, the command is issued immediately.

Step 4 Type the Cancel User command to close a TL1 session:

CANC-USER:[<TID>]:<USERID>:<CTAG>;

Open a TL1 Session Via Craft Interface

The TCC+/TCC2 and XTC cards have two built-in interface ports for accessing the ONS 15454. With one RJ-45 LAN connection you can access the system using a standard browser interface. In the browser interface, you can perform local and remote Operations, Administration, Maintenance, and Provisioning (OAM&P) functions and open a VT100 emulation window to enter TL1 commands. If a browser is not available, you can access the system using a nine-pin RS-232 port. The RS-232 port supports VT100 emulation such that TL1 commands may be entered directly without a browser. For instructions on how to install the TL1 craft interface, refer to the *Cisco ONS 15454 Procedure Guide* or the *Cisco ONS 15327 Procedure Guide*.

Step 1 Connect the serial cable to the RS-232 port on the active TCC+/TCC2 or XTC card.

Step 2 Configure the terminal emulation software (Hyperterminal):

- **a.** Terminal emulation = vt100
- **b.** Bits per second = 9600
- **c.** Parity = None
- **d.** Stop BITS = 1
- **e.** Flow control = None

Step 3 Press **Enter**. An angle bracket prompt (>) appears.

Step 4 At the > prompt, type the Activate User command to open a TL1 session:

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

> **Note** When the semicolon is typed, the TL1 command is issued immediately.

Step 5 Type the Cancel User command to close a TL1 session:

CANC-USER:[<TID>]:<USERID>:<CTAG>;

1.2 TL1 Command Syntax

TL1 commands conform to the following syntax:

a:b:c:d:e: ... z;

where:

"a" is the command code

"b" is the target identifier (TID)

"c" is the access identifier (AID) or the user identifier (UID)

"d" is the correlation tag (CTAG)

"e: ... z;" are other positions required for various commands

The TID, AID, and CTAG route and control the TL1 command. Other parameters provide additional information required to complete the action requested by the command. TL1 command codes, parameter names and parameter values can be either uppercase or lowercase exclusively or any combination of the two, unless specifically noted in the command description.

The TID is a unique name given to each system when it is installed. The name identifies the particular NE (in this case, the ONS 15454 or ONS 15327), to which each command is directed. Each TID can have a maximum of 20 ASCII characters limited to letters, digits, and hyphens, but each TID must start with an alphabetic character. The presence of the TID is required in all input commands, but its value can be null (represented by two successive colons). The TID can be null when the operating system directly communicates with the target NE. The recommended value for the TID, when it is used, is the target's CLLI code. To establish the TID for an ONS 15454/15327 node, use the Provisioning > General tabs in CTC.

Note If the TID contains any characters other than letters and digits, such as spaces, the text string form (enclosed in double quotes) must be used.

The AID is an access code used to identify and address specific objects within the ONS 15454 and the ONS 15327. These objects include individual pieces of equipment, transport spans, access tributaries, and other objects.

The CTAG is a unique identifier given to each input command by the user. When the ONS 15454/ONS 15327 system responds to a specific command, it includes the command's CTAG in the reply. Including the CTAG eliminates discrepancies about which response corresponds to which command. Valid CTAG values include strings of up to six characters comprised of identifiers (alphanumeric, beginning with a letter) or decimal numerals (a string of decimal digits with an optional non-trailing ".").

The following specification characters are used throughout this document as vehicles for defining the syntax:

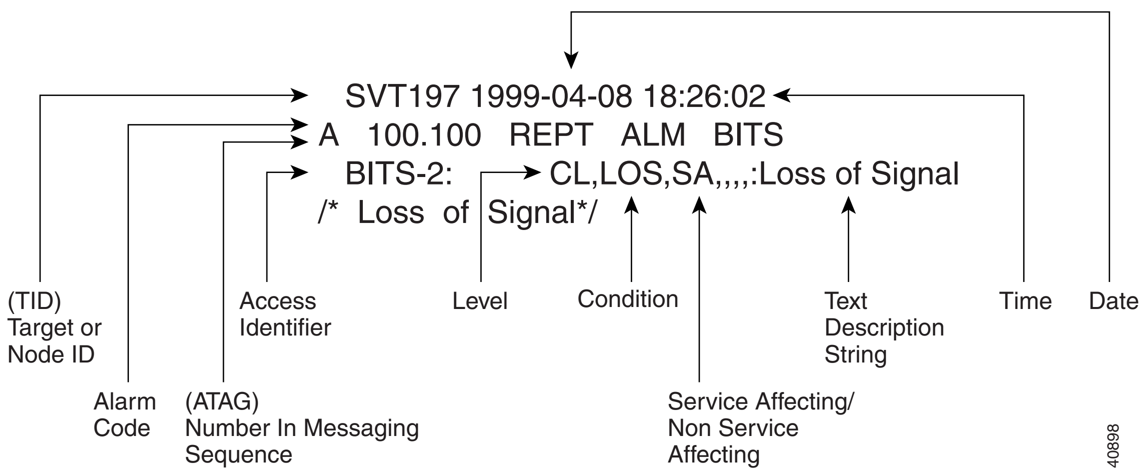
- < > enclose a symbol specifier, for example <CTAG>.
- [ ] enclose an optional symbol, for example [<TID>].
- " " enclose a literal character, for example an output format "SLOT-7:PLUGIN,TC,,,,,,,:\"EQUIPMENT PLUG-IN\",TCC"
- ^ is a space, a literal blank character used only in examples of messages.

1.3 Autonomous Messages

The autonomous TL1 messages are included in Chapter 3, "TL1 Command Descriptions" and listed alphabetically. Figure 1-1 shows the autonomous message format. The autonomous message tag (ATAG) is used for message sequencing. The number is incremented by one for each autonomous message sent by the ONS 15454 or ONS 15327. The ONS 15454 and ONS 15327 use whole numbers 0000 to 9999.

Note Some autonomous messages (REPT DBCHG and REPT EVT SESSION, for example) differ slightly from the format shown in the third line of Figure 1-1.

Figure 1-1 Autonomous message format



1.3.1 Alarm Codes

The alarm code indicates the severity of the autonomous message. Valid values for alarm codes in decreasing order of severity are as follows:

- *C Critical alarm
- ** Major alarm
- *^ Minor alarm
- A^ Non-alarm message

Critical, Major, and Minor correspond to the reporting of alarmed events. The Non-alarm message designation is used when the NE is reporting non-alarmed events, periodic measurements, or results of previously-scheduled diagnostics or audits. If multiple alarms are reported in the same message, the alarm code is the highest severity of those being reported.

The following is an example of an output message that includes the Critical alarm code:

```
   AB7-56 1970-01-01 16:02:10
*C 100.100 REPT ALM EQPT
   "SYSTEM:CR,HITEMP,NSA,,,,:\"High Temperature\",TCC"
```

For more information about alarms, see Chapter 7, "TL1 Alarms and Errors."

1.4 TL1 Commands by User Security

The following table specifies command access privileges for each user security level.

Table 1-1 Command Access

Command	Superuser	Provisioning	Maintenance	Retrieve
ALW-MSG-SECU	X			
ALW-USER-SECU	X			
APPLY	X			
COPY-RFILE	X			
DLT-USER-SECU	X			
ED-DAT	X			
ED-USER-SECU	X			
ENT-USER-SECU	X			
INH-MSG-SECU	X			
INH-USER-SECU	X			
REPT EVT SECU	X			
DLT-*-*	X	X		
ED-*-*	X	X		
ENT-*-*	X	X		
SET-*-*	X	X		
SET-TOD	X	X		
INIT-*-*	X	X	X	
OPR-*-*	X	X	X	
RLS-*-*	X	X	X	
RMV-*-*	X	X	X	
RST-*-*	X	X	X	
SW-*-*	X	X	X	
ACT-*-*	X	X	X	X
ALW-*-*	X	X	X	X
CANC-*-*	X	X	X	X
ED-PID	X	X	X	X
INH-*-*	X	X	X	X
REPT * *[1]	X	X	X	X
RTRV-*-*	X	X	X	X

1. Except for REPT EVT SECU which is Superuser only as shown above.

User security levels limit the amount of time a user can leave the system idle before the TL1 session is locked to prevent unauthorized users from making changes. Higher security levels have shorter time outs. Starting with Release 4.0, time outs can be provisioned (by a Superuser) from CTC. If provisioned, it only affects users who are not currently logged in. A user that is logged in has to log out and log back in before the new timeouts will take affect.

Table 1-2 shows security levels and their default time outs.

Table 1-2 Security Default Time Outs

Security Level	Default Timeouts
Retrieve	Unlimited
Maintenance	60 minutes
Provisioning	30 minutes
Superuser	15 minutes

1.5 Provisioning a DS3E Card in CTC Using TL1

The DS3E card can autosense the framing being received and set the framing accordingly; however, this framing autosense feature can only be set using CTC. Use CTC to set the FMT attribute on a DS3E card to autoprovision which results in the FMT field being blanked out for a few seconds while the DS3E card is determining the framing mode coming into that particular port. The FMT field is then set accordingly to unframed, M23, or CBit. If the DS3E card is not present (pre-provisioned), setting the FMT field to autoprovision will result in the FMT field defaulting to unframed.

The TL1 interface does not support the autoprovision option for the DS3E card; the TL1 interface only supports unframed, M23, or CBit. If autoprovision is selected from CTC and at the same time the TL1 command RTRV-T3 is issued, the TL1 output will result in the FMT field populated with unframed during the time period that the DS3E card (if present) is autosensing the frame format. If the DS3E card is not present (pre-provisioned), issuing RTRV-T3 after CTC sets the FMT to autoprovision will result in the TL1 output populating the FMT field with unframed.

1.6 Provisioning Rules for MXP_2.5G_10G and TXP_MR_10G Cards

The following sections provide rules necessary when performing provisioning with theMXP_2.5G_10G and TXP_MR_10G (MXP/TXP) cards.

1.6.1 Payload Provisioning Rules for MXP/TXP Cards

1. You are allowed to change payload type only if all ports are in OOS state.
2. If the slot is in regeneration group, changing payload type affects both cards.
3. Changing payload is a card-level operation (i.e. all client ports are affected).
4. There should be no DCC enable on any ports.
5. Only the TXP card can be used for 10GE payload.

6. To set the 10GE payload, the termination mode must be set to transparent.
7. The payload cannot be changed if any of the ports are a part of any Y cable protection group or are used as the timing source.
8. The TL1 commands to provision are:
   – **ED-DWDM**:[<TID>]:<AID>:<CTAG>:::[PEERID=<PEERID>,][TERMMODE=<TERMMODE>,][PAYLOAD=<PAYLOAD>,][PWL=<PWL>];
   – **RTRV-DWDM**:[<TID>]:<AID>:<CTAG>;

1.6.2 Termination Mode Provisioning Rules for MXP/TXP Cards

1. Only applicable to payload type of SONET/SDH.
2. Changing termination mode is a card-level operation (i.e. client and trunk must have the same termination mode selection).
3. There should be no DCC enabled on any ports.
4. All ports need to be in OOS state.
5. For transparent termination mode, the trunk port should not be a timing source.
6. Section termination mode is not supported for both the MXP and TXP cards.
7. The trace mode should be set to OFF for the J0 Section trace level on all ports, prior to a change of the termination mode.
8. The TL1 commands to provision are:
   – **ED-DWDM**:[<TID>]:<AID>:<CTAG>:::[PEERID=<PEERID>,][TERMMODE=<TERMMODE>,][PAYLOAD=<PAYLOAD>,][PWL=<PWL>];
   – **RTRV-DWDM**:[<TID>]:<AID>:<CTAG>;

1.6.3 Wavelength Provisioning Rules for MXP/TXP Cards

1. The DWDM (trunk) port should be placed in OOS state because this change is traffic affecting. This is enforced in CTC. TL1 does not enforce this restriction.
2. Setting the wavelength to the first tunable wavelength will cause the first wavelength from the card manufacturing data to be used as the operational wavelength.
3. If the provisioned wavelength is set to the first tunable wavelength, any removal of an operational card and the subsequent replacement with a card of a different wavelength will not cause a mismatch alarm to be raised.
4. In order to receive the mismatch alarm notification, you need to explicitly provision the wavelength and not use the first tunable wavelength.
5. The TL1 commands to provision are:
   – **ED-DWDM**:[<TID>]:<AID>:<CTAG>:::[PEERID=<PEERID>,][TERMMODE=<TERMMODE>,][PAYLOAD=<PAYLOAD>,][PWL=<PWL>];
   – **RTRV-DWDM**:[<TID>]:<AID>:<CTAG>;

1.6.4 DCC/GCC Provisioning Rules for MXP/TXP Cards

1. The DCC can be provisioned for the MXP and TXP cards.
2. The DCC can be provisioned only if the card payload is set to SONET/SDH and the termination mode is set to line terminated.
3. The client ports can only support DCC.
4. The trunk port can only support either DCC or GCC.
5. To enable the GCC on the trunk port, the G.709 should be enabled.
6. To enable the DCC on the trunk port, the G.709 should be disabled.
7. Only the working port (not the protect) in a Y cable protection scheme is allowed to be provisioned as DCC and timing reference.
8. The TL1 commands to provision are:
   - **ED-CLNT**:[<TID>]:<AID>:<CTAG>:::[SFBER=<SFBER>,][SDBER=<SDBER>,][ALSMODE=<ALSMODE>,][ALSRCINT=<ALSRCINT>,][ALSRCPW=<ALSRCPW>,][COMM=<COMM>,][MACADDR=<MACADDR>,][SYNCMSG=<SYNCMSG>,][SENDDUS=<SENDDUS>,][RLASER=<RLASER>,][SOAK=<SOAK>]:[<PST>],[<SST>];
   - **ED-OCH**:[<TID>]:<AID>:<CTAG>:::[RDIRN=<RDIRN>,][EXPWLEN=<EXPWLEN>,][VOAATTN=<VOAATTN>,][VOAPWR=<VOAPWR>,][CALOPWR=<CALOPWR>,][SFBER=<SFBER>,][SDBER=<SDBER>,][ALSMODE=<ALSMODE>,][ALSRCINT=<ALSRCINT>,][ALSRCPW=<ALSRCPW>,][COMM=<COMM>,][GCCRATE=<GCCRATE>,][OSFBER=<OSFBER>,][OSDBER=<OSDBER>,][DWRAP=<DWRAP>,][FEC=<FEC>,][MACADDR=<MACADDR>,][SYNCMSG=<SYNCMSG>,][SENDDUS=<SENDDUS>,][RLASER=<RLASER>,][SOAK=<SOAK>]:[<PST>],[<SST>];
   - **RTRV-CLNT**:[<TID>]:<AID>:<CTAG>;
   - **RTRV-OCH**:[<TID>]:<AID>:<CTAG>;

1.6.5 G.709 Provisioning Rules for MXP/TXP Cards

1. The G.709 can only be provisioned on the trunk (DWDM) port.
2. In order to disable G.709, the FEC, if enabled, should be disabled first.
3. In order to disable G.709, the GCC if provisioned, should be removed.
4. In order to change G.709 setting, the trunk port needs to be OOS.

5. The TL1 commands to provision are:
   - **ED-CLNT**:[<TID>]:<AID>:<CTAG>:::[SFBER=<SFBER>,][SDBER=<SDBER>,][ALSMODE=<ALSMODE>,][ALSRCINT=<ALSRCINT>,][ALSRCPW=<ALSRCPW>,][COMM=<COMM>,][MACADDR=<MACADDR>,][SYNCMSG=<SYNCMSG>,][SENDDUS=<SENDDUS>,][RLASER=<RLASER>,][SOAK=<SOAK>]:[<PST>],[<SST>];
   - **ED-OCH**:[<TID>]:<AID>:<CTAG>:::[RDIRN=<RDIRN>,][EXPWLEN=<EXPWLEN>,][VOAATTN=<VOAATTN>,][VOAPWR=<VOAPWR>,][CALOPWR=<CALOPWR>,][SFBER=<SFBER>,][SDBER=<SDBER>,][ALSMODE=<ALSMODE>,][ALSRCINT=<ALSRCINT>,][ALSRCPW=<ALSRCPW>,][COMM=<COMM>,][GCCRATE=<GCCRATE>,][OSFBER=<OSFBER>,][OSDBER=<OSDBER>,][DWRAP=<DWRAP>,][FEC=<FEC>,][MACADDR=<MACADDR>,][SYNCMSG=<SYNCMSG>,][SENDDUS=<SENDDUS>,][RLASER=<RLASER>,][SOAK=<SOAK>]:[<PST>],[<SST>];
   - **RTRV-CLNT**:[<TID>]:<AID>:<CTAG>;
   - **RTRV-OCH**:[<TID>]:<AID>:<CTAG>;

1.6.6 FEC Provisioning Rules for MXP/TXP Cards

1. The FEC can only be provisioned if the G.709 is enabled.
2. Trunk port needs to be OOS.
3. The TL1 commands to provision are:
   - **ED-CLNT**:[<TID>]:<AID>:<CTAG>:::[SFBER=<SFBER>,][SDBER=<SDBER>,][ALSMODE=<ALSMODE>,][ALSRCINT=<ALSRCINT>,][ALSRCPW=<ALSRCPW>,][COMM=<COMM>,][MACADDR=<MACADDR>,][SYNCMSG=<SYNCMSG>,][SENDDUS=<SENDDUS>,][RLASER=<RLASER>,][SOAK=<SOAK>]:[<PST>],[<SST>];
   - **ED-OCH**:[<TID>]:<AID>:<CTAG>:::[RDIRN=<RDIRN>,][EXPWLEN=<EXPWLEN>,][VOAATTN=<VOAATTN>,][VOAPWR=<VOAPWR>,][CALOPWR=<CALOPWR>,][SFBER=<SFBER>,][SDBER=<SDBER>,][ALSMODE=<ALSMODE>,][ALSRCINT=<ALSRCINT>,][ALSRCPW=<ALSRCPW>,][COMM=<COMM>,][GCCRATE=<GCCRATE>,][OSFBER=<OSFBER>,][OSDBER=<OSDBER>,][DWRAP=<DWRAP>,][FEC=<FEC>,][MACADDR=<MACADDR>,][SYNCMSG=<SYNCMSG>,][SENDDUS=<SENDDUS>,][RLASER=<RLASER>,][SOAK=<SOAK>]:[<PST>],[<SST>];
   - **RTRV-CLNT**:[<TID>]:<AID>:<CTAG>;
   - **RTRV-OCH**:[<TID>]:<AID>:<CTAG>;

1.6.7 Synchronization Provisioning Rules for MXP/TXP Cards

1. Only the MXP card ports can be used for a timing source.
2. For the MXP card, all client ports are available for timing irrespective of the termination mode.
3. For the MXP card, the trunk port is only allowed for a timing reference if G.709 is off and the termination mode is set to line.

4. The TL1 commands to provision are:
   - **ED-CLNT**:[<TID>]:<AID>:<CTAG>:::[SFBER=<SFBER>,][SDBER=<SDBER>,][ALSMODE=<ALSMODE>,][ALSRCINT=<ALSRCINT>,][ALSRCPW=<ALSRCPW>,][COMM=<COMM>,][MACADDR=<MACADDR>,][SYNCMSG=<SYNCMSG>,][SENDDUS=<SENDDUS>,][RLASER=<RLASER>,][SOAK=<SOAK>]:[<PST>],[<SST>];
   - **ED-OCH**:[<TID>]:<AID>:<CTAG>:::[RDIRN=<RDIRN>,][EXPWLEN=<EXPWLEN>,][VOAATTN=<VOAATTN>,][VOAPWR=<VOAPWR>,][CALOPWR=<CALOPWR>,][SFBER=<SFBER>,][SDBER=<SDBER>,][ALSMODE=<ALSMODE>,][ALSRCINT=<ALSRCINT>,][ALSRCPW=<ALSRCPW>,][COMM=<COMM>,][GCCRATE=<GCCRATE>,][OSFBER=<OSFBER>,][OSDBER=<OSDBER>,][DWRAP=<DWRAP>,][FEC=<FEC>,][MACADDR=<MACADDR>,][SYNCMSG=<SYNCMSG>,][SENDDUS=<SENDDUS>,][RLASER=<RLASER>,][SOAK=<SOAK>]:[<PST>],[<SST>];
   - **RTRV-CLNT**:[<TID>]:<AID>:<CTAG>;
   - **RTRV-OCH**:[<TID>]:<AID>:<CTAG>;

1.6.8 Trace Provisioning Rules for MXP/TXP Cards

1. The client ports only support the SONET/SDH J0 section trace.
2. The client ports support the J0 Section trace only in line terminated mode.
3. The trunk (DWDM) port supports the J0 Section trace mode only in line terminated mode.
4. For the trunk port, if G.709 is enabled, TTI level trace can be provisioned for section and path monitoring.
5. In line termination, the J0 Section trace supports MANUAL and MANUAL_NO_AIS trace mode.
6. The J0 Section trace level supports 1 or 16-byte length trace format.
7. The OTN level trace supports only the Manual and MANUAL-NO-AIS trace modes.
8. The OTN level trace supports only 64-byte length trace format
9. The trace mode of AUTO and AUTO-NO-AIS are not supported.
10. The TL1 commands to provision are:
    - **ED-TRC-CLNT**:[<TID>]:<SRC>:<CTAG>:::[EXPTRC=<EXPTRC>,][TRC=<TRC>,][TRCMODE=<TRCMODE>,][TRCLEVEL=<TRCLEVEL>,][TRCFORMAT=<TRCFORMAT>][:];
    - **ED-TRC-OCH**:[<TID>]:<SRC>:<CTAG>:::[EXPTRC=<EXPTRC>,][TRC=<TRC>,][TRCMODE=<TRCMODE>,][TRCLEVEL=<TRCLEVEL>,][TRCFORMAT=<TRCFORMAT>][:];
    - **RTRV-TRC-CLNT**:[<TID>]:<SRC>:<CTAG>::[<MSGTYPE>],[<TRCLEVEL>][::];
    - **RTRV-TRC-OCH**:[<TID>]:<SRC>:<CTAG>::[<MSGTYPE>],[<TRCLEVEL>][::];

1.6.9 PM and Alarm Threshold Provisioning Rules for MXP/TXP Cards

1. The OTN thresholds are only applicable if the G.709 is enabled.
2. The FEC thresholds are only applicable if the G.709 and FEC are enabled.
3. The Optics TCA & Alarm Thresholds apply to the local node only.
4. The TL1 commands to provision are:
   - **SET-TH-CLNT**:[<TID>]:<AID>:<CTAG>::<MONTYPE>,<THLEV>,[<LOCN>],,[<TMPER>];
   - **SET-TH-OCH**:[<TID>]:<AID>:<CTAG>::<MONTYPE>,<THLEV>,[<LOCN>],,[<TMPER>];
   - **RTRV-TH-CLNT**:[<TID>]:<AID>:<CTAG>::[<MONTYPE>],[<LOCN>],<TMPER>[::];
   - **RTRV-TH-OCH**:[<TID>]:<AID>:<CTAG>::[<MONTYPE>],[<LOCN>],<TMPER>[::];

1.6.10 Regeneration Group Provisioning Rules for MXP/TXP Cards

1. Only a TXP card can be used in a regeneration group.
2. A regeneration group enables the continuation of the client signal across multiple spans.
3. Regeneration group rules are as follows:
   a. peer-slot must not be itself
   b. peer-slot must at least be preprovisioned
   c. same card type
   d. same payload type
   e. termination mode has to be set to transparent mode
   f. peer slot cannot be part of another Y cable or regeneration group
4. Once two cards are in regeneration group, any payload changes will be reflected on both cards.
5. The TL1 commands to provision are:
   - **ED-DWDM**:[<TID>]:<AID>:<CTAG>:::[PEERID=<PEERID>,][TERMMODE=<TERMMODE>,][PAYLOAD=<PAYLOAD>,][PWL=<PWL>];
   - **RTRV-DWDM**:[<TID>]:<AID>:<CTAG>;

1.6.11 Y Cable Protection Group Provisioning Rules for MXP/TXP Cards

1. A Y cable protection group can be created between the client ports of either two TXP cards or two MXP cards.
2. Y cable protection cannot be part of a regeneration group.
3. Only the working ports (not the protect) can be provisioned with DCC and timing reference.
4. The TL1 commands to provision are:
   - **ENT-FFP-CLNT**:[<TID>]:<WORKAID>,<PROTAID>:<CTAG>:::[PROTTYPE=<PROTTYPE>,][PROTID=<PROTID>,][RVRTV=<RVRTV>,][RVTM=<RVTM>,][PSDIRN=<PSDIRN>][:];

- **ED-FFP-CLNT**:[<TID>]:<AID>:<CTAG>:::[PROTID=<PROTID>,][RVRTV=<RVRTV>,][RVTM=<RVTM>,][PSDIRN=<PSDIRN>][:];
- **RTRV-FFP-CLNT**:[<TID>]:<AID>:<CTAG>[::::];

1.7 CTC Interoperability

A TL1 cross-connect that has been upgraded to a CTC circuit can no longer be managed by TL1. For example, if you issue a DLT-CRS-<STS_PATH> command to delete a circuit, you will see that the circuit still appears in CTC as "incomplete." The reason for this is because in addition to creating cross-connects (as TL1 does), CTC creates another object on the source node that stores network-level circuit attributes. CTC will continue to see that object after the cross-connect is deleted which is why it shows an incomplete circuit.

Starting with R3.4, there is a *Create cross connects only (TL1-like)* check box that appears in CTC when creating circuits. If applicable, you can check this box to create one or more cross-connects to complete a signal path for TL1-generated circuits. If this box is checked, you cannot assign a name to the circuit; and VT tunnels, Ethergroup sources, and drops are unavailable. Refer to the *Cisco ONS 15454 Procedure Guide* or the *Cisco ONS 15327 User Documentation* for information about CTC circuit creation.

1.8 Mixed Mode Timing Support

Although TL1 supports mixed mode timing in this release, Cisco strongly advises against its implementation. Mixed mode timing is not a recommended timing mode because of the inherent risk of creating timing loops. Refer to Telcordia document GR-436-CORE, *Digital Network Synchronization Plan* for recommended synchronization planning. Refer to the *Cisco ONS 15454 Procedure Guide* or the *Cisco ONS 15327 User Documentation* for information about setting up ONS 15454/15327 timing. For further assistance contact the Cisco Technical Assistance Center (TAC) at www.cisco.com or call 1-877-323-7368 for unresolved problems.

1.9 TL1 Command Completion Behavior

When you enter a TL1 command, one of three completion codes will be returned. The completion codes are: completed (COMPLD), partial (PRTL), and deny (DENY). You can specify an explicit, implicit, or explicit with implicit list as explained in the following sections.

1.9.1 General Rules

Note The command completion behavior does not apply to RTRV-CRS, RTRV-ALM, and RTVR-COND commands.

1.9.1.1 Explicit List of AIDs - No Wildcards

If a set of AIDs is explicitly listed, including a set of just one AID, then each AID must complete successfully to return a COMPLD message. If more than one AID is in the set and at least one AID succeeds but all do not, then a PRTL with errors for each failed AID is returned. If all AIDs in the set fail, a DENY with errors for each failed AID is returned.

SLOT-1
FAC-2-1&FAC-3-3&FAC-4-2

1.9.1.2 Implicit List of AIDs - Single AID With Wildcard

If a set of AIDs is implied by the use of the ALL modifier on a single AID, then follow the same rules as in the "Explicit List of AIDs - No Wildcards" section on page 1-15. The caveat is that the implicit list only includes AIDs that apply to the command:

SLOT-ALL
FAC-1-ALL
STS-3-ALL

where Slot 3 contains an OC-12 and the command is ED-STS1 but STS-3-4 and STS-3-7 are STS3C. The set implied by STS-3-ALL then only contains STS-3-{1,2,3,10,11,12} and will not return an error for STS-3-{4,5,6,7,8,9}. Disregard the STS3C in this case because the modifier of the command specifies that the user is only interested in STS-1 paths. The rule specified in this section then applies to the implicit set of {1,2,3,10,11,12}.

1.9.1.3 Explicit List Grouped With Implicit List

If the set of AIDs is comprised of two subsets, one set including explicitly stated AIDs and the other set implied by one or more AID(s) with the ALL modifier, then follow the rules of the"Explicit List of AIDs - No Wildcards" section on page 1-15 and the "Implicit List of AIDs - Single AID With Wildcard" section on page 1-15, respectively.

FAC-1-1&FAC-2-ALL
FAC-3-ALL&FAC-7-ALL
STS-2-ALL&STS-12-1&STS-13-2&STS-14-ALL

1.9.2 Command Completion Behavior for Retrieval of Cross-Connections

When you enter a RTRV-CRS command, one of three completion codes will be returned. The completion codes are: completed (COMPLD), partial (PRTL), and deny (DENY). You can specify an explicit, implicit, or explicit with implicit list as explained in the following sections.

1.9.2.1 Explicit List of AIDs - No Wildcards

For an explicit list of AIDs on a RTRV-CRS command, an error code will be returned for each AID that fails validation (e.g. the user specifies STS-N-13 when SLOT-N only contains an OC-12) or for each AID where no matching cross-connection is found. To determine the completion code, follow the rules from the "Explicit List of AIDs - No Wildcards" section on page 1-15. If the result is either PRTL or COMPLD, then a list of matching cross-connections will accompany the response.

1.9.2.2 Implicit List of AIDs - Single AID With Wildcard

If a set of AIDs is implied by the use of the ALL modifier on a single AID, then follow the same AID expansion rule as defined in the example from the "Implicit List of AIDs - Single AID With Wildcard" section on page 1-15. Then apply the following rules to the set:

1. If all valid AIDs match, COMPLD is returned with a matching list of cross-connections.
2. If some valid AIDs match but not all, COMPLD is returned with a matching list of cross-connections.
3. If all valid AIDs fail to match, DENY is returned.

RTRV-CRS-STS1:[<TID>]:STS-9-ALL:<CTAG>; where STS-9-ALL maps to STS-9-{1,2,3,10,11,12} because there is a single-port OC-12 card in Slot 3 with STS-3C defined for STS-9-4 and STS-9-7. You then traverse the set and return only the STS1 cross-connections that exist using end points in that set. If no cross-connections are retrieved, COMPLD is returned.

1.9.2.3 Explicit List Grouped With Implicit List

When you have determined the implicit list, apply the rules from the "Implicit List of AIDs - Single AID With Wildcard" section on page 1-16 to the implicit list and the rules from the "Explicit List of AIDs - No Wildcards" section on page 1-15 to the explicit list. Apply the following logic to the results from the two subsets:

1. Explicit list returns COMPLD, implicit list returns COMPLD, return COMPLD plus matching list
2. Explicit list returns COMPLD, implicit list returns DENY, return PRTLwith errors plus matching list
3. Explicit list returns PRTL, implicit list returns COMPLD, return PRTL with errors plus matching lists
4. Explicit list returns PRTL, implicit list returns DENY, return PRTL with errors plus matching list
5. Explicit list returns DENY, implicit list returns COMPLD, return PRTL with errors plus matching list
6. Explicit list returns DENY, implicit list returns DENY, return DENY with errors

1.10 Test Access

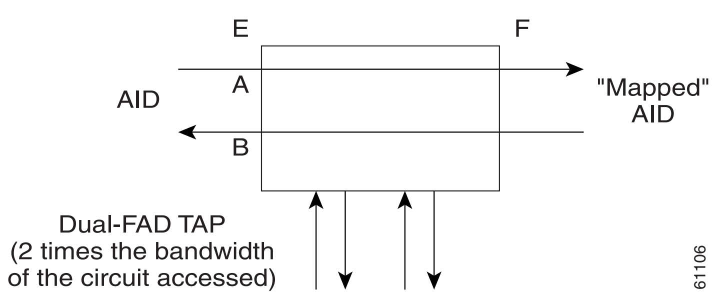
The test access (TACC) feature allows a third-party Broadband Remote Test Unit (BRTU) to create non-intrusive test access points (TAPs) to monitor the circuits on the ONS 15454/15327 for errors. The test access feature also allows the circuit to be split (intrusive), so that the transmission paths can be tested for bit errors via the use of various bit test patterns. The two BRTUs supported by the ONS 15454/15327 are the Hekimian/Spirent BRTU-93 (6750) and the TTC/Acterna Centest 650.

The test access functionality provides TL1 commands for creating and deleting TAPs, connecting or disconnecting TAPs to circuit cross-connects and changing the mode of test access on the ONS 15454/15327. You can view test access information in CTC; in node view click the **Maintenance > Test Access** tabs.

Refer to Telcordia document GR-834-CORE, *Network Maintenance: Access and Testing* and GR-1402-CORE, *Network Maintenance: Access Testing - DS3 HCDS TSC/RTU and DTAU Functional Requirements* for more information about Test Access. See Chapter 3, "TL1 Command Descriptions" for TL1 command information.

A TAP provides the capability of connecting the circuit under test to a BRTU. This connection initially provides in-service monitoring capability to permit the tester to determine that the circuit under test is idle. The monitor connection should not disturb the circuit under test. The access point and remote test unit (RTU) also provide the capability of splitting a circuit under test. A split consists of breaking the transmission path of the circuit under test. This is done out of service. The two sides of the access point are called the Equipment (E) and Facility (F) directions. For a 4-wire or 6-wire circuit, the transmission pairs within the access point are defined as the A and B pairs. The circuit under test should be wired into the access point so the direction of transmission on the A pair is from E to F, and the transmission direction for the B pair is from F to E (Figure 1-2).

Figure 1-2 Circuit with no access



1.10.1 Test Access Terminology

BRTU—Broadband remote test unit

DFAD—Dual facility access digroup

FAD—Facility access digroup

FAP—Facility access path

MONE—Monitor access with signal detector on A path

MONF—Monitor access with signal detector on B path

MONEF—Monitor access with signal detector on A and B paths

SPLTA—Split access on A path with signal detector from equipment, QRS on facility side

SPLTB—Split access on B path with signal detector from equipment, QRS on equipment side

SPLTE—Split access on A and B paths with signal detector from equipment, QRS on equipment side

SPLTF—Split access on A and B paths with signal detector from equipment, QRS on facility side

SPLTEF—Split access on A and B paths for testing in both equipment and facility directions

LOOPE—Split/loop access on A and B paths equipment side

LOOPF—Split/loop access on A and B paths facility side

QRS—Quasi-random signal (bit test pattern)

TACC—Test access

TAP—Test access path/point

Path Naming Conventions:

E—Equipment test access point direction

F—Facility test access point direction

A—Transmission path (the direction of transmission on the A pair is from E to F)

B—Transmission path (the transmission direction for the B pair is from F to E)

1.10.2 TAP Creation and Deletion

The edit command (ED-<rr>) is used to change an existing port, STS, or VT to a TAP.

Input Format:
ED-(STS_PATH):[<TID>]:<AID>:<CTAG>:::[SFBER=<SFBER>,][SDBER=<SDBER>,]
[RVRTV=<RVRTV>,][RVTM=<RVTM>,][SWPDIP=<SWPDIP>,][EXPTRC=<EXPTRC>,]
[TRC=<TRC>,][TRCMODE=<TRCMODE>,][TACC=<TACC>]:[<PST>],[<SST>];

Edit an existing port, STS, or VT and change it to a TAP so it can be used when requesting TACC connections. Includes a new optical parameter TACC=n that defines the port, STS, or VT as a TAP with a selected unique TAP number. This TAP number will be used when requesting test access connections to circuit cross-connections under test. The TAP creation will fail if there is a cross-connection already on the port, STS, or VT.

The following list applies to TAP numbers:

1. The TAP number is an integer within the range of 1–999. When TACC=0 is specified, the TAP is deleted (if already present).
2. The TAP number is unique across T1/T3/STS/VT/DS1 TAPs in the system.
3. The TAP number is not editable.

1.10.2.1 ED-T1

When the ED-T1 command is issued with a specified TACC value for a given T1 port/facility, a dual facility access group (DFAD) is created by using the specified port/facility and the consecutive port/facility.

Example 1-1 ***ED-T1::FAC-1-1:12:::TACC=1;***

```
  DV9-99 1970-01-02 03:16:11
M 12 COMPLD
;
```

This command creates a DFAD on FAC-1-1 and FAC-1-2.

Note These ports/facilities cannot be used for the creation of cross-connects until the TAP is deleted.

1.10.2.2 ED-T3

When the ED-T3 command is issued with a specified TACC value for a given T3 port/facility, a DFAD is created by using the specified port/facility and the consecutive port/facility.

The command in Example 1-2 creates a T3 DFAD on FAC-2-1 and FAC-2-2.

Example 1-2 ***ED-T3::FAC-2-1:12:::TACC=2;***

```
  DV9-99 1970-01-02 03:16:11
M 12 COMPLD
;
```

Note These ports/facilities cannot be used for the creation of cross-connects until the TAP is deleted.

1.10.2.3 ED-DS1

When the ED-DS1 command is issued with a specified TACC value for a given DS1 facility on a DS3XM, a DFAD is created by using the specified facility and the consecutive port/facility.

The command in Example 1-3 creates DFAD on DS1-2-1-1 and DS1-2-1-2.

Example 1-3 ED-DS1::DS1-2-1-1:12:::TACC=3;

```
   DV9-99 1970-01-02 03:16:11
M 12 COMPLD
;
```

Note These ports/facilities cannot be used for the creation of cross-connects until the TAP is deleted.

1.10.2.4 ED-STSn

When the ED-STSn command is issued for a TACC it assigns the STS for the first 2-way test access connection and STS+1 as the second 2-way connection. For STS3c, STS9c, STS12c, STS24c, and STS48c the next consecutive STS of same width is chosen. The TAP creation will fail if either of the consecutive STSs are not available.

The command in Example 1-4 creates a TAP on STS-5-1 and STS-5-2.

Example 1-4 ED-STS1::STS-5-1:12:::TACCC=4

```
   DV9-99 1970-01-02 03:16:11
M 12 COMPLD
;
```

Note These STSs cannot be used for the creation of cross-connects until the TAP is deleted.

The command in Example 1-5 creates an STS24C dual TAP on STS-6-1 and STS-6-25.

Example 1-5 ED-STS24C::STS-6-1:12:::TACC=5:

```
   DV9-99 1970-01-02 03:16:11
M 12 COMPLD
;
```

Note These STSs cannot be used for the creation of cross-connects until the TAP is deleted.

1.10.2.5 ED-VT1

When the ED-VT1 command is issued for a TACC, a VT TAP is created. The specified VT AID is taken as the first VT connection, the second VT connection is made by incrementing the VT group and keeping the VT number the same.

The command in Example 1-6 creates a VT TAP on VT1-1-1-1-1 and VT1-1-1-2-1.

Example 1-6 ED-VT1-1-1-1-1:12:::TACC=6;

```
  DV9-99 1970-01-02 03:16:11
M 12 COMPLD
;
```

Note These VTs cannot be used for the creation of cross-connects until the TAP is deleted.

1.10.3 Connect Test Access Points

The CONN-TACC command (CONN-TACC-<rr>) is used to make a connection between the TAP and the circuit or cross-connect under test.

Input Format: CONN-TACC-(T1, T3, STS1, STS3C, STS6C, STS9C, STS12C, STS24C, STS48C, VT1, DS1):[<TID>]:<AID>:<CTAG>::<TAP>:MD=<MD>;

Connect the port/STS/VT defined by <AID> to the port/STS/VT defined by the <TAP> number. The mode of test access to the circuit/cross-connect is specified by <MD>. The modes can be either of monitor (non-intrusive), split or loop (intrusive) modes. The various modes are described in the "Test Access Mode Definitions" section on page 1-26.

Note The connection is maintained only for the duration of the TL1 session (non-persistent).

Note The TAP number is displayed at the output if the CONN-TACC command completes successfully.

Error Codes Supported:

RTBY—Requested TAP busy

RTEN—Requested TAP does not exist

SCAT—Circuit is already connected to another TAP

SRCN—Requested condition already exists

IIAC—Invalid access identifier (AID)

EANS—Access not supported

SRAC—Requested access configuration is invalid

The command in Example 1-7 creates a connection between TAP with number one and the port/facility FAC-1-3 with access mode as MONE. The various modes are described in the "Test Access Mode Definitions" section on page 1-26.

Example 1-7 CONN-TACC-T1::FAC-1-3:12::1:MD=MONE;

```
   DV9-99 1970-01-02 02:51:54
M 12 COMPLD
   1
;
```

1.10.4 Change Access Mode

The CHG-ACCMD command (CHG-ACCMD-<rr>) is used to change the access mode.

Input Format: CHG-ACCMD-(T1, T3, STS1, STS3C, STS6C, STS9C, STS12C, STS24C, STS48C, VT1, DS1):[<TID>]:<TAP>:<CTAG>::<MD>;

Change the type of test access. This may be a change from monitoring the data to inserting data into the STS. This command can only be applied to an existing TAP connection. If a TAP connection does not exist, a RTEN error is returned.

Error codes supported:

SRCN—Requested condition already exists

SRAC—Requested access configuration is invalid

RTEN—Requested TAP does not exist

The command in Example 1-8 changes the access mode of TAP 1 to LOOPE.

Example 1-8 CHG-ACCMD-T1::1:12::LOOPE;

```
   DV9-9 1970-01-02 02:59:43
M 12 COMPLD
;
```

Note The access mode cannot be changed if the TAP is not connected.

1.10.5 Disconnect Test Access Points

TAPs can be disconnected in the following ways:

- Issue the DISC-TACC command
- Delete or modify accessed connection
- Drop the TL1 session for any reason, including logout or a dropped telnet session
- Switch or reset a TCC+/TCC2or XTC

The DISC-TACC command disconnects the <TAP> and puts the connection back to it's original state (no access). To issue the DISC-TACC command, follow the input format and examples shown below:

Input Format: DISC-TACC:[<TID>]:<TAP>:<CTAG>;

The command in Example 1-9 disconnects TAP 1 from the circuit/cross-connect under test.

Example 1-9 DISC-TACC::1:12;

```
  DV9-99 1970-01-02 02:59:43
M 12 COMPLD
;
```

Error codes supported:

SADC—Already disconnected

SRTN—Unable to release TAP

1.10.6 Delete Test Access Points

The command in Example 1-10 deletes a TAP.

Example 1-10 ED-<STS_PATH>:[<[TID>]:<AID>:<CTAG>:::TACC=0:;

Note The TACC number must be set to zero in order to delete a TAP.

Note If a TAP is not removed the STS bandwidth will be stranded.

1.10.7 Retrieve Test Access Point Information

The RTRV-TACC command retrieves TAP information. See the "RTRV-TACC: Retrieve Test Access" section on page 3-238 for more information.

Input Format: RTRV-TACC:[<TID>]:<TAP>:<CTAG>;

<TAP> indicates the assigned numeric number for the AID being used as a test access point. The <TAP> number must be an integer with a range of 1–999. The ALL TAP value means that the command will return all the configured TACCs in the NE. <TAP> is a string and must not be null.

Example 1-11 RTRV-TACC::ALL:12;

```
  PTLM6-454A59-52 1970-01-10 09:51:27
M 12 COMPLD
  "1:STS-2-1,STS-2-2,MONE,STS-2-3,STS-2-4"
  "2:VT1-1-1-1-1,VT1-1-1-2-1,MONF,VT1-1-1-3-1,VT1-1-1-4-1"
;
```

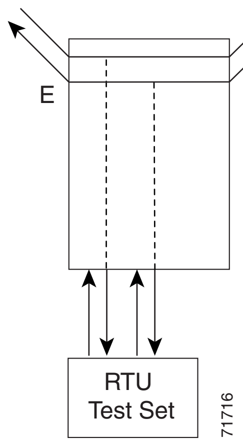
Parameter definitions:

- <TAP> indicates the assigned numeric number for the AID being used as a TAP; <TAP> is a string
- <TACC_AID1> is the STS or VT AID that was designated as a test access point and assigned to the TAP; <TACC_AID1> is from the "ALL" section on page 4-10
- <TACC_AID2> is the STS or VT AID that was designated as a test access point and assigned to the TAP+1; <TACC_AID2> is from the "ALL" section on page 4-10

- <MD> indicates the test access mode. It identifies the status of the circuit connected to the TACC. Valid values are shown in the "TACC_MODE" section on page 4-92
- <E_CONN> indicates the E side STS or VT AID of a circuit connected to the TACC or under test; <E_CONN> is from the "ALL" section on page 4-10 and is optional
- <F_CONN> indicates the F side STS or VT AID of a circuit connected to the TACC or under test; <F_CONN> is from the "ALL" section on page 4-10

1.10.8 Test Access Configurations

Figure 1-3 Single node view (Node 1)



Example 1-12 ED-STS1::STS-1-1:90:::TACC=1:;

This command changes STS1 and STS2 on Slot 1 to a TAP. The <CTAG> is 90. Sets the TAP number to 1.

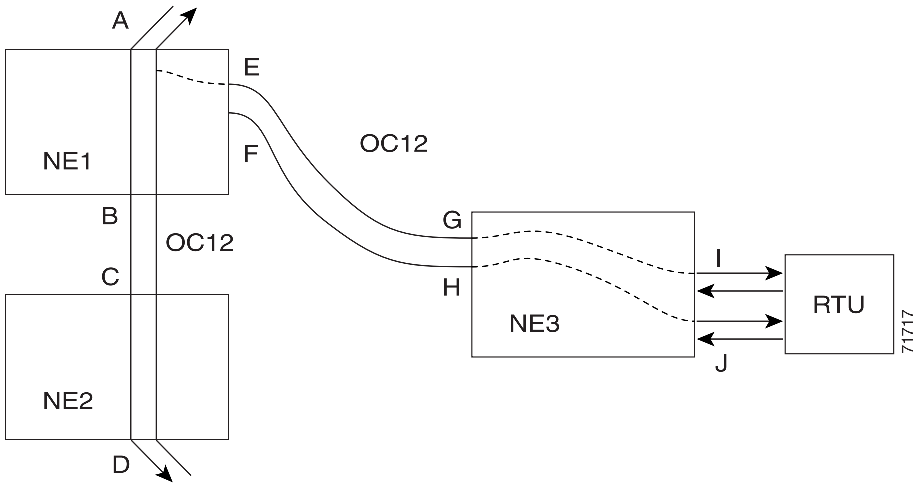
Example 1-13 CONN-TACC-STS1::<AID for E or F depending on MD>:91::TAP-1:MONE

This command connects the <AID> to the TACC defined by TAP 1 on the E side. <CTAG> is 91.

Note The connection made in the CONN-TACC command can use MONE to connect to the F side <AID>. The <AID> provided designates the E side and the other automatically becomes the F side. For example, if an <AIDF> is supplied to a MONE connection the top line would be connected to the side of the path, or what is shown in the diagram as the F side. Once a CONN-TACC is set up, these designations cannot change until a DISC-TACC or another CONN-TACC command is issued. The connection is based on the <AID> supplied.

Note In the Figure 1-3 configuration there may be a single DS3 port wired-up but configured as 14 dual FADs (28 VTs).

Figure 1-4 Multi-node view (MONE example)



On NE3:

Example 1-14 ENT-CRS-STS1::<AID I-G>:100::2WAY; A connection, not a TAP. CTAG is 100.
ENT-CRS-STS1::<AID J-H>:101::2WAY; Second connection, not a TAP.

On NE1:

Assuming the path from A to B is already entered; the A and B points in the diagram refer to entry and exit points on the node or different cards. The E/F designators refer to the two 2-way connections from NE3.

Example 1-15 ED-STS1::STS-1-1:TACC=4; Creates TAP with STS-1-1 and STS-1-2 through NE1. TAP number assigned is 4.

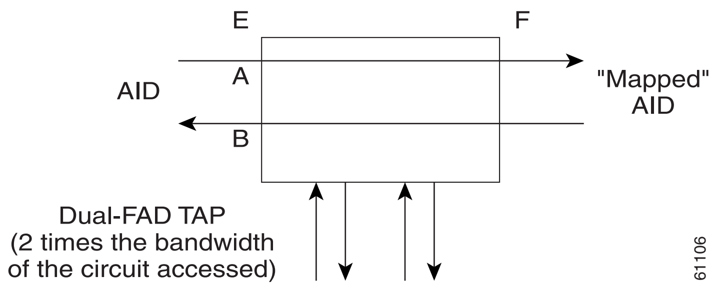
Example 1-16 CONN-TACC-STS1::<AID A or B>:102::4:<MD> Connects TAP #4 to the circuit.

Note The I and J connections above are TAPs in Figure 1-3, but normal connections in the Figure 1-4 configuration.

1.10.9 Test Access Mode Definitions

The following diagrams show what the different test access modes <MD> refer to. Figure 1-5 shows a circuit with no access followed by all the modes. The QRS may be generated by an outside source, i.e. the empty connection of the BRTU.

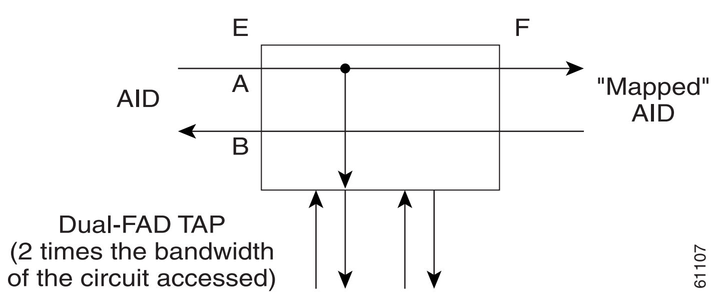
Figure 1-5 Circuit with no access



1.10.9.1 MONE

Monitor E (MONE) indicates a monitor connection provided from the facility access digroup (FAD) to the A transmission path of the accessed circuit (Figure 1-6). This is a non-intrusive mode.

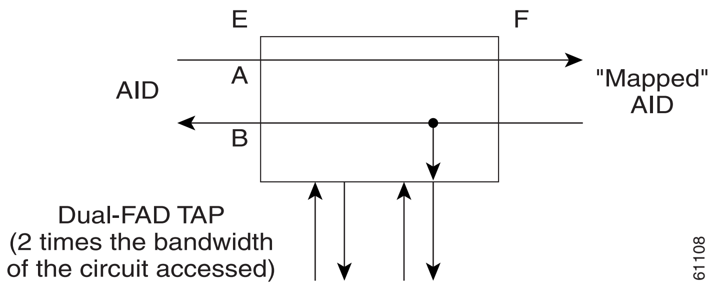
Figure 1-6 MONE access



1.10.9.2 MONF

Monitor F (MONF) indicates that the FAD is providing a monitor connection to the B transmission path of the accessed circuit (Figure 1-7). This is a non-intrusive mode.

Figure 1-7 MONF access



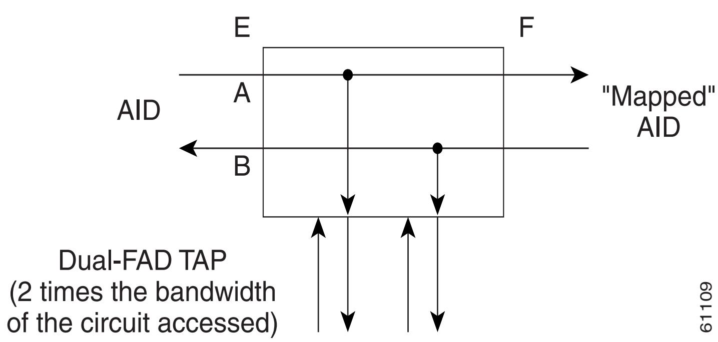
Note The MONE and SPLTA modes are applicable to unidirectional circuits from E to F. The MONF and SPLTB modes are applicable to unidirectional circuits from F to E.

1.10.9.3 MONEF

Monitor EF (MONEF) is a monitor connection provided from the FAD1 (odd pair) to a DFAD, to the A transmission path and from FAD2 (even pair) of the same DFAD, to the B transmission path of the accessed circuit. This is a non-intrusive mode.

MONEF for T3 (DS3 HCDS) indicates that the odd pair of a FAP is providing a monitor connection to the A transmission path and from the even pair of a facility access path (FAP) to the B transmission path of the accessed circuit.

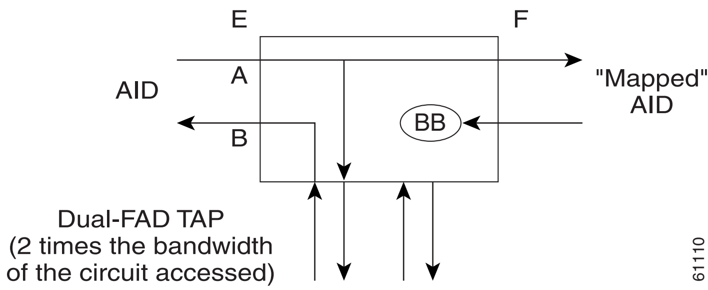
Figure 1-8 MONEF access



1.10.9.4 SPLTE

Split E (SPLTE) indicates to split both the A and B paths and connect the E side of the accessed circuit to the FAD. Figure 1-9 through 1-11 show split E and F access modes.

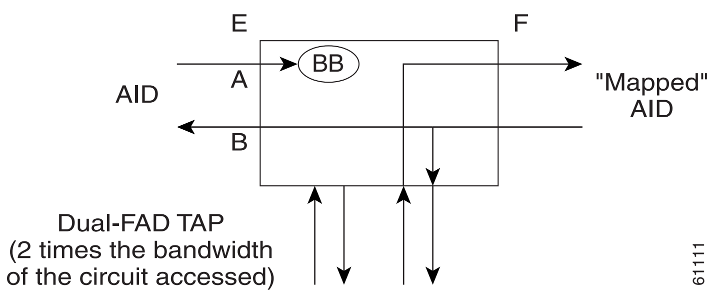
Figure 1-9 SPLTE access



1.10.9.5 SPLTF

Split F (SPLTF) indicates to split both the A and B paths and connect the F side of the accessed circuit to the FAD.

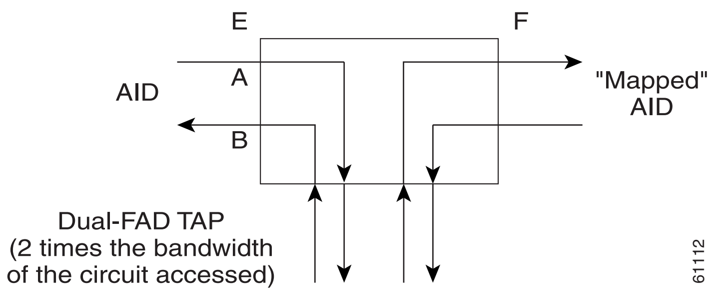
Figure 1-10 SPLTF access



1.10.9.6 SPLTEF

Split EF (SPLTEF) for T1 (DS1 HCDS) indicates to split both the A and B paths, connect the E side of the accessed circuit to FAD1 and the dual facility access digroup (DFAD) pair, and connect the F side to the FAD2 of the same DFAD pair. SPLTEF for T3 (DS3 HCDS) indicates to split both the A and B paths and connect the E side of the accessed circuit to the odd pair of the FAP and the F side to the even pair of the FAP.

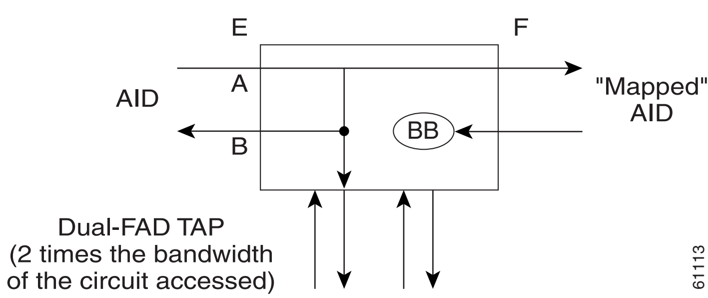
Figure 1-11 SPLTEF access



1.10.9.7 LOOPE

Loop E (LOOPE) indicates to split both the A and B paths, connect the incoming line from the E direction to the outgoing line in the E direction, and connect this looped configuration to the FAD. Loop E and F modes are basically identical to the SPLT E and F modes except that the outgoing signal is the incoming signal and not the signal from the remote test unit (RTU).

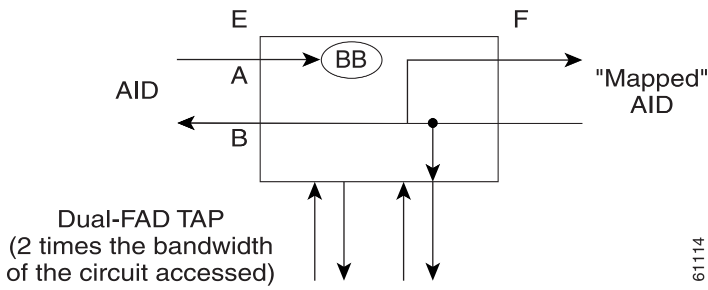
Figure 1-12 LOOPE access



1.10.9.8 LOOPF

Loop F (LOOPF) indicates to split both the A and B paths, connect the incoming line from the F direction to the outgoing line in the F direction and connect this looped configuration to the FAD.

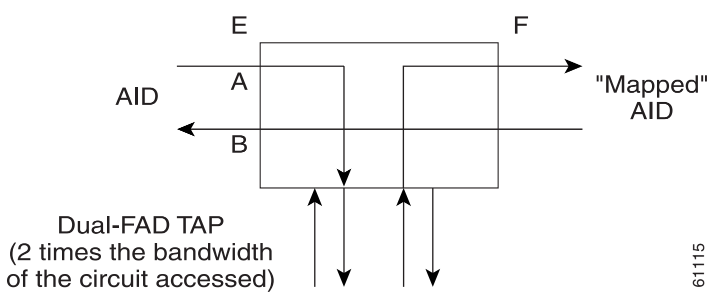
Figure 1-13 LOOPF access



1.10.9.9 SPLTA

Split A (SPLTA) indicates that a connection is provided from both the E and F sides of the A transmission path of the circuit under test to the FAD and split the A transmission path. Split A and B access modes are shown in Figure 1-14 and Figure 1-15. These modes are similar to the Split E and F modes, except the signals are sent to the RTU, not the NE signal configuration.

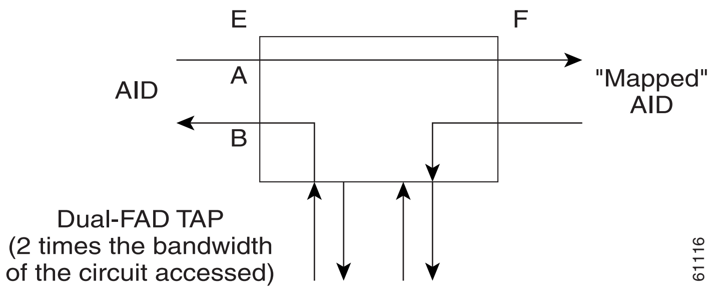
Figure 1-14 SPLTA access



1.10.9.10 SPLTB

Split B (SPLTB) indicates that a connection is provided from both the E and F sides of the B transmission path of the circuit under test to the FAD and split the B transmission path.

Figure 1-15 SPLTB access



1.10.10 Unmapped AID Test Access Point Connections

The ONS 15454/15327 supports connections to unmapped AIDs (unmapped circuits). The TAPs can be connected to an unmapped AID, i.e. an AID that does not have a cross-connect on it. The access modes supported are: MONE, SPLTE, and LOOPE.

Example 1-17 ED-STS1::STS-5-1:12:::TACC=1;

```
  DV9-99 1970-01-02 03:16:11
M 12 COMPLD
;
```

This command creates a TAP on STS-5-1 and STS-5-2.

Example 1-18 CONN-TACC-STS1::STS-5-3:12::1:MD=MONE;

```
  DV9-99 1970-01-02 02:51:54
M 12 COMPLD
  1
;
```

Note STS-5-3 does not have a cross-connect on it. This command creates an unmapped AID connection with the MONE access mode. STS-5-3 becomes unusable until the connection is disconnected by the DISC-TACC command.

Note The <AID> provided in the CONN-TACC command designates the E side and the other automatically becomes the F side.

Note In the case of all 1-way circuits (1-way, UPSR_HEAD, UPSR_DROP, UPSR_DC, UPSR_EN): If the <AID> specified is the source AID, the direction is designated as From E in the above table. If the <AID> specified is the destination AID or the drop side, the direction is designated as From F in the above table.

Examples:

The following examples assume an STS TAP is already created with TAP number = 1.

1.10.10.1 1-Way Circuit

Example 1-19
```
ENT-CRS-STS1::STS-5-1,STS-5-2:12::1WAY;
  DV9-99 1970-07-01 20:29:06
M 12 COMPLD;
```

Example 1-20
```
CONN-TACC-STS1::STS-5-1:12::1:MD=MONF;
  DV9-99 1970-01-01 20:29:47
M 12 DENY
  EANS
 STS-5-1
/*INCORRECT TAP MODE*/
```

The <AID> specified in the above CONN-TACC command is the source AID for the 1-way circuit. In this case only MONE and SPLTA modes are allowed because there is no B path in the case of a 1-way circuit (see Table 1-3 on page 1-33).

Example 1-21
```
CONN-TACC-STS1::STS-5-1:12::1:MD=MONE;
  DV9-99 1970-01-01 20:30:09
M 12 COMPLD
```

Example 1-22
```
DISC-TACC::1:12;
  DV9-99 1970-01-01 20:30:20
M 12 COMPLD
;
```

However if the <AID> specified is the destination AID as shown below, the modes allowed are MONF and SPLTB.

Example 1-23
```
CONN-TACC-STS1::STS-5-2:12::1:MD=MONF;
  DV9-99 1970-01-01 20:30:32
M 12 COMPLD
```

Notes:

1. The same examples apply for UPSR_HEAD, UPSR_DROP, UPSR_DC and UPSR_EN which are all 1-way circuits.
2. The connections are made only to the working path irrespective of which path is currently active.

1.10.10.2 2-Way Circuits

For 2-way circuits all the modes are allowed as shown in Table 1-3 and the same applies for UPSR_UPSR and UPSR circuit types. In the case of UPSR_UPSR and UPSR circuits the working path is connected irrespective of which path is currently active.

1.10.10.3 Unmapped AID

As explained in the "Unmapped AID Test Access Point Connections" section on page 1-31, connections can be made to an <AID> without a cross-connect on it. The modes supported are MONE, SPLTE and LOOPE as shown in Table 1-3.

Table 1-3 Modes Supported by Circuit Type

	MONE	MONF	MONEF	SPLTE	SPLTF	SPLTEF	LOOPE	LOOPF	SPLTA	SPLTB
1-way (from E)	X								X	
1-way (from F)		X								
2-way	X	X	X	X	X	X	X	X	X	X
UPSR	X	X	X	X	X	X	X	X	X	X
UPSR_HEAD (from E)	X								X	
UPSR_HEAD (from F)		X								X
UPSR_DROP UPSR_DC UPSR_EN (from E)	X								X	
UPSR_DROP UPSR_DC UPSR_EN (from F)		X								X
UPSR_UPSR	X	X	X	X	X	X	X	X	X	X
Unmapped AID	X			X			X			

1.11 TL1 PCA Provisioning

You can provision or retrieve protection channel access (PCA) cross-connections on two-fiber and four-fiber BLSR topologies at these supported OC rates: OC12 (two-fiber only), OC48, and OC192. The traffic on the protection channel is referred to as extra-traffic and has the lowest priority level. Extra-traffic will be preempted by any working traffic that requires the use of the protection channel.

In a two-fiber BLSR the extra traffic is provisioned on the upper half of the bandwidth path. In a four-fiber BLSR the extra traffic is provisioned on the protect fiber. The PCA provisioning feature allows you to establish the PCA cross-connection on the protection path of the two-fiber BLSR and protection channel of the four-fiber BLSR only when the query is an explicit request.

There are two PCA connection types: 1WAYPCA and 2WAYPCA. The PCA cross-connection is provisioned only when the user provides an explicit request using the ENT-CRS-STSp/VT1 commands. If the cross-connection is a PCA cross-connection, either 1WAYPCA or 2WAYPCA is shown in the CCT field of the RTRV-CRS-STSp/VT1 command output.

1WAYPCA and 2WAYPCA are only used in the TL1 user interface to provide usability and visibility for the user to specify a PCA cross-connection type in the TL1 cross-connection commands.

Note The network must be configured as either a two-fiber or four-fiber OC-12, OC-48, or OC-192 BLSR.

Note The STS or VT1 path cross-connection can be established with TL1 commands (ENT-CRS-xxx).

Note Because the RTRV-CSR-xxx command does not include the optional CTYPE field to specify a connection type, the output result reports the matched cross-connections based on the queried AID(s); therefore, the retrieved cross-connection inventory can be both PCA and non-PCA cross-connections.

1.11.1 Provision a PCA Cross-Connection

Input format for provisioning a PCA cross-connection:

Example 1-24 ENT-CRS-<PATH>:[<TID>]:<FROM>,<TO>:<CTAG>::[<CCT>][::];
<PATH>::={STS_PATH | VT1}
[<CCT>]::={1WAY, 1WAYDC, 1WAYEN, 2WAY, 1WAYPCA, 2WAYPCA}, it defaults to 2WAY.
{STS_PATH}::={STS1 | STS3C | STS6C | STS9C | STS12C | STS24C | STS48C | STS192C}

STS= all the STS bandwidth cross-connections.

VT1=VT1_5 cross-connection.

Input example of provisioning an STS3C PCA cross-connection:

Example 1-25 ENT-CRS-STS3C::STS-1-1,STS-2-1:123::2WAYPCA;

> **Note** If the [<CCT>] of this cross-connection provisioning command is either 1WAYPCA or 2WAYPCA, and the NONE of both <FROM> and <TO> AID is PCA AID, an IIAC (Input, Invalid PCA AIDs) error message is returned.

> **Note** If sending this command with a non-PCA connection type (CCT), and one (or two) AIDs is/are the PCA AIDs, an IIAC (The PCA AID Is Not Allowed for the Queried CCT Type) error message is returned.

1.11.2 Retrieve a PCA Cross-Connection

Input Format for retrieving a PCA cross-connection:

Example 1-26 RTRV-CRS-[<PATH>]:[<TID>]:<AID>:<CTAG>[::::];<PATH>::={STS_PATH | VT1 | STS }

If PATH is STS, it will retrieve all the STS cross-connections based on the queried AIDs.

<AID>={FacilityAIDs, STSAIDs, VTAIDs, ALL}

Output format of the PCA STSp cross-connection retrieval command:

Example 1-27 "<FROM>,<TO>:2WAYPCA,STS3C"

Output format of the PCA VT cross-connection retrieval command:

Example 1-28 "<FROM>,<TO>:2WAYPCA"

1.12 FTP Software Download

The file transfer protocol (FTP) software download feature downloads a software package to the inactive flash partition residing on either the TCC+/TCC2 or XTC card. FTP software download provides for simplex and duplex TCC+/TCC2 or XTC card downloads, success and failure status, and in-progress status at 20% increments.

1.12.1 COPY-RFILE

The COPY-RFILE command downloads a new software package from the location specified by the FTP URL into the inactive flash partition residing on either the TCC+/TCC2 or XTC card.

Input format:

Example 1-29 COPY-RFILE:[<TID>]:[<SRC>]:<CTAG>::TYPE=<XFERTYPE>,[SRC=<SRC1>]:

where:

- SRC is the type of file being transferred and is from the "RFILE" section on page 4-24
- <XFERTYPE> is the file transfer protocol; valid values can be found in the "TX_TYPE" section on page 4-95
- <SRC1> specifies the source of the file to be transferred. Only the FTP URL is supported. In a non-firewall environment the format for the URL is: "FTP://FTPUSER[:FTPPASSWORD]]@FTPHOST/PACKAGE_PATH"

  where:

  - userid is the userid to connect to the computer with the package file
  - password is the password used to connect to the computer with the package file
  - hostname is the IP address of the computer with the package file. DNS lookup of hostname is not supported.
  - package_path is the long path name to the package file

  Note Userid and password are optional if the user does not need to log into the host computer. The password may be optional if the user does not need to log in. All other portions of the URL are required, including the initial "FTP://" string.

  In a firewall environment the hostname should be replaced with a list of IP addresses each separated by a "@" character. The first IP address should be for the computer where the package file is stored. Subsequent IP addresses are for firewall computers moving outward toward the edge of the network until the final IP address listed is the computer that outside users use to first access the network.

  For example, if your topology is:

  "FTPHOST <-> GNE3 <->GNE2 <-> GNE1 <-> ENE"

  the FTP URL is:

  FTP://FTPUSER:FTPPASSWORD@FTPHOST@GNE3@GNE2@GNE1/PACKAGE_PATH

  SRC1 is a String

Notes:

1. SWDL is the only allowable <XFERTYPE>.
2. FTP is the only allowed file transfer method.
3. The use of the SWDL and the extended FTP URL syntax are required by the COPY-RFILE syntax.

1.12.2 APPLY

The APPLY command can activate or revert software depending on the version of software loaded on the active and protect flash. An error is returned if attempting to activate to an older software load or trying to revert to a newer software load. If this command is successful the appropriate flash is selected and the TCC+/TCC2 or XTC card will reboot.

Input format:

Example 1-30 APPLY:[<TID>]::<CTAG>[::<MEM_SW_TYPE>]:

where:

- <MEM_SW_TYPE> indicates memory switch action during the software upgrade. <MEM_SW_TYPE> is ACT for activate and RVRT for revert.

1.12.3 REPT EVT FXFR

REPT EVT FXFR is an autonomous message used to report the start, completion, and completed percentage status of the FTP software download. REPT EVT FXFR also reports any failure during the software upgrade including invalid package, invalid path, invalid userid/password, and loss of network connection.

Note:

1. The “FXFR_RSLT” is only sent when the “FXFR_STATUS” is COMPLD.
2. The “BYTES_XFRD” is only sent when the “FXFR_STATUS” is IP or COMPLD.

Output format:

Example 1-31
```
SID DATE TIME
A  ATAG REPT EVT FXFR
   "<FILENAME>,<FXFR_STATUS>,[<FXFR_RSLT>],[<BYTES_XFRD>]"
;
```

where:

- <FILENAME> indicates the transferred file path name and is a string
- <FXFR_STATUS> indicates the file transferred status: Start, IP (in progress), or COMPLD
- <FXFR_RSLT> indicates the file transferred result: success or failure. <FXFR_RSLT> is optional
- <BYTES_XFRD> indicates the percentage transfer complete and is optional

1.12.4 Downloading New Software

The following procedure downloads new software to the TCC+/TCC2 or XTC card using TL1.

Download New Software

Note Only Superusers can download and activate software.

Step 1 Copy the new software package (15454-0340-X02E-2804.pkg) to an FTP host.

Step 2 Establish a TL1 session with the target NE.

Step 3 Login with the ACT-USER command.

Step 4 Check the working and protect software on the NE by issuing the RTRV-NE-GEN command.

Input example:

Example 1-32 RTRV-NE-GEN:::1;

Output example:

Example 1-33
```
  VA454-94 1970-01-06 22:22:12
M 1  COMPLD
 "IPADDR=1-.82.87.94,IPMASK=255.255.254.0,DEFRTR=10.82.86.1,
  ETHIPADDR=10.82.87.94,ETHIPMASK=255.255.254.0,NAME=VA454-94,
  SWER=3.40.00,LOAD=03.40-002G-14.21,PROTSWVER=4.00.00,
  PROTLOAD=04.00-X02G-25.07,DEFDESC=\"FACTORY DEFAULTS\""
;
```

Step 5 Issue the COPY-RFILE command. This command will initiate the download process. Refer to the "COPY-RFILE" section on page 1-35 for command syntax.

In the following example the package is located in "/USR/CET/VINTARA" in the host 10.77.22.199. The userid and passwords are TL1 and CISCO454. The directory path of the package is similar to what you will see during an FTP session.

Example 1-34
```
COPY-RFILE::RFILE-
PKG:CTAG::TYPE=SWDL,SRC="FTP://TL1:CISCO454@10.77.29.199
/USR/CET/VINTARA/15454-0340-X02E-2804.PKG";

  DEV208 1970-01-10 11:51:57
M   CTAG  COMPLD
;
```

Step 6 If any of the parameters are wrong or if the host is not accessible, a REPT EVT FXFR message will report from the following list. A download failure may be due to one or more of the following:

- Directory path of the package is invalid or not found
- Package is invalid (i.e., ONS 15454 package on an ONS 15327, vice-versa, or an invalid file type)
- Package not found on specified path
- Userid/password or hostname is invalid
- Host is not accessible
- Firewall userid/password or host in invalid
- Node rebooted/lost connection during download
- If software download is already in progress
- If the node or the host timed out during FTP protocol

Example 1-35
```
  DEV208 1970-01-10 11:52:02
A  2816.2816 REPT EVT EQPT
   "SLOT-11:SFTWDOWN-FAIL,TC,,,,,,,:\"SOFTWARE DOWNLOAD FAILED\",TCC
;
```

Step 7 If the download is successful the REPT EVT FXFR message will report an active start:

Example 1-36
```
  DEV208 1970-01-10 11:52:15
A  2818,2818 REPT EVT FXFR
   "ACTIVE START"
;
```

Step 8 A SFTDOWN minor alarm is raised to indicate that the software download is in progress. The SFTDOWN alarm will clear when the download is complete.

Example 1-37

```
DEV208 1970-01--10 11:52:15
*  2817.2817 REPT ALM EQPT
   "SLOT-7:MN,SFTWDOWN,NSA,,,,:\"SOFTWARE DOWNLOAD IN PROGRESS\",TCC"
;
```

Use the in-progress status at any time during the software download to verify the RTRV-NE-GEN command.

Example 1-38

```
RTRV-NE-GEN

   VA454-94 1970-01-06 22:22;12
M  1  COMPLD
   "IPADDR=10.82.87.94,IPMASK=255.255.245.0,DEFRTR=10.82.86.1,
   ETHIPADDR=10.82.87.94,EHTIPMASK=255.255.254.0,NAME=VA454-94,
   SWVER=3.40.00,LOAD=03.40-002G-14-21,PROTSWVER=NONE,
   PROTLOAD=DOWNLOADINPROGRESS,DEFDESC=\:FACTORY DEFAULTS\""
;
```

Step 9 The download progress is reported by the REPT EVT FXFR message which will report a message after every 20% of download is complete as shown:

Example 1-39

```
   DEV208 1970-01-10 11:53:12
A  2820,2820 REPT EVT FXFR
   "ACTIVE,IP,,20"
;

   DEV208 1970-01-10 11:53:12
A  2820,2820 REPT EVT FXFR
   "ACTIVE,IP,,40"
;

   DEV208 1970-01-10 11:53:12
A  2820,2820 REPT EVT FXFR
   "ACTIVE,IP,,60"
;

   DEV208 1970-01-10 11:53:12
A  2820,2820 REPT EVT FXFR
   "ACTIVE,IP,,80"
;
```

Step 10 If the TL1 session times out during download or if the user terminates the TL1 session the download will continue. The download completion can be confirmed by issuing the RTRV-NE-GEN command and verifying the PROTLOAD.

Example 1-40

```
RTRV-NE-GEN:::1;

   VA454-94 1970-01-06 22:22:12
M  1  COMPLD
   "IPADDR=10.82.87.94,IPMASK=255.255.245.0,DEFRTR=10.82.86.1,
   ETHIPADDR=10.82.87.94,EHTIPMASK=255.255.254.0,NAME=VA454-94,
   SWVER=3.40.00,LOAD=03.40-002G-14-21,PROTSWVER=4.00.00,
   PROTLOAD=03.40-X02E-28.04,DEFDESC=\:FACTORY DEFAULTS\""
;
```

Step 11 REPT EVT FXFR confirms the completion of the software download.

Example 1-41
```
DEV208 1970-01-10 12:01:16
A  2825,2825 REPT EVT FXFR
   "ACTIVE,COMPLD,SUCCESS"
;
```

Step 12 The SFTDOWN alarm clears when the download is complete.

Example 1-42
```
  DEV208 1970-01-10 11:52:15
*  2826,2817 REPT ALM EQPT
   "SLOT-7:CL,SFTWDOWN,NSA,,,,:\"SOFTWARE DOWNLOAD IN PROGRESS\",TCC"
;
```

1.12.5 Activating New Software

After the software is successfully downloaded, the new software which resides in the protect load must be activated to run on the NE. The APPLY command can be used to activate and revert depending on the version of the protect software and the newly downloaded software (refer to the "APPLY" section on page 1-36 for correct APPLY syntax).

Activate New Software

Step 1 If the protect software is newer than the working software, activate it as shown:

Example 1-43
```
APPLY::1::ACT;

   DEV208 1970-01-10 13:40:53
M  1 COMPLD
;
```

An error is reported if a revert is attempted with a newer protect software.

Step 2 If the APPLY command is successful, logout of the TL1 session using the CANC-USER command:

Example 1-44
```
CANC-USER::CISCO15:1;

   VA454-94 1970-01-07 01:18:18
M  1  COMPLD
;
```

After a successful completion of the APPLY command the NE will reboot and the TL1 session will disconnect. When the NE comes up after the reboot it will be running the new software. Traffic switches are possible during activation.

1.12.6 Remote Software Download/Activation Using the GNE

In a network with SDCC-connected ONS 15454 and ONS 15327s, remote download and activation are possible using the GNE/ENE feature supported in TL1. The GNE must be connected by a LAN and the remaining ENEs can download the new software package through fiber from the GNE.

For remote software downloading, complete the steps in the "Download New Software" procedure on page 1-37 and the "Activate New Software" procedure on page 1-40, but ensure that the TID in each command is filled with the ENE node name.

A maximum of 5 ENEs (an additional session through craft interface) can be contacted using the GNE sessions through the GNE by opening a single TL1 session on the GNE. For more information on TL1 Gateway, see Chapter 2, "TL1 Gateway."

Example 1-45

```
ACT-USER:NODE1:CISCO15:1;
ACT-USER:NODE2:CISCO15:1;
ACT-USER:NODE3:CISCO15:1;
ACT-USER:NODE4:CISCO15:1;
ACT-USER:NODE5:CISCO15:1;
```

Five simultaneous software downloads can be initiated using the COPY-RFILE command with appropriate TIDs. All downloads will be independent of each other and download speeds may differ.

Example 1-46

```
COPY-RFILE:NODE1:RFILE-PKG:CTAG::TYPE=SWDL,SRC="FTP://TL1:
CISCO454@10.77.29.199/USR/CET/VINTARA/15454-0340-X02E-2804.PKG";

COPY-RFILE:NODE2:RFILE-PKG...
COPY-RFILE:NODE3:RFILE-PKG...
COPY-RFILE:NODE4:RFILE-PKG...
COPY-RFILE:NODE5:RFILE-PKG...
```

Individual REPT EVT FXFR messages can be isolated using the node names. RTRV-NE-GEN also requires the individual node names entered in the TID to see a specific download status.

You can activate the software on all of the nodes using the GNE node.

Note Activate the GNE last, after activating all the ENEs or else ENE connectivity will be lost when the GNE starts to reboot for activation.

Example 1-47

```
APPLY:NODE1::1::ACT;
APPLY:NODE2::1::ACT;
APPLY:NODE3::1::ACT;
APPLY:NODE4::1::ACT;
APPLY:NODE5::1::ACT;
```

CHAPTER 2

TL1 Gateway

This chapter describes the TL1 Gateway and provides procedures and examples for implementing TL1 Gateway on the ONS 15454 or ONS 15327.

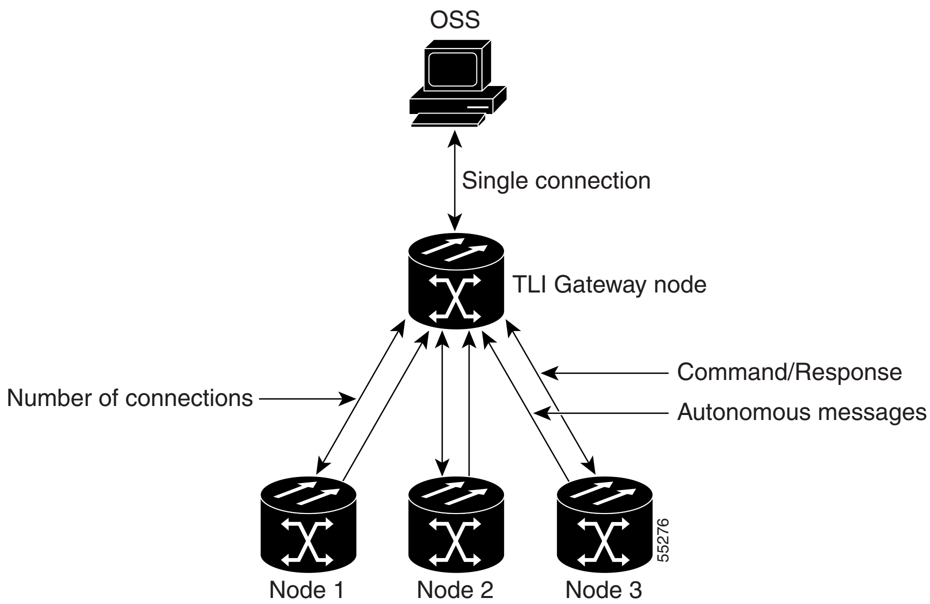
2.1 Gateway Network Element Topology

You can issue TL1 commands to multiple nodes via a single connection through the TL1 Gateway. Any node can serve as a Gateway Network Element (GNE), End-Point Network Element (ENE), or Intermediate Network Element (INE). A node becomes a GNE when a TL1 user connects to it and enters a command destined for another node. An ENE is an end node because it processes a TL1 command that is passed to it from another node. An INE is an intermediate node because of topology; it has no special hardware, software, or provisioning.

To implement the TL1 Gateway, use the desired ENE's TID in the ACT-USER command to initiate a session between the GNE and the ENE. Once a session is established you need to enter the ENE's TID in all of the subsequent commands that are destined for the ENE. From the GNE, you can access several remote nodes which become the ENEs. The ENEs are the message destinations or origins. The INE handles the DCC TCP/IP packet exchange.

The GNE Session is the connection that multiplexes TL1 messages between the OSS/craftsperson and the GNE. The GNE demulitplexes incoming operations support system (OSS) TL1 commands and forwards them to the remote ENE. The GNE also multiplexes incoming responses and autonomous messages to the GNE Session. The ENE Session is the connection that exchanges messages between the GNE and the remote ENE. Figure 2-1 shows the GNE topology.

Figure 2-1 Example of a GNE topology



With the TCC2, each GNE can support eleven (10+1) concurrent gateway communication sessions (connections from an OS to the GNE). Ten of these sessions are via the LAN (wire-wrap, active TCC2 LAN port, or DCC) and the eleventh session is reserved for the active TCC2 serial port. With the XTC/TCC+, each GNE can support six (5+1) concurrent gateway communication sessions. Five of these session are via the LAN (wire wrap, active XTC LAN port or DCC) and the sixth session is reserved for the active XTC/TCC+ serial port.

On each gateway communication session a GNE can establish TL1 sessions to up to 31 additional DCC-connected nodes, for a total DCC of 32 nodes. Each GNE can handle 32 nodes and 6 (XTC/TCC+) or 11 (TCC2) concurrent communication gateway sessions, and the GNE can handle up to a maximum of 96 (XTC/TCC+) or 176 (TCC2) ENEs/GNE. You can dynamically distribute the ENEs to balance the number of concurrent gateway communication sessions versus the number of NEs on the DCC. The GNE treats the 6 (5+1 for XTC/TCC+) or 11 (10+1 for TCC2) concurrent gateway communication sessions and 96 (XTC/TCC+) or 176 (TCC2) ENEs/GNE limit as a resource pool (Table 2-1) and continues to allocate resources until the pool is exhausted (see Table 2-2 for allocation examples). When the pool is exhausted the GNE returns an "All Gateways in Use" message or an "All ENE Connections in Use" message.

Table 2-1 Gateway Resource Pool

Number of GNEs	Number of GNE Sessions	Number of ENEs
1 (Cisco ONS 15327)	6 (5+1)	96 (dynamically allocated)
1 (Cisco ONS 15454)	11 (10+1) TCC2	176 (dynamically allocated)
	6 (5+1) XTC/TCC+	96 (dynamically allocated)

Table 2-2 Examples of a Single GNE Topology Showing How the GNE/ENE Resources can be Allocated

Number of GNE Communication Sessions	Maximum Number of ENEs
1	31
2	62
3	93
4	96
Number of GNE Communication Sessions	**Number of ENEs**
1	16
2	32
3	48
4	64
5	80
6	96

Note Issuing commands to specific nodes in the network is accomplished by entering a unique node name in the TID field in each TL1 message. The TID field is synonymous with the name of the node and is the second token in a TL1 command.

2.2 Implementing TL1 Gateway

The following procedures demonstrate TL1 Gateway on a four-node ring (without TL1 Gateway in Figure 2-2 and with TL1 Gateway in Figure 2-3), where:

Node 0 is the GNE.
Node 1 is the ENE 1.
Node 2 is the INE 2.
Node 3 is the ENE 3.

Figure 2-2 Four-node ring without TL1 Gateway

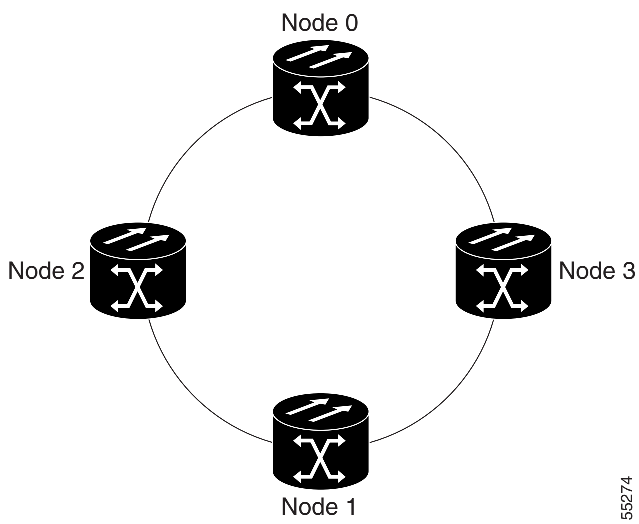
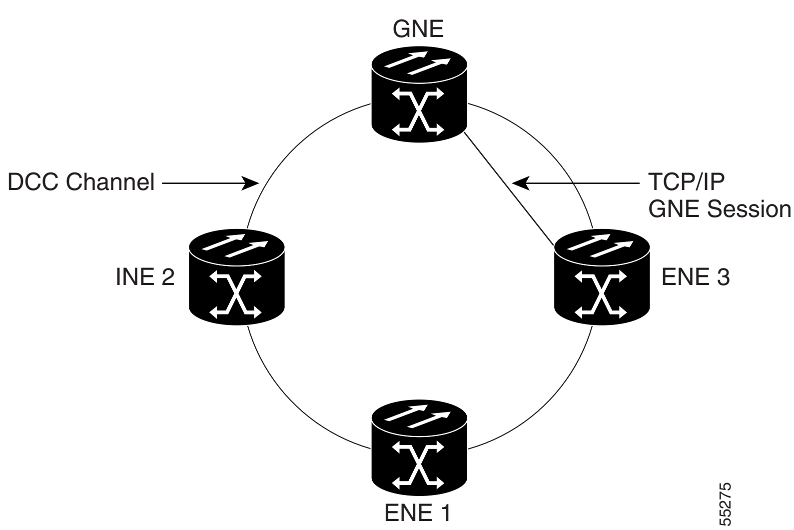


Figure 2-3 Four-node ring with TL1 Gateway



Log Into a Remote ENE

Step 1 Telnet or serial port to Node 0, which will become the GNE.

Step 2 To connect to the ENE 1 node, enter the TL1 login command using the following input example:

ACT-USER:NODE1:USERNAME:1234:PASSWORD;

The GNE forwards the login to ENE 1. After successful login, ENE 1 sends a COMPLD response.

Step 3 When you are logged into ENE 1, enter the following TL1 login command to connect to ENE 3:

ACT-USER:NODE3:USERNAME:1234:PASSWORD;

The GNE forwards the login to ENE 3. After successful login, the ENE 3 sends a COMPLD response.

Forward Commands by Specifying the ENE TID (Node 1 or Node 3)

When you are logged into ENE 1 and ENE 3, enter a command and designate a specific TID, as shown in the following example:

RTRV-HDR:NODE1::1; will retrieve the header of Node 1 and

RTRV-HDR:NODE3::3; will retrieve the header of Node 3.

Receive Autonomous Messages from the Remote ENE

To receive autonomous messages from the remote ENE, you must log into the remote ENE. When you are logged in, you will start receiving autonomous messages. The source of the message is identified by the node TID as part of the message.

Log Out of a Remote ENE

To disconnect from a remote ENE, you must use the CANC-USER command as follows:

CANC-USER:NODE1:USERNAME:1; will disconnect ENE 1 and

CANC-USER:NODE3:USERNAME:3; will disconnect ENE 3.

The GNE forwards the logout to the remote ENEs. The GNE/ENE TCP session is closed.

TL1 Command Descriptions

This chapter provides specific information on TL1 commands and autonomous messages for the Cisco ONS 15454 and the Cisco ONS 15327, Release 4.0, including:

- TL1 commands by category
- TL1 commands by card
- TL1 commands

For information on command components, such as parameters, see Chapter 4, "TL1 Command Components."

3.1 TL1 Commands by Category

Table 3-1 TL1 Commands by Category

Category	Command or Autonomous Message
BLSR	DLT-BLSR ED-BLSR ENT-BLSR EX-SW-<OCN_BLSR> REPT EVT RING RTRV-BLSR RTRV-COND-RING RTRV-TRC-<OCN_BLSR>
Cross Connections	DLT-CRS-<STS_PATH> DLT-CRS-VT1 ED-CRS-<STS_PATH> ED-CRS-VT1 ENT-CRS-<STS_PATH> ENT-CRS-VT1 RTRV-CRS RTRV-CRS-<STS_PATH> RTRV-CRS-VT1

Table 3-1 TL1 Commands by Category (continued)

Category	Command or Autonomous Message
DWDM (ONS 15454)	DLT-FFP-CLNT ED-CLNT ED-DWDM ED-FFP-CLNT ED-OCH ED-TRC-CLNT ED-TRC-OCH ENT-FFP-CLNT OPR-PROTNSW-CLNT RLS-PROTNSW-CLNT RTRV-CLNT RTRV-DWDM RTRV-FFP-CLNT RTRV-OCH RTRV-PROTNSW-CLNT RTRV-TRC-CLNT RTRV-TRC-OCH
Environment Alarms and Controls	OPR-ACO-ALL OPR-EXT-CONT REPT ALM ENV REPT EVT ENV RLS-EXT-CONT RTRV-ALM-ENV RTRV-ATTR-CONT RTRV-ATTR-ENV RTRV-COND-ENV RTRV-EXT-CONT SET-ATTR-CONT SET-ATTR-ENV
Equipment	ALW-SWDX-EQPT ALW-SWTOPROTN-EQPT ALW-SWTOWKG-EQPT DLT-EQPT ED-EQPT ENT-EQPT INH-SWDX-EQPT INH-SWTOPROTN-EQPT INH-SWTOWKG-EQPT REPT ALM EQPT REPT EVT EQPT RTRV-ALM-EQPT RTRV-COND-EQPT RTRV-EQPT SW-DX-EQPT SW-TOPROTN-EQPT SW-TOWKG-EQPT

Table 3-1 TL1 Commands by Category (continued)

Category	Command or Autonomous Message
Fault	REPT ALM <MOD2ALM> REPT ALM COM REPT ALM RING REPT EVT <MOD2ALM> REPT EVT COM RTRV-ALM-<MOD2ALM> RTRV-ALM-ALL RTRV-ALM-RING RTRV-COND-<MOD2ALM> RTRV-COND-ALL
IOS	COPY-IOSCFG REPT EVT IOSCFG
Log	ALW-MSG-DBCHG INH-MSG-DBCHG REPT DBCHG RTRV-LOG
Network	RTRV-NE-IPMAP RTRV-MAP-NETWORK
Performance	ALW-PMREPT-ALL INH-PMREPT-ALL INIT-REG-<MOD2> REPT PM <MOD2> RTRV-PM-<MOD2> RTRV-PMMODE-<STS_PATH> RTRV-PMSCHED-<MOD2> RTRV-PMSCHED-ALL RTRV-TH-<MOD2> SCHED-PMREPT-<MOD2> SET-PMMODE-<STS_PATH> SET-TH-<MOD2>
Ports	ED-<OCN_TYPE> ED-DS1 ED-EC1 ED-G1000 ED-T1 ED-T3 INIT-REG-G1000 RMV-<MOD2_IO> RST-<MOD2_IO> RTRV-<OCN_TYPE> RTRV-DS1 RTRV-EC1 RTRV-FSTE RTRV-G1000 RTRV-GIGE RTRV-POS RTRV-T1 RTRV-T3

Table 3-1 TL1 Commands by Category (continued)

Category	Command or Autonomous Message
Security	ACT-USER ALW-MSG-SECU CANC CANC-USER DLT-USER-SECU ED-PID ED-USER-SECU ENT-USER-SECU INH-MSG-SECU REPT EVT SECU REPT EVT SESSION RTRV-USER-SECU
SONET Line Protection	DLT-FFP-<OCN_TYPE> ED-FFP-<OCN_TYPE> ENT-FFP-<OCN_TYPE> OPR-PROTNSW-<OCN_TYPE> RLS-PROTNSW-<OCN_TYPE> RTRV-FFP-<OCN_TYPE> RTRV-PROTNSW-<OCN_TYPE>
Software Download	APPLY COPY-RFILE REPT EVT FXFR
STS and VT Paths	ED-<STS_PATH> ED-VT1 RTRV-<STS_PATH> RTRV-PTHTRC-<STS_PATH> RTRV-VT1
Synchronization	ED-BITS ED-NE-SYNCN ED-SYNCN OPR-SYNCNSW REPT ALM BITS REPT ALM SYNCN REPT EVT BITS REPT EVT SYNCN RLS-SYNCNSW RTRV-ALM-BITS RTRV-ALM-SYNCN RTRV-BITS RTRV-COND-BITS RTRV-COND-SYNCN RTRV-NE-SYNCN RTRV-SYNCN

Table 3-1 TL1 Commands by Category (continued)

Category	Command or Autonomous Message
System	ALW-MSG-ALL ED-DAT ED-NE-GEN INH-MSG-ALL INIT-SYS RTRV-HDR RTRV-INV RTRV-NE-GEN RTRV-TOD SET-TOD
Test Access	CHG-ACCMD-<MOD_TACC> CONN-TACC-<MOD_TACC> DISC-TACC RTRV-TACC
Testing	OPR-LPBK-<MOD2> RLS-LPBK-<MOD2>
UCP	DLT-UCP-CC DLT-UCP-IF DLT-UCP-NBR ED-UCP-CC ED-UCP-IF ED-UCP-NBR ED-UCP-NODE ENT-UCP-CC ENT-UCP-IF ENT-UCP-NBR REPT ALM UCP REPT EVT UCP RTRV-ALM-UCP RTRV-COND-UCP RTRV-UCP-CC RTRV-UCP-IF RTRV-UCP-NBR RTRV-UCP-NODE
UPSR Switching	OPR-PROTNSW-<STS_PATH> OPR-PROTNSW-VT1 REPT SW RLS-PROTNSW-<STS_PATH> RLS-PROTNSW-VT1 RTRV-PROTNSW-<STS_PATH> RTRV-PROTNSW-VT1

3.2 TL1 Commands by Card (ONS 15454)

Table 3-2 TL1 Commands by Card (ONS 15454)

	G1000-4	ML1000-2	ML100T-12	EC1	DS1	DS1N	DS3	DS3N	DS3E	DS3NE	DS3XM	OC3	OC3-8	OC12	OC12-4	OC48	OC48AS	OC192	E100T	E1000T	TCC	XC	TCC2	XCVT	XC192	XCVXL	AICI	AIC	MXP	TXP
ACT-USER																														
ALW-MSG-ALL																														
ALW-MSG-DBCHG																														
ALW-PMREPT-ALL																														
ALW-SWDX-EQPT																						X		X	X					
ALW-SWTOPROTN-EQPT				X	X	X	X	X	X	X	X																			
ALW-SWTOWKG-EQPT				X	X	X	X	X	X	X	X																			
APPLY																						X		X						
CANC																														
CANC-USER																														
CHG-ACCMD-<CHG_ACCMD>				X	X	X	X	X	X	X	X	X	X	X	X	X	X	X												
CONN-TACC-<MOD_TACC>				X	X	X	X	X	X	X	X	X	X	X	X	X	X	X												
COPY-IOSCFG		X	X																											
COPY-RFILE																					X		X							
DISC-TACC				X	X	X	X	X	X	X	X	X	X	X	X	X	X	X												
DLT-BLSR														X	X	X	X	X												
DLT-CRS-VT1	X			X	X	X					X	X	X	X	X	X	X	X												
DLT-CRS-<STS_PATH>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X												
DLT-EQPT	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
DLT-FFP-<OCN_TYPE>												X	X	X	X	X	X	X												
DLT-FFP-CLNT																													X	X
DLT-UCP-CC												X	X	X	X	X	X	X												
DLT-UCP-IF																														
DLT-UCP-NBR																														
DLT-USER-SECU																														
ED-BITS																					X									
ED-BLSR												X	X	X	X	X	X	X												
ED-CRS-<STS_PATH>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X												
ED-CRS-VT1											X	X	X	X	X	X	X	X												
ED-CLNT																													X	X
ED-DAT																														
ED-DS1											X																			

Table 3-2 TL1 Commands by Card (ONS 15454) (continued)

	G1000-4	ML1000-2	ML100T-12	EC1	DS1	DS1N	DS3	DS3N	DS3E	DS3NE	DS3XM	OC3	OC3-8	OC12	OC12-4	OC48	OC48AS	OC192	E100T	E1000T	TCC	XC	TCC2	XCVT	XC192	XCVXL	AICI	AIC	MXP	TXP
ED-DWDM																													X	X
ED-EC1				X																										
ED-EQPT				X	X	X	X	X	X	X	X																			
ED-FFP-<OCN_TYPE>												X	X	X	X	X	X	X												
ED-FFP-CLNT																													X	X
ED-G1000	X																													
ED-NE-GEN																					X									
ED-NE-SYNCN																					X									
ED-OCH																													X	X
ED-PID																														
ED-SYNCN																					X								X	
ED-T1					X	X																								
ED-T3							X	X	X	X	X																			
ED-TRC-CLNT																													X	X
ED-TRC-OCH																													X	X
ED-UCP-CC												X	X	X	X	X	X	X												
ED-UCP-IF												X	X	X	X	X	X	X												
ED-UCP-NBR																														
ED-UCP-NODE																														
ED-USER-SECU																														
ED-VT1				X	X	X					X	X	X	X	X	X	X	X												
ED-<OCN_TYPE>												X	X	X	X	X	X	X												
ED-<STS_PATH>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X												
ENT-BLSR														X	X	X	X	X												
ENT-CRS-VT1											X	X	X	X	X	X	X	X												
ENT-CRS-<STS_PATH>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X												
ENT-EQPT	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ENT-FFP-<OCN_TYPE>												X	X	X	X	X	X	X												
ENT-FFP-CLNT																													X	X
ENT-UCP-CC												X	X	X	X	X	X	X												
ENT-UCP IF												X	X	X	X	X	X	X												
ENT-UCP-NBR																														
ENT-USER-SECU																														
EX-SW-<OCN_BLSR>													X	X	X	X	X	X												

Table 3-2 TL1 Commands by Card (ONS 15454) (continued)

	G1000-4	ML1000-2	ML100T-12	EC1	DS1	DS1N	DS3	DS3N	DS3E	DS3NE	DS3XM	OC3	OC3-8	OC12	OC12-4	OC48	OC48AS	OC192	E100T	E1000T	TCC	XC	TCC2	XCVT	XC192	XCVXL	AICI	AIC	MXP	TXP
INH-MSG-ALL																														
INH-MSG-DBCHG																														
INH-MSG-SECU																					X		X							
ING-PMREPT-ALL																														
INH-SWDX-EQPT																						X		X	X					
INH-SWTOPROTN-EQPT				X	X	X	X	X	X	X	X																			
INH-SWTOWKG-EQPT				X	X	X	X	X	X	X	X																			
INIT-REG-<MOD2>				X	X	X	X	X	X	X	X	X	X	X	X	X	X	X												
INIT-REG-G1000	X																													
INIT-REG-CLNT																													X	X
INIT-SYS	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
OPR-ACO-ALL																											X	X		
OPR-EXT-CONT																											X	X		
OPR-LPBK-<MOD2>	X			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X											X	X
OPR-PROTNSW-VT1												X	X	X	X	X	X	X												
OPR-PROTNSW-<OCN_TYPE>												X	X	X	X	X	X	X												
OPR-PROTNSW-<STS_PATH>												X	X	X	X	X	X	X												
OPR-PROTNSW-CLNT																													X	X
OPR-SYNCNSW												X	X	X	X	X	X	X			X									
REPT ALM BITS																					X									
REPT ALM COM																														
REPT ALM ENV																											X	X		
REPT ALM EQPT	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
REPT ALM RING														X	X	X	X	X												
REPT ALM SYNCN												X	X	X	X	X	X	X			X									
REPT ALM <MOD2ALM>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
REPT ALM UCP																														
REPT DBCHG	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
REPT EVT BITS																					X									
REPT EVT COM																														
REPT EVT ENV																											X	X		
REPT EVT FXFR																					X		X							
REPT EVT EQPT	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
REPT EVT IOSCFG		X	X																											

Table 3-2 TL1 Commands by Card (ONS 15454) (continued)

	G1000-4	ML1000-2	ML100T-12	EC1	DS1	DS1N	DS3	DS3N	DS3E	DS3NE	DS3XM	OC3	OC3-8	OC12	OC12-4	OC48	OC48AS	OC192	E100T	E1000T	TCC	XC	TCC2	XCVT	XC192	XCVXL	AICI	AIC	MXP	TXP
REPT EVT RING														X	X	X	X	X												
REPT EVT SECU																														
REPT EVT SESSION																					X		X							
REPT EVT SYNCN												X	X	X	X	X	X	X			X									
REPT EVT <MOD2ALM>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
REPT EVT UCP																														
REPT PM <MOD2>				X	X	X	X	X	X	X	X	X	X	X	X	X	X	X											X	X
REPT SW																						X		X	X					
RLS-EXT-CONT																											X	X		
RLS-LPBK-<MOD2>	X			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X												
RLS-PROTNSW-CLNT																													X	X
RLS-PROTNSW-VT1												X	X	X	X	X	X	X												
RLS-PROTNSW-<OCN_TYPE>												X	X	X	X	X	X	X												
RLS-PROTNSW-<STS_PATH>												X	X	X	X	X	X	X												
RLS-SYNCNSW												X	X	X	X	X	X	X				X								
RMV-<MOD2_IO>	X			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X											X	X
RST-<MOD2_IO>	X			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X											X	X
RTRV-ALM-ALL	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
RTRV-ALM-BITS																					X									
RTRV-ALM-ENV																											X	X		
RTRV-ALM-EQPT	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
RTRV-ALM-RING														X	X	X	X	X												
RTRV-ALM-SYNCN												X	X	X	X	X	X	X			X									
RTRV-ALM-<MOD2ALM>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
RTRV-ALM-UCP																														
RTRV-ATTR-CONT																											X	X		
RTRV-ATTR-ENV																											X	X		
RTRV-BITS																					X									
RTRV-BLSR														X	X	X	X	X												
RTRV-CKT-ORIG																														
RTRV-CKT-TERM																														
RTRV-CLNT																													X	X
RTRV-COND-ALL	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
RTRV-COND-BITS																					X									

Table 3-2 TL1 Commands by Card (ONS 15454) (continued)

	G1000-4	ML1000-2	ML100T-12	EC1	DS1	DS1N	DS3	DS3N	DS3E	DS3NE	DS3XM	OC3	OC3-8	OC12	OC12-4	OC48	OC48AS	OC192	E100T	E1000T	TCC	XC	TCC2	XCVT	XC192	XCVXL	AICI	AIC	MXP	TXP
RTRV-COND-ENV																											X	X		
RTRV-COND-EQPT	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
RTRV-COND-SYNCN																					X									
RTRV-COND-<MOD2ALM>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
RTRV-COND-RING														X	X	X	X	X												
RTRV-COND-UCP																														
RTRV-CRS	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X												
RTRV-CRS-VT1				X	X	X					X	X	X	X	X	X	X	X												
RTRV-CRS-<STS_PATH>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X												
RTRV-DWMD																													X	X
RTRV-EC1				X																										
RTRV-DS1											X																			
RTRV-EQPT	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
RTRV-EXT-CONT																											X	X		
RTRV-FFP-CLNT																														
RTRV-FFP-<OCN_TYPE>												X	X	X	X	X	X	X												
RTRV-FSTE		X	X																											
RTRV-G1000	X																													
RTRV-GIGE		X	X																											
RTRV-HDR																														
RTRV-INV	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
RTRV-LOG																														
RTRV-MAP-NETWORK																														
RTRV-NE-GEN																					X									
RTRV-NE-IPMAP												X	X	X	X	X	X	X												
RTRV-NE-SYNCN																					X									
RTRV-OCH																													X	X
RTRV-PM-<MOD2>				X	X	X	X	X	X	X	X	X	X	X	X	X	X	X											X	X
RTRV-PMMODE-<STS_PATH>				X	X	X	X	X	X	X	X	X	X	X	X	X	X	X												
RTRV-PMSCHED-<MOD2>				X	X	X	X	X	X	X	X	X	X	X	X	X	X	X											X	X
RTRV-PMSCHED-ALL																													X	X
RTRV-POS		X	X																											
RTRV-PROTNSW-<OCN_TYPE>												X	X	X	X	X	X	X												
RTRV-PROTNSW-<STS_PATH>	X	X	X									X	X	X	X	X	X	X												

Table 3-2 TL1 Commands by Card (ONS 15454) (continued)

	G1000-4	ML1000-2	ML100T-12	EC1	DS1	DS1N	DS3	DS3N	DS3E	DS3NE	DS3XM	OC3	OC3-8	OC12	OC12-4	OC48	OC48AS	OC192	E100T	E1000T	TCC	XC	TCC2	XCVT	XC192	XCVXL	AICI	AIC	MXP	TXP
RTRV-PROTNSW-CLNT																													X	X
RTRV-PROTNSW-VT1												X	X	X	X	X	X	X												
RTRV-PTHTRC-<STS_PATH>	X	X	X	X	X	X	X	X	X	X	X	X	X				X	X												
RTRV-SYNCN																					X								X	
RTRV-TACC				X	X	X	X	X	X	X	X	X	X	X	X	X	X	X												
RTRV-T1					X	X																								
RTRV-T3							X	X	X	X																				
RTRV-TH-<MOD2>				X	X	X	X	X	X	X	X	X	X	X	X	X	X	X											X	X
RTRV-TOD																														
RTRV-TRC-<OCN_BLSR>														X	X	X	X	X												
RTRV-TRC-CLNT																													X	X
RTRV-TRC-OCH																													X	X
RTRV-VT1				X	X	X					X	X	X	X		X	X	X												
RTRV-<OCN_TYPE>											X	X	X	X	X	X	X	X												
RTRV-<STS_PATH>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X												
RTRV-UCP-CC											X	X	X	X	X	X	X	X												
RTRV-UCP-IF											X	X	X	X	X	X	X	X												
RTRV-UCP-NBR																														
RTRV-UCP-NODE																														
RTRV-USER-SECU																														
SCHED-PMREPT-<MOD2>				X	X	X	X	X	X	X	X	X	X	X	X	X	X	X											X	X
SET-ATTR-CONT																											X	X		
SET-ATTR-ENV																											X	X		
SET-PMMODE-<STS_PATH>				X	X	X	X	X	X	X	X	X	X	X	X	X	X	X												
SET-TH-<MOD2>				X	X	X	X	X	X	X	X	X	X	X	X	X	X	X											X	X
SET-TOD																														
SW-DX-EQPT																						X		X	X					
SW-TOPROTN-EQPT				X	X	X	X	X	X	X	X																			
SW-TOWKG-EQPT				X	X	X	X	X	X	X	X																			

3.3 TL1 Commands by Card (ONS 15327)

Table 3-3 TL1 Commands by Card (ONS 15327)

	XTC/DS1	XTC/DS3	OC3	OC12	OC48	E100T	E1000T	XTC	G1000-2	XTC/XCVT	XTC/AIC
ACT-USER											
ALW-MSG-ALL											
ALW-MSG-DBCHG											
ALW-PMREPT-ALL											
ALW-SWDX-EQPT											
ALW-SWTOPROTN-EQPT											
ALW-SWTOWKG-EQPT											
APPLY								X			
CANC											
CANC-USER											
CHG-ACCMD-<CHG_ACCMD>	X	X	X	X	X						
CONN-TACC-<MOD_TACC>	X	X	X	X	X						
COPY-IOSCFG											
COPY-RFILE								X			
DISC-TACC	X	X	X	X	X						
DLT-BLSR				X	X						
DLT-CRS-VT1			X	X	X						
DLT-CRS-<STS_PATH>	X	X	X	X	X						
DLT-EQPT			X	X	X	X	X	X	X		
DLT-FFP-<OCN_TYPE>			X	X	X						
DLT-USER-SECU											
ED-BITS								X			
ED-BLSR				X	X						
ED-CRS-<STS_PATH>	X	X	X	X	X				X		
ED-CRS-VT1			X	X	X						
ED-DAT											
ED-DS1											
ED-EC1											
ED-EQPT	X	X									
ED-FFP-<OCN_TYPE>			X	X	X						
ED-G1000									X		
ED-NE-GEN								X			

Table 3-3 TL1 Commands by Card (ONS 15327) (continued)

	XTC/DS1	XTC/DS3	OC3	OC12	OC48	E100T	E1000T	XTC	G1000-2	XTC/XCVT	XTC/AIC
ED-NE-SYNCN								X			
ED-PID											
ED-SYNCN								X			
ED-T1	X										
ED-T3		X									
ED-USER-SECU											
ED-VT1	X		X	X	X						
ED-<OCN_TYPE>			X	X	X						
ED-<STS_PATH>	X	X	X	X	X				X		
ENT-BLSR				X	X						
ENT-CRS-VT1			X	X	X						
ENT-CRS-<STS_PATH>	X	X	X	X	X				X		
ENT-EQPT	X	X	X	X	X	X	X	X	X	X	X
ENT-FFP-<OCN_TYPE>			X	X	X						
ENT-USER-SECU											
EX-SW-<OCN_BLSR>				X	X						
INH-MSG-ALL											
INH-MSG-DBCHG											
INH-MSG-SECU								X			
INH-PMREPT-ALL											
INH-SWDX-EQPT										X	
INH-SWTOPROTN-EQPT	X	X									
INH-SWTOWKG-EQPT	X	X									
INIT-REG-<MOD2>	X	X	X	X	X						
INIT-REG-G1000									X		
INIT-SYS	X	X	X	X	X	X	X	X	X	X	X
OPR-ACO-ALL								X			
OPR-EXT-CONT											X
OPR-LPBK-<MOD2>	X	X	X	X	X				X		
OPR-PROTNSW-VT1			X	X	X						
OPR-PROTNSW-<OCN_TYPE>			X	X	X						
OPR-PROTNSW-<STS_PATH>			X	X	X						
OPR-SYNCNSW			X	X	X			X			
REPT ALM BITS								X			

Table 3-3 TL1 Commands by Card (ONS 15327) (continued)

	XTC/DS1	XTC/DS3	OC3	OC12	OC48	E100T	E1000T	XTC	G1000-2	XTC/XCVT	XTC/AIC
REPT ALM COM											
REPT ALM ENV											X
REPT ALM EQPT	X	X	X	X	X	X	X	X	X	X	X
REPT ALM RING				X	X						
REPT ALM SYNCN			X	X	X			X			
REP ALM <MOD2ALM>	X	X	X	X	X	X	X	X	X	X	X
REPT DBCHG									X		
REPT EVT BITS								X			
REPT EVT COM											
REPT EVT ENV											X
REPT EVT EQPT	X	X	X	X	X	X	X	X	X	X	X
REPT EVT FXFR								X			
REPT EVT RING				X	X						
REPT EVT SECU											
REPT EVT SESSION								X			
REPT EVT SYNCN			X	X	X			X			
REPT EVT <MOD2ALM>	X	X	X	X	X	X	X	X	X	X	X
REPT PM <MOD2>	X	X	X	X	X	X					
REPT SW										X	
RLS-EXT-CONT											X
RLS-LPBK-<MOD2>	X	X	X	X	X				X		
RLS-PROTNSW-VT1			X	X	X						
RLS-PROTNSW-<OCN_TYPE>			X	X	X						
RLS-PROTNSW-<STS_PATH>			X	X	X						
RLS-SYNCNSW			X	X	X			X			
RMV-<MOD2_IO>	X	X	X	X	X				X		
RST-<MOD2_IO>	X	X	X	X	X				X		
RTRV-ALM-ALL	X	X	X	X	X	X	X	X	X	X	X
RTRV-ALM-BITS								X			
RTRV-ALM-ENV											X
RTRV-ALM-EQPT	X	X	X	X	X	X	X	X	X	X	X
RTRV-ALM-RING											
RTRV-ALM-SYNCN			X	X	X			X			
RTRV-ALM-<MOD2ALM>	X	X	X	X	X	X	X	X	X	X	X

Table 3-3 TL1 Commands by Card (ONS 15327) (continued)

	XTC/DS1	XTC/DS3	OC3	OC12	OC48	E100T	E1000T	XTC	G1000-2	XTC/XCVT	XTC/AIC
RTRV-ATTR-CONT											X
RTRV-ATTR-ENV											X
RTRV-BITS								X			
RTRV-BLSR				X	X						
RTRV-COND-ALL	X	X	X	X	X	X	X	X	X	X	X
RTRV-COND-BITS								X			
RTRV-COND-ENV											X
RTRV-COND-EQPT	X	X	X	X	X	X	X	X	X	X	X
RTRV-COND-RING											
RTRV-COND-SYNCN								X			
RTRV-COND-<MOD2ALM>	X	X	X	X	X	X	X	X	X	X	X
RTRV-CRS	X	X	X	X	X				X		
RTRV-CRS-VT1	X		X	X	X						
RTRV-CRS-<STS_PATH>	X	X	X	X	X				X		
RTRV-EC1											
RTRV-DS1											
RTRV-EQPT	X	X	X	X	X	X	X	X	X	X	X
RTRV-EXT-CONT											X
RTRV-FFP-<OCN_TYPE>			X	X	X						
RTRV-G1000									X		
RTRV-HDR											
RTRV-INV	X	X	X	X	X	X	X	X	X	X	X
RTRV-LOG											
RTRV-MAP-NETWORK											
RTRV-NE-GEN								X			
RTRV-NE-IPMAP			X	X	X						
RTRV-NE-SYNCN								X			
RTRV-PM-<MOD2>	X	X	X	X	X						
RTRV-PMMODE-<STS_PATH>		X	X	X	X						
RTRV-PMSCHED-ALL	X	X	X	X	X						
RTRV-PMSCHED-<MOD2>	X	X	X	X	X						
RTRV-PROTNSW-VT1			X	X	X						
RTRV-PROTNSW-<OCN_TYPE>			X	X	X						
RTRV-PROTNSW-<STS_PATH>			X	X	X						

Table 3-3 TL1 Commands by Card (ONS 15327) (continued)

	XTC/DS1	XTC/DS3	OC3	OC12	OC48	E100T	E1000T	XTC	G1000-2	XTC/XCVT	XTC/AIC
RTRV-PTHTRC-<STS_PATH>	X	X	X						X		
RTRV-SYNCN								X			
RTRV-T1	X										
RTRV-T3		X									
RTRV-TACC	X	X	X	X	X						
RTRV-TH-<MOD2>	X	X	X	X	X						
RTRV-TOD											
RTRV-TRC-<OCN_BLSR>				X	X						
RTRV-USER-SECU											
RTRV-VT1	X		X	X	X						
RTRV-<OCN_TYPE>			X	X	X						
RTRV-<STS_PATH>	X	X	X	X	X				X		
SCHED-PMREPT-<MOD2>											
SET-ATTR-CONT											X
SET-ATTR-ENV											X
SET-PMMODE-<STS_PATH>	X	X	X	X	X						
SET-TH-<MOD2>	X	X	X	X	X						
SET-TOD											
SW-DX-EQPT										X	
SW-TOPROTN-EQPT	X	X									
SW-TOWKG-EQPT	X	X									

3.4 TL1 Commands

The commands and autonomous messages used for ONS 15454 and ONS 15327 are described in detail in this section and are listed alphabetically according to the first alpha character of the command string.

Each TL1 command must be less than or equal to 255 characters. Any command larger than 255 characters must be split into multiple commands. For example, if you use the ED-<STS_PATH> command to edit the J1 EXPTRC/TRC message, UPSR attributes, and TACC attributes and the command exceeds 255 characters the command will not be processed. You must use multiple ED-<STS_PATH> commands instead.

Note The CTAG of any TL1 line mode command is a mandatory field in this TL1 release.

Note The AID definitions provided are supersets of the actual AID definitions.

Note TL1 commands that are entered incorrectly are not completed.

Note Starting with release 3.3 (R3.3), all TL1 commands will return the DENY error code without any additional error messages prior to a successful TL1 login (i.e., prior to a successful ACT-USER command). Releases earlier than R3.3 either return different error codes; for example, PLNA and IICT and also additional error messages; for example, Login Not Active.

3.4.1 ACT-USER: Activate User

This command set-ups a session with the Network Element (NE).

Notes:

1. Passwords are masked for the following security commands: ACT-USER, ED-PID, ENT-USER-SECU and ED-USER-SECU. Access to a TL1 session via any means will have the password masked. The CTC Request History and Message Log will also show the masked commands. When a password-masked command is re-issued by double-clicking the command from CTC Request History, the password will still be masked in the CTC Request History and Message Log. The actual password that was previously issued will be sent to the NE. To use a former command as a template only, single-click the command in CTC Request History. The command will be placed in the Command Request text box, where you can edit the appropriate fields prior to re-issuing it.
2. In this release, the ACT-USER command does not return the date and time of the last session established by the UID or the number of unsuccessful session attempts since the last session.
3. This command is backwards compatible with userids and passwords from ONS 15454 2.X software versions according to the following rules:

   ACT-USER:[TID]:[STRING]:CTAG::[STRING]

   a. The syntax of the userid (first [STRING]) and the password (second [STRING]) are not checked.

b. Invalid syntax for both the userid and password is permitted, but the user can only log in if the userid/password match what is in the database.

c. The userid and password cannot exceed 10 characters.

4. For the ACT-USER command, it is required that no error code be transmitted except to convey that the login is granted or denied. Per TR-835, Appendix A, Section A.2:

   "... the error codes corresponding to ACT ... do not apply to the ACT-USER command because this command requires that no error code be provided to the session request except to indicate that it has been denied. Before a session is established, a specific error code may reveal clues to an intruder attempting unauthorized entry."

Section	ACT-USER Description
Category	Security
Security	N/A
Related Messages	CANC CANC-USER DLT-USER-SECU ED-PID ED-USER-SECU ENT-USER-SECU REPT EVT SECU RTRV-USER-SECU
Input Format	ACT-USER:[<TID>]:<UID>:<CTAG>::<PID>; where: • <UID> is the user identifier; <UID> is any combination of up to 10 alphanumeric characters. <UID> is a string and must not be null • <PID> is the user password; <PID> is any combination of up to 10 alphanumeric characters. <PID> is a string and must not be null **Note** CTC allows <UID> and <PID> of up to 20 characters. The 20 character CTC-entered <UID> and <PID> are not valid TL1 <UID> and <PID>
Input Example	ACT-USER:PETALUMA:TERRI:100::MYPASSWD;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.2 ALW-MSG-ALL: Allow Message All

This command instructs the NE to enter a mode in which all the REPT ALM and REPT EVT autonomous messages are transmitted. See the INH-MSG-ALL command to inhibit these autonomous messages. When a TL1 session starts, the REPT ALM and REPT EVT messages are allowed by default.

Note If this command is issued twice in the same session, the SAAL (Status, Already Allowed) error message will be returned. The optional fields in the e block are not supported.

Section	ALW-MSG-ALL Description
Category	System
Security	Retrieve
Related Messages	APPLY COPY-RFILE ED-DAT ED-NE-GEN ED-NE-SYNCN INH-MSG-ALL INIT-SYS REPT EVT FXFR RTRV-HDR RTRV-INV RTRV-MAP-NETWORK RTRV-NE-GEN RTRV-NE-IPMAP RTRV-NE-SYNCN RTRV-TOD SET-TOD
Input Format	ALW-MSG-ALL:[<TID>]::<CTAG>[::,,];
Input Example	ALW-MSG-ALL:PETALUMA::549;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.3 ALW-MSG-DBCHG: Allow Database Change Message

This command enables REPT DBCHG. When a TL1 session starts, the REPT DBCHG messages are not allowed by default.

Note This command is not defined in the GR.

Section	ALW-MSG-DBCHG Description
Category	Log
Security	Retrieve
Related Messages	INH-MSG-DBCHG REPT DBCHG RTRV-LOG
Input Format	ALW-MSG-DBCHG:[<TID>]::<CTAG>[::,,];
Input Example	ALW-MSG-DBCHG:CISCO::123;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.4 ALW-MSG-SECU: Allow Message Security

This command enables REPT EVT SECU and REPT ALM SECU

Section	ALW-MSG-SECU Description
Category	Security
Security	Superuser
Related Messages	ACT-USER CANC CANC-USER DLT-USER-SECU ED-PID ED-USER-SECU ENT-USER-SECU INH-MSG-SECU REPT EVT SECU REPT EVT SESSION RTRV-USER-SECU
Input Format	ALW-MSG-SECU:[<TID>]::<CTAG>;
Input Example	ALW-MSG-SECU:PETALUMA::123;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.5 ALW-PMREPT-ALL: Allow Performance Report All

This command resumes processing all the PM reports that are inhibited. The allowance of the PM reporting is session-based, which means the command is only effective to the TL1 session that issues this command. REPT PM messages are inhibited by default for a session.

Section	ALW-PMREPT-ALL Description
Category	Performance
Security	Retrieve
Related Messages	INH-PMREPT-ALL INIT-REG-<MOD2> REPT PM <MOD2> RTRV-PM-<MOD2> RTRV-PMMODE-<STS_PATH> RTRV-PMSCHED-<MOD2> RTRV-PMSCHED-ALL RTRV-TH-<MOD2> SCHED-PMREPT-<MOD2> SET-PMMODE-<STS_PATH> SET-TH-<MOD2>
Input Format	ALW-PMREPT-ALL:[<TID>]::<CTAG>;
Input Example	ALW-PMREPT-ALL:CISCONODE::123;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.6 ALW-SWDX-EQPT: Allow Switch Duplex Equipment

(Cisco ONS 15454 only)

This command allows automatic or manual switching on a duplex system containing duplexed or redundant equipment. To inhibit an NE switching to duplex, use the INH-SWDX-EQPT command.

ALW-SWDX-EQPT is not used for SONET line or electrical card protection switching. For SONET line or path protection switching commands, see OPR-PROTNSW and RLS-PROTNSW commands. For the electrical card protection switching, see the SW-TOWKG-EQPT and SW-TOPROTN-EQPT commands.

Note This command applies to the XC, XCVT, or XC10G equipment units only in this release.

Section	ALW-SWDX-EQPT Description	
Category	Equipment	
Security	Maintenance	
Related Messages	ALW-SWTOPROTN-EQPT ALW-SWTOWKG-EQPT DLT-EQPT ED-EQPT ENT-EQPT INH-SWDX-EQPT INH-SWTOPROTN-EQPT INH-SWTOWKG-EQPT	REPT ALM EQPT REPT EVT EQPT RTRV-ALM-EQPT RTRV-COND-EQPT RTRV-EQPT SW-DX-EQPT SW-TOPROTN-EQPT SW-TOWKG-EQPT
Input Format	ALW-SWDX-EQPT:[<TID>]:<AID>:<CTAG>[::]; where: • <AID> is the XC/XCVT/XC10G equipment AID from the "EQPT" section on page 4-21	
Input Example	ALW-SWDX-EQPT:CISCO:SLOT-8:1234;	
Errors	Errors are listed in Table 7-30 on page 7-20.	

3.4.7 ALW-SWTOPROTN-EQPT: Allow Switch to Protection Equipment

(Cisco ONS 15454 only)

This command allows automatic or manual switching of an equipment unit back to a protection status. Use the INH-SWTOPROTN-EQPT command to inhibit an NE from switching to protection.

ALW-SWTOPROTN-EQPT is used for non-SONET line cards (e.g. DS1, DS3, DS3XM, and EC1). DS1 and DS3 cards have 1:1 and 1:N equipment protection. DS3XM and EC1 cards have only 1:1 equipment protection. When this command is given to a working unit, the working unit will be allowed to switch to the protection unit. When this command is given to a protection unit, any working unit in the protection group is allowed to switch to the protection unit.

The standing condition of INHSWPR on the unit specified by the AID will be cleared.

Notes:

1. This command only supports one value of the <DIRN> parameter - BTH. A command with any other value is considered an incorrect use of the command. An IDNV (Input, Data Not Valid) error message should be responsed.
2. This command is not used for the common control (TCC+/TCC2 or XC/XCVT/XC10G) cards. A command on a common control card will receive an IIAC (Input, Invalid Access Identifier) error message. To use the common control card switching commands, use the SW-DX-EQPT and ALW-SWDX-EQPT commands.
3. This command is not used for SONET (OCN) cards. A command on a SONET card will receive an IIAC (Input, Invalid Access identifier) error message. To use a SONET card switching command, use OPR-PROTNSW and RLS-PROTNSW commands.
4. If this command is used on a card that is not in a protection group, the SNVS (Status, Not in Valid State) error message should be responsed.
5. If this command is used on a card that is not in the inhibit state, the SAAL (Status, Already Allowed) error message should be responsed.
6. The following situation(s) are allowed and will not generate any error response: Sending this command to missing cards so long as none of the previous error conditions apply.

Section	ALW-SWTOPROTN-EQPT Description	
Category	Equipment	
Security	Maintenance	
Related Messages	ALW-SWDX-EQPT ALW-SWTOWKG-EQPT DLT-EQPT ED-EQPT ENT-EQPT INH-SWDX-EQPT INH-SWTOPROTN-EQPT INH-SWTOWKG-EQPT	REPT ALM EQPT REPT EVT EQPT RTRV-ALM-EQPT RTRV-COND-EQPT RTRV-EQPT SW-DX-EQPT SW-TORPROTN-EQPT SW-TOWKG-EQPT
Input Format	ALW-SWTOPROTN-EQPT:[<TID>]:<AID>:<CTAG>[::<DIRN>]; where: • <AID> This parameter can either be the protection unit for which carrying traffic is to be allowed (release of lockout) or the working unit for which switching to protect is to be allowed (release of lock on); <AID> is from the "EQPT" section on page 4-21 • <DIRN> is the direction of the switching. The command only supports one value of the <DIRN> parameter - BTH. This parameter defaults to BTH; valid values for <DIRN> are shown in the "DIRECTION" section on page 4-60	
Input Example	ALW-SWTOPROTN-EQPT:CISCO:SLOT-2:123::BTH;	
Errors	Errors are listed in Table 7-30 on page 7-20.	

3.4.8 ALW-SWTOWKG-EQPT: Allow Switch to Working Equipment

(Cisco ONS 15454 only)

This command allows automatic or manual switching of an equipment unit back to a working status. Use the INH-SWTOWKG-EQPT command to inhibit an NE from switching to working. ALW-SWTOWKG-EQPT is used for non-SONET line cards (e.g. DS1, DS3, DS3XM, and EC1). DS1 and DS3 cards have 1:1 and 1:N equipment protection. DS3XM and EC1 cards have only 1:1 equipment protection.

When this command is given to a working unit, the working unit will be allowed to carry traffic. In the case of revertive protection, the traffic will switch immediately from the protection unit to the working unit regardless of the reversion time setting.

When this command is given to a protection unit, the protection unit will be allowed to switch back to the working unit currently protected as long as the working unit has not raised INHSWWKG. In the case of revertive protection, the traffic will switch immediately from the protection unit to the working unit regardless of the reversion time setting. In the case of non-revertive protection, the protection unit will continue to carry the traffic.

The standing condition of INHSWWKG on the unit specified by the AID will be cleared.

Notes:

1. This command only supports one value of the <DIRN> parameter - BTH. A command with any other value is considered an incorrect use of the command. An IDNV (Input, Data Not Valid) error message should be responsed.
2. This command is not used for the common control (TCC+/TCC2 or XC/XCVT/XC10G) cards. A command on a common control card will receive an IIAC (Input, Invalid Access Identifier) error message. To use the common control card switching commands, use the SW-DX-EQPT and ALW-SWDX-EQPT commands.
3. This command is not used for SONET (OCN) cards. A command on a SONET card will receive an IIAC (Input, Invalid Access Identifier) error message. To use a SONET card switching command, use the OPR-PROTNSW and RLS-PROTNSW commands.
4. If this command is used on a card that is not in a protection group, the SNVS (Status, Not in Valid State) error message should be responsed.
5. If this command is used on a card that is not in the inhibit state, the SAAL (Status, Already Allowed) error message should be responsed.
6. The following situation(s) are allowed and will not generate any error response: sending this command to missing cards as long as none of the previous error conditions apply.

Section	ALW-SWTOWKG-EQPT Description	
Category	Equipment	
Security	Maintenance	
Related Messages	ALW-SWDX-EQPT ALW-SWTOPROTN-EQPT DLT-EQPT ED-EQPT ENT-EQPT INH-SWDX-EQPT INH-SWTOPROTN-EQPT INH-SWTOWKG-EQPT	REPT ALM EQPT REPT EVT EQPT RTRV-ALM-EQPT RTRV-COND-EQPT RTRV-EQPT SW-DX-EQPT SW-TOPROTN-EQPT SW-TOWKG-EQPT

Section	ALW-SWTOWKG-EQPT Description (continued)
Input Format	ALW-SWTOWKG-EQPT:[<TID>]:<AID>:<CTAG>[::<DIRN>]; where: • <AID> This parameter can either be the protection unit for which switching back to working is to be allowed (release of lock on) or the working unit for which carrying traffic is to be allowed (release of lockout); <AID> is from the "EQPT" section on page 4-21 • <DIRN> is the direction of the switching. The command only supports one value of the <DIRN> parameter - BTH. This parameter defaults to BTH; valid values for <DIRN> are shown in the "DIRECTION" section on page 4-60
Input Example	ALW-SWTOWKG-EQPT:CISCO:SLOT-2:123::BTH;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.9 APPLY: Apply

This command activates or reverts a software load during a software upgrade or downgrade process.

Section	APPLY Description	
Category	Software Download	
Security	Maintenance	
Related Messages	ALW-MSG-ALL COPY-RFILE ED-DAT ED-NE-GEN ED-NE-SYNCN INH-MSG-ALL INIT-SYS REPT EVT FXFR	RTRV-HDR RTRV-INV RTRV-MAP-NETWORK RTRV-NE-GEN RTRV-NE-IPMAP RTRV-NE-SYNCN RTRV-TOD SET-TOD
Input Format	APPLY:[<TID>]::<CTAG>[::<MEM_SW_TYPE>]; where: • <MEM_SW_TYPE> indicates memory switch action during the software upgrade; valid values for <MEM_SW_TYPE> are shown in the "DL_TYPE" section on page 4-61	
Input Example	APPLY:CISCO::123::ACT;	
Errors	Errors are listed in Table 7-30 on page 7-20.	

3.4.10 CANC: Cancel

Reports the occurrence of a session timeout event.

CANC is an autonomous message transmitted by the NE to a user when a session established by that user is terminated because no messages were exchanged for a long period of time, a timeout. There is a default timeout period based on the user's privilege/security level, and starting with Release 4.0 timeouts can be provisioned. The default timeouts based on privilege/security level are: superuser [SUPER] has the timeout period of 15 minutes., the Provision user [PROV] has the timeout period of 30 minutes, the Maintenance [MAINT] user has the timeout period of 60 minutes, the Retrieve user [RTRV] has no timeout.

When a timeout occurs, the corresponding port drops and the next session initiation at that port requires the regular login procedure.

Section	CANC Description
Category	Security
Security	Retrieve
Related Messages	ACT-USER CANC-USER DLT-USER-SECU ED-PID ED-USER-SECU ENT-USER-SECU REPT EVT SECU RTRV-USER-SECU
Output Format	SID DATE TIME A ATAG CANC "<UID>" ; where: • <UID> refers to the user's identification whose session is terminated due to timeout; <UID> is any combination of up to 10 alphanumeric characters. <UID> is a string
Output Example	TID-000 1998-06-20 14:30:00 A 100.100 CANC "CISCO15" ;

3.4.11 CANC-USER: Cancel User

This command logs a user out of an active session with the NE.

Note The USERID field of this command is a mandatory field.

For the CANC-USER command: CANC-USER:[TID]:[STRING]:CTAG

the syntax of the userid (fist [STRING]) is not checked. Invalid syntax for the userid is permitted and the userid must not exceed 10 characters.

Section	CANC-USER Description
Category	Security
Security	Retrieve
Related Messages	ACT-USER CANC DLT-USER-SECU ED-PID ED-USER-SECU ENT-USER-SECU REPT EVT SECU RTRV-USER-SECU
Input Format	CANC-USER:[<TID>]:<USERID>:<CTAG>; where: • <USERID> identifies the user to the system; <USERID> is any combination of up to 10 alphanumeric characters. <USERID> is a string **Note** CTC allows <UID> and <PID> of up to 20 characters. The 20 character CTC-entered <UID> and <PID> are not valid TL1 <UID> and <PID>
Input Example	CANC-USER:PETALUMA:TERRI:101;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.12 CHG-ACCMD-<MOD_TACC>: Change Test Access Mode (DS1, STS1, STS3C, STS6C, STS9C, STS12C, STS24C, STS48C, STS192C, T1, T3, VT1)

See Table 4-11 on page 4-6 for supported modifiers by platform.

This command changes the test access (TACC) mode for the circuit being tested. For more information on TACC, refer to the "Test Access" section on page 1-17.

This may be a change from monitoring the data to inserting data into the STS. This command can only be applied to an existing TAP connection.

For this command to be applicable, you must first create the TAP using the ED-<STS_PATH> or ED-VT1 commands

Notes:

1. If there is no TAP connection, a DENY error message is returned.
2. If a requested condition already exists, a SRCN error message is returned.
3. If a requested access configuration is invalid, a SRAC error message is returned
4. If a requested TAP does not exist, a RTEN error message is returned.

Section	CHG-ACCMD-<MOD_TACC> Description
Category	Test Access
Security	Maintenance
Related Messages	CONN-TACC-<MODE_TACC> DISC_TACC RTRV-TACC

Section	CHG-ACCMD-<MOD_TACC> Description (continued)
Input Format	CHG-ACCMD-<MOD_TACC>:[<TID>]:<TAP>:<CTAG>::<MD>; where: • <TAP> indicates the test access path number selected by the NE. The <TAP> is used to identify all messages between the TSC and NE until the access point is released. The <TAP> number must be an integer with a range of 1 to 999. <TAP> is a string **Note** This command only changes a single TAP at a time. • <MD> indicates the test access mode (SPLTE, SPLTF, LOOPE, AND LOOPF require an external QRS input signal); valid values for <MD> are shown in the "TACC_MODE" section on page 4-92
Input Example	CHG-ACCMD-STS1:CISCO:8:123::MONE;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.13 CONN-TACC-<MOD_TACC>: Connect Test Access (DS1, STS1, STS3C, STS6C, STS9C, STS12C, STS24C, STS48C, STS192C, T1, T3, VT1)

See Table 4-11 on page 4-6 for supported modifiers by platform.

This command connects the STS or VT defined by AID to the STS specified by the TAP number. For more information on TACC, refer to the "Test Access" section on page 1-17.

The connection will exist only for the duration of the TL1 session, after which the TAP will be disconnected from the circuit before the session cancels out. For this command to be applicable, you must first create the TAP using the ED-<STS_PATH> or ED-VT1 commands.

Notes:

1. If all TAPs are busy, a RABY error message is returned.
2. If a requested TAP is busy, a RTBY error message is returned.
3. If a requested TAP does not exist, a RTEN error message is returned.
4. If a circuit is already connected to another TAP, a SCAT error message is returned.
5. If a requested condition already exists, a SRCN error message is returned.
6. If the AID is invalid, an IIAC (Input, Invalid Access Identifier) error message is returned.
7. If an access is not supported, an EANS error message is returned.
8. If a requested access configuration is invalid, a SRAC error message is returned.

Section	CONN-TACC-<MOD_TACC> Description
Category	Test Access
Security	Provisioning
Related Messages	CHG-ACCMD-<CHG-ACCMD> DISC-TACC RTRV-TACC

Section	CONN-TACC-<MOD_TACC> Description (continued)
Input Format	CONN-TACC-<MOD_TACC>:[<TID>]:<AID>:<CTAG>::<TAP>:MD=<MD>; where: • <AID> is an access identifier. <AID> format is the modifier AID format in the ALL AID list. Only a single AID is supported in this command. <AID> is the AID from the "ALL" section on page 4-10. <AID> must not be null • <TAP> indicates the test access path number selected by the NE. The <TAP> is used to identify all messages between the TSC and the NE until the access point is released. The <TAP> number must be an integer with a range of 1 to 999. A null <TAP> defaults to an appropriate <TAP> number selected by the NE. <TAP> is an integer and a null value is equivalent to ALL • <MD> indicates the test access mode (SPLTE, SPLTF, LOOPE and LOOPF require an external QRS input signal); valid values for <MD> are shown in the "TACC_MODE" section on page 4-92. <MD> must not be null
Input Example	CONN-TACC-STS1:CISCO:STS-2-4:123::8:MD=MONE;
Output Format	SID DATE TIME M CTAG COMPLD "<TAP>" ; where: • <TAP> indicates the test access path number selected by the NE. The <TAP> is used to identify all messages between the TSC and NE until the access point is released. The <TAP> number must be an integer with a range of 1 - 999. A null <TAP> defaults to an appropriate <TAP> number selected by the NE. <TAP> is an integer
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "8" ;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.14 COPY-IOSCFG: Copy IOS Config File

(Cisco ONS 15454 only)

This command supports the following types of operations on the IOS configuration file of ML-series Ethernet cards:

1. Uploading of startup IOS configuration file from the network to the node.

   FTP is the only protocol allowed for uploading. When doing this operation, the SRC field must be a FTP URL string specifying the user name and password for FTP authentication, and specifying the host and the directory to locate the startup config file from the network. The DEST field must be a string of "STARTUP".

2. Downloading of startup IOS configuration file from the node to the network.

   FTP is the only protocol allowed for downloading. When doing this operation, the SRC field must be a string of “STARTUP”. The DEST field must be a FTP URL string specifying the user name and password for FTP authentication, and specifying the host and the directory to store the startup config file.

Notes:

1. The IOS configuration file is unique for each ML-series card, and is specified by the SLOT number in the AID field of the command.
2. In the GNE/ENE environment, if the GNE firewall exists, the download (backup) of IOS configuration file via TL1 is not allowed. Any such attempt will receive a “Data Connection Error” from the GNE. For the upload of IOS configuration file via TL1, GNE will allow it to go through the firewall only if the file contains the header “! Cisco IOS config <text>”. If the configuration file does not contain this header, GNE will block the uploading with “Data Connection Error”.
3. The format of the FTP URL string used in the SRC or DEST field of the command is as follows:

   In a non-firewall environment, the format of the URL should be
   “FTP://[FTPUSER[:FTPPASSWORD]]@FTP_HOST_IP/PACKAGE_PATH” where:
   <FTPUSER> is the userid to connect to the computer with the package file
   <FTPPASSWORD> is the password used to connect to the computer with the package file
   <FTP_HOST_IP> is the IP address of the computer with the package file, DNS lookup of hostnames is not supported
   <PACKAGE_PATH> is the long path name to the package file

Note Note that USERID and PASSWORD are optional if the user does not need to log into the host computer. Also note that the password may be optional if the user does not need to log in. All the other portions of the URL are required, including the initial “FTP:\\” string.

In a firewall environment, the hostname should be replaced with a list of IP addresses each separated by a @ character. The first IP address should be for the machine where the package file is stored. Subsequent IP addresses should then be for firewall machines moving outwards towards the edge of the network, until the final IP address listed was the machine that outside users first access the network.

For example: if your topology is “FTP_HOST_IP <-> GNE3 <->GNE2 <-> GNE1 <-> ENE”, your FTP URL will be:
FTP://FTPUSER:FTPPASSWORD@FTP_HOST_IP@GNE3@GNE2@GNE1/PACKAGE_PATH

Section	COPY-IOSCFG Description
Category	IOS
Security	Provisioning
Related Messages	REPT EVT IOSCFG

Section	COPY-IOSCFG Description (continued)
Input Format	COPY-IOSCFG:[<TID>]:<AID>:<CTAG>::SRC=<SRC>,DEST=<DEST>; where: • <AID> specifies the slot number of the card where the IOS configuration file belongs and is from the AID "EQPT" section on page 4-21 • <SRC> specifies where the IOS config file is copied from and is a string • <DEST> specifies where the IOS config file is copied to and is a string
Input Example	COPY-IOSCFG::SLOT-1:CTAG::SRC="LONG_FTP_PATH",DEST="STARTUP";
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.15 COPY-RFILE: Copy RFILE

This command downloads a new software package from the location specified by the FTP URL. It is also used to backup and restore the system database.

Notes:

1. Userid is the userid to connect to the computer with the package file or system database.
2. Password is the password used to connect to the computer with the package file or system database.
3. Hostname is the hostname or IP address of the computer with the package file or system database.
4. Package_path is the long path name to the package file or system database.
5. Both the userid and password are optional if the user does not need to log into the host computer.
6. The password may be optional if the user does not need to log in.
7. All the other portions of the URL are required, including the initial "FTP://" string.

Example:

COPY-RFILE:TID:RFILE-PKG:703::TYPE=SWDL,SRC="FTP://USERID:
PASSWORD@HOSTIP:21/DIR1/DIR2/DIR3/PACKAGE.PKG";

Notes:

1. The SWDL type is used for software package uploads. The RFBU type is used for system database backups, and the RFR type is used for system database restores. The SRC input is required when the type is SWDL or RFR. The DEST input is needed when the type is RFBU. The SRC and DEST inputs cannot both be used in the same command.
2. FTP is the only allowed file transfer method.
3. The extended FTP URL syntax is required by the COPY-RFILE syntax.
4. Port number (21) is optional. 21 is the only supported Port Number. Leaving this field blank defaults to 21.

Section	COPY-RFILE Description
Category	Software Download
Security	Superuser
Related Messages	APPLY REPT EVT FXFR

Section	COPY-RFILE Description (continued)
Input Format	COPY-RFILE:[<TID>]:[<SRC>]:<CTAG>::TYPE=<XFERTYPE>, [SRC=<SRC1>,][DEST=<DEST>]; where: • <SRC> is the type of file being transferred; <SRC> is the AID from the "RFILE" section on page 4-24 • <XFERTYPE> is the file transfer protocol; valid values for <XFERTYPE> are shown in the "TX_TYPE" section on page 4-95 • <SRC1> specifies the source of the file to be transferred. Only the FTP URL is supported. In a non-firewall environment the format of the URL should be: "FTP://[FTP_USER[:FTP_PASSWORD]]@ FTP_HOST_IP/PACKAGE_PATH" where: – <FTP_USER> is the userid to connect to the computer with the package file – <FTP_PASSWORD> is the password used to connect to the computer with the package file – <FTP_HOST_IP> is the IP address of the computer with the package file, DNS lookup of hostnames is not supported – <PACKAGE_PATH> is the long path name to the package file **Note** Userid and password are optional if the user does not need to log into the host computer. The password may be optional if the user does not need to log in. All the other portions of the URL are required, including the initial "FTP://" string. In a firewall environment, the hostname should be replaced with a list of IP addresses each separated by a @ character. The first IP address should be for the machine where the package file is stored. Subsequent IP addresses should then be for firewall machines moving outwards towards the edge of the network, until the final IP address listed is the machine that outside users first access the network. For example, if the topology is "FTP_HOST_IP <-> GNE3 <->GNE2 <-> GNE1 <-> ENE", the FTP URL is: FTP://FTP_USER:FTP_PASSWORD@FTP_HOST_IP@GNE3@GNE2@ GNE1/PACKAGE_PATH <SRC1> is a string. • <DEST> see <SRC1> above
Input Example	COPY-RFILE:HERNDON:RFILE-PKG:703::TYPE=SWDL, SRC="LONG_FTP_PATH",DEST="LONG_FTP_PATH";
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.16 DISC-TACC: Disconnect Test Access

This command disconnects the TAP and puts the connection back to its original state (no splits). For more information on TACC, refer to the "Test Access" section on page 1-17.

For this command to be applicable, you must first create the TAP using the ED-<STS_PATH> or ED-VT1 commands.

Notes:

1. If you send this command to an already disconnected connection, a SADC error message is returned.
2. If the system cannot release TAP, an SRTN error message is returned.
3. Automatic disconnection of the STS/VT path from a TAP happens when the session that created the connection gets timed out or is terminated.

Section	**DISC-TACC Description**
Category	Test Access
Security	Provisioning
Related Messages	CHG-ACCMD-<MOD_TACC> CONN-TACC-<MOD_TACC> RTRV-TACC
Input Format	DISC-TACC:[<TID>]:<TAP>:<CTAG>; where: • <TAP> indicates the test access path number selected by the NE. The <TAP> is used to identify all messages between the TSC and the NE until the access point is released. The <TAP> number must be an integer with a range of 1- 999. This command only supports changing a single <TAP> number at a time. <TAP> is a string **Note** This command only disconnects a single TAP at a time.
Input Example	DISC-TACC:CISCO:8:123;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.17 DLT-BLSR: Delete BLSR

This command deletes the BLSR of the NE.

Error conditions:

1. If the system fails on getting IOR, a SDBE (Status, Internal Data Base Error) error message is returned.
2. If the NE returns nothing for the required BLSR (BLSR-# AID), a SRQN (Status, Invalid Request) error message is returned.

Section	**DLT-BLSR Description**
Category	BLSR
Security	Provisioning

Section	DLT-BLSR Description (continued)	
Related Messages	ED-BLSR ENT-BLSR REPT ALM RING REPT EVT RING	RTRV-ALM-RING RTRV-BLSR RTRV-COND-RING
Input Format	DLT-BLSR:[<TID>]:<AID>:<CTAG>[:::]; where: • <AID> identifies the BLSR of the NE. “ALL” or “BLSR-ALL” AID is not allowed for editing BLSR. This command only supports a single BLSR AID. <AID> is the AID from the “BLSR” section on page 4-18	
Input Example	DLT-BLSR:PETALUMA:BLSR-2:123;	
Errors	Errors are listed in Table 7-30 on page 7-20.	

3.4.18 DLT-CRS-<STS_PATH>: Delete Cross Connection (STS1, STS3C, STS6C, STS9C, STS12C, STS24C, STS48C, STS192C)

See Table 4-11 on page 4-6 for supported modifiers by platform.

This command deletes a cross-connection between STS paths. STS paths are specified using their STS AID.

Notes:

1. The fields after CTAG (trailing colons) are optional.
2. For the 1-way cross-connections the AIDs must be in the same order as originally entered; for the 2-way cross-connections, either order will work.
3. This command does not support deleting multiple STS cross-connections.
4. Using “&” in the AID field of this command can delete an UPSR STS cross-connection.
   a. The following command is used to delete a 1-way selector or 2-way selector and bridge with:

      from points: F1, F2

      to points: T1

      DLT-CRS-{STS_PATH}:[<TID>]:F1&F2,T1:<CTAG>;

   b. The following command is used to delete a 1-way bridge or 2-way selector and bridge with:

      from point: F1

      to points: T1, T2

      DLT-CRS-{STS_PATH}:[<TID>]:F1,T1&T2:<CTAG>;

   c. The following command is used to delete a 1-way or 2-way subtending UPSR connection with:

      from point: F1, F2

      to points: T1, T2

      DLT-CRS-{STS_PATH}:[<TID>]:F1&F2,T1&T2:<CTAG>;

   d. The AID format in the deletion command is the same as the AID format in the retrieved response message. For example, if the output of any retrieved AID is “F1&F2,T1:CCT,STS3C”, the deletion command with the AID format (F1&F2,T1) is required to delete this cross-connection.

e. The following command is used to create a UPSR IDRI Cross-Connection:

ENT-CRS-{STS_PATH}:[<TID>]:A&B,C&D:<CTAG>::2WAYDC;

A–Path on ring X to which traffic from ring Y is bridged

B–Path on ring X to which traffic from the same ring is bridged

C–Path on ring Y to which traffic from ring X is bridged

D–Path on ring Y to which traffic from the same ring is bridged

A, B, C, and D have a positional meaning. Connection type 2WAYDC is used for UPSR IDRI cross-connections.

f. The following command is used to create a UPSR DRI Cross-Connection:

ENT-CRS-{STS_PATH}:[<TID>]:A&B,C:<CTAG>::2WAYDC;

A–Path on ring X to which traffic from ring Y is bridged

B–Path on ring X to which traffic from the same ring is bridged

C–Traffic to and from ring Y

A, B, C, and D have a positional meaning. Connection type 2WAYDC is used for UPSR DRI cross-connections.

5. All A&B AIDs in the TL1 cross-connection command are in the format of WorkingAID&ProtectAID.
6. You can experience some implementation behavior problems if additional drops have been added to the connection object.
7. The facility AID is only valid for slots holding the G1000-4 card.
8. The virtual facility AID (VFAC) is only valid on slots holding an ML-series card.
9. A TL1 cross-connect that has been upgraded to a CTC circuit can no longer be managed by TL1. For example, if you issue a DLT-CRS-<STS_PATH> command to delete a circuit, you will see that the circuit still appears in CTC as “incomplete”. The reason for this is because in addition to creating cross-connects (as TL1 does), CTC creates another object on the source node that stores network-level circuit attributes. CTC will continue to see that object after the cross-connect is deleted which is why it shows an incomplete circuit.

Section	DLT-CRS-<STS_PATH> Description
Category	Cross Connections
Security	Provisioning
Related Messages	DLT-CRS-VT1 ED-CRS-<STS_PATH> ED-CRS-VT1 ENT-CRS-<STS_PATH> ENT-CRS-VT1 RTRV-CRS RTRV-CRS-<STS_PATH> RTRV-CRS-VT1
Input Format	DLT-CRS-<STS_PATH>:[<TID>]:<SRC>,<DST>:<CTAG>[:::]; where: • <SRC> is the AID from the “CrossConnectID” section on page 4-14 • <DST> is the AID from the “CrossConnectID” section on page 4-14

Section	DLT-CRS-<STS_PATH> Description (continued)
Input Example	DLT-CRS-STS12C:VINBURG:STS-1-1-1,STS-12-1-1:102;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.19 DLT-CRS-VT1: Delete Virtual Tributary Cross Connect

This command deletes the VT1 cross-connections.

Notes:

1. The fields after CTAG (trailing colons) are the optional.
2. For the 1-way cross-connections the AIDs must be in the same order as originally entered; for the 2-way either order will work.
3. This command does not support deleting multiple VT cross-connections.
4. Using “&” in the AID field of this command can delete an UPSR VT cross-connection.
    a. The following command is used to delete a 1-way selector or 2-way selector and bridge with:

       from points: F1, F2

       to points: T1

       DLT-CRS-VT1:[<TID>]:F1&F2,T1:<CTAG>;
    b. The following command is used to delete a 1-way bridge or 2-way selector and bridge with:

       from point: F1

       to points: T1, T2

       DLT-CRS-VT1:[<TID>]:F1,T1&T2:<CTAG>;
    c. The following command is used to delete a 1-way subtending UPSR connection or 2-way subtending UPSR connection with:

       from points: F1, F2

       to points: T1, T2

       DLT-CRS-VT1:[<TID>]:F1&F2,T1&T2:<CTAG>;
    d. The AID format in the deletion command is the same as the AID format in the retrieved response message. For example, if the output of any retrieved AID is “F1&F2,T1:CCT”, the deletion command with the AID format (F1&F2,T1) is required to delete this cross-connection.
5. All A&B AIDs in the TL1 cross-connection command are in the format of WorkingAID&ProtectAID.
6. You can experience some implementation behavior problems if additional drops have been added to the connection object.

Section	DLT-CRS-VT1 Description
Category	Cross Connections
Security	Provisioning

Section	DLT-CRS-VT1 Description (continued)
Related Messages	DLT-CRS-<STS_PATH> ED-CRS-<STS_PATH> ED-CRS-VT1 ENT-CRS-<STS_PATH> ENT-CRS-VT1 RTRV-CRS RTRV-CRS-<STS_PATH> RTRV-CRS-VT1
Input Format	DLT-CRS-VT1:[<TID>]:<FROM>,<TO>:<CTAG>[:::]; where: • <FROM> indicates an identifier at one end of the VT cross-connection; <FROM> is the AID from the "VT1_5" section on page 4-30 • <TO> indicates an identifier at the other end of the VT cross-connection; <TO> is the AID from the "VT1_5" section on page 4-30
Input Example	DLT-CRS-VT1:CISCO:VT1-2-3-7-2,VT1-4-4-5-2:1234;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.20 DLT-EQPT: Delete Equipment

This command deletes a card from the NE.

This command removes the card type and attributes that were entered for a particular slot. If any facilities are assigned, they are deleted too. The command will be denied if the card is part of a protection group or has a cross-connect end-point.

To delete a card that is part of a protection group, it has to be removed from the protection group first using the ED-EQPT command.

Error conditions for deleting equipment may be:

1. If the equipment is in use which corresponds to some provisioning having been done on the equipment, the SPLD (Equipment in use) error message will be returned:
   a. If it is belongs to a protection group that has a cross-connection.
   b. If one of its ports has been provisioned as a DCC channel.
   c. If one of its ports is being used for a synchronization source.
   d. If the equipment has a Test Access Point (TAP).
   e. If one of its ports is being used as a UCP Control Channel or Interface.
   f. If one of its ports is provisioned for a BLSR.
   g. If one of its ports is a part of a 1+1 protection group.
2. If a card is not provisioned, an error message will be returned.

Section	DLT-EQPT Description
Category	Equipment
Security	Provisioning

Section	DLT-EQPT Description (continued)	
Related Messages	ALW-SWDX-EQPT ALW-SWTOPROTN-EQPT ALW-SWTOWKG-EQPT ED-EQPT ENT-EQPT INH-SWDX-EQPT INH-SWTOPROTN-EQPT INH-SWTOWKG-EQPT	REPT ALM EQPT REPT EVT EQPT RTRV-ALM-EQPT RTRV-COND-EQPT RTRV-EQPT SW-DX-EQPT SW-TOPROTN-EQPT SW-TOWKG-EQPT
Input Format	DLT-EQPT:[<TID>]:<AID>:<CTAG>[:::]; where: • <AID> is the equipment unit (slot) to act on and is the AID from the "EQPT" section on page 4-21	
Input Example	DLT-EQPT:SONOMA:SLOT-1:104;	
Errors	Errors are listed in Table 7-30 on page 7-20.	

3.4.21 DLT-FFP-<OCN_TYPE>: Delete Facility Protection Group (OC3, OC12, OC48, OC192)

See Table 4-11 on page 4-6 for supported modifiers by platform.

This command deletes an OCN facility protection group in a 1+1 architecture.

Note If the protection group does not exist, an error message will be returned.

Section	DLT-FFP-<OCN_TYPE> Description
Category	SONET Line Protection
Security	Provisioning
Related Messages	ED-FFP-<OCN_TYPE> ENT-FFP-<OCN_TYPE> EX-SW-<OCN_BLSR> OPR-PROTNSW-<OCN_TYPE> RLS-PROTNSW-<OCN_TYPE> RTRV-FFP-<OCN_TYPE> RTRV-PROTNSW-<OCN_TYPE>
Input Format	DLT-FFP-<OCN_TYPE>:[<TID>]:<WORK>,<PROTECT>:<CTAG>[:::]; where: • <WORK> identifies the working facility and is the AID from the "FACILITY" section on page 4-22 • <PROTECT> identifies the protect facility and is the AID "FACILITY" section on page 4-22
Input Example	DLT-FFP-OC3:PETALUMA:FAC-2-1,FAC-1-1:1;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.22 DLT-FFP-CLNT: Delete Facility Protection Group Client

This command deletes Y cable protection on client facilities.

Section	DLT-FFP-CLNT Description	
Category	DWDM	
Security	Provisioning	
Related Messages	DLT-FFP-<OCN_TYPE> ED-CLNT ED-DWDM ED-FFP-<OCN_TYPE> ED-FFP-CLNT ED-OCH ED-TRC-CLNT ED-TRC-OCH ENT-FFP-<OCN_TYPE> ENT-FFP-CLNT OPR-PROTNSW-<OCN_TYPE> OPR-PROTNSW-CLNT	RLS-PROTNSW-<OCN_TYPE> RLS-PROTNSW-CLNT RTRV-CLNT RTRV-DWDM RTRV-FFP-<OCN_TYPE> RTRV-FFP-CLNT RTRV-OCH RTRV-PROTNSW-<OCN_TYPE> RTRV-PROTNSW-CLNT RTRV-TRC-CLNT RTRV-TRC-OCH
Input Format	DLT-FFP-CLNT:[<TID>]:<WORKAID>,<PROTAID>:<CTAG>[:::]; where: • <WORKAID> identifies the working facility and is the AID from the "FACILITY" section on page 4-22 • <PROTECTAID> identifies the protect facility and is the AID "FACILITY" section on page 4-22	
Input Example	DLT-FFP-CLNT:CISCO:FAC-1-1,FAC-2-1:100;	
Errors	Errors are listed in Table 7-30 on page 7-20.	

3.4.23 DLT-UCP-CC: Delete Unified Control Plane Control Channel

(Cisco ONS 15454 only)

This command deletes a UCP IP control channel.

1. If you send this command to a control channel that is in use, a SRQN (Status, Invalid Request) error message is returned.
2. If sending this command to delete an SDCC IPCC with a complete result, the SDCC of the specified SONET line is deleted (or disabled) automatically with a DB change reporting (if the DB change report is enabled).
3. If sending this command to delete an IPCC which is in use by a UCP Interface, an SROF (Delete UCP IPCC Failed - Object Is In Use) error message is returned.

Section	DLT-UCP-CC Description	
Category	UCP	
Security	Provisioning	
Related Messages	DLT-UCP-IF DLT-UCP-NBR ED-UCP-CC ED-UCP-IF ED-UCP-NBR ED-UCP-NODE ENT-UCP-CC ENT-UCP-IF	ENT-UCP-NBR REPT ALM UCP REPT EVT UCP RTRV-ALM-UCP RTRV-COND-UCP RTRV-UCP-CC RTRV-UCP-IF RTRV-UCP-NBR
Input Format	DLT-UCP-CC:[<TID>]:<AID>:<CTAG>[::::]; where: • <AID> indicates an individual IPCC ID; <AID> is the AID from the "IPCC" section on page 4-16	
Input Example	DLT-UCP-CC:CISCO:CC-9:CTAG;	
Errors	Errors are listed in Table 7-30 on page 7-20.	

3.4.24 DLT-UCP-IF: Delete Unified Control Plane Interface

This command deletes a UCP interface.

> **Note** If the UCP interface is not found or in use, a SRQN (Status, Invalid Request) error message is returned.

Section	DLT-UCP-IF Description
Category	UCP
Security	Provisioning
Related Messages	DLT-UCP-CC ENT-UCP-NBR DLT-UCP-NBR REPT ALM UCP ED-UCP-CC REPT EVT UCP ED-UCP-IF RTRV-ALM-UCP ED-UCP-NBR RTRV-COND-UCP ED-UCP-NODE RTRV-UCP-CC ENT-UCP-CC RTRV-UCP-IF ENT-UCP-IF RTRV-UCP-NBR
Input Format	DLT-UCP-IF:[<TID>]:<AID>:<CTAG>[::::]; where: • <AID> indicates the interface port index of the data link; <AID> is the AID from the "FACILITY" section on page 4-22
Input Example	DLT-UCP-IF:CISCO:FAC-2-1:CTAG;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.25 DLT-UCP-NBR: Delete Unified Control Plane Neighbor

This command deletes a UCP neighbor.

Notes:

1. If the neighbor is in use, an SRQN (Status, Invalid Request) error message is returned.
2. If sending this command to delete a neighbor which is in use by IPCC, an SROF (Delete UCP neighbor Failed - Object Is In Use) error message is returned.

Section	DLT-UCP-NBR Description
Category	UCP
Security	Provisioning
Related Messages	DLT-UCP-CC ENT-UCP-NBR DLT-UCP-IF REPT ALM UCP ED-UCP-CC REPT EVT UCP ED-UCP-IF RTRV-ALM-UCP ED-UCP-NBR RTRV-COND-UCP ED-UCP-NODE RTRV-UCP-CC ENT-UCP-CC RTRV-UCP-IF ENT-UCP-IF RTRV-UCP-NBR

Section	DLT-UCP-NBR Description (continued)
Input Format	DLT-UCP-NBR:[<TID>]:<AID>:<CTAG>[::::]; where: • <AID> indicates an individual neighbor AID of the UCP; <AID> is the AID from the "NBR" section on page 4-16
Input Example	DLT-UCP-NBR:CISCO:NBR-8:CTAG;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.26 DLT-USER-SECU: Delete User Security

This command deletes a user and can only be performed by a Superuser. Privilege levels are described in the ENT-USER-SECU command.

This command cannot be used to delete a user that is currently logged on.

For the DLT-USER-SECU command:

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

the syntax of <UID> is not checked. The user is deleted if the <UID> exists in the database.

Notes:

1. A userid cannot be deleted when that user is logged in. If you try to delete a userid and the user is logged in, an error message indicating that the user is logged in will be received.

Section	DLT-USER-SECU Description
Category	Security
Security	Superuser
Related Messages	ACT-USER CANC CANC-USER ED-PID ED-USER-SECU ENT-USER-SECU REPT EVT SECU RTRV-USER-SECU
Input Format	DLT-USER-SECU:[<TID>]:<UID>:<CTAG>; where: • <UID> is the user identifier and is a string; <UID> is any combination of up to 10 alphanumeric characters **Note** CTC allows <UID> and <PID> of up to 20 characters. The 20 character CTC-entered <UID> and <PID> are not valid TL1 <UID> and <PID>.
Input Example	DLT-USER-SECU:PETALUMA:CISCO15:123;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.27 ED-<OCN_TYPE>: Edit (OC3, OC12, OC48, OC192)

See Table 4-11 on page 4-6 for supported modifiers by platform.

This command edits the attributes (i.e., service parameters) and state of an OC-N facility. Allowable states for a facility are Out Of Service (OOS), Out Of Service with Automatic In Service transitioning (OOS-AINS), Out Of Service for Maintenance (OOS-MT), and In Service (IS).

The DCC transmit is bridged to both working and protect in a 1+1 configuration. On the receive side, the active one is selected for DCC. The DCC is provisioned on the working port only in a 1+1 configuration.

All lines in a 1+1 BLSR must have the same mode. If you change the mode of a line that is in a 1+1 BLSR, an error message will be returned.

UNI-C DCC provisioning notes:

1. The attributes DCC(Y/N) and mode (SONET/SDH) remain the same in the ED/RTRV-OCN commands when the DCC is used for UNI-C, in which case the port attribute UNIC is enables (UNIC=Y).
2. If the DCC is created under regular SONET provisioning, and this port is used by UNI-C, the port is converted as a UNI-C DCC automatically.
3. De-provisioning UNI-C IF/IB IPCC will free up DCC termination automatically.
4. The state of the T1 port cannot be changed to IS or OOS if a loopback has been operated upon the line.

Section	ED-<OCN_TYPE> Description
Category	Ports
Security	Provisioning
Related Messages	ED-DS1 ED-EC1 ED-G1000 ED-T1 ED-T3 RMV-<MOD2_IO> RST-<MOD2_IO> RTRV-<OCN_TYPE> RTRV-DS1 RTRV-EC1 RTRV-G1000 RTRV-T1 RTRV-T3

Section	ED-<OCN_TYPE> Description (continued)
Input Format	ED-<OCN_TYPE>:[<TID>]:<AID>:<CTAG>:::[DCC=<DCC>,][SYNCMSG=<SYNCMSG>,][SENDDUS=<SENDDUS>,][PJMON=<PJMON>,][SFBER=<SFBER>,][SDBER=<SDBER>,][MODE=<MODE>,][MUX=<MUX>,][SOAK=<SOAK>]:[<PST>],[<SST>]; where: • <AID> is the access identifier from the "FACILITY" section on page 4-22 • <DCC> identifies an OCN port DCC connection; valid values for <DCC> are shown in the "SDCC_MODE" section on page 4-86 • <SYNCMSG> indicates if sync status messaging is enabled or disabled on the facility; valid values for <SYNCMSG> are shown in the "ON_OFF" section on page 4-79 • <SENDDUS> indicates that the facility will send out the DUS (do not use for synchronization) value as the sync status message for that facility; valid values are shown in the "ON_OFF" section on page 4-79 • <PJMON> identifies an OC-N port PJMON with a value range of [0, highest STS number for the sonet card]; <PJMON> is an integer • <SFBER> identifies an OC-N port SFBER; valid values for <SFBER> are shown in the "SF_BER" section on page 4-86 • <SDBER> identifies an OC-N port SDBER; valid values for <SDBER> are shown in the "SD_BER" section on page 4-85 • Valid values for <MODE> are shown in the "OPTICAL_MODE" section on page 4-80 • <MUX> BLSR Extension Byte (supported only on OC48AS cards); valid values for <MUX> are shown in the "MUX_TYPE" section on page 4-78 • <SOAK> OOS-AINS to IS transition soak time as measured in 15 minute intervals, so a value of 4 translates to a soak time of 1 hour. The allowable range is 0–192 intervals (maximum of 48 hours). <SOAK> is an integer. • <PST> is the primary state; valid values for <PST> are shown in the "PST" section on page 4-85 • <SST> is the secondary state; valid values for <SST> are shown in the "SST" section on page 4-87
Input Example	ED-OC48:PENNGROVE:FAC-6-1:114:::DCC=Y,SYNCMSG=Y,SENDDUS=N,PJMON=48,SFBER=1E-4,SDBER=1E-6,MODE=SONET,MUX=E2,SOAK=10:OOS,AINS;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.28 ED-<STS_PATH>: Edit (STS1, STS3C, STS6C, STS9C, STS12C, STS24C, STS48C, STS192C)

See Table 4-11 on page 4-6 for supported modifiers by platform.

This command edits the attributes associated with an STS path.

The SFBER, SDBER, RVRTV, and RVTM parameters only apply to UPSR.

The path trace message is a 64 character string including the terminating CR (carriage return) and LF (line feed) that is transported in the J1 byte of the SONET STS Path overhead. Both the EXPTRC and TRC string can be provisioned by user with up to 62 character string.

The EXPTRC indicates the contents of the expected incoming path trace are provisioned by the user. The TRC indicates the contents of the outgoing path trace message. The INCTRC indicates the contents of the incoming path trace message.

The path trace mode has three modes: OFF, MANUAL, and AUTO. The path trace mode defaults to OFF. The MANUAL mode performs the comparison of the received string with the user-entered expected string. The AUTO mode performs the comparison of the present received string with an expected string set to a previously received string. If there is a mismatch, TIM-P alarm is raised. When the path trace mode is in OFF mode, there is no path trace processing, and all the alarm and state conditions are reset.

The TACC parameter edits an existing single STS or VT and changes it to a test access point. When an editing command on TACC is executed, it assigns the STS for the first 2-way connection and STS=1 as the second 2-way connection. For STS3C and STS12C, the next available STS of the same width is chosen. For more information on TACC, refer to the "Test Access" section on page 1-17.

J1 is implemented on the DS1/DS1N, DS3E/DS3NE, DS3XM, EC1, OC3, OC48AS and OC192 cards.

DS3/DS3N, OC12, OC48, E100, and E1000 cards do not support path trace.

DS1/DS1N, DS3E/DS3NE, and DS3XM support both TRC and EXPTRC in the ED-STS-PATH command.

EC1, OC3, OC48AS, and OC192 only support EXPTRC in the ED-STS-PATH command.

Note Each TL1 command must be less than or equal to 255 characters. Any command larger than 255 characters must be split into multiple commands. For example, if you use the ED-<STS_PATH> command to edit the J1 EXPTRC/TRC message, UPSR attributes, and TACC attributes and the command exceeds 255 characters the command will not be processed. You must use multiple ED-<STS_PATH> commands instead.

Note An STS TAP created in a DS3XM card cannot be used to connect to an STS with a non-VT structured payload, for example, DS3. If created, traffic cannot be monitored.

Note An STS TAP created in a DS3 card cannot be used to connect to an STS with a non-DS3 payload, for example, VT structured. If created, traffic cannot be monitored.

Error conditions:

1. If sending this command to edit SFBER or SDBER or RVRTV or RVTM for the non UPSR STS path, an error message will be returned.
2. If sending this command to edit the EXPTRC string with the AUTO path trace mode (TRCMODE=AUTO), an error message will be returned.
3. If sending this command to edit TRC on any card other than DS3(N)E, DS1(N), and DS3XM cards, an error message (TRC-not allowed for monitor paths. Incorrect card type.) will be returned.
4. This command is allowed to edit EXPTRC on DS1(N), DS3(N)E, DS3XM, EC1, OC3, OC48AS, and OC192 cards.
5. If sending this command to edit both TACC and any other attribute(s), the (Parameters Not compatible) error message will be returned.

6. If sending this command to edit TACC on an AID with cross-connections, an error message (STS in Use) will be returned.
7. TACC creation will also be denied on the protect ports/cards for 1:1, 1:N, and 1+1.
8. The VFAC AID is only valid on slots containing an ML1000-2 or ML100T-12 card. TACC is not supported for the ML1000-2 or ML100T-12 cards.
9. After the BLSR switching, provisioning of the J1 trace string or trace mode is not allowed on the protection path.
10. TACC creation is allowed on PCA for two-fiber and four-fiber BLSR.
11. TACC is not supported on G1000/MXP/TXP/ML1000-2 and ML100T-12 cards.

Section	**ED-<STS_PATH> Description**
Category	STS and VT Paths
Security	Provisioning
Related Messages	RTRV-<STS_PATH> RTRV-PTHTRC-<STS_PATH>

Section	ED-<STS_PATH> Description (continued)
Input Format	ED-<STS_PATH>:[<TID>]:<SRC>:<CTAG>:::[SFBER=<SFBER>,][SDBER=<SDBER>,][RVRTV=<RVRTV>,][RVTM=<RVTM>,][SWPDIP=<SWPDIP>,][HOLDOFFTIMER=<HOLDOFFTIMER>,][EXPTRC=<EXPTRC>,][TRC=<TRC>,][TRCMODE=<TRCMODE>,][TACC=<TACC>]:[<PST>],[<SST>]; where: • <SRC> is the access identifier from the "CrossConnectID" section on page 4-14 • <SFBER> identifies an STS path SFBER which only applies to UPSR; valid values for <SFBER> are shown in the "SF_BER" section on page 4-86 • <SDBER> identifies an STS path SDBER which only applies to UPSR; valid values for <SDBER> are shown in the "SD_BER" section on page 4-85 • <RVRTV> identifies a revertive mode which only applies to UPSR; valid values for <RVRTV> are shown in the "ON_OFF" section on page 4-79 • <RVTM> identifies a revertive time which only applies to UPSR; valid values for <RVTM> are shown in the "REVERTIVE_TIME" section on page 4-85. <RVTM> is not allowed to be set while <RVRTV> is N. • <SWPDIP> On-Off switch for UPSR Payload Defect Level switching. Valid values for <SWPDIP> are shown in the "ON_OFF" section on page 4-79 • <HOLDOFFTIMER> Hold-off timer for UPSR DRI; <HOLDOFFTIMER> is an integer • <EXPTRC> indicates the expected path trace message (J1) contents. The EXPTRC is any 64 character string, including the terminating CR (carriage return) and LF (line feed); <EXPTRC> is a string • <TRC> identifies the path trace message to be transmitted. The TRC is any combination of 64 characters, including the terminating CR and LF. The trace byte (J1) continuously transmits a 64 byte string, one byte at a time. A null value defaults to the NE transmitting null characters (Hex 00); <TRC> is a string • <TRCMODE> indicates the path trace mode, and defaults to the OFF mode; valid values for <TRCMODE> are shown in the "TRCMODE" section on page 4-94 • <TACC> is the AID "TACC" section on page 4-29 • <PST> is the primary state; valid values for <PST> are shown in the "PST" section on page 4-85 • <SST> is the secondary state; valid values for <SST> are shown in the "SST" section on page 4-87
Input Example	ED-STS1:FERNDALE:STS-2-1-4:115:::SFBER=1E-3,SDBER=1E-5,RVRTV=Y,RVTM=1.0,SWPDIP=Y,HOLDOFFTIMER=2000,EXPTRC="EXPTRCSTRING",TRC="TRCSTRING",TRCMODE=OFF,TACC=8:OOS,AINS;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.29 ED-BITS: Edit Building Integrated Timing Supply

This command edits the BITS reference attributes.

Section	ED-BITS Description
Category	Synchronization
Security	Provisioning
Related Messages	ED-NE-SYNCN ED-SYNCN OPR-SYNCNSW REPT ALM BITS REPT ALM SYNCN REPT EVT BITS REPT EVT SYNCN RLS-SYNCNSW RTRV-ALM-BITS RTRV-ALM-SYNCN RTRV-BITS RTRV-COND-BITS RTRV-COND-SYNCN RTRV-NE-SYNCN RTRV-SYNCN
Input Format	ED-BITS:[<TID>]:<AID>:<CTAG>:::[LINECDE=<LINECDE>,][FMT=<FMT>,][LBO=<LBO>,][SYNCMSG=<SYNCMSG>,][AISTHRSHLD=<AISTHRSHLD>][:<PST>]; where: • <AID> is an access identifier from the "BITS" section on page 4-18 • <LINECDE> is a line code; valid values for <LINECDE> are shown in the "LINE_CODE" section on page 4-70 • <FMT> is the frame format; valid values for <FMT> are shown in the "FRAME_FORMAT" section on page 4-69 • <LBO> indicates BITS line build out. The default value is 0-133. Valid values for <LBO> are shown in the "BITS_LineBuildOut" section on page 4-42 • <SYNCMSG> indicates if this BITS facility supports synchronization status message; <SYNCMSG> defaults to (Y) and valid values are shown in the "ON_OFF" section on page 4-79 • <AISTHRSHLD> is the AIS Threshold. Valid values for <AISTHRSHLD> shown in the "SYNC_CLOCK_REF_QUALITY_LEVEL" section on page 4-89 • <PST> is a state; valid values for <PST> are shown in the "PST" section on page 4-85
Input Example	ED-BITS:SONOMA:BITS-2:779:::LINECDE=AMI,FMT=ESF,LBO=0-133, SYNCMSG=Y,AISTHRSHLD=PRS:IS;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.30 ED-BLSR: Edit Bidirectional Line Switched Ring

This command edits the BLSR attributes.

Notes:

1. Only the RVRTV, RVTM, SRVRTV, SRVTM attributes can be edited for the 4-Fiber BLSR.
2. Only the RVRTV and RVTM attributes can be edited for the 2-Fiber BLSR.

Error conditions:

1. If the system fails on getting IOR, a SDBE (Status, Internal Data Base Error) error message will be returned.
2. If the NE returns nothing for the required BLSR (BLSR-#, AID), a SRQN (Status, Invalid Request) error message will be returned.
3. If sending this command to modify any attribute other than RVRTV, RVTM, SRVRTV, and SRVTM on the 4-Fiber BLSR, an IDNV (Input, Data Not Valid) error message will be returned.
4. If sending this command to modify any attribute other than RVRTV or RVTM on the 2-fiber BLSR, an IDNV (Input, Data Not Valid) error message will be returned.
5. Both RINGID and NODEID can be edited using the ED-BLSR command starting with Release 3.2.

Section	ED-BLSR Description
Category	BLSR
Security	Provisioning
Related Messages	DLT-BLSR ENT-BLSR REPT ALM RING REPT EVT RING RTRV-ALM-RING RTRV-BLSR RTRV-COND-RING

Section	ED-BLSR Description (continued)
Input Format	ED-BLSR:[<TID>]:<AID>:<CTAG>:::[RINGID=<RINGID>,][NODEID=<NODEID>,][RVRTV=<RVRTV>,][RVTM=<RVTM>,][SRVRTV=<SRVRTV>,][SRVTM=<SRVTM>][:]; where: • <AID> identifies the BLSR of the NE and is from the "BLSR" section on page 4-18 (the AID "ALL" or "BLSR ALL" is not allowed for editing BLSR). This command only supports a single BLSR AID • <RINGID> identifies the BLSR ring ID of the NE. It ranges from 0–9999. <RINGID> is an integer • <NODEID> identifies the BLSR node ID of the NE. It ranges from 0–31. <NODEID> is an integer • <RVRTV> identifies the revertive mode and valid values are shown in the "ON_OFF" section on page 4-79 • <RVTM> identifies the revertive time; valid values for <RVTM> are shown in the "REVERTIVE_TIME" section on page 4-85 • <SRVRTV> identifies the span revertive mode for 4F BLSR only and valid values are shown in the "ON_OFF" section on page 4-79 • <SRVTM> identifies the span revertive time for 4F BLSR only; valid values for <SRVTM> are shown in the "REVERTIVE_TIME" section on page 4-85
Input Example	ED-BLSR:PETALUMA:BLSR-43:123:::RINGID=43,NODEID=3,RVRTV=Y,RVTM=2.0,SRVRTV=Y,SRVTM=5.0;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.31 ED-CLNT: Edit Client

This command edits client facility attributes.

See the "Provisioning Rules for MXP_2.5G_10G and TXP_MR_10G Cards" section on page 1-8 for specific MXP/TXP card provisioning rules.

Section	ED-CLNT Description
Category	DWDM
Security	Provisioning
Related Messages	RTRV-CLNT RTRV-ALM-CLNT RTRV-COND-CLNT RST-CLNT RMV-CLNT ED-DWDM RTRV-DWDM

Section	ED-CLNT Description (continued)
Input Format	ED-CLNT:[<TID>]:<AID>:<CTAG>:::[SFBER=<SFBER>,][SDBER=<SDBER>,][ALSMODE=<ALSMODE>,][ALSRCINT=<ALSRCINT>,][ALSRCPW=<ALSRCPW>,][COMM=<COMM>,][MACADDR=<MACADDR>,][SYNCMSG=<SYNCMSG>,][SENDDUS=<SENDDUS>,][RLASER=<RLASER>][SOAK=<SOAK>]:[<PST>],[<SST>]; where: • <AID> is from the "FACILITY" section on page 4-22 • <SFBER> identifies the SFBER for the SONET payload; valid values are shown in the "SF_BER" section on page 4-86 • <SDBER> identifies the SDBER for the SONET payload; valid values are shown in the "SD_BER" section on page 4-85 • <ALSMODE> indicates if the Automatic Laser Shutdown is enabled or disabled; valid values are shown in the "ALS_MODE" section on page 4-41 • <ALSRCINT> indicates the ALS recovery interval. Range is 100–300 seconds; <ALSRCINT> is an integer • <ALSRCPW> indicates the ALS recovery pulse width. The range is 2–100 seconds, in increments of 100ms, e.g. 30.1; <ALSRCPW> is a float • <COMM> indicates if the GCC or DCC is enabled or disabled. The GCC can be enabled only if the digital wrapper has been enabled for the card. The default is NONE. Valid values are shown in the "COMM_TYPE" section on page 4-46. Rules for a MXP/TXP Client port are; only the DCC can be provisioned, if the termination mode is not transparent and the payload is SONET. On a MXP/TXP DWDM port, the DCC can be enabled only if the G.709 is not enabled and if the payload is SONET and the termination mode is not transparent. On a MXP/TXP DWDM port, the GCC can be enabled if there is no DCC and the G.709 flag is enabled. • <MACADDR> identifies the MAC address for the 10GEthernet payload; <MACADDR> is a string • <SYNCMSG> indicates that the facility be enabled to provide the synchronization clock. This does not apply to a TXP card. This applies to an MXP card, only if the payload is SONET and the card termination mode is as follows: TRANSPARENT - All Client ports are available for all timing selections. All Trunk ports are not available. Valid values are shown in the "ON_OFF" section on page 4-79 LINE - All ports are available for all-timing selections. • <SENDDUS> indicates that the facility send out a Do not Use for Sync message. This does not apply to a TXP card. This applies to an MXP card, only if the payload is SONET and the card termination mode is as follows: TRANSPARENT - All Client ports are available for all timing selections. All Trunk ports are not available. LINE - All ports are available for all-timing selections. Valid values are shown in the "ON_OFF" section on page 4-79

Section	ED-CLNT Description (continued)
Input Format (continued)	• <RLASER> indicates if the laser should be restarted. This is applicable only if the ALSMODE is not automatic; valid values are shown in the "ON_OFF" section on page 4-79 • <SOAK> OOS-AINS to IS transition soak time as measured in 15–minute intervals. A value of 4 translates to a soak time of one hour. The allowable range is 0–192 intervals (maximum of 48–hours). <SOAK> is an integer • <PST> primary state; valid values are shown in the "PST" section on page 4-85 • <SST> secondary state; valid values are shown in the "SST" section on page 4-87
Input Example	ED-CLNT:CISCO:FAC-1-1:100:::SFBER=1E-4,SDBER=1E-5,ALSMODE=Y, ALSRCINT=30,ALSRCPW=35.1,COMM=DCC, MACADDR=00-0E-AA-BB-CC-FF,SYNCMSG=Y,SENDDUS=Y,RLASER=Y, SOAK=10:OOS,AINS;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.32 ED-CRS-<STS_PATH>:ED CRS (STS1, STS3C, STS6C, STS9C, STS12C, STS24C, STS 48C, STS192C)

This command edits the state of an STS cross-connection.

Section	ED-CRS-<STS_PATH> Description
Category	Cross Connections
Security	Provisioning
Related Messages	DLT-CRS-<STS_PATH> DLT-CRS-VT1 ED-CRS-VT1 ENT-CRS-<STS_PATH> ENT-CRS-VT1 RTRV-CRS RTRV-CRS-<STS_PATH> RTRV-CRS-VT1
Input Format	ED-CRS-<STS_PATH>:[<TID>]:<SRC>,<DST>:<CTAG>:::[ADD=<ADD>,] [REMOVE=<REMOVE>]:[<PST>],[<SST>]; where: • <SRC> is the AID from the "CrossConnectID" section on page 4-14 • <DST> is the AID from the "CrossConnectID" section on page 4-14 • <ADD> is the AID from the "CrossConnectID" section on page 4-14 • <REMOVE> is the AID from the "CrossConnectID" section on page 4-14 • <PST> primary state; valid values for <PST> are shown in the "PST" section on page 4-85 • <SST> secondary state; valid values for <SST> are shown in the "SST" section on page 4-87
Input Example	ED-CRS-STS1::STS-1-1-1,STS-2-1-1:1:::ADD=STS-13-1-1, REMOVE=STS-2-1-1:OOS,AINS;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.33 ED-CRS-VT1: Edit Cross Connection VT1

This command edits a VT cross-connection.

Note It is not possible to use both ADD and REMOVE at the same time.

Section	ED-CRS-VT1 Description
Category	Cross Connections
Security	Provisioning
Related Messages	DLT-CRS-<STS_PATH> ENT-CRS-VT1 DLT-CRS-VT1 RTRV-CRS ED-CRS-<STS_PATH> RTRV-CRS-<STS_PATH> ENT-CRS-<STS_PATH> RTRV-CRS-VT1
Input Format	ED-CRS-VT1:[<TID>]:<SRC>,<DST>:<CTAG>::::[ADD=<ADD>,] [REMOVE=<REMOVE>]:[<PST>],[<SST>]; where: • <SRC> is the AID from the "VT1_5" section on page 4-30 • <DST> is the AID from the "VT1_5" section on page 4-30 • <ADD> is the AID from the "VT1_5" section on page 4-30 • <REMOVE> is the AID from the "VT1_5" section on page 4-30 • <PST> primary state; valid values for <PST> are shown in the "PST" section on page 4-85 • <SST> secondary state; valid values for <SST> are shown in the "SST" section on page 4-87
Input Example	ED-CRS-VT1::VT1-1-1-1-1-1,VT1-2-1-1-1-1:1:::ADD=VT1-3-1-1-1-1, REMOVE=VT1-2-1-1-1-1:OOS,AINS;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.34 ED-DAT: Edit Date and Time

This command edits the date and the time

Section	ED-DAT Description	
Category	System	
Security	Provisioning	
Related Messages	ALM-MSG-ALL APPLY COPY-RFILE ED-NE-GEN ED-NE-SYNCN INH-MSG-ALL INIT-SYS REPT EVT FXFR	RTRV-HDR RTRV-INV RTRV-MAP-NETWORK RTRV-NE-GEN RTRV-NE-IPMAP RTRV-NE-SYNCN RTRV-TOD SET-TOD
Input Format	ED-DAT:[<TID>]::<CTAG>::[<DATE>],[<TIME>]; where: • <DATE> identifies the date and is a string • <TIME> identifies the time and is a string	
Input Example	ED-DAT:CISCO::1234::99-12-21,14-35-15;	
Errors	Errors are listed in Table 7-30 on page 7-20.	

3.4.35 ED-DS1: Edit DS1

(Cisco ONS 15454 only)

This command edits the test access attribute for DS1 access on a DS3XM card.

Note This command is not allowed if the card is a protecting card.

Section	ED-DS1 Description	
Category	Ports	
Security	Provisioning	
Related Messages	ED-<OCN_TYPE> ED-EC1 ED-G1000 ED-T1 ED-T3 RMV-<MOD2_IO> RST-<MOD2_IO>	RTRV-<OCN_TYPE> RTRV-DS1 RTRV-EC1 RTRV-G1000 RTRV-T1 RTRV-T3

Section	ED-DS1 Description (continued)
Input Format	ED-DS1:[<TID>]:<AID>:<CTAG>[:::TACC=<TACC>]; where: • <AID> is the access identifier of a DS1 access on the DS3XM card and is from the "DS1" section on page 4-20 • <TACC> defines the STS as a test access port with a selected unique TAP number. The TAP number ranges from 0–999. When TACC is 0, the TAP is deleted. <TACC> is an integer
Input Example	ED-DS1:PETALUMA:DS1-2-6-12:123:::TACC=8;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.36 ED-DWDM: Edit Dense Wavelength Division Multiplexing

The command edits an already pre-provisioned/provisioned MXP/TXP card. It changes the operating parameters for the card.

The rules for provisioning a regeneration group are: a regeneration group can be created only between a pair of TXP cards. The peer slot should contain a card of the same type, and should not have an existing regeneration group for the same slot. The termination mode should be identical for the cards. All the client port level settings should be identical for the cards. Setting the PEERID=Null will remove an existing regeneration group. The two TXP cards should be set to transparent termination mode to successfully create a regeneration group.

The rules for provisioning the payload field are as follows: For a TXP card, the SONET/10GE (Ethernet) applies. The port has to be in OOS state for a payload change to be successful. There should be no Trace enabled for the port. To set the Payload to 10GE, the termination mode should already be in Transparent mode. Issue a separate ED-DWDM command to set it to Transparent mode prior to setting the payload to 10GE. The MXP card does not support 10GE payload. To change the payload type for the MXP card, all the ports should be in OOS state. The payload cannot be changed if any of the ports are a part of a Y cable protection group or are used as the timing source. There should be no DCC enabled on any ports.

See the "Provisioning Rules for MXP_2.5G_10G and TXP_MR_10G Cards" section on page 1-8 for specific MXP/TXP card provisioning rules.

Section	ED-DWDM Description
Category	DWDM
Security	Provisioning
Related Messages	RTRV-DWDM

Section	ED-DWDM Description (continued)
Input Format	ED-DWDM:[<TID>]:<AID>:<CTAG>:::[PEERID=<PEERID>,][TERMMODE=<TERMMODE>,][PAYLOAD=<PAYLOAD>,][PWL=<PWL>]; where: • <AID> is from the "EQPT" section on page 4-21 • <PEERID> is from the "EQPT" section on page 4-21 • <TERMMODE> indicates the termination mode of the card; valid values are shown in the "TERM_MODE" section on page 4-93 • <PAYLOAD> is the type of payload carried; valid values are shown in the "PAYLOAD" section on page 4-83 • <PWL> is the provisioned wavelength; valid values are shown in the "OPTICAL_WLEN" section on page 4-81
Input Example	ED-DWDM:VA454-22:SLOT-1:100:::PEERID=SLOT-2,TERMMODE=TRANS, PAYLOAD=SONET,PWL=1546.52;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.37 ED-EC1: Edit Electrical Carrier

(Cisco ONS 15454 only)

This command edits the attributes of an EC1.

Notes:

1. This command is not allowed if the card is a protecting card.
2. The state of the T1 port cannot be changed to IS or OOS if a loopback has been operated upon the line.

Section	ED-EC1 Description
Category	Ports
Security	Provisioning
Related Messages	ED-<OCN_TYPE> ED-DS1 ED-G1000 ED-T1 ED-T3 RMV-<MOD2_IO> RST-<MOD2_IO> RTRV-<OCN_TYPE> RTRV-DS1 RTRV-EC1 RTRV-G1000 RTRV-T1 RTRV-T3

Section	ED-EC1 Description (continued)
Input Format	ED-EC1:[<TID>]:<AID>:<CTAG>:::[PJMON=<PJMON>,][LBO=<LBO>,][SOAK=<SOAK>]:[<PST>],[<SST>]; where: • <AID> is a facility AID of an EC1 port and is from the "FACILITY" section on page 4-22 • <PJMON> is a SONET pointer number (0 or 1) of an EC1 port and is an integer • Valid values for <LBO> are shown in the "E_LBO" section on page 4-62 • <SOAK> OOS-AINS to IS transition soak time as measured in 15 minute intervals, so a value of 4 translates to a soak time of 1 hour. The allowable range is 0–192 intervals (maximum of 48 hours). <SOAK> is an integer • <PST> primary state; valid values for <PST> are shown in the "PST" section on page 4-85 • <SST> secondary state; valid values for <SST> are shown in the "SST" section on page 4-87
Input Example	ED-EC1:CISCO:FAC-1-1:123:::PJMON=0,LBO=0-225,SOAK=10:OOS,AINS;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.38 ED-EQPT: Edit Equipment

This command edits the attributes for a given equipment slot in the NE. If the card is in an equipment slot, this command is allowed only on the working AID.

The PROTID parameter indicates the unique identifier of the protection group (the protect card). "NULL" is a special value of the PROTID parameter and indicates absence of a protection group. For 1:1 protection type, RVRTV and RVTM parameters can be changed. For 1:1 protection type, if the PROTID parameter is entered as "NULL", the protection group is deleted.

ED-EQPT:[<TID>]:SLOT-2:<CTAG>:::PROTID=NULL;

For 1:N protection type, if the PROTID is "NULL", the AIDs in the list are removed from the protection group. If all the working cards are in the AID list, the protection group is deleted.

Example: if Slot-1, Slot-2 and Slot-4 were the only working cards in the protection group. The following command will remove Slot-4 from the protection group:

ED-EQPT:[<TID>]:SLOT-4:<CTAG>:::PROTID=NULL;

The protection group still has Slot-1 and Slot-2 as working cards.

The following command will remove all the other working cards in the above example and consequently, delete the protection group itself:

ED-EQPT:[<TID>]:SLOT-2&SLOT-1:<CTAG>:::PROTID=NULL;

The ED-EQPT command can be successfully executed on an already provisioned card to add a working card to or remove one from a protection group. This command is not valid on a protect card. Only cards can be added to or removed from a protection group. Protection type is immutable and is determined at the time of creation of a protection group (while adding the first working card). Once provisioned, the equipment type cannot be edited either.

Examples of adding an existing card to a protection group using the ED-EQPT command:

1:1 protection group

ED-EQPT::SLOT-2:12:::PROTID=SLOT-1,RVRTV=Y,RVTM=9.0;

1:N protection group

ED-EQPT::SLOT-2:12:::PROTID=SLOT-3,PRTYPE=1-N,RVTM=6.5;

Error conditions for editing a 1:1 or 1:N protection group may be:

1. Editing the PRTYPE or PROTID (non-NULL value) parameters.
2. Editing RVRTV or RVTM when no protection group exists.
3. Editing RVRTV for 1:N protection.
4. Failed to remove, currently switched to protect.

Section	ED-EQPT Description
Category	Equipment
Security	Provisioning
Related Messages	ALW-SWDX-EQPT ALW-SWTOPROTN-EQPT ALW-SWTOWKG-EQPT DLT-EQPT ENT-EQPT INH-SWDX-EQPT INH-SWTOPROTN-EQPT INH-SWTOWKG-EQPT REPT ALM EQPT REPT EVT EQPT RTRV-ALM-EQPT RTRV-COND-EQPT RTRV-EQPT SW-DX-EQPT SW-TOPROTN-EQPT SW-TOWKG-EQPT
Input Format	ED-EQPT:[<TID>]:<AID>:<CTAG>:::[PROTID=<PROTID>,][PRTYPE=<PRTYPE>,][RVRTV=<RVRTV>,][RVTM=<RVTM>][:]; where: • <AID> is an access identifier from the "EQPT" section on page 4-21 • <PROTID> is the protecting card slot number of the protection group. <PROTID> is the AID from the "UCP" section on page 4-17 • <PRTYPE> is the protection group type; valid values for <PRTYPE> are shown in the "PROTECTION_GROUP" section on page 4-84 • <RVRTV> is the revertive mode: valid values for <RVRTV> are shown in the "ON_OFF" section on page 4-79 • <RVTM> is the revertive time; valid values for <RVTM> are shown in the "REVERTIVE_TIME" section on page 4-85
Input Example	ED-EQPT:CISCO:SLOT-2:123:::PROTID=SLOT-1,PRTYPE=1-1,RVRTV=Y, RVTM=9.0;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.39 ED-FFP-<OCN_TYPE>: Edit Facility Protection Group (OC3, OC12, OC48, OC192)

See Table 4-11 on page 4-6 for supported modifiers by platform.

This command edits the optical facility protection.

Notes:

1. This command can be used on both protecting and working AIDs.

Section	ED-FFP-<OCN_TYPE> Description
Category	SONET Line Protection
Security	Provisioning
Related Messages	DLT-FFP-<OCN_TYPE> ENT-FFP-<OCN_TYPE> EX-SW-<OCN_BLSR> OPR-PROTNSW-<OCN_TYPE> RLS-PROTNSW-<OCN_TYPE> RTRV-FFP-<OCN_TYPE> RTRV-PROTNSW-<OCN_TYPE>
Input Format	ED-FFP-<OCN_TYPE>:[<TID>]:<AID>:<CTAG>:::[PROTID=<PROTID>,][RVRTV=<RVRTV>,][RVTM=<RVTM>,][PSDIRN=<PSDIRN>][:]; where: • <AID> is the facility AID from the "FACILITY" section on page 4-22 • <PROTID> is the protection group identifier (protection group name) and is a string; <PROTID> can have a maximum of 32 characters • <RVRTV> identifies a revertive mode; valid values for <RVRTV> are shown in the "ON_OFF" section on page 4-79 • <RVTM> identifies a revertive time; valid values for <RVTM> are shown in the "REVERTIVE_TIME" section on page 4-85 • <PSDIRN> identifies the switching mode; valid values for <PSDIRN> are shown in the "UNI_BI" section on page 4-97
Input Example	ED-FFP-OC3:PETALUMA:FAC-1-1:1:::PROTID=PROT_NAME,RVRTV=Y, RVTM=1.0,PSDIRN=BI;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.40 ED-FFP-CLNT: Edit Facility Protection Group Client

This command edits a Y cable protection group on client facilities.

See the "Provisioning Rules for MXP_2.5G_10G and TXP_MR_10G Cards" section on page 1-8 for specific MXP/TXP card provisioning rules.

Section	ED-FFP-CLNT Description
Category	DWDM
Security	Provisioning
Related Messages	RTRV-FFP-CLNT OPR-PROTNSW-CLNT RTRV-CLNT RTRV-ALM-CLNT RTRV-COND-CLNT DLT-FFP-CLNT ENT-FFP-CLNT
Input Format	ED-FFP-CLNT:[<TID>]:<AID>:<CTAG>:::[PROTID=<PROTID>,][RVRTV=<RVRTV>,][RVTM=<RVTM>,][PSDIRN=<PSDIRN>][:]; where: • <AID> identifies a port in a protection group and is the AID from the "FACILITY" section on page 4-22 • <PROTID> is a protection group identifier (protection group name). It defaults to the protecting port AID of the protection group. It is a string and can have a maximum length of 32 characters. <PROTID> is a string • <RVRTV> identifies a revertive mode. The retrieve behavior defaults to N (non-revertive mode); valid values are shown in the "ON_OFF" section on page 4-79 • <RVTM> identifies a revertive time. The revertive time defaults to 5.0 minutes; valid values are shown in the "REVERTIVE_TIME" section on page 4-85 • <PSDIRN> identifies the switching mode and defaults to UNI. Release 4.0 MXP/TXP cards do not support BI-DIRECTIONAL switching. Valid values for <PSDIRN> are shown in the "UNI_BI" section on page 4-97
Input Example	ED-FFP-CLNT:CISCO:FAC-1-1:100:::PROTID=DC-METRO,RVRTV=N,RVTM=1.0,PSDIRN=BI;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.41 ED-G1000: Edit G1000

(Cisco ONS 15454 only)

This command edits the attributes related to a G1000 port.

Note The state OOS-AINS is not supported on the G1000.

Section	ED-G1000 Description
Category	Ports
Security	Provisioning
Related Messages	ED-<OCN_TYPE> ED-DS1 ED-EC1 ED-T1 ED-T3 RMV-<MOD2_IO> RST-<MOD2_IO> RTRV-<OCN_TYPE> RTRV-DS1 RTRV-EC1 RTRV-G1000 RTRV-T1 RTRV-T3
Input Format	ED-G1000:[<TID>]:<AID>:<CTAG>:::[MFS=<MFS>,][FLOW=<FLOW>,][OPTICS=<OPTICS>,][ALS=<ALS>,][TRANS=<TRANS>]:[<PST>],[<SST>]; where: • <AID> is the AID facility from the "FACILITY" section on page 4-22 • Valid values for <MFS> are shown in the "MFS_TYPE" section on page 4-71 • Valid values for <FLOW> are shown in the "AWG_STATUS" section on page 4-42 • <OPTICS> GBIC type; valid values are shown in the "OPTICS" section on page 4-82 • <ALS> automatic laser shutdown; valid values are shown in the "ALS_RESTART" section on page 4-41 • <TRANS> transponder mode; valid values are shown in the "TRANS_MODE" section on page 4-94 • <PST> primary state; valid values for <PST> are shown in the "PST" section on page 4-85 • <SST> secondary state; valid values for <SST> are shown in the "SST" section on page 4-87
Input Example	ED-G1000:TID:FAC-1-1:CTAG:::MFS=1548,FLOW=ON,OPTICS=COPPER, ALS=AUTO_RESTART,TRANS=NONE:OOS,AINS;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.42 ED-NE-GEN: Edit Network Element General

This command edits the node attributes of the NE.

Notes:

1. Only the IPADDR, IPMASK, DEFRTR, IIOP PORT and node name can be modified with this command.
2. The node name can be a maximum of 20 characters. If the entered name exceeds 20 characters, an IPNV (Node Name Too Long) error message is returned.
3. The feature of setting a timing source has been supported since ONS 15454 R3.2.
4. An existing timing source can be removed by setting the address to 0.0.0.0.

Section	ED-NE-GEN Description
Category	System
Security	Superuser
Related Messages	ALW-MSG-ALL APPLY COPY-RFILE ED-DAT ED-NE-SYNCN INH-MSG-ALL INIT-SYS REPT EVT FXFR RTRV-HDR RTRV-INV RTRV-MAP-NETWORK RTRV-NE-GEN RTRV-NE-IPMAP RTRV-NE-SYNCN RTRV-TOD SET-TOD
Input Format	ED-NE-GEN:[<TID>]::<CTAG>:::[NAME=<NAME>,][IPADDR=<IPADDR>,][IPMASK=<IPMASK>,][DEFRTR=<DEFRTR>,][IIOPPORT=<IIOPPORT>,][NTP=<NTP>]; where: • <NAME> indicates the node name and is a string • <IPADDR> indicates the node IP address and is a string • <IPMASK> indicates the node IP mask and is a string • <DEFRTR> indicates the node default router and is a string • <IIOPPORT> indicates the node IIOPPORT and is an integer • <NTP> indicates the node's NTP timing origin address and is a string
Input Example	ED-NE-GEN:CISCO::123:::NAME=NODENAME,IPADDR=192.168.100.52, IPMASK=255.255.255.0,DEFRTR=192.168.100.1,IIOPPORT=57790, NTP=192.168.100.52;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.43 ED-NE-SYNCN: Edit Network Element Synchronization

This command edits the synchronization attributes of the NE.

Notes:

1. Although mixed mode timing is supported in this release, it is not recommended. See the "Mixed Mode Timing Support" section on page 1-14 for more information.
2. The existing external and line modes have the same functionality in all ONS 15454 3.x releases:

   External mode: the node derives its timing from the BITS inputs.

   Line mode: the node derives its timing from the SONET line(s).

   Mixed mode: the node derives its timing from the BITS input or SONET lines.

Section	ED-NE-SYNCN Description	
Category	Synchronization	
Security	Provisioning	
Related Messages	ALW-MSG-ALL APPLY COPY-RFILE ED-BITS ED-DAT ED-NE-GEN ED-SYNCN INH-MSG-ALL INIT-SYS OPR-SYNCNSW REPT ALM BITS REPT ALM SYNCN REPT EVT BITS REPT EVT FXFR REPT EVT SYNCN	RLS-SYNCNSW RTRV-ALM-BITS RTRV-ALM-SYNCN RTRV-BITS RTRV-COND-BITS RTRV-COND-SYNCN RTRV-HDR RTRV-INV RTRV-MAP-NETWORK RTRV-NE-GEN RTRV-NE-IPMAP RTRV-NE-SYNCN RTRV-SYNCN RTRV-TOD SET-TOD
Input Format	ED-NE-SYNCN:[<TID>]::<CTAG>:::[TMMD=<TMMD>,] [SSMGEN=<SSMGEN>,][QRES=<QRES>,][RVRTV=<RVRTV>,] [RVTM=<RVTM>]; where: • <TMMD> is the timing mode; valid values for <TMMD> are shown in the "TIMING_MODE" section on page 4-93 • <SSMGEN> is the SSM message set; valid values for <SSMGEN> are shown in the "SYNC_GENERATION" section on page 4-90 • <QRES> is the quality of the RES; valid values for <QRES> are shown in the "SYNC_QUALITY_LEVEL" section on page 4-90 • <RVRTV> is the revertive mode; valid values for <RVRTV> are shown in the "ON_OFF" section on page 4-79 • <RVTM> is the revertive time; valid values for <RVTM> are shown in the "REVERTIVE_TIME" section on page 4-85	

Section	ED-NE-SYNCN Description (continued)
Input Example	ED-NE-SYNCN:CISCO::123:::TMMD=LINE,SSMGEN=GEN1, QRES=ABOVE-PRS,RVRTV=Y,RVTM=8.0;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.44 ED-OCH: Edit Optical Channel

Cisco ONS 15454 only for MXP and TXP cards.

This command edits the attributes (service parameters) and state of an OCH facility.

See the "Provisioning Rules for MXP_2.5G_10G and TXP_MR_10G Cards" section on page 1-8 for specific MXP/TXP card provisioning rules.

Section	ED-OCH Description
Category	DWDM
Security	Provisioning
Related Messages	RTRV-OCH RTRV-ALM-OCH RTRV-COND-OCH RST-OCH RMV-OCH

Section	ED-OCH Description (continued)
Input Format	ED-OCH:[<TID>]:<AID>:<CTAG>:::[RDIRN=<RDIRN>,][EXPWLEN=<EXPWLEN>,][VOAATTN=<VOAATTN>,][VOAPWR=<VOAPWR>,][CALOPWR=<CALOPWR>,][SFBER=<SFBER>,][SDBER=<SDBER>,][ALSMODE=<ALSMODE>,][ALSRCINT=<ALSRCINT>,][ALSRCPW=<ALSRCPW>,][COMM=<COMM>,][GCCRATE=<GCCRATE>,][OSFBER=<OSFBER>,][OSDBER=<OSDBER>,][DWRAP=<DWRAP>,][FEC=<FEC>,][MACADDR=<MACADDR>,][SYNCMSG=<SYNCMSG>,][SENDDUS=<SENDDUS>,][RLASER=<RLASER>,][SOAK=<SOAK>]:[<PST>],[<SST>]; where: • <AID> is an access identifier from the "CHANNEL" section on page 4-19 • <RDIRN> applicable in a future release • <EXPWLEN> applicable in a future release • <VOAATTN> indicates the value of calibrated attenuation for the VOA. It is expressed in Dbm. The range is -24.0 to +2.0Dbm for MXP/TXP cards. <VOAATTN> is a float • <VOAPWR> applicable in a future release • <CALOPWR> applicable in a future release • <SFBER> identifies the SFBER for the SONET payload; valid values are shown in the "SF_BER" section on page 4-86 • <SDBER> identifies the SDBER for the SONET payload; valid values are shown in the "SD_BER" section on page 4-85 • <ALSMODE> indicates if the Automatic Laser Shutdown is enabled or disabled; valid values are shown in the "ALS_MODE" section on page 4-41 • <ALSRCINT> indicates the ALS recovery interval. Range is 100–300 seconds; <ALSRCINT> is an integer • <ALSRCPW> indicates the ALS recovery pulse width. The range is 2–100 seconds, in increments of 100ms, e.g. 30.1; <ALSRCPW> is a float • <COMM> indicates if the GCC or DCC is enabled or disabled. The GCC can be enabled only if the digital wrapper has been enabled for the card. The default is NONE. Valid values are shown in the "COMM_TYPE" section on page 4-46. Rules for a MXP/TXP Client port are; only the DCC can be provisioned, if the termination mode is not transparent and the payload is SONET. On a MXP/TXP DWDM port, the DCC can be enabled only if the G.709 is not enabled and if the payload is SONET and the termination mode is not transparent. On a MXP/TXP DWDM port, the GCC can be enabled if there is no DCC and the G.709 flag is enabled. • <GCCRATE> indicates the data rate of the GCC traffic. Valid values are shown in the "GCCRATE" section on page 4-69. The default is 192Kbps. For MXP/TXP cards this applies only to the DWDM port. The 576K option is not supported for this release. • <OSFBER> identifies the SFBER for the OTN level. Applicable only if the G.709 is enabled; valid values are shown in the "SF_BER" section on page 4-86

Section	ED-OCH Description (continued)
Input Format (continued)	• <OSDBER> identifies the SDBER for the OTN level. Applicable only if the G.709 is enabled; valid values are shown in the "SD_BER" section on page 4-85 • <DWRAP> is the G.709 digital wrapper. It is either on or off. The system default is ON. For MXP/TXP, this applies only to the DWDM port. To enable G.709 there should be no GCC on the DWDM port. To disable G.709 there should be no GCC on the DWDM port. The FEC should be turned to off; valid values are shown in the "ON_OFF" section on page 4-79 • <FEC> is the Forward Error Correction. It can be enabled only if the G.709 is turned ON. It is either on or off. The system default is ON. For MXP/TXP this applies only to the DWDM port. The FEC level PM and thresholds apply if the FEC is turned on; valid values are shown in the "ON_OFF" section on page 4-79 • <MACADDR> identifies the MAC address for the 10GE payload; <MACADDR> is a string • <SYNCMSG> indicates that the facility be enabled to provide the synchronization clock. This does not apply to a TXP card. This applies to an MXP card, only if the payload is SONET and the card termination mode is as follows: TRANSPARENT - All Client ports are available for all timing selections. All Trunk ports are not available. LINE - All ports are available for all-timing selections. • <SENDDUS> indicates that the facility send out a Do not Use for Sync message. This does not apply to a TXP card. This applies to an MXP card, only if the payload is SONET/SDH and the card termination mode is as follows: TRANSPARENT - All Client ports are available for all timing selections. All Trunk ports are not available. LINE - All ports are available for all-timing selections. Valid values are shown in the "ON_OFF" section on page 4-79 • <RLASER> indicates if the laser should be restarted. This is applicable only if the ALSMODE is not automatic; valid values are shown in the "ON_OFF" section on page 4-79 • <SOAK> OOS-AINS to IS transition soak time as measured in 15–minute intervals. A value of 4 translates to a soak time of one hour. The allowable range is 0–192 intervals (maximum of 48–hours). <SOAK> is an integer • <PST> primary state; valid values are shown in the "PST" section on page 4-85 • <SST> secondary state; valid values are shown in the "SST" section on page 4-87
Input Example	ED-OCH:CISCO:CHAN-6-2:114:::RDIRN=W-E,EXPWLEN=1530.32, VOAATTN=2.5,VOAPWR=7.5,CALOPWR=0,SFBER=1E-5,SDBER=1E-6, ALSMODE=Y,ALSRCINT=30,ALSRCPW=35.1,COMM=DCC, GCCRATE=192K,OSFBER=1E-5,OSDBER=1E-6,DWRAP=Y,FEC=Y, MACADDR=00-0E-AA-BB-CC-DD,SYNCMSG=N,SENDDUS=Y,RLASER=Y, SOAK=10:OOS,AINS;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.45 ED-PID: Edit Password

This command allows a user to change his or her own password.

The password cannot be null. It will be echoed as clear text as the message is parsed only after the complete message is entered and terminated.

Notes:

1. Passwords are masked for the following security commands: ACT-USER, ED-PID, ENT-USER-SECU and ED-USER-SECU. Access to a TL1 session via any means will have the password masked. The CTC Request History and Message Log will also show the masked commands. When a password-masked command is re-issued by double-clicking the command from CTC Request History, the password will still be masked in the CTC Request History and Message Log. The actual password that was previously issued will be sent to the NE. To use a former command as a template only, single-click the command in CTC Request History. The command will be placed in the Command Request text box, where you can edit the appropriate fields prior to re-issuing it.
2. The password will not appear in the TL1 log on the NE.
3. You must use the ED-USER-SECU command to change the empty password (Superuser CISCO15 default empty password) to a non-empty, valid password. The ED-PID command cannot be used to change the empty password to a valid password.
4. For the ED-PID command:

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

   the syntax of <OLDPID> is not checked. The <NEWPID> is required to follow Telcordia standards (i.e., 10 characters maximum including 1 letter, 1 number, and any one of the following characters: #, %, or +). The <OLDPID> must match what is in the database.

Section	ED-PID Description
Category	Security
Security	Retrieve
Related Messages	ACT-USER CANC CANC-USER DLT-USER-SECU ED-USER-SECU ENT-USER-SECU REPT EVT SECU RTRV-USER-SECU

Section	ED-PID Description (continued)
Input Format	ED-PID:[<TID>]:<UID>:<CTAG>::<OLDPID>,<NEWPID>; where: • <UID> is the user identifier and is a string; <UID> is any combination of up to 10 alphanumeric characters • <OLDPID> is the old password and is a string; <OLDPID> is any combination of up to 10 alphanumeric characters. The syntax of <OLDPID> is not checked for backwards compatibility • <NEWPID> is the user login password and is a string; <NEWPID> is a minimum of 6, maximum of 10 alphanumeric characters including at least one digit and one special character (%, #, or +) **Note** CTC allows <UID> and <PID> of up to 20 characters. The 20 character CTC-entered <UID> and <PID> are not valid TL1 <UID> and <PID>.
Input Example	ED-PID:CISCO:UID:123::OLDPWD,NEWPWD;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.46 ED-SYNCN: Edit Synchronization

This command edits the synchronization reference list used to determine the sources for the NE's reference clock and the BITS output clock. For each clock, up to three synchronization sources may be specified (e.g., PRIMARY, SECOND, THIRD).To view or edit the system timing mode, use the RTRV-NE-SYNCN or ED-NE-SYNCN commands.

Note To retrieve/set the timing mode, SSM message Set or Quality of RES information, use the RTRV-NE-SYNCN and ED-NE-SYNCN commands.

Section	ED-SYNCN Description	
Category	Synchronization	
Security	Provisioning	
Related Messages	ED-BITS ED-NE-SYNCN OPR-SYNCNSW REPT ALM BITS REPT ALM SYNCN REPT EVT BITS REPT EVT SYNCN RLS-SYNCNSW	RTRV-ALM-BITS RTRV-ALM-SYNCN RTRV-BITS RTRV-COND-BITS RTRV-COND-SYNCN RTRV-NE-SYNCN RTRV-SYNCN

Section	ED-SYNCN Description (continued)
Input Format	ED-SYNCN:[<TID>]:<AID>:<CTAG>:::[PRI=<PRI>,][SEC=<SEC>,] [THIRD=<THIRD>][:]; where: • <AID> is the synchronization reference to be modified and is from the "SYNC_REF" section on page 4-28 • <PRI> is the primary reference of the synchronization and is the AID from the "SYN_SRC" section on page 4-27 • <SEC> is the secondary reference of the synchronization and is the AID from the "SYN_SRC" section on page 4-27 • <THIRD> is the third reference of the synchronization and is the AID from the "SYN_SRC" section on page 4-27
Input Example	ED-SYNCN:BOYES:SYNC-NE:112:::PRI=INTERNAL,SEC=INTERNAL, THIRD=INTERNAL;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.47 ED-T1: Edit T1

This command edits the attributes related to a DS1/T1 port.

Notes:

1. This command is not allowed if the card is a protecting card.
2. If sending this command to edit TACC and any other attribute(s), and the port having the cross-connection, the (Parameters Not compatible) error message will be returned.
3. Editing TACC via an ED-xxx command is only allowed when there is no circuit/cross-connection on this port and the port/VT does not have a test access point (TAP or TACC number). Otherwise, an error message (e.g. VT in Use) will be returned.
4. TACC creation will also be denied on the protect ports/cards.
5. The state of the T1 port cannot be changed to IS or OOS if a loopback has been operated upon the line.

Section	ED-T1 Description	
Category	Ports	
Security	Provisioning	
Related Messages	ED-<OCN_TYPE> ED-DS1 ED-EC1 ED-G1000 ED-T3 RMV-<MOD2_IO> RST-<MOD2_IO>	RTRV-<OCN_TYPE> RTRV-DS1 RTRV-EC1 RTRV-G1000 RTRV-T1 RTRV-T3

Section	ED-T1 Description (continued)
Input Format	ED-T1:[<TID>]:<AID>:<CTAG>:::[LINECDE=<LINECDE>,][FMT=<FMT>,][LBO=<LBO>,][TACC=<TACC>,][SOAK=<SOAK>]:[<PST>],[<SST>]; where: • <AID> is the access identifier from the "FACILITY" section on page 4-22 • <LINECDE> is a line code; valid values for <LINECDE> are shown in the "LINE_CODE" section on page 4-70 • <FMT> is a frame format; valid values for <FMT> are shown in the "FRAME_FORMAT" section on page 4-69 • <LBO> is a line build out; valid values for <LBO> are shown in the "LINE_BUILDOUT" section on page 4-70 • <TACC> defines the STS as a test access port with a selected unique TAP number. The TAP number ranges from 0–999. When TACC is 0, the TAP is deleted; <TACC> is an integer. • <SOAK> OOS-AINS to IS transition soak time as measured in 15 minute intervals, so a value of 4 translates to a soak time of 1 hour. The allowable range is 0–192 intervals (maximum of 48 hours); <SOAK> is an integer • <PST> primary state; valid values for <PST> are shown in the "PST" section on page 4-85 • <SST> secondary state; valid values for <SST> are shown in the "SST" section on page 4-87
Input Example	ED-T1:CISCO:FAC-2-1:1223:::LINECDE=AMI,FMT=ESF,LBO=0-131, TACC=8,SOAK=10:OOS,AINS;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.48 ED-T3: Edit T3

This command edits the attributes related to a DS3/T3 port.

Notes:

1. This command is not allowed if the card is a protecting card.
2. Both FMT and Line code are not supported for T3/DS3 facility. They are supported on both the DS3XM and DS3E card. The unframed value of the framing format is only supported on the DS3E facility.
3. If sending this command to edit TACC and any other attribute(s), and the port having the cross-connection or the port/VT has a test access point (TAP or TACC number), the (Parameters Not compatible) error message will be returned.
4. Editing TACC via an ED-xxx command is only allowed when there is no circuit/cross-connection on the port and the port/VT does not have a test access point (TAP or TACC number). Otherwise, an error message (e.g. VT in Use) will be returned.
5. TACC creation will also be denied on the protect ports/cards.
6. The state of the T1 port cannot be changed to IS or OOS if a loopback has been operated upon the line.

Section	ED-T3 Description
Category	Ports
Security	Provisioning
Related Messages	ED-<OCN_TYPE> ED-DS1 ED-EC1 ED-G1000 ED-T1 RMV-<MOD2_IO> RST-<MOD2_IO> RTRV-<OCN_TYPE> RTRV-DS1 RTRV-EC1 RTRV-G1000 RTRV-T1 RTRV-T3
Input Format	ED-T3:[<TID>]:<AID>:<CTAG>:::[FMT=<FMT>,][LINECDE=<LINECDE>,][LBO=<LBO>,][TACC=<TACC>,][SOAK=<SOAK>]:[<PST>],[<SST>]; where: • <AID> indicates a facility AID from the "FACILITY" section on page 4-22 • <FMT> is a frame format and the unframed value of the framing format is only supported for the DS3E; valid values for <FMT> are shown in the "DS_LINE_TYPE" section on page 4-61 • <LINECDE> is a line code; valid values for <LINECDE> are shown in the "DS_LINE_CODE" section on page 4-61 • <LBO> is a line buildout; valid values for <LBO> are shown in the "E_LBO" section on page 4-62 • <TACC> defines the STS as a test access port with a selected unique TAP number. The TAP number ranges from 0–999. When TACC is 0, the TAP is deleted; <TACC> is an integer • <SOAK> OOS-AINS to IS transition soak time as measured in 15 minute intervals, so a value of 4 translates to a soak time of 1 hour. The allowable range is 0–192 intervals (maximum of 48 hours); <SOAK> is an integer • <PST> primary state; valid values for <PST> are shown in the "PST" section on page 4-85 • <SST> secondary state; valid values for <SST> are shown in the "SST" section on page 4-87
Input Example	ED-T3:CISCO:FAC-1-2:123:::FMT=C-BIT,LINECDE=B3ZS,LBO=0-225, TACC=8,SOAK=10:OOS,AINS;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.49 ED-TRC-CLNT: Edit Trace Client

This command edits trace-related attributes on client facilities.

See the "Provisioning Rules for MXP_2.5G_10G and TXP_MR_10G Cards" section on page 1-8 for specific MXP/TXP card provisioning rules.

Section	ED-TRC-CLNT Description
Category	DWDM
Security	Provisioning
Related Messages	RTRV-TRC-CLNT ED-DWDM RTRV-DWDM RTRV-CLNT
Input Format	ED-TRC-CLNT:[<TID>]:<SRC>:<CTAG>:::[EXPTRC=<EXPTRC>,][TRC=<TRC>,][TRCMODE=<TRCMODE>,]TRCLEVEL=<TRCLEVEL>,[TRCFORMAT=<TRCFORMAT>]; where: • <SRC> is the AID from the "FACILITY" section on page 4-22 and must not be null • <EXPTRC> indicates the expected path trace message (OTUK-path,J0-section, for example) contents. The <EXPTRC> is any 64-character string, including the termination CR (carriage return) and LF (line feed). <EXPTRC> is a string and a null value is equivalent to ALL • <TRC> identifies the path trace message to be transmitted. The TRC is any combination of 64 characters, including the terminating CR and LF. The trace byte (OTUK-path,J0-section, for example) continuously transmits a 64-byte string, one byte at a time. A null value defaults to the NE transmitting null characters (Hex 00). <TRC> is a string and a null value is equivalent to ALL • <TRCMODE> identifies the trace mode and defaults to the OFF mode; valid values are shown in the "TRCMODE" section on page 4-94 and a null value is equivalent to ALL • <TRCLEVEL> indicates the level of trace. A null value defaults to J0-Section SONET. This is the only applicable level for the client port. Valid values are shown in the "TRCLEVEL" section on page 4-94 and a null value is equivalent to ALL • Valid values for <TRCFORMAT> are shown in the "TRCFORMAT" section on page 4-94. A null value is equivalent to ALL
Input Example	ED-TRC-CLNT:CISCO:FAC-6-1:10:::EXPTRC= "AAA",TRC="AAA",TRCMODE=MAN,TRCLEVEL=PATH,TRCFORMAT=64-BYTE;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.50 ED-TRC-OCH: Edit Trace Optical Channel Facilities

The command edits trace-related optical channel facilities.

See the "Provisioning Rules for MXP_2.5G_10G and TXP_MR_10G Cards" section on page 1-8 for specific MXP/TXP card provisioning rules.

Section	ED-TRC-OCH Description
Category	DWDM
Security	Provisioning
Related Messages	RTRV-TRC-OCH RTRV-DWDM ED-DWDM RTRV-OCH
Input Format	ED-TRC-OCH:[<TID>]:<SRC>:<CTAG>:::[EXPTRC=<EXPTRC>,] [TRC=<TRC>,][TRCMODE=<TRCMODE>,]TRCLEVEL=<TRCLEVEL>, [TRCFORMAT=<TRCFORMAT>]; where: • <SRC> is the AID from the "CHANNEL" section on page 4-19 and must not be null • <EXPTRC> indicates the expected path trace message (OTUK-path,J0-section, for example) contents. The <EXPTRC> is any 64-character string, including the termination CR (carriage return) and LF (line feed). <EXPTRC> is a string and a null value is equivalent to ALL • <TRC> identifies the path trace message to be transmitted. The TRC is any combination of 64 characters, including the terminating CR and LF. The trace byte (OTUK-path, J0-section, for example) continuously transmits a 64-byte string, one byte at a time. A null value defaults to the NE transmitting null characters (Hex 00). <TRC> is a string and a null value is equivalent to ALL • <TRCMODE> identifies the trace mode and defaults to the OFF mode; valid values are shown in the "TRCMODE" section on page 4-94 • <TRCLEVEL> indicates the level of trace. A null value defaults to J0 Section. If G.709 is not enabled and the payload is SONET/SDH, the only applicable level is SONET SECTION, which is the J0 byte. If the G.709 is enabled, the TTI monitoring is allowed on all PATH, and SEC. Valid values are shown in the "TRCLEVEL" section on page 4-94 • Valid values for <TRCFORMAT> are shown in the "TRCFORMAT" section on page 4-94
Input Example	ED-TRC-OCH:CISCO:CHAN-6-2:10:::EXPTRC="AAA",TRC="AAA", TRCMODE=MAN,TRCLEVEL=PATH,TRCFORMAT=64-BYTE;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.51 ED-UCP-CC: Edit Unified Control Plane Control Channel

(Cisco ONS 15454 only)

This command edits UCP IP control channel attributes.

Notes:

1. If sending this command with invalid data, an IIAC (Status, Invalid Data) error message is returned.
2. If sending this command to provision MTU, CRCMD, or both while the IPCC type is routed (CCTYPE=ROUTED), an IIAC (Routed CC Is Not Allowed to Provision MTU & CRCMD) error message is returned.

Section	ED-UCP-CC Description
Category	UCP
Security	Provisioning
Related Messages	DLT-UCP-CC DLT-UCP-IF DLT-UCP-NBR ED-UCP-IF ED-UCP-NBR ED-UCP-NODE ENT-UCP-CC ENT-UCP-IF ENT-UCP-NBR REPT ALM UCP REPT EVT UCP RTRV-ALM-UCP RTRV-COND-UCP RTRV-UCP-CC RTRV-UCP-IF RTRV-UCP-NBR RTRV-UCP-NODE
Input Format	ED-UCP-CC:[<TID>]:<AID>:<CTAG>:::[LOCALIPCC=<LOCALIPCC>,][REMOTEIPCC=<REMOTEIPCC>,][LMPHELLOINT=<LMPHELLOINT>,][LMPHELLODEADINT=<LMPHELLODEADINT>,][MTU=<MTU>,][CRCMD=<CRCMD>][:]; where: • <AID> indicates an individual IPCC ID; <AID> is the AID from the "IPCC" section on page 4-16 • <LOCALIPCC> indicates the local IP address of the control channel and is a string • <REMOTEIPCC> indicates the remote IP address of the control channel and is a string • <LMPHELLOINT> indicates the LMP (line management protocol) interval (in milliseconds) and is an integer. It is the time between hello messages sent by this node. • <LMPHELLODEADINT> indicates the control channel time-out interval (in milliseconds) by the neighbor if the neighbor does not receive the hello message; <LMPHELLODEADINT> is an integer • <MTU> indicates the MTU size of this control channel and is an integer • <CRCMD> indicates the CRC mode for this control channel. It is applicable to IPCCs in SDCC type.Valid values for <CRCMD> are shown in the "UCP_CRC_MODE" section on page 4-97

Section	ED-UCP-CC Description (continued)
Input Example	ED-UCP-CC:CISCO:CC-9:CTAG:::LOCALIPCC=172.20.209.31, REMOTEIPCC=172.20.209.15,LMPHELLOINT=1,LMPHELLODEADINT=5, MTU=1500,CRCMD=16-BIT;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.52 ED-UCP-IF: Edit Unified Control Plane Interface

(Cisco ONS 15454 only)

This command edits UCP interface attributes.

Note If you send invalid data with this command, an IIAC (Status, Invalid Data) error message is returned.

Section	ED-UCP-IF Description
Category	UCP
Security	Provisioning
Related Messages	DLT-UCP-CC DLT-UCP-IF DLT-UCP-NBR ED-UCP-CC ED-UCP-NBR ED-UCP-NODE ENT-UCP-CC ENT-UCP-IF ENT-UCP-NBR REPT ALM UCP REPT EVT UCP RTRV-ALM-UCP RTRV-COND-UCP RTRV-UCP-CC RTRV-UCP-IF RTRV-UCP-NBR RTRV-UCP-NODE
Input Format	ED-UCP-IF:[<TID>]:<AID>:<CTAG>:::[TNATYPE=<TNATYPE>,] [TNAADDR=<TNAADDR>,][CORENETWORKID=<CORENETWORKID>][:]; where: • <AID> indicates the interface port index of the data link; <AID> is the AID from the "FACILITY" section on page 4-22 • <TNATYPE> indicates the TNA (transport network administered) type; valid values for <TNATYPE> are shown in the "UCP_TNA_TYPE" section on page 4-97 • <TNAADDR> indicates the TNA (transport network administered) IP address and is a string • <CORENETWORKID> is an integer
Input Example	ED-UCP-IF:CISCO:FAC-2-1:CTAG:::TNATYPE=IPV4, TNAADDR=172.20.209.73,CORENETWORKID=9;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.53 ED-UCP-NBR: Edit Unified Control Plane Neighbor

(Cisco ONS 15454 only)

This command edits a UCP neighbor.

The default value of the node name can be overwritten by the TL1 user to a string in a maximum size of 20 characters. If the node name includes non-identified TL1 characters (e.g. space), the text string format with the double quotes is required.

Example:

ENT-UCP-NBR::NBR-18:CTAG:::NBRIX=18,NODEID=192.168.101.18,
NAME=NeibhgorName,NDEN=N,HELLOEN=Y,HELLOINT=5, REFREDEN=Y;

Notes:

1. If this command is sent twice or input with invalid data, a SRQN (Status, Invalid Request) error message is returned.
2. If sending this command without neighbor node name in the "NAME" field, an IIAC (Neighbor Name Cannot Be Empty) error message is returned.
3. If sending this command to set the hello interval while the RSVP hello is disabled, an IIAC (HELLOINT Is Not Allowed If HELLOEN Is Disabled) error message is returned.

Section	ED-UCP-NBR Description	
Category	UCP	
Security	Provisioning	
Related Messages	DLT-UCP-CC DLT-UCP-IF DLT-UCP-NBR ED-UCP-CC ED-UCP-IF ED-UCP-NODE ENT-UCP-CC ENT-UCP-IF ENT-UCP-NBR	REPT ALM UCP REPT EVT UCP RTRV-ALM-UCP RTRV-COND-UCP RTRV-UCP-CC RTRV-UCP-IF RTRV-UCP-NBR RTRV-UCP-NODE

Section	ED-UCP-NBR Description (continued)
Input Format	ED-UCP-NBR:[<TID>]:<AID>:<CTAG>:::[NAME=<NAME>,] [HELLOEN=<HELLOEN>,][HELLOINT=<HELLOINT>,] [REFREDEN=<REFREDEN>][:]; where: • <AID> indicates an individual neighbor index of the UCP. An available neighbor index will be assigned internally while sending this command without AID; <AID> is the AID from the "NBR" section on page 4-16 • <NAME> indicates the neighbor node name. It defaults to the ASCII representation of the node ID in this command. The default value of this node name can be overwritten by the TL1 user to a string in a maximum size of 20 characters. If the node name includes non-identified TL1 characters (e.g. space), the text string format with the double quotes is required. Node name is a string. The default value is "defaults to the nodeid ASCII representation". <NAME> is a string. The default value is "the ASCII representation of the nodeid". <NAME> is a string • <HELLOEN> indicates if the RSVP hello enabled to this neighbor or not; valid values for <HELLOEN> are shown in the "ON_OFF" section on page 4-79 • <HELLOINT> indicates the interval between hello messages to neighbor; <HELLOINT> is an integer • <REFREDEN> indicates if the refresh reduction is enabled or not; valid values for <REFREDEN> are shown in the "ON_OFF" section on page 4-79
Input Example	ED-UCP-NBR:CISCO:NBR-8:CTAG:::NAME=NODE-B,HELLOEN=Y, HELLOINT=20,REFREDEN=N;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.54 ED-UCP-NODE: Edit Unified Control Plane Node

(Cisco ONS 15454 only)

This command edits the UCP node level attributes.

The nodeid is the unique number used to identify the local node in LMP, RSVP messages sent to the neighbors. It defaults to the local ethernet interface address (ISA).

The retry initial interval (in seconds) is used for that have been released by the net work side. This interval has a range of 60 seconds (1 minute) to 1800 seconds (30 minutes), with a default value of 180 seconds.

The retry max interval (in seconds) is used for released circuits. The node will back off exponentially from the initial retry interval to this maximum value of 600 seconds (10 minutes).

The restart time is used to be signaled to neighbors. It indicates the time taken by this node (in seconds) to restart. This timer has a range of 1 second to 10 seconds with a default of 5 seconds.

The recovery time is used to be signaled to neighbors. It indicates the time taken by this node (in seconds) to re-sync path, reservation state with a given neighbor. This timer has a range of 300 seconds (5 minutes) to 1800 seconds (30 minutes) and a default value of 600 seconds (10 minutes).

The transmit interval is used to retransmit un-acknowledged messages. This timer has a range of 1 second to 7 seconds with a default value of 1 second.

The refresh interval is used to refresh path, reservation state. This interval has a range of 30 seconds to 4060800 seconds (47 days) with a default value of 30 seconds.

The timeout RESV CONF interval is used to wait for a RESV CONF message in response to a RESV message. This interval has a range of 10–180 seconds with a default value of 60 seconds.

The Destination Deletion progress is a timeout interval while the destination is in the progress of cleanly deleting a call. This interval has a range of 1–180 seconds with a default value of 60 seconds.

Notes:

1. If the retry initial interval is set to zero, it will be interpreted as having the retry procedure disable.
2. The retry maximum interval has to be set to a higher value than the initial retry interval.

Section	ED-UCP-NODE Description	
Category	UCP	
Security	Provisioning	
Related Messages	DLT-UCP-CC DLT-UCP-IF DLT-UCP-NBR ED-UCP-CC ED-UCP-IF ED-UCP-NBR ENT-UCP-CC ENT-UCP-IF ENT-UCP-NBR	REPT ALM UCP REPT EVT UCP RTRV-ALM-UCP RTRV-COND-UCP RTRV-UCP-CC RTRV-UCP-IF RTRV-UCP-NBR RTRV-UCP-NODE

Section	ED-UCP-NODE Description (continued)
Input Format	ED-UCP-NODE:[<TID>]::<CTAG>:::[NODEID=<NODEID>,] [INITRETRY=<INITRETRY>,][MAXRETRY=<MAXRETRY>,] [RESTARTTM=<RESTARTTM>,][RECOVTM=<RECOVTM>,] [RXMTINT=<RXMTINT>,][RFRSHINT=<RFRSHINT>,] [RESVTIMEOUT=<RESVTIMEOUT>,] [RESVCONFTIMEOUT=<RESVCONFTIMEOUT>,] [SOURCEDIP=<SOURCEDIP>,][DESTINATIONDIP=<DESTINATIONDIP>][:]; where: • <NODEID> indicates the node IP address and is a string • <INITRETRY> indicates the circuit retry initial interval (in seconds) and is an integer • <MAXRETRY> indicates the circuit maximum retry initial interval (in seconds) and is an integer • <RESTARTTM> indicates the restart time taken by this local node; <RESTARTTM> is an integer and the default value is 5 seconds. • <RECOVTM> indicates the circuit retry maximum interval (in seconds) and is an integer • <RXMTINT> indicates the interval for re-transmitting un-acknowledged messages and is an integer • <RFRSHINT> indicates the interval for refreshing path, reservation state and is an integer • <RESVTIMEOUT> indicates the timeout interval for waiting for a reservation message in response to a PATH message; <RESVTIMEOUT> is an integer • <RESVCONFTIMEOUT> indicates the timeout interval for waiting for a RESV CONF message in response to a RESV message; <RESVCONFTIMEOUT> is an integer • <SOURCEDIP> indicates the timeout interval of the SourceDip (Source Deletion in Progress) while the source is in the process of cleanly deleting a call; <SOURCEDIP> is an integer • <DESTINATIONDIP> indicates the timeout interval of the DestinationDip (Destination Deletion in Progress) while the destination is in the process of cleanly deleting a call; <DESTINATIONDIP> is an integer
Input Example	ED-UCP-NODE:CISCO::CTAG:::NODEID=192.168.100.52,INITRETRY=180, MAXRETRY=600,RESTARTTM=5,RECOVTM=600,RXMTINT=1, RFRSHINT=30,RESVTIMEOUT=60,RESVCONFTIMEOUT=60, SOURCEDIP=60,DESTINATIONDIP=60;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.55 ED-USER-SECU: Edit User Security

This command edits a user's privileges, password, or ID. Only a Superuser may perform this operation. Privilege levels are described in the ENT-USER-SECU command.

Notes:

1. Passwords are masked for the following security commands: ACT-USER, ED-PID, ENT-USER-SECU and ED-USER-SECU. Access to a TL1 session via any means will have the password masked. The CTC Request History and Message Log will also show the masked commands. When a password-masked command is re-issued by double-clicking the command from CTC Request History, the password will still be masked in the CTC Request History and Message Log. The actual password that was previously issued will be sent to the NE. To use a former command as a template only, single-click the command in CTC Request History. The command will be placed in the Command Request text box, where you can edit the appropriate fields prior to re-issuing it.
2. The <UID> can be any combination of up to 10 alphanumeric characters.
3. The <PID> is a string of up to 10 characters where at least 2 are non-alphabetic with at least one special character (+, %, or #).
4. Although the CTC allows both <UID> and <PID> of up to 20 characters, the CTC-entered users (<UID>, <PID>) are not valid TL1 users (e.g., if issuing an ACT-USER command and using the CTC-entered <UID> that is greater than 10 characters long, TL1 will respond with DENY.
5. For the ED-USER-SECU command;

   ED-USER-SECU:[TID]:<UID>:[CTAG]::[<NEWUID>],[<NEWPID>],,[<UAP>]:;

   a. The syntax of <NEWPID> is checked.
   b. If the <NEWPID> is specified, the syntax is checked.
   c. The syntax of <UID> is not checked.
   d. Old users can change their password without changing their userid, but the new password must meet the new requirements.
   e. The <NEWPID> is required when changing the <USERID>.

   Currently, when <NEWUID> is specified, <NEWPID> is not optional; however, it is possible to change a userid without changing the password by providing the same password. Users are not allowed to keep their old password if the old password does not meet the new syntax requirements; for example,

```
<USERID> = DODI2345
 <PASSWORD> = DODI#234 /*PASSWORD ALREADY MEETS REQUIREMENTS*/


> ED-USER-SECU::DODI2345:1::DODI3456,DODI#234,,PROV;
ED-USER-SECU::DODI2345:1::DODI3456,DODI#234,,PROV;


 TCCP 1970-01-02 13:15:35
   M  1 COMPLD
;
<NEWUSERID> = DODI3456
<PASSWORD> = DODI#234
<USERID> = CISCO40
<PASSWORD> = CISCO40 /*PASSWORD DOES NOT MEET REQUIREMENTS*/
```

```
> ED-USER-SECU::CISCO40:1::CISCO40,,PROV;
ED-USER-SECU::CISCO40:1::CISCO40,,PROV;


   TCCP 1970-01-02 13:14:24
M  1 DENY
   IIFM
    /* INVALID PASSWORD */
;
```

6. You must use the ED-USER-SECU command to change the empty password (Superuser CISCO15 default empty password) to a non-empty, valid password. The ED-PID command cannot be used to change the empty password to a valid password.

Section	ED-USER-SECU Description
Category	Security
Security	Superuser
Related Messages	ACT-USER CANC CANC-USER DLT-USER-SECU ED-PID ENT-USER-SECU REPT EVT SECU RTRV-USER-SECU
Input Format	ED-USER-SECU:[<TID>]:<UID>:<CTAG>::[<NEWUID>],[<NEWPID>],,[<UAP>][:]; where: • <UID> is the user identifier and is a string. The minimum <UID> size is 6, the maximum UID size is 10 • <NEWUID> is the new user identifier and is a string. The minimum <UID> size is 6, the maximum PID size is 10 • <NEWPID> is a new password and is a string; <NEWPID> is a minimum of 6, maximum of 10 alphanumeric characters including at least one digit and one special character (%, #, or +). • <UAP> is a user access privilege; valid values for <UAP> are shown in the "PRIVILEGE" section on page 4-83 **Note** CTC allows <UID> and <PID> of up to 20 characters. The 20 character CTC-entered <UID> and <PID> are not valid TL1 <UID> and <PID>.
Input Example	ED-USER-SECU:PETALUMA:CISCO15:123::NEWUID,NEWPID,,MAINT;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.56 ED-VT1: Edit Virtual Tributary

This command edits the attributes associated with a VT1 path.

Both RVRTV and RVTM parameters only apply to UPSR.

The TACC parameter edits an existing single STS or VT and changes it to a test access point. When an editing command on TACC is executed, it assigns the STS for the first 2-way connection and STS=1 as the second 2-way connection.

Error conditions:

1. Sending this command to edit RVRTV or RVTM for the non-UPSR VT path, an error message will be returned.
2. If sending this command to edit both TACC and any other attribute(s), the (Parameters Not compatible) error message will be returned.
3. This command is only allowed whenever there are no circuits/cross-connections (no UPSR connections) on that AID.
4. If sending this command to edit TACC on an AID with circuits or cross-connections, or if the port/VT has a test access point (TAP or TACC number), an error message (e.g., VT in Use) will be returned.
5. TACC creation will also be denied on the protect ports/cards.
6. TACC creation is allowed on PCA for two-fiber and four-fiber BLSR.
7. TACC is not supported on G1000/MXP/TXP/ML1000-2 and ML100T-12 cards.

Section	ED-VT1 Description
Category	STS and VT Paths
Security	Provisioning
Related Messages	RTRV-VT1
Input Format	ED-VT1:[<TID>]:<SRC>:<CTAG>:::[RVRTV=<RVRTV>,][RVTM=<RVTM>,][HOLDOFFTIMER=<HOLDOFFTIMER>,][TACC=<TACC>]:[<PST>],[<SST>]; where: • <SRC> is an access identifier from the "VT1_5" section on page 4-30 • <RVRTV> identifies revertive mode which only applies to UPSR; valid values for <RVRTV> are shown in the "ON_OFF" section on page 4-79 • <RVTM> identifies revertive time; valid values for <RVTM> are shown in the "REVERTIVE_TIME" section on page 4-85 • <HOLDOFFTIMER> is an integer • <TACC> is the AID from the "TACC" section on page 4-29 • <PST> primary state; valid values for <PST> are shown in the "PST" section on page 4-85 • <SST> secondary state; valid values for <SST> are shown in the "SST" section on page 4-87

Section	ED-VT1 Description (continued)
Input Example	ED-VT1:CISCO:VT1-2-1-3-1-4:123:::RVRTV=Y,RVTM=1.0, HOLDOFFTIMER=2000,TACC=8:OOS,AINS;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.57 ENT-BLSR: Enter BLSR

This command creates either a two-fiber or four-fiber BLSR.

On successful creation of the BLSR, all cross-connections using the protection bandwidth of the BLSR will be automatically converted to PCA cross-connections.

<RINGID> defaults to AID number (# in the AID format of BLSR-#)

Input examples:

Four-fiber BLSR:

ENT-BLSR:PETALUMA:BLSR-2:123:::RINGID=2,NODEID=3,MODE=4F,RVRTV=Y,RVTM=5.0, SRVRTV=Y,SRVTM=5.0,EASTWORK=FAC-5-1,WESTWORK=FAC-6-1,EASTPROT=FAC-12-1, WESTPROT=FAC-13-1:;

Two-fiber BLSR:

ENT-BLSR:PETALUMA:BLSR-4:123:::RINGID=4,NODEID=6,MODE=2F,RVRTV=Y,RVTM=5.0, EASTWORK=FAC-5-1,WESTWORK=FAC-6-1:;

Error conditions:

1. If the system fails on getting IOR, a SDBE (Status, Internal Data Base Error) error message is returned.
2. If the NE returns nothing for the required BLSR (BLSR-# AID), a SRQN (Status, Invalid Request) error message is returned.
3. In RINGID is different from the AID number, a SDNC (Status, Input Ringid Is Not Consistent with NE Data) error message is returned.
4. Both <EASTPROT> and <WESTPROT> are optional, but required for 4-fiber BLSR creation.
5. Four-fiber BLSR is only supported on OC48 and OC192 cards. Two-fiber BLSR is only supported on OC12, OC48 and OC192 cards. Any attempt to create a BLSR on any other card combination results in a "BLSR Creation Failed" error message.
6. If sending this command to create 4-fiber BLSR on OC12 cards, or 2-fiber BLSR on OC3 cards, an IIAC (Input, Invalid work/prot port) error message will be returned.
7. If sending this command to create a BLSR on an NE that already has two BLSRs, a SRQN (BLSR Creation Failed) error message will be returned because one NE is only allowed to have two BLSRs in this release.
8. If sending this command to create a BLSR on a port with 1+1,a SRQN (BLSR Creation Failed) error message will be returned.

Section	ENT-BLSR Description
Category	BLSR
Security	Provisioning

Section	ENT-BLSR Description (continued)
Related Messages	DLT-BLSR ED-BLSR REPT ALM RING REPT EVT RING RTRV-ALM-RING RTRV-BLSR RTRV-COND-RING
Input Format	ENT-BLSR:[<TID>]:<AID>:<CTAG>:::[RINGID=<RINGID>,] NODEID=<NODEID>,MODE=<MODE>,[RVRTV=<RVRTV>,] [RVTM=<RVTM>,][SRVRTV=<SRVRTV>,][SRVTM=<SRVTM>,] EASTWORK=<EASTWORK>,WESTWORK=<WESTWORK>, [EASTPROT=<EASTPROT>,][WESTPROT=<WESTPROT>]; where: • <AID> identifies the BLSR of the NE. "ALL" or "BLSR-ALL" AID is not allowed for editing BLSR. This command only supports a single BLSR AID. <AID> is the AID from the "BLSR" section on page 4-18 • <RINGID> identifies the BLSR ring ID of the NE. It ranges from 0–9999. <RINGID> is an integer and the default value is "# of AID BLSR-#" • <NODEID> identifies the BLSR node ID of the NE and is an integer. It ranges from 0–31 • <MODE> identifies the BLSR mode; valid values for <MODE> are shown in the "BLSR_MODE" section on page 4-42 • <RVRTV> identifies the revertive mode and defaults to Y (revertive mode). Valid values for <RVRTV> are shown in the "ON_OFF" section on page 4-79. The default value is Y. • <RVTM> identifies the revertive time and defaults to 5.0. Valid values for <RVTM> are shown in the "REVERTIVE_TIME" section on page 4-85; the default value is 5.0 • <SRVRTV> identifies the span revertive mode for 4-fiber BLSR only. <SRVRTV> defaults to Y (revertive mode); valid values are shown in the "ON_OFF" section on page 4-79. The default value is Y. • <SRVTM> identifies the span revertive time for 4-fiber BLSR only. <SRVTM> defaults to 5.0 and valid values are shown in the "REVERTIVE_TIME" section on page 4-85. The default value is 5.0 • <EASTWORK> identifies the east working facility and is the AID from the "FACILITY" section on page 4-22 • <WESTWORK> identifies the west working facility and is the AID from the "FACILITY" section on page 4-22 • <EASTPROT identifies the east protecting facility and is the AID from the "FACILITY" section on page 4-22 • <WESTPROT> identifies the west protecting facility and is the AID from the "FACILITY" section on page 4-22
Input Example	ENT-BLSR:PETALUMA:BLSR-2:123:::RINGID=2,NODEID=1,MODE=4F, RVRTV=Y,RVTM=5.0,SRVRTV=Y,SRVTM=5.0,EASTWORK=FAC-5-1, WESTWORK=FAC-6-1,EASTPROT=FAC-12-1,WESTPROT=FAC-13-1;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.58 ENT-CRS-<STS_PATH>: Enter Cross Connection (STS1, STS3C, STS6C, STS9C, STS12C, STS24C, STS48C, STS192C)

See Table 4-11 on page 4-6 for supported modifiers by platform.

This command creates an STS cross-connection with a cross-connection type (CCT).

When a UPSR cross-connection is created, the path presented by the first AID is configured to be the preferred path. For example, the AID (F1) of the cross-connection (created by ENT-CRS-STS1::F1&F2,T1:123;) is the preferred path.

Notes:

1. The default cross-connection type is 2-way
2. If a path is already in a connection, it cannot be in another connection even if the other is a 1-way and the new one will be 1-way the other direction.
3. This command does not support creating multiple STS cross-connections.
4. The UPSR cross STS connection can be created by using "&" in the AID fields of this command.
   a. The following command is used to create a 1-way selector or 2-way selector and bridge with:

      from points: F1, F2

      to points: T1

      ENT-CRS-{STS_PATH}:[<TID>]:F1&F2,T1:<CTAG>::[<CCT>];
   b. The following command is used to create a 1-way bridge or 2-way selector and bridge with:

      from point: F1

      to points: T1, T2

      ENT-CRS-{STS_PATH}:[<TID>]:F1,T1&T2:<CTAG>::[<CCT>];
   c. The following command is used to create a 1-way subtending UPSR connection or 2-way subtending UPSR connection with:

      from point: F1, F2

      to points: T1, T2

      ENT-CRS-{STS_PATH}:[<TID>]:F1&F2,T1&T2:<CTAG>::[<CCT>];
   d. The following command is used to create a 2-way selector and bridge with:

      from point: F1,F2 (F1 is the working side, F2 is the protect side)

      selector points: S1, S2 (S1 is the working side, S2 is the protect side)

      ENT-CRS-{STS_PATH}:[<TID>]:F1&F2,S1&S2:<CTAG>::2WAY;
   e. The following command is used to create a UPSR IDRI Cross-Connection:

      ENT-CRS-{STS_PATH}:[<TID>]:A&B,C&D:<CTAG>::2WAYDC;

      A–Path on ring X to which traffic from ring Y is bridged

      B–Path on ring X to which traffic from the same ring is bridged

      C–Path on ring Y to which traffic from ring X is bridged

      D–Path on ring Y to which traffic from the same ring is bridged

      A, B, C, and D have a positional meaning. Connection type 2WAYDC is used for UPSR IDRI cross-connections.

f. The following command is used to create a UPSR DRI Cross-Connection:

ENT-CRS-{STS_PATH}:[<TID>]:A&B,C:<CTAG>::2WAYDC;

A–Path on ring X to which traffic from ring Y is bridged

B–Path on ring X to which traffic from the same ring is bridged

C–Traffic to and from ring Y

A, B, C, and D have a positional meaning. Connection type 2WAYDC is used for UPSR DRI cross-connections.

5. All A&B AIDs in the TL1 cross-connection command are in the format of WorkingAID&ProtectAID.
6. To establish a cross-connection on a 2-fiber protection path or on a 4-fiber protection channel, the PCA connection type (1WAYPCA or 2WAYPCA) is required.
7. If you send a PCA cross-connection type on the non-PCA AIDs, the IIAC error message is returned.
8. If you send a non-PCA cross-connection type on the PCA AIDs, the IIAC error message is returned.
9. The facility AID is only valid on slots holding a G1000-4 card (ONS 15454).
10. The virtual facility AID (VFAC) is only valid on slots holding the ML-series card.

Section	ENT-CRS-<STS_PATH> Description
Category	Cross Connections
Security	Provisioning
Related Messages	DLT-CRS-<STS_PATH> DLT-CRS-VT1 ED-CRS-<STS_PATH> ED-CRS-VT1 ENT-CRS-VT1 RTRV-CRS RTRV-CRS-<STS_PATH> RTRV-CRS-VT1
Input Format	ENT-CRS-<STS_PATH>:[<TID>]:<SRC>,<DST>:<CTAG>::[<CCT>]::[<PST>],[<SST>]; where: • <SRC> is the AID from the "CrossConnectID" section on page 4-14 • <DST> is the AID from the "CrossConnectID" section on page 4-14 • <CCT> identifies the cross-connection type; valid values for <CCT> are shown in the "CCT" section on page 4-45 • <PST> primary state; valid values for <PST> are shown in the "PST" section on page 4-85 • <SST> secondary state; valid values for <SST> are shown in the "SST" section on page 4-87
Input Example	ENT-CRS-STS1:BODEGA:STS-5-1-1,STS-12-1-5:116::2WAY::OOS,AINS;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.59 ENT-CRS-VT1: Enter STS Cross Connection VT1

This command creates a VT1 cross connect. When a UPSR cross-connection is created, the path presented by the first AID is configured to be the preferred path.

For example, the first AID (F1) of the cross-connection (created by ENT-CRS-VT1::F1&F2,T1:123;) is the preferred path.

Notes:

1. The default cross-connection type is 2-way.
2. If a path is already in a connection, it cannot be in another connection even if the other is a 1-way and the new one will be 1-way the other direction.
3. This command does not support creating multiple VT cross-connections.
4. The UPSR VT cross-connection can be created by using "&" in the AID fields of this command.
   a. The following command is used to create a 1-way selector or 2-way selector and bridge with:
      from points: F1, F2
      to points: T1
      ENT-CRS-VT1:[<TID>]:F1&F2,T1:<CTAG>::[<CCT>];
   b. The following command is used to create a 1-way bridge or 2-way selector and bridge with:
      from point: F1
      to points: T1, T2
      ENT-CRS-VT1:[<TID>]:F1,T1&T2:<CTAG>::[<CCT>];
   c. The following command is used to create a 1-way subtending UPSR connection or 2-way subtending UPSR connection with:
      from point: F1, F2
      to points: T1, T2
      ENT-CRS-VT1:[<TID>]:F1&F2,T1&T2:<CTAG>::[<CCT>];
   d. The following command is used to create a 2-way selector and bridge with:
      from points: F1, F2 (F1 is the working side, F2 is the protect side)
      selector points: S1, S2 (S1 is the working side, S2 is the protect side)
      ENT-CRS-VT1:[<TID>]:F1&F2,S1&S2:<CTAG>::2WAY;
5. All a&b AIDs in the TL1 cross-connection command are in the format of WorkingAID&ProtectAID.
6. To establish a cross-connection on a 2-fiber protection path or on a 4-fiber protection channel, the PCA connection type (1WAYPCA or 2WAYPCA) is required.
7. If you send a PCA cross-connection type on the non-PCA AIDs, an IIAC error message is returned.
8. If you send a non-PCA cross-connection type on the PCA AIDs, an IIAC error message is returned.
9. 1-way monitor cross-connects cannot be created. 1WAYMON value for CCT parameter is not supported. However, such cross-connects can be retrieved through the RTRV-CRS-VT1 and RTRV-CRS commands.

Section	ENT-CRS-VT1 Description
Category	Cross Connections
Security	Provisioning
Related Messages	DLT-CRS-<STS_PATH> DLT-CRS-VT1 ED-CRS-<STS_PATH> ED-CRS-VT1 ENT-CRS-<STS_PATH> RTRV-CRS RTRV-CRS-<STS_PATH> RTRV-CRS-VT1
Input Format	ENT-CRS-VT1:[<TID>]:<FROM>,<TO>:<CTAG>::[<CCT>]::[<PST>],[<SST>]; where: • <FROM> indicates an identifier at one end of the VT cross connection and is the AID from the "VT1_5" section on page 4-30 • <TO> indicates an identifier at the other end of the VT cross-connection and is the AID from the "VT1_5" section on page 4-30 • <CCT> identifies the cross-connection type; valid values for <CCT> are shown in the "CCT" section on page 4-45 • <PST> primary state; valid values for <PST> are shown in the "PST" section on page 4-85 • <SST> secondary state; valid values for <SST> are shown in the "SST" section on page 4-87
Input Example	ENT-CRS-VT1:CISCO:VT1-2-3-7-2,VT1-4-4-5-2:1234::1WAY::OOS,AINS;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.60 ENT-EQPT: Enter Equipment

This command enters the card type and attributes for a given equipment slot in the NE. It also automatically enters all facilities supported by the card, assigning default values to all facility and path attributes.

The command supports optional parameters: RVTM (revertive time), RVRTV (revertive behavior), PROTID (unique protection ID) and PRTYPE (protection type) for configuring the card in an equipment protection group. PRTYPE can be 1:1 and 1:N. These parameters can only be entered for a working AID. The protect card must already be provisioned before creating the protection group.

1:1 protection involves the odd slot protecting the even slot. The work-protect pair is as follows (2-1, 4-3, 6-5, 16-17, 14-15, 12-13). DS1, DS3, DS3XM, DS3N, DS3E, EC1 and other electrical cards support 1:1 protection. The value of PROTID is the protecting slot and is of the form "slot-x". This command creates a 1:1 protection group. If the command has the optional parameters for creating a protection group and the protection group cannot be created due to an error condition, provisioning of the equipment fails.

The PROTID slot must be provisioned first.

To create 1:1 with the ENT-EQPT command, the working card should not be provisioned first, so the AID type field should be presented in ENT-EQPT for the AID on this <AID>.

The following is an example for a 1:1 protection group:

ENT-EQPT:[<TID>]:SLOT-1:<CTAG>::DS1;

ENT-EQPT:[<TID>]:SLOT-2:<CTAG>::DS1:PROTID=SLOT-1,PRTYPE=1-1,RVTM=5.0,
RVRTV=Y;

1:N protection is always revertive. For 1:N protection, the protect slot can only be Slot 3 or Slot 15. For a protect card in Slot 3, the working cards can be in any of the slots on Bank A. Slot 15 is for protection in Bank B. A DSXN (DS1N or DS3N) card must be provisioned in the protect slot. A 1:1 protection cannot be upgraded to 1:N protection. This command creates a 1:N protection group or adds a new card to an existing 1:N protection group. Multiple working AIDs can be entered in a protection group.

The following is an example of provisioning a 1:N protection group with the ENT-EQPT command:

ENT-EQPT:[<TID>]:SLOT-3:<CTAG>::DS1N;

ENT-EQPT:[<TID>]:SLOT-2&SLOT-1:<CTAG>::DS1:PROTID=SLOT-3,PRTYPE=1-N;

The following is an example of provisioning a 1:N protection group with the ED-EQPT command:

ENT-EQPT:[<TID>]:SLOT-1&SLOT-2:<CTAG>::DS1;

ENT-EQPT:[<TID>]:SLOT-3:<CTAG>::DS1N;

ED-EQPT:[<TID>]:SLOT-2&SLOT-1:<CTAG>:::PROTID=SLOT-1,PRTYPE=1-N;

If the provisioning fails for some AIDs, PRTL responses will be provided indicating failed AIDs. If the provisioning fails for all the AIDs, a DENY response will be provided. For both CMPLD and PRTL responses on creating protection group query, the protection group has been created for the successful AID(s) query.

The following is an example for 1:N protection. The RVRTV parameter is not valid for 1:N protection.

ENT-EQPT:[<TID]>:SLOT-2:<CTAG>:::PROTID=SLOT-3,PRTYPE=1-N,RVTM=5.0;

Both ENT-EQPT and ED-EQPT commands can provision all working AIDs (1-5) together for 1:N by using listed AIDs.

The ENT-EQPT command provisions a new card and adds it to the protection group. The ED-EQPT command adds the already provisioned cards to the protection group.

Protect AID should already be provisioned for either command because protection group parameters are not supported for the protect AID.

The ENT-EQPT command provisions an equipment successfully on an empty slot if the equipment type is compatible with the slot number. This command can have the optional parameters in the “f” block to provision a card as a working card. It has the effect of adding the protection behavior at the time of provisioning itself. For the protection provisioning to succeed, the protect card should have already been provisioned. Trying to execute ENT-EQPT to provision a protection group on an already provisioned card will result in an error.

An example to provision a 1:1 protection group:

ENT-EQPT::SLOT-1:12::DS3;// provision the protect card

ENT-EQPT::SLOT-2:12::DS3:PROTID=SLOT-1,RVRTV=Y,RVTM=8.0; //provision a card and add it to the protection group.

An example to provision a 1:N protection group:

ENT-EQPT::SLOT-3:12::DS3N;//provision the protect card

ENT-EQPT::SLOT-1:12::DS3:PROTID=SLOT-3,RVTM=7.5,PRTYPE=1-N;//provision a card and add it to protection group.

Notes:

1. Sending this command to provision a DS3NE card on Slot {1,2,4,5,6,12,13,14,16,or 17}, the DS3E card type is presented.
2. Sending this command to provision a DS3N card on Slot {1,2,4,5,6,12,13,14,16,17}, the DS3 card type is presented.
3. Sending this command to provision a DS1N card on Slot-{1,2,4,5,6,12,13,14,16,17}, the DS1 card type is presented.

Error conditions for creating 1:1 or 1:N protection groups are:

1. AID sent to a non-working slot; the working cards must be in even slots for 1:1 and in the same bank for 1:N and not in Slot 3 or Slot 15 (ONS 15454).
2. Invalid AID chosen for protection slot.
3. Working AID is already in protection group.
4. AID is a protect AID.
5. The protect card has a circuit.
6. The equipment type does not match with the allowed AID.
7. The slot is already provisioned.
8. The protecting slot is not provisioned.
9. Multiple working AIDs for 1:1 protection.

Section	ENT-EQPT Description	
Category	Equipment	
Security	Provisioning	
Related Messages	ALW-SWDX-EQPT ALW-SWTOPROTN-EQPT ALW-SWTOWKG-EQPT DLT-EQPT ED-EQPT INH-SWDX-EQPT INH-SWTOPROTN-EQPT INH-SWTOWKG-EQPT	REPT ALM EQPT REPT EVT EQPT RTRV-ALM-EQPT RTRV-COND-EQPT RTRV-EQPT SW-DX-EQPT SW-TOPROTN-EQPT SW-TOWKG-EQPT

Section	ENT-EQPT Description (continued)
Input Format	ENT-EQPT:[<TID>]:<AID>:<CTAG>::<AIDTYPE>:[PROTID=<PROTID>,][PRTYPE=<PRTYPE>,][RVRTV=<RVRTV>,][RVTM=<RVTM>][:]; where: • <AID> is an access identifier from the "EQPT" section on page 4-21 • <AIDTYPE> is the AID card type; valid values for <AIDTYPE> are shown in the "EQUIPMENT_TYPE" section on page 4-66 • <PROTID> is the protecting card slot identifier of the protection group and is the AID from the "PRSLOT" section on page 4-16 • <PRTYPE> is the protection group type; valid values for <PRTYPE> are shown in the "PROTECTION_GROUP" section on page 4-84 • <RVRTV> is the revertive mode; valid values for <RVRTV> are shown in the "ON_OFF" section on page 4-79 • <RVTM> is the revertive time; valid values for <RVTM> are shown in the "REVERTIVE_TIME" section on page 4-85
Input Example	ENT-EQPT:PETALUMA:SLOT-12:118::DS1:PROTID=SLOT-13,PRTYPE=1-1,RVRTV=Y,RVTM=8.5:;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.61 ENT-FFP-<OCN_TYPE>: Enter Facility Protection Group (OC3, OC12, OC48, OC192)

See Table 4-11 on page 4-6 for supported modifiers by platform.

This command creates an optical 1+1 protection.

Notes:

1. Protect AID must not be provisioned with traffic.
2. Work AID can be provisioned with traffic.
3. PROTID is a string and can have a maximum length of 32 characters.
4. In this release, 1+1 provisioning between an OC12-4 card and an OC12 card is allowed but is not correct. This provisioning will not be allowed in a future release.

Section	ENT-FFP-<OCN_TYPE> Description
Category	SONET Line Protection
Security	Provisioning
Related Messages	DLT-FFP-<OCN_TYPE> ED-FFP-<OCN_TYPE> EX-SW-<OCN_BLSR> OPR-PROTNSW-<OCN_TYPE> RLS-PROTNSW-<OCN_TYPE> RTRV-FFP-<OCN_TYPE> RTRV-PROTNSW-<OCN_TYPE>

Section	ENT-FFP-<OCN_TYPE> Description (continued)
Input Format	ENT-FFP-<OCN_TYPE>:[<TID>]:<WORK>,<PROTECT>:<CTAG>::: [PROTID=<PROTID>,][RVRTV=<RVRTV>,][RVTM=<RVTM>,] [PSDIRN=<PSDIRN>][:]; where: • <WORK> identifies a working port and is the AID from the "FACILITY" section on page 4-22 • <PROTECT> identifies a protection port and is the AID from the "FACILITY" section on page 4-22 • <PROTID> is the protection group identifier (protection group name); <PROTID> defaults to the protecting port AID of the protection group, it is a string and can have a maximum length of 32 characters. • <RVRTV> identifies a revertive mode and defaults to N (non-revertive mode); valid values for <RVRTV> are shown in the "ON_OFF" section on page 4-79 • <RVTM> identifies a revertive time and defaults to 5.0 minutes; valid values for <RVTM> are shown in the "REVERTIVE_TIME" section on page 4-85 • <PSDIRN> identifies the switching mode and defaults to UNI; valid values for <PSDIRN> are shown in the "UNI_BI" section on page 4-97
Input Example	ENT-FFP-OC3:PETALUMA:FAC-2-1,FAC-1-1:1:::PROTID=PROT_NAME, RVRTV=Y,RVTM=1.0,PSDIRN=BI;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.62 ENT-FFP-CLNT: Enter Facility Protection Group Client

This command creates Y cable protection on client facilities

Notes:

1. A Y cable protection group can be created between the client ports of either two TXP cards or two MXP cards.
2. Y cable protection cannot be part of a regeneration group.
3. Only the working ports can be provisioned with DCC and timing reference (if DCC is present on a card, tat card cannot be a protect card).
4. The cards must have the same payload.

See the "Provisioning Rules for MXP_2.5G_10G and TXP_MR_10G Cards" section on page 1-8 for specific MXP/TXP card provisioning rules.

Section	ENT-FFP-CLNT Description
Category	DWDM
Security	Provisioning

Section	ENT-FFP-CLNT Description (continued)
Related Messages	RTRV-FFP-CLNT ED-FFP-CLNT RTRV-DWDM ED-DWDM OPR-PROTNSW-CLNT RLS-PROTNSW-CLNT RTRV-COND-CLNT RTRV-ALM-CLNT
Input Format	ENT-FFP-CLNT:[<TID>]:<WORKAID>,<PROTAID>:<CTAG>:::[PROTTYPE=<PROTTYPE>,][PROTID=<PROTID>,][RVRTV=<RVRTV>,][RVTM=<RVTM>,][PSDIRN=<PSDIRN>][:]; where: • <WORKAID> identifies a working port and is the AID from the "FACILITY" section on page 4-22 • <PROTAID> identifies a protection port and is the AID from the "FACILITY" section on page 4-22 • <PROTTYPE> identifies the type of facility protection; valid values are shown in the "PROTTYPE" section on page 4-84 • <PROTID> protection group identifier (protection group name). Defaults to the protecting port AID of the protection group. Is is a string and can have a maximum length of 32 characters; <PROTID> is a string • <RVRTV> identifies the revertive mode. Defaults to N (non-revertive mode); valid values are shown in the "ON_OFF" section on page 4-79 • <RVTM> identifies the revertive time. Defaults to 5.0 minutes; valid values are shown in the "REVERTIVE_TIME" section on page 4-85 • <PSDIRN> identifies the switching mode and defaults to UNI. Release 4.0 MXP/TXP cards do not support BI-DIRECTIONAL switching. Valid values for <PSDIRN> are shown in the "UNI_BI" section on page 4-97
Input Example	ENT-FFP-CLNT:CISCO:FAC-1-1,FAC-2-1:100:::PROTTYPE=Y-CABLE, PROTID=DC-METRO-1,RVRTV=Y,RVTM=1.0,PSDIRN=BI;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.63 ENT-UCP-CC: Enter Unified Control Plane Control Channel

(Cisco ONS 15454 only)

This command creates a UCP IP control channel.

If the CCTYPE is SCCC, the SDCC of the port should be created.

The LMP Hello parameters, CRC mode and MTU can be left NULL. The defaults will be assigned by the node.

The UCP remote cannot be provisioned by the user. The local CCID will be allocated by the node.

If the CCTYPE is routed, the remote IPCC defaults to its neighbor's nodeID.

Examples:

ENT-UCP-CC::CC-12:CTAG:::NBRIX=1,CCTYPE=SDCC,PORT=FAC-6-1,
LOCALCCID=12,LOCALIPCC=172.20.209.73,REMOTEIPCC=192.168.100.18,
LMPHELLOINT=2,LMPHELLODEADINT=6,MTU=1500,CRCMD=32-BIT;

ENT-UCP-CC::CC-15:CTAG:::NBRIX=8,CCTYPE=ROUTED,LOCALCCID=15,
LOCALIPCC=172.20.209.73,REMOTEIPCC=192.168.100.18,LMPHELLOINT=2,
LMPHELLODEADINT=6,MTU=1500,CRCMD=16-BIT;

ENT-UCP-CC::CC-16:CTAG:::NBRIX=8,CCTYPE=ROUTED,LOCALCCID=16,
LOCALIPCC=172.20.209.73,LMPHELLOINT=2,LMPHELLODEADINT=6,
MTU=1500,CRCMD=16-BIT;

Notes:

1. If this command is sent twice, or input with invalid data, a SRQN (Status, Invalid Request) error message is returned.
2. If sending this command to provision MTU, CRCMD, or both while the IPCC type is routed (CCTYPE=ROUTED), an IIAC (Routed CC Is Not Allowed to Provision MTU and CRCMD) error message is returned.
3. The LMPHELLODEADINT interval has to be larger than the hello interval and is normally set to 3 times the hello interval. Its range is 3 seconds to 30 seconds with a default of 15 seconds.
4. If sending this command to provision a ROUTED IPCC no matter if the neighbor discovery (NDEN) is Enabled or Disabled, the REMOTEIPCC has to be specified by the user with non zeros, otherwise, an error message will be returned.
5. If sending this command to provision an SDCC IPCC while the neighbor discovery (NDEN=Y) is Enabled, the REMOTEIPCC defaults to 0.0.0.0, and the user is not allowed to specify REMOTEIPCC, otherwise, and error message (SROF, Cannot specify Remote IPCC for SDCC-IPCC when ND is enabled) will be returned.
6. If sending this command to provision an SDCC IPCC while the neighbor discovery (NDEN=N) is Disabled, the REMOTEIPCC defaults to its neighbor's node ID (IP address).
7. If sending this command to provision an SDCC IPCC with a complete result, the SDCC of the specified SONET line is created (or enabled) automatically with a DB change reporting (if the DB change report is enabled).
8. If sending this command to provision more than 16 IPCC over one NE, a (Cannot create IPCC. Max. number (16) reached) error message is returned.

Section	ENT-UCP-CC Description	
Category	UCP	
Security	Provisioning	
Related Messages	DLT-UCP-CC DLT-UCP-IF DLT-UCP-NBR ED-UCP-CC ED-UCP-IF ED-UCP-NBR ED-UCP-NODE ENT-UCP-IF ENT-UCP-NBR	REPT ALM UCP REPT EVT UCP RTRV-ALM-UCP RTRV-COND-UCP RTRV-UCP-CC RTRV-UCP-IF RTRV-UCP-NBR RTRV-UCP-NODE

Section	ENT-UCP-CC Description (continued)
Input Format	ENT-UCP-CC:[<TID>]:[<AID>]:<CTAG>:::[NBRIX=<NBRIX>,][CCTYPE=<CCTYPE>,][PORT=<PORT>,][LOCALCCID=<LOCALCCID>,][LOCALIPCC=<LOCALIPCC>,][REMOTCCID=<REMOTECCID>,][REMOTEIPCC=<REMOTEIPCC>,][LMPHELLOINT=<LMPHELLOINT>,][LMPHELLODEADINT=<LMPHELLODEADINT>,][MTU=<MTU>,][CRCMD=<CRCMD>,][TUNMD=<TUNMD>][:]; where: • <AID> indicates an individual IPCC ID and is the AID from the "IPCC" section on page 4-16. The default value is "local IPCC ID" • <NBRIX> indicates a neighbor within the local node and is an integer • <CCTYPE> indicates the type of the control channel; valid values for <CCTYPE> are shown in the "UCP_IPCC_TYPE" section on page 4-97 • <PORT> indicates the port which the control channel is configured, while the CCTYPE is the type of SDCC. <PORT> is the AID from the "FACILITY" section on page 4-22 and the default value is "applicable only if it is SDCC type" • <LOCALCCID> indicates the local control channel ID and is an integer. The default value is "local UCP node id" • <LOCALIPCC> indicates the local IP address of the control channel and is a string. The default value is "local node id's node name" • <REMOTECCID> indicates the local control channel ID and is an integer. The default value is "zero (0) – undefined until discovery by LMP" • <REMOTEIPCC> indicates the remote IP address of the control channel and is a string. The default value is "0.0.0.0 – undefined for SDCC IPCC and discovered by LMP" • <LMPHELLOINT> indicates the LMP (line management protocol) interval (in milliseconds). It is the time between hello messages sent by this node, defaults to 5 (with the range of 1–10). <LMPHELLOINT> is an integer and the default value is "5 seconds – (1–10 seconds)" • <LMPHELLODEADINT> indicates the control channel time-out interval (in milliseconds) by the neighbor if the neighbor does not receive the hello message, and defaults to 15 (with the range of 3–30). This interval has to be at least as large as the hello interval and is normally set to 3 times the hello interval. It's range is 3–30 seconds with a default of 15 seconds. <LMPHELLODEADINT> is an integer and it's default value is "15 seconds – (3–30 seconds)" • <MTU> indicates the MTU size of this control channel. <MTU> is an integer and it's default value is "1500 bytes" • <CRCMD> indicates the CRC mode for this control channel. It is applicable to IPCCs in SDCC type. Valid values for <CRCMD> are shown in the "UCP_CRC_MODE" section on page 4-97 • <TUNMD> indicates the IP Tunneling option. It defaults to disabled and valid values are shown in the "UCP_CC_TUN_MD" section on page 4-96

Section	ENT-UCP-CC Description (continued)
Input Example	ENT-UCP-CC:CISCO:CC-9:CTAG:::NBRIX=8,CCTYPE=SDCC,PORT=FAC-2-1,LOCALCCID=9,LOCALIPCC=172.20.209.162,REMOTCCID=2,REMOTEIPCC=172.20.209.73,LMPHELLOINT=1,LMPHELLODEADINT=5,MTU=1500,CRCMD=16-BIT,TUNMD=DISABLED;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.64 ENT-UCP-IF: Enter Unified Control Plane Interface

(Cisco ONS 15454 only)

This command creates a UCP interface.

The CCID can be set to zero to request the use of any control channel to the neighbor for this UCP interface/data link.

The local interface ID (LOCALIFID) is used by LMP/RSVP (Line Management Protocol/Resource Reservation Protocol). If zero is passed in as the local Interface ID of the data link, then the node assigns a value for it. If the user specifies a non-zero value, then the node checks if that Interface ID is available and uses it.

If the UCP interface/data link control channel type is SDCC type, the local interface ID should be the same as CCID. Otherwise, an error message will be returned by the node.

The remote interface ID is allowed to be unspecified (by passing zero) if the NDEN is Enabled and there is a SDCC IPCC specified for this UPC Interface with the same Interface Index, or when Routed IPCC is used for this data link.

Examples:

ENT-UCP-IF::FAC-2-3:CTAG:::NBRIX=8,CCID=2,LOCALIFID=0,REMOTEIFID=4,
TNATYPE=IPV4,TNAADDR=172.20.209.162,CORENETWORKID=3;

ENT-UCP-IF::FAC-2-4:CTAG:::NBRIX=8,CCID=1,LOCALIFID=0,REMOTEIFID=4,
TNATYPE=NSAP,TNAADDR=0102030405060708090A0B0C0D0E0F1011121314,
CORENETWORKID=3;

Note If this command is sent twice, or inputs invalid data, a SRQN (Status, Invalid Request) error message is returned.

Section	ENT-UCP-IF Description	
Category	UCP	
Security	Provisioning	
Related Messages	DLT-UCP-CC DLT-UCP-IF DLT-UCP-NBR ED-UCP-CC ED-UCP-IF ED-UCP-NBR ED-UCP-NODE ENT-UCP-CC ENT-UCP-NBR	REPT ALM UCP REPT EVT UCP RTRV-ALM-UCP RTRV-COND-UCP RTRV-UCP-CC RTRV-UCP-IF RTRV-UCP-NBR RTRV-UCP-NODE

Section	ENT-UCP-IF Description (continued)
Input Format	ENT-UCP-IF:[<TID>]:<AID>:<CTAG>:::[NBRIX=<NBRIX>,][CCID=<CCID>,][LOCALIFID=<LOCALIFID>,][REMOTEIFID=<REMOTEIFID>,][TNATYPE=<TNATYPE>,][TNAADDR=<TNAADDR>,][CORENETWORKID=<CORENETWORKID>][:]; where: • <AID> indicates the interface port index of the data link and is the AID from the "FACILITY" section on page 4-22 • <NBRIX> indicates a neighbor within the local node and is an integer • <CCID> indicates the control channel ID. It can be set to zero to request the use of any control channel to the neighbor for this UCP interface/ data link. <CCID> is an integer. A null value defaults to "any control channel to the neighbor" • <LOCALIFID> indicates the local interface ID used by LMP/RSVP (Line Management Protocol/Resource reservation Protocol). If this attribute value is assigned by the UI, it will be ignored. <LOCALIFID> is an integer • <REMOTEIFID> indicates the remote interface ID on the neighbor's side. If this attribute value is passed by UI, it will be ignored. <REMOTEIFID> is an integer • <TNATYPE> indicates the TNA (Transport Network Administered) type and defaults to IPv4. Valid values for <TNATYPE> are shown in the "UCP_TNA_TYPE" section on page 4-97. The default value is "IPv4" • <TNAADDR> indicates the TNA (Transport Network Administered) IP address and defaults to IPv4 0.0.0.0. <TNAADDR> is a string. The default value is "0" • <CORENETWORKID> indicates the core network ID and defaults to one (1). <CORENETWORKID> is an integer and the default value is "1"
Input Example	ENT-UCP-IF:CISCO:FAC-2-1:CTAG:::NBRIX=12,CCID=16,LOCALIFID=16,REMOTEIFID=0,TNATYPE=IPV4,TNAADDR=172.20.209.162,CORENETWORKID=7;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.65 ENT-UCP-NBR: Enter Unified Control Plane Neighbor

(Cisco ONS 15454 only)

This command creates a UCP neighbor.

The default value of the node name can be overwritten by the TL1 user to a string in a maximum size of 20 characters. If the node name includes non-identified TL1 characters (e.g. space), the text string format with the double quotes is required.

Notes:

1. If this command is sent twice or inputs invalid data, a SRQN (Status, Invalid Request) error message is returned.
2. If sending this command without neighbor node name in the "NAME" field, an IIAC (Neighbor Name Can Not be Empty) error message is returned.
3. If sending this command with nodeid while the neighbor discovery is enabled (NDEN=Y), an IIAC (NODEID Is Not Allowed If NDEN Is Enabled) error message is returned.

4. If sending this command to set the hello interval while the RSVP hello is disabled, an IIAC (HELLOINT Is Not Allowed If HELLOEN Is Disabled) error message is returned.
5. If provisioning a neighbor with disabled neighbor discovery (NDEN=N), and NULL nodeid, a SROF (UCP Neighbor's NodeID cannot be null when Neighbor Discovery is disabled) is returned.
6. If sending this command to create a neighbor with the neighbor node name string longer than 64 characters, an IIAC (Node Name Too Long) error message is returned.

Section	ENT-UCP-NBR Description	
Category	UCP	
Security	Provisioning	
Related Messages	DLT-UCP-CC DLT-UCP-IF DLT-UCP-NBR ED-UCP-CC ED-UCP-IF ED-UCP-NBR ED-UCP-NODE ENT-UCP-CC ENT-UCP-IF	REPT ALM UCP REPT EVT UCP RTRV-ALM-UCP RTRV-COND-UCP RTRV-UCP-CC RTRV-UCP-IF RTRV-UCP-NBR RTRV-UCP-NODE

Section	ENT-UCP-NBR Description (continued)
Input Format	ENT-UCP-NBR:[<TID>]:<AID>:<CTAG>:::[NBRIX=<NBRIX>,] [NODEID=<NODEID>,]NAME=<NAME>,[NDEN=<NDEN>,] [HELLOEN=<HELLOEN>,][HELLOINT=<HELLOINT>,] [REFREDEN=<REFREDEN>,][NUMRXMTS=<NUMRXMTS>][:]; where: • <AID> indicates an individual neighbor index of the UCP. An available neighbor index will be assigned internally while sending this command without AID; <AID> is the AID from the "NBR" section on page 4-16 • <NBRIX> indicates a neighbor within the local node. <NBRIX > is an integer and the default value is "the number of the AID (NBR-#). Or undefined zero (0)" <NODEID> indicates the neighbor node ID as received in RSVP, LMP messages from that node and is a string • <NAME> indicates the neighbor node name, it has to be specified by the user. If the node name includes non-identified TL1 characters (e.g. space), the text string format with the double quotes is required. <NAME> is a string • <NDEN> indicates if the neighbor discovery is enabled or not for this neighbor and it defaults to enable (Y). The default value is "Y". Valid values for <NDEN> are shown in the "ON_OFF" section on page 4-79 • <HELLOEN> indicates if the RSVP hello is enabled to this neighbor or not and defaults to enable (Y). The default value is "Y". Valid values for <HELLOEN> are shown in the "ON_OFF" section on page 4-79 • <HELLOINT> indicates the interval between hello messages to neighbor and defaults to 5. The default value is "5". <HELLOINT> is an integer • <REFREDEN> indicates if the refresh reduction is enabled or not and defaults to enable (Y). The default value is "Y". Valid values for <REFREDEN> are shown in the "ON_OFF" section on page 4-79 • <NUMRXMTS> indicates the maximum number of retransmits of each message and defaults to 3. The default value is "3". <NUMRXMTS> is an integer
Input Example	ENT-UCP-NBR:CISCO:NBR-8:CTAG:::NBRIX=8,NODEID=192.168.100.52, NAME=NODE-A,NDEN=Y,HELLOEN=Y,HELLOINT=20,REFREDEN=Y, NUMRXMTS=3;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.66 ENT-USER-SECU: Enter User Security

This command adds a user account. Only a Superuser can do this. Each user is configured as being at one of these four privilege levels:

1. Retrieve [RTRV]: Users possessing this security level can retrieve information from the node, but cannot modify anything. The default idle time for Retrieve is unlimited.
2. Maintenance [MAINT]: Users possessing this security level can retrieve information from the node and perform limited maintenance operations such as card resets, Manual/Force/Lockout on cross-connects or in protection groups, and BLSR maintenance. The default idle time for Maintenance is 60 minutes.
3. Provisioning [PROV]: Users possessing this security level can perform all maintenance actions, and all provisioning actions except those restricted to superusers. The default idle time for Provisioning is 30 minutes.
4. Superuser [SUPER]: Users possessing this security level can perform all PROV user actions, plus creating/deleting user security profiles, setting basic system parameters such as time/date, node name, and IP address, doing database backup & restore. The default idle time for Superuser is 15 minutes.

Notes:

1. Passwords are masked for the following security commands: ACT-USER, ED-PID, ENT-USER-SECU and ED-USER-SECU. Access to a TL1 session via any means will have the password masked. The CTC Request History and Message Log will also show the masked commands. When a password-masked command is re-issued by double-clicking the command from CTC Request History, the password will still be masked in the CTC Request History and Message Log. The actual password that was previously issued will be sent to the NE. To use a former command as a template only, single-click the command in CTC Request History. The command will be placed in the Command Request text box, where you can edit the appropriate fields prior to re-issuing it.
2. The <UID> can be any combination of up to 10 alphanumeric characters.
3. The <PID> is a string of up to 10 characters where at least 2 characters are non-alphabetic with at least one special character (+, %, or #).
4. Although the CTC allows both <UID> and <PID> of up to 20 characters, the CTC-entered users (<UID> and <PID>) may not be valid TL1 users (e.g. if issuing an ACT-USER command and using the CTC-entered <UID> that is greater than 10 characters long, TL1 will respond with DENY (Can't Login) error message.
5. The TL1 password security is enforced as follows:
   a. The password <PID> cannot be the same as or contain the userid (UID), for example, if the userid is CISCO25 the password cannot be CISCO25#.
   b. The password <PID> must have one non-alphabetic and one special (+, %, or #) character.
   c. There is no password <PID> toggling; for example, if the current password is CISCO25#, the new password cannot be CISCO25#

Section	ENT-USER-SECU Description
Category	Security
Security	Superuser

Section	ENT-USER-SECU Description (continued)
Related Messages	ACT-USER CANC CANC-USER DLT-USER-SECU ED-PID ED-USER-SECU REPT EVT SECU RTRV-USER-SECU
Input Format	ENT-USER-SECU:[<TID>]:<UID>:<CTAG>::<PID>,,<UAP>[:]; where: • <UID> is the user identifier. The minimum <UID> size is 6, the maximum <UID> size is 10; <UID> is a string. • <PID> is a string. • <UAP> is the user access privilege value; valid values for <UAP> are shown in the "PRIVILEGE" section on page 4-83
Input Example	ENT-USER-SECU:PETALUMA:CISCO15:123::PSWD11#,,MAINT;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.67 EX-SW-<OCN_BLSR>: Operate Protection Switch (OC12, OC48, OC192)

See Table 4-11 on page 4-6 for supported modifiers by platform.

This command exercises the algorithm for switching from a working facility to a protection facility without actually performing a switch. It is assumed that the facility being exercised is the working unit. The exercise switching success or failure result will be indicated by an automatic alarm.

Exercise switch for the SONET protection line is not supported in this release. If sending this command to the protection unit, an error message will be returned. In addition to all normal INPUT, EQUIPAGE, PRIVILEGE error codes, the following error codes are also included in this command:

SNVS (Status, Not in Valid State)

SROF (Status, Requested Operation Failed)

SSRD (Status, Switch Request Denied)

Section	EX-SW-<OCN_BLSR> Description
Category	SONET Line Protection
Security	Maintenance
Related Messages	DLT-FFP-<OCN_TYPE> ED-FFP-<OCN_TYPE> ENT-FFP-<OCN_TYPE> OPR-PROTNSW-<OCN_TYPE> RLS-PROTNSW-<OCN_TYPE> RTRV-FFP-<OCN_TYPE> RTRV-PROTNSW-<OCN_TYPE>

Section	EX-SW-<OCN_BLSR> Description (continued)
Input Format	EX-SW-<OCN_BLSR>:[TID]:<AID>:[CTAG]::[<ST>]; where: • <AID> identifies the facility in the NE to which the switch request is directed. <AID> is from the "FACILITY" section on page 4-22. <AID> must not be null. • <ST> is the BLSR switch type. the switch type is optional and for BLSR protection switch only. <ST> defaults to RING switch type and valid values are shown in the "SWITCH_TYPE" section on page 4-89. A null value is equivalent to ALL.
Input Example	EX-SW-OC48:CISCO:FAC-12-1:123::SPAN;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.68 INH-MSG-ALL: Inhibit Message All

This command inhibits all REPT ALM and REPT EVT autonomous messages from being transmitted. See the ALW-MSG-ALL to resume these autonomous messages. When a TL1 session starts, the REPT ALM and REPT EVT messages are allowed by default.

Note If this command is used twice in the same session, the SAIN (Already Inhibited) error message is reported.

Section	INH-MSG-ALL Description	
Category	System	
Security	Retrieve	
Related Messages	ALW-MSG-ALL APPLY COPY-RFILE ED-DAT ED-NE-GEN ED-NE-SYNCN INIT-SYS REPT EVT FXFR	RTRV-HDR RTRV-INV RTRV-MAP-NETWORK RTRV-NE-GEN RTRV-NE-IPMAP RTRV-NE-SYNCN RTRV-TOD SET-TOD
Input Format	INH-MSG-ALL:[<TID>]::<CTAG>[::,,];	
Input Example	INH-MSG-ALL:PETALUMA::550;	
Errors	Errors are listed in Table 7-30 on page 7-20.	

3.4.69 INH-MSG-DBCHG: Inhibit Database Change Message

This command disables REPT DBCHG.

Section	INH-MSG-DBCHG Description
Category	Log
Security	Retrieve
Related Messages	ALW-MSG-DBCHG REPT DBCHG RTRV-LOG
Input Format	INH-MSG-DBCHG:[<TID>]::<CTAG>[::,,];
Input Example	INH-MSG-DBCHG:CISCO::123;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.70 INH-MSG-SECU: Inhibit Message Security

This command inhibits the REPT EVT SECU and REPT ALM SECU messages.

Section	INH-MSG-SECU Description	
Category	Security	
Security	Superuser	
Related Messages	ACT-USER ALW-MSG-SECU CANC CANC-USER DLT-USER-SECU ED-PID	ED-USER-SECU ENT-USER-SECU REPT EVT SECU REPT EVT SESSION RTRV-USER-SECU
Input Format	INH-MSG-SECU:[<TID>]::<CTAG>;	
Input Example	INH-MSG-SECU:PETALUMA::123;	
Errors	Errors are listed in Table 7-30 on page 7-20.	

3.4.71 INH-PMREPT-ALL: Inhibit Performance Report All

This command inhibits all scheduled PM reporting. The inhibitance of the PM reporting is session-based, which means the command is only effective to the TL1 session that issues this command. By default, the scheduled PM reporting is inhibited by a TL1 session.

A TL1 session for which PM reports are inhibited will include an INHMSG-PMREPT condition when issuing TL1 command RTRV-COND-ALL.

Section	INH-PMREPT-ALL Description
Category	Performance
Security	Retrieve

Section	INH-PMREPT-ALL Description (continued)	
Related Messages	ALW-PMREPT-ALL INIT-REG-<MOD2> REPT PM <MOD2> RTRV-PM-<MOD2> RTRV-PMMODE-<STS_PATH> RTRV-PMSCHED-<MOD2>	RTRV-PMSCHED-ALL RTRV-TH-<MOD2> SCHED-PMREPT-<MOD2> SET-PMMODE-<STS_PATH> SET-TH-<MOD2>
Input Format	INH-PMREPT-ALL:[<TID>]::<CTAG>;	
Input Example	INH-PMREPT-ALL:NE-NAME::123;	
Errors	Errors are listed in Table 7-30 on page 7-20.	

3.4.72 INH-SWDX-EQPT: Inhibit Switch Duplex Equipment

(Cisco ONS 15454 only)

This command inhibits automatic or manual switching on a system containing duplex equipment. Use the ALW-SWDX command to release the inhibit. This command is not used for SONET line protection switching. For SONET line/path protection switching commands, use the OPR-PROTNSW and RLS-PROTNSW commands. This command is not used for 1:1 and 1:N equipment protection switching, use ALW-SWTOPROTN, ALW-SWTOWKG, INH-SWTOPROTN, INH-SWTOWKG commands.

Notes:

1. This command applies for XC, XCVT, or XC10G equipment units only in this release.
2. When sending this command to a TCC+/TCC2 card, an error message will occur because the NE treats the TCC+/TCC2 as a non-revertive protection group without user control.

Section	INH-SWDX-EQPT Description	
Category	Equipment	
Security	Maintenance	
Related Messages	ALW-SWDX-EQPT ALW-SWTOPROTN-EQPT ALW-SWTOWKG-EQPT DLT-EQPT ED-EQPT ENT-EQPT INH-SWTOPROTN-EQPT INH-SWTOWKG-EQPT	REPT ALM EQPT REPT EVT EQPT RTRV-ALM-EQPT RTRV-COND-EQPT RTRV-EQPT SW-DX-EQPT SW-TOPROTN-EQPT SW-TOWKG-EQPT
Input Format	INH-SWDX-EQPT:[<TID>]:<AID>:<CTAG>[::]; where: • <AID> is the XC/XCVT/XC10G equipment AID (Slot 8 or Slot 10) from the "EQPT" section on page 4-21	
Input Example	INH-SWDX-EQPT:CISCO:SLOT-1:1234;	
Errors	Errors are listed in Table 7-30 on page 7-20.	

3.4.73 INH-SWTOPROTN-EQPT: Inhibit Switch to Protection Equipment

(Cisco ONS 15454 only)

This command inhibits automatic or manual switching of an equipment unit to protection. Use the ALW-SWTOPROTN-EQPT command to release the inhibit.

INH-SWTOPROTN-EQPT is used for non-SONET line cards (e.g. DS1, DS3, DS3XM and EC1 cards). DS1 and DS3 cards have 1:1 and 1:N equipment protection. DS3XM and EC1 cards have only 1:1 equipment protection. When performing a lockout with this command, the traffic will be switched from the unit specified by the AID, unless the working unit being protected has failed or is missing. When performing a lock on with this command and the working unit specified in the AID is in standby, sending this command will also initiate a traffic switch. When traffic is locked on a working unit or locked out of the protection unit with this command, the protection unit will not carry traffic, even if the working unit is pulled from the system.

Sending this command to a working unit in a 1:N protection group does not prevent a protection switch from another working unit in the same protection group. All the working units must be sent this command to prevent a protection switch. If the command is sent only to a subset of the working units, only those working units will have traffic locked on.

The inhibit state is persistent over TCC+/TCC2 side switches and removal/reboot of all the units in the protection group. The inhibit state can, but does not have to be persistent over a complete power cycle of the NE.

The unit specified by the AID will raise the condition of INHSWPR when this command is sent.

Notes:

1. This command only supports one value of the <DIRN> parameter - BTH. A command with any other value is considered an incorrect use of the command. An IDNV (Input, Data Not Valid) error message should be responsed.
2. This command is not used for the common control (TCC+/TCC2 or XC/XCVT/XC10G) cards. A command on a common control card will receive an IIAC (Input, Invalid Access Identifier) error message. To use the common control card switching commands, use the SW-DX-EQPT and ALW-SWDX-EQPT commands.
3. This command is not used for SONET (OCN) cards. A command on a SONET card will receive an IIAC (Input, Invalid Access Identifier) error message. To use a SONET card switching command, use the OPR-PROTNSW and RLS-PROTNSW commands.
4. If this command is used on a card that is not in a protection group, the SNVS (Status, Not in Valid State) error message should be received.
5. If this command is used on a card that is already in the inhibit state, the SAIN (Status, Already Inhibited) error message should be received.
6. If sending the inhibit switch to protection command to a working card when the protect card in the same protection group has already raised the condition of INHSWWKG, the SPLD (Status, Protection unit Locked) error message should be responsed.
7. If sending the inhibit switch to protection command to the protect card when a working card in the same protection group has already raised the condition of INHSWWKG, the SWLD (Status, Working unit Locked) error message should be responsed.
8. Sending the inhibit switch to protection command to an active protect card when the peer working card is failed or missing, the SWFA (Status, Working unit Failed) error message should be responsed.

9. The following situation(s) are allowed and will not generate any error response: sending this command to missing cards as long as none of the previous error conditions apply.

Section	INH-SWTOPROTN-EQPT Description
Category	Equipment
Security	Maintenance
Related Messages	ALW-SWDX-EQPT ALW-SWTOPROTN-EQPT ALW-SWTOWKG-EQPT DLT-EQPT ED-EQPT ENT-EQPT INH-SWDX-EQPT INH-SWTOWKG-EQPT REPT ALM EQPT REPT EVT EQPT RTRV-ALM-EQPT RTRV-COND-EQPT RTRV-EQPT SW-DX-EQPT SW-TOPROTN-EQPT SW-TOWKG-EQPT
Input Format	INH-SWTOPROTN-EQPT:[<TID>]:<AID>:<CTAG>[::<DIRN>]; where: • <AID> This parameter can either be the working unit for which switching to protection is inhibited (lock on) or the protection unit for which carrying traffic is to be inhibited (lockout); <AID> is from the "EQPT" section on page 4-21 • <DIRN> is the direction of the switching. The command only supports one value of the <DIRN> parameter - BTH. This parameter defaults to BTH; valid values for <DIRN> are shown in the DIRECTION, page 60
Input Example	INH-SWTOPROTN-EQPT:CISCO:SLOT-2:123::BTH;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.74 INH-SWTOWKG-EQPT: Inhibit Switch to Working Equipment

(Cisco ONS 15454 only)

This command inhibits automatic or manual switching of an equipment unit back to the working unit. Use the ALW-SWTOWKG-EQPT command to release the inhibit.

INH-SWTOWKG-EQPT is used for non-SONET line cards (e.g. DS1, DS3, DS3XM and EC1 cards). DS1 and DS3 cards have 1:1 and 1:N equipment protection. DS3XM and EC1 cards have only 1:1 equipment protection. When performing a lock-out with this command, the traffic will be switched from the unit specified by the AID, unless the protection unit has failed or is missing. When performing a lock-on with this command and the protection unit specified in the AID is in standby, sending this command will initiate a traffic switch only when there is one working card in the protection group. In the case where there is more than one working card in the protection group, an error will be generated (see error conditions below). When traffic is locked on the protection unit or locked out of a working unit with this command, the working unit will not carry traffic, even if the protection unit is pulled from the system.

The inhibit state is persistent over TCC+/TCC2 side switches and removal/reboot of all the units in the protection group. The inhibit state can but does not have to be persistent over a complete power cycle of the NE.

The unit specified by the AID will raise the condition of INHSWWKG when this command is sent.

Notes:

1. The command only supports one value of the <DIRN> parameter - BTH. A command with any other value is considered an incorrect use of the command. An IDNV (Input, Data Not Valid) error message should be responsed.
2. This command is not used for the common control (TCC+/TCC2 or XC/XCVT/XC10G) cards. A command on a common control card will receive an IIAC (Input, Invalid Access Identifier) error message. To use the common control card switching commands, use the SW-DX-EQPT and ALW-SWDX-EQPT commands.
3. This command is not used for SONET (OCN) cards. A command on a SONET card will receive an IIAC (Input, Invalid Access Identifier) error message. To use a SONET card switching command, use the OPR-PROTNSW and RLS-PROTNSW commands.
4. If this command is used on a card that is not in a protection group, the SNVS (Status, Not in Valid State) error message should be received.
5. If this command is used on a card that is already in the inhibit state, the SAIN (Status, Already Inhibited) error message should be received.
6. If sending this command to a working card when the protect card in the same protection group has already raised the condition of INHSWPR, the SPLD (Status, Protection unit Locked) error message should be received.
7. If sending the INH-SWTOWKG command to a protect card when a working card in the same protection group has already raised the condition of INHSWPR, the SWLD (Status, Working unit Locked) error message should be responsed.
8. If sending the INH-SWTOWKG command to an active working card when the protect card has failed or is missing, the SPFA (Status, Protection unit Failed) error message should be received.
9. If sending the INH-SWTOWKG command to an active working card when the protect card is already carrying traffic (this only occurs in a 1:N protection group with N greater than one), the SPAC (Status, Protection unit Active) error message should be received.
10. The following situation is allowed and will not generate any error response: Sending this command to missing cards as long as none of the previous error conditions apply.

Section	INH-SWTOWKG-EQPT Description	
Category	Equipment	
Security	Maintenance	
Related Messages	ALW-SWDX-EQPT ALW-SWTOPROTN-EQPT ALW-SWTOWKG-EQPT DLT-EQPT ED-EQPT ENT-EQPT INH-SWDX-EQPT INH-SWTOPROTN-EQPT	REPT ALM EQPT REPT EVT EQPT RTRV-ALM-EQPT RTRV-COND-EQPT RTRV-EQPT SW-DX-EQPT SW-TOPROTN-EQPT SW-TOWKG-EQPT

Section	INH-SWTOWKG-EQPT Description (continued)
Input Format	INH-SWTOWKG-EQPT:[<TID>]:<AID>:<CTAG>[::<DIRN>]; where: • <AID> This parameter can either be the protection unit for which switching back to working is inhibited (lock-on) or the working unit for which carrying traffic is to be inhibited (lockout); <AID> is from the “EQPT” section on page 4-21 • <DIRN> is the direction of the switching. The command only supports one value of the <DIRN> parameter - BTH. This parameter defaults to BTH; valid values for <DIRN> are shown in the DIRECTION, page 60
Input Example	INH-SWTOWKG-EQPT:CISCO:SLOT-2:123::BTH;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.75 INIT-REG-<MOD2>: Initialize Register (CLNT, DS1, EC1, OC3, OC12, OC48, OC192, OCH, STS1, STS3C, STS6C, STS9C, STS12C, STS24C, STS48C, STS192C, T1, T3, VT1)

See Table 4-11 on page 4-6 for supported modifiers by platform.

This command initializes the performance monitoring (PM) registers.

Notes:

1. The time period is always the current time period, and the previous time period counts are not cleared; therefore, both <MONDAT> and <MONTM> are not supported in this command.
2. Both transmit and receive directions are allowed in DS1, other cards only support the receive direction.

Section	INIT-REG-<MOD2> Description
Category	Performance
Security	Maintenance
Related Messages	ALW-PMREPT-ALL INH-PMREPT-ALL INIT-REG-G1000 REPT PM <MOD2> RTRV-PM-<MOD2> RTRV-PMMODE-<STS_PATH> RTRV-PMSCHED-<MOD2> RTRV-PMSCHED-ALL RTRV-TH-<MOD2> SCHED-PMREPT-<MOD2> SET-PMMODE-<STS_PATH> SET-TH-<MOD2>
Input Format	INIT-REG-<MOD2>:[<TID>]:<AID>:<CTAG>::,,[<LOCN>],[<DIRN>],[<TMPER>][,,]; where: • <AID> is the access identifier. All the STS, VT1, facility and DS1 AIDs are supported; <AID> is from the "ALL" section on page 4-10 • <LOCN> indicates the location, in reference to the entity identified by the AID, valid values for <LOCN> are shown in the "LOCATION" section on page 4-71 • <DIRN> is the direction of PM relative to the entity identified by the AID. <DIRN> defaults to ALL, which means that the command initializes all the registers irrespective of the PM direction. Valid values for <DIRN> are shown in the "DIRECTION" section on page 4-60. • <TMPER> indicates the accumulation time period for the PM information; valid values for <TMPER> are shown in the "TMPER" section on page 4-93. A null value of <TMPER> defaults to 15-MIN. The default value is 15-MIN.
Input Example	INIT-REG-OC3:CISCO:FAC-1-1:1234::,,NEND,BTH,15-MIN;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.76 INIT-SYS: Initialize System

This command initializes the specified card and its associated subsystem(s).

Notes:

1. The SLOT-ALL AID and the list AID are not allowed in this command.
2. Only one level of restart is supported in this command.
3. It is important that the standby TCC+/TCC2 should be up and running fully standby before this command is sent on the active TCC+/TCC2 for a period of time. During this time, the system is vulnerable to traffic outages caused by timing disruptions or other causes.

Section	INIT-SYS Description	
Category	System	
Security	Maintenance	
Related Messages	ALW-MSG-ALL APPLY COPY-RFILE ED-DAT ED-NE-GEN ED-NE-SYNCN INH-MSG-ALL REPT EVT FXFR	RTRV-HDR RTRV-INV RTRV-MAP-NETWORK RTRV-NE-GEN RTRV-NE-IPMAP RTRV-NE-SYNCN RTRV-TOD SET-TOD
Input Format	INIT-SYS:[<TID>]:<AID>:<CTAG>[::]; where: • <AID> is the access identifier of the equipment unit or slot and is from the "EQPT" section on page 4-21	
Input Example	INIT-SYS:HOTWATER:SLOT-8:201;	
Errors	Errors are listed in Table 7-30 on page 7-20.	

3.4.77 OPR-ACO-ALL: Operate Alarm Cutoff All

This command cuts off the office audible alarm indication without changing the local alarm indications.

This command does not have any effect on future alarms at the NE, it directs the NE to provide conditioning only on those alarms that are currently active.

The ACO retires the Central Office (CO) alarm audible indicators without clearing the indicators that show the trouble still exists. There is no need for a RLS-ACO command.

Section	OPR-ACO-ALL Description
Category	Environment Alarms and Controls
Security	Maintenance

Section	OPR-ACO-ALL Description (continued)	
Related Messages	OPR-EXT-CONT REPT ALM ENV REPT EVT ENV RLS-EXT-CONT RTRV-ALM-ENV RTRV-ATTR-CONT	RTRV-ATTR-ENV RTRV-COND-ENV RTRV-EXT-CONT SET-ATTR-CONT SET-ATTR-ENV
Input Format	OPR-ACO-ALL:[<TID>]::<CTAG>;	
Input Example	OPR-ACO-ALL:CISCO::123;	
Errors	Errors are listed in Table 7-30 on page 7-20.	

3.4.78 OPR-EXT-CONT: Operate External Control

This command operates an external control and closes the external control contact. The control can be operated momentarily or continuously.

Notes:

1. The duration has two values in this release:

   MNTRY: Momentary duration

   CONTS: Continuos duration
2. In an automatic state, the contact could be opened or closed depending on the provisioned trigger.
3. RLS-EXT-CONT changes the state to automatic. Therefore, issuing an OPR-EXT-CONT command when the control is manually open and then issuing a RLS-EXT-CONT will not revert the state back to Manual Open.
4. A NULL value for the duration parameter defaults to MNTRY in this release.
5. The RLS-EXT-CONT is not allowed during the MNTRY duration, the command is allowed for the CONTS duration. The length of the MNTRY duration is set to be 2 seconds on Cisco ONS 15454.

Caution Do not turn on external controls that activate a potential danger; such as, sprinklers or other controls connected to possibly hazardous systems or equipment.

Section	OPR-EXT-CONT Description	
Category	Environment Alarms and Controls	
Security	Maintenance	
Related Messages	OPR-ACO-ALL REPT ALM ENV REPT EVT ENV RLS-EXT-CONT RTRV-ALM-ENV RTRV-ATTR-CONT	RTRV-ATTR-ENV RTRV-COND-ENV RTRV-EXT-CONT SET-ATTR-CONT SET-ATTR-ENV

Section	OPR-EXT-CONT Description (continued)
Input Format	OPR-EXT-CONT:[<TID>]:<AID>:<CTAG>::[<CONTTYPE>],[<DURATION>]; where: • <AID> is the access identifier environment AID from the "ENV" section on page 4-20 and must not be null • <CONTTYPE> is the type of control; valid values for <CONTTYPE> are shown in the "CONTTYPE" section on page 4-59. A null value is equivalent to ALL. • Valid values for <DUR> are shown in the "DURATION" section on page 4-62. A null value is equivalent to ALL.
Input Example	OPR-EXT-CONT:CISCO:ENV-OUT-2:123::AIRCOND,CONTS;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.79 OPR-LPBK-<MOD2>: Operate Loopback (CLNT, DS1, EC1, OC12, OC192, OC3, OC48, OCH, STS1, STS12C, STS192C, STS24C, STS3C, STS48C, STS6C, STS9C, T1, T3, VT1)

See Table 4-11 on page 4-6 for supported modifiers by platform.

This command operates a signal loopback on an I/O card or on a cross-connect.

The optional [<LPBKTYPE>] defaults to FACILITY in this command if it is given to a port entity. It defaults to CRS if given to an STS entity.

Notes:

1. The value CRS for the LPBKTYPE parameter is applicable only for the STS modifier. The FACILITY and TERMINAL values are applicable to the ports.
2. The TERMINAL loopback type is not supported for the DS1 line of a DS3XM card.
3. Loopbacks are only allowed to be setup if the port/interface/STS_PATH is in OOS-MT or in OOS-AINS state.
4. Cross-connect loopbacks cannot be applied:
    - to the destination end of a 1WAY cross-connects
    - to non-optical boards
    - to VT1.5
    - if a a terminal/facility loopback is already applied
    - on a protect card in 1+1 (working mode)
5. A cross-connect loopback can be applied only on one STS path of a cross-connect.

Section	OPR-LPBK-<MOD2> Description
Category	Testing
Security	Maintenance
Related Messages	RLS-LPBK-<MOD2>

Section	OPR-LPBK-<MOD2> Description (continued)
Input Format	OPR-LPBK-<MOD2>:[<TID>]:<SRC>:<CTAG>::,,,[<LPBKTYPE>]; where: • <SRC> is an access identifier from the "DS1" section on page 4-20. Valid values for AID are facility, DS1, and STS. • <LPBKTYPE> is a loopback type; valid values for <LPBKTYPE> are shown in the "LPBK_TYPE" section on page 4-71
Input Example	OPR-LPBK-DS1:PTREYES:DS1-4-1-2-13:203::,,,FACILITY;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.80 OPR-PROTNSW-<OCN_TYPE>: Operate Protection Switch (OC3, OC12, OC48, OC192)

See Table 4-11 on page 4-6 for supported modifiers by platform.

This command initiates a SONET line protection switch request. User switch requests initiated with this command remain active until they are released via the RLS-PROTNSW-OCN command or are overridden by a higher priority protection switch request.

The switch commands; MAN (Manual Switch), FRCD (Forced Switch) and LOCKOUT (Lockout) are supported by the ONS 15454.

Manual Switch of Protection Line (to Working Line). If the AID identifies the protection line, then (only in the 1+1 architecture) service will be transferred from the protection line to the working line, unless a request of equal or higher priority is in effect.

Manual Switch of Working Line (to Protection Line). If the AID identifies a working line, then service will be switched from the working line to the protection line unless a request of equal or higher priority is in effect.

Force Switch of Protection Line (to Working Line). If the AID identifies the protection line, then (only in the 1+1 architecture) service will be transferred from the protection line to the working line unless a request of equal or higher priority is in effect.

Force Switch of Working Line (to Protection Line). If the AID identifies a working line, then service will be transferred from the working line to the protection line unless a request of equal or higher priority is in effect. A lockout of protection and a signal fail of protection line have higher priority than this switch command.

Lockout of Protection Line. If the AID identifies the protection line, this switch command will prevent the working line from switching to protection line. If the working line is already on protection, then the working line will be switched back to its original working line.

Lockout of Protection Line. If the AID identifies protection line, this switch command will prevent the working line from switching to protection line. If the working line is already on protection, then the working line will be switched back from protection line to its original working line.

Notes:

1. This command is not used for the common control (TCC+/TCC2 or XC/XCVT/XC10G) cards. A query on a common control card will generate an IIAC (Input, Invalid Access Identifier) error message. To use this command on the common control card switching commands, use the SW-DX-EQPT and ALW-SWDX-EQPT commands.

2. Sending this command on non-SONET (OCN) cards, an IIAC (Input, Invalid Access Identifier) error message should be received. To query on a non-SONET card switching command, use the ALW-SWTOPROTN/SWTOWKG-EQPT and INH-SWTOPROTN/SWTOWKG-EQPT commands.
3. When sending this command to query on a card that is not in a protection group, the SNVS (Status, Not in Valid State) error message should be received.
4. When sending this command to a working card that is failed or missing, the SROF (Protection Switching Failed) error message should be received.
5. When sending this command to a protect card that is failed or missing, the SROF (Protection Switching Failed) error message should be received.
6. When sending this command to a card that is already in protection with a higher priority, the SSRD (Status, Switch Request Denied) error message should be received.
7. Sending this command to an OCN line with a switching mode that is already in mode, will return a SAMS (Already in the Maintenance State) error message.
8. To get the protection switching state (manual, lockout, forced), use the RTRV-COND-ALL or RTRV-ALM-ALL commands.
9. If the far end of the same span has a higher protection switching state, for example, the near end is under Manual protection switching state, the far end is in the Forced protection switching state, the near end protection switching state will be preemptive and shown as APS_CLEAR switching state over the CTC/TL1 interface. The RTRV-PROTNSW-OCN command is used to retrieve the current switching state of a SONET line.
10. If sending this command with EXERCISE or APS_CLEAR switch operation, an error SROF (Invalid Protection Switch Operation) will be returned because these operations are not valid according to GR-833-CORE.

    The EX-SW-<OCN_BLSR> is the correct command to perform the EXERCISE switch over the BLSR line.
11. Protection switch will be denied if SD/SF is already present on the switching path. If SD/SF is generated on the switching path after the switch is performed, the switch will be overwritten by the APS_CLEAR state. This does not apply for lockout of protection and forced switch which have higher priority than SD/SF.

Section	**OPR-PROTNSW-<OCN_TYPE> Description**
Category	SONET Line Protection
Security	Maintenance
Related Messages	DLT-FFP-<OCN_TYPE> ED-FFP-<OCN_TYPE> ENT-FFP-<OCN_TYPE> EX-SW-<OCN_BLSR> RLS-PROTNSW-<OCN_TYPE> RTRV-FFP-<OCN_TYPE> RTRV-PROTNSW-<OCN_TYPE>

Section	OPR-PROTNSW-<OCN_TYPE> Description (continued)
Input Format	OPR-PROTNSW-<OCN_TYPE>:[<TID>]:<AID>:<CTAG>::<SC>,[<SWITCHTYPE>]; where: • <AID> identifies the facility in the NE to which the switch request is directed and is from the "FACILITY" section on page 4-22 • <SC> is the switch command on the facility; valid values for <SC> are shown in the "SW" section on page 4-88 • Valid values for <SWITCHTYPE> are shown in the "SWITCH_TYPE" section on page 4-89 **Caution** MANWKSWBK, MANWKSWPR, FRCDWKSWBK, FRCDWKSWPR, LOCKOUTOFPR, and LOCKOUTOFWK do not apply to BLSR protection switching.
Input Example	OPR-PROTNSW-OC48:PETALUMA:FAC-6-1:204::LOCKOUT,SPAN;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.81 OPR-PROTNSW-<STS_PATH>: Operate Protection Switch (STS1, STS3C, STS6C, STS9C, STS12C, STS24C, STS48C, STS192C)

See Table 4-11 on page 4-6 for supported modifiers by platform.

This command initiates a SONET path protection (UPSR) switch request. User switch requests initiated with this command (forced switch, lockout, and manual switch) remain active until they are released through the RLS-PROTNSW-<STS_PATH> command or overridden by a higher priority protection switch request.

Notes:

1. This command applies to UPSR configuration only.
2. The VTAID should be working or protect AID only.
3. If you send this command on the Drop AID, a DENY (Invalid AID, should use working/protect AID) message will be returned.
4. To get the protection switching state (manual, lockout, forced), use the RTRV-COND-ALL or RTRV-ALM-ALL commands.
5. The GR-1400 does not allow the LOCKOUT_OF_WORKING on the UPSR WORKING path/AID. Sending this command on the UPSR WORKING path, a SROF (Invalid Protection Switch Operation) is returned.
6. If sending this command with EXERCISE or APS_CLEAR switch operation, an error SROF (Invalid Protection Switch Operation) will be returned because these operations are not valid according to GR-833-CORE.
7. Protection switch will be denied if SD/SF is already present on the switching path. If SD/SF is generated on the switching path after the switch is performed, the switch will be overwritten by the APS_CLEAR state. This does not apply for lockout of protection and forced switch which have higher priority than SD/SF.

Section	OPR-PROTNSW-<STS_PATH> Description
Category	UPSR Switching
Security	Maintenance
Related Messages	OPR-PROTNSW-VT1 REPT SW RLS-PROTNSW-<STS_PATH> RLS-PROTNSW-VT1 RTRV-PROTNSW-<STS_PATH> RTRV-PROTNSW-VT1
Input Format	OPR-PROTNSW-<STS_PATH>:[<TID>]:<AID>:<CTAG>::<SC>[:]; where: • <AID> identifies the entity in the NE to which the switch request is directed and is from the "STS" section on page 4-24 • <SC> is the switch command that is to be initiated on the paths; valid values for <SC> are shown in the "SW" section on page 4-88
Input Example	OPR-PROTNSW-STS1:CISCO:STS-2-1-1:123::MAN;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.82 OPR-PROTNSW-CLNT: Operate Protection Switch Client

This command instructs the NE to initiate a Y cable protection switch request. User switch requests initiated with this command remain active until they are released via the RLS-PROTNSW-CLNT command or are overridden by a higher priority protection switch request.

The switch commands MAN (Manual Switch), FRCD (Forced Switch) and LOCKOUT (Lockout) switch command are supported by the Cisco ONS 15454.

Manual Switch of Protection Line (to Working Line) -- If the AID identifies the protection line, then service will be transferred from the protection line to the working line, unless a request of equal or higher priority is in effect.

Manual Switch of Working Line (to Protection Line) -- If the AID identifies a working line, then service will be switched from the working line to the protection line unless a request of equal or higher priority is in effect.

Force Switch of Protection Line (to Working Line) -- If the AID identifies the protection line, then service will be transferred from the protection line to the working line unless a request of equal or higher priority is in effect.

Force Switch of Working Line (to Protection Line) -- If the AID identifies a working line, then service will be transferred from the working line to the protection line unless a request of equal or higher priority is in effect. A lockout of protection and a signal fail of protection line have higher priority than this switch command.

Lockout of Protection Line -- If the AID identifies protection line, this switch command will prevent the working line from switching to protection line. If the working line is already on protection, then the working line will be switched back from protection line to its original working line.

Lockout of Protection Line -- If the AID identifies protection line, this switch command will prevent the working line from switching to protection line. If the working line is already on protection, then the working line will be switched back from protection line to its original working line.

If this command is used against pre-provisioned cards, the SROF (Protection Switching Failed) error will be returned.

Section	OPR-PROTNSW-CLNT Description
Category	DWDM
Security	Maintenance
Related Messages	RLS-PROTNSW-CLNT RTRV-FFP-CLNT ED-FFP-CLNT ED-DWDM RTRV-DWDM RTRV-COND-CLNT RTRV-ALM-CLNT RTRV-FFP-CLNT ED-FFP-CLNT ENT-FFP-CLNT
Input Format	OPR-PROTNSW-CLNT:[<TID>]:<AID>:<CTAG>::<SC>[:]; where: • <AID> is the AID from the "FACILITY" section on page 4-22 • Valid values for <SC> are shown in the "SW" section on page 4-88
Input Example	OPR-PROTNSW-CLNT:CISCO:FAC-1-1:100::FRCD;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.83 OPR-PROTNSW-VT1: Operate Virtual Tributary Protection Switch VT1

This command initiates a SONET path protection (UPSR) switch request. User switch requests initiated with this command (forced switch, lockout, and manual switch) remain active until they are released through the RLS-PROTNSW-VT1 command or overridden by a higher priority protection switch request.

Notes:

1. This command applies to UPSR configuration only.
2. The VTAID should be working or protect AID only.
3. If you send this command on the Drop AID, a DENY (Invalid AID, should use working/protect AID) message will be returned.
4. To get protection switching state (manual, lockout, forced), use the RTRV-COND-ALL or RTRV-ALM-ALL commands.
5. The GR-1400 does not allow the LOCKOUT_OF_WORKING on the UPSR WORKING path/AID. Sending this command on the UPSR WORKING path, a SROF (Invalid Protection Switch Operation) is returned.

6. If sending this command with EXERCISE or APS_CLEAR switch operation, an error SROF (Invalid Protection Switch Operation) will be returned because these operations are not valid according to GR-833-CORE.

   Sending this command with CLEAR switch operation is not a valid operation per GR-833, the NE will clear the state of the line. This behavior will be corrected in a future release.

Section	OPR-PROTNSW-VT1 Description
Category	UPSR Switching
Security	Maintenance
Related Messages	OPR-PROTNSW-<STS_PATH> REPT SW RLS-PROTNSW-<STS_PATH> RLS-PROTNSW-VT1 RTRV-PROTNSW-<STS_PATH> RTRV-PROTNSW-VT1
Input Format	OPR-PROTNSW-VT1:[<TID>]:<AID>:<CTAG>::<SC>[:]; where: • <AID> identifies the entity in the NE to which the switch request is directed and is from the "VT1_5" section on page 4-30 • <SC> is the switch command that is to be initiated on the paths; valid values for <SC> are shown in the "SW" section on page 4-88
Input Example	OPR-PROTNSW-VT1:CISCO:VT1-5-2-4-1:123::MAN;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.84 OPR-SYNCNSW: Operate Synchronization Switch

This command initiates a switch to the reference specified by the synchronization reference number if the reference supplied is valid.

For manual types of switches the reference to which you want to switch should be of the same quality as the active reference source, otherwise the command will fail.

If you want to switch to a reference of lower quality, use the forced switch option.

The Operate Synchronization Switches are released by the RLS-SYNCNSW command or are overridden by a synchronization reference failure.

Once the switch is effective, a minor alarm "MANSWTOPRI" (Manual Switch to Primary or Secondary Reference...) will be raised for Manual switches and alarms like "FRCDSWTOPRI" (Forced Switch to Primary or Secondary Reference...) will be raised for Forced switches.

Section	OPR-SYNCNSW Description
Category	Synchronization
Security	Maintenance

Section	OPR-SYNCNSW Description (continued)	
Related Messages	ED-BITS ED-NE-SYNCN ED-SYNCN REPT ALM BITS REPT ALM SYNCN REPT EVT BITS REPT EVT SYNCN RLS-SYNCNSW	RTRV-ALM-BITS RTRV-ALM-SYNCN RTRV-BITS RTRV-COND-BITS RTRV-COND-SYNCN RTRV-NE-SYNCN RTRV-SYNCN
Input Format	OPR-SYNCNSW:[<TID>]:[<AID>]:<CTAG>::<SWITCHTO>,[<SC>]; where: • <AID> is the access identifier from the "SYNC_REF" section on page 4-28. THe default value is SYNC-NE. • <SWITCHTO> identifies the new synchronization reference that will be used and is the AID from the "SYNCSW" section on page 4-29 • <SC> is the switch command to be issued. Only manual (MAN) and forced (FRCD) switches are allowed for this command. Valid values for <SC> are shown in the "SW" section on page 4-88. The default value is "MAN"	
Input Example	OPR-SYNCNSW:CISCO:SYNC-NE:3::PRI,MAN;	
Errors	Errors are listed in Table 7-30 on page 7-20.	

3.4.85 REPT ALM <MOD2ALM>: Report Alarm (CLNT, DS1, E100, E1000, EC1, FSTE, G1000, GIGE, OC12, OC192, OC3, OC48, OCH, POS, STS1, STS12C, STS192C, STS24C, STS3C, STS48C, STS6C, STS9C, T1, T3, UDCDCC, UDCF, VT1)

See Table 4-11 on page 4-6 for supported modifiers by platform.

Reports an alarm condition against a facility or a path.

Section	REPT ALM <MOD2ALM> Description	
Category	Fault	
Security	Retrieve	
Related Messages	REPT ALM BITS REPT ALM COM REPT ALM ENV REPT ALM EQPT REPT ALM RING REPT ALM SYNCN REPT ALM UCP REPT EVT COM RTRV-ALM-<MOD2ALM> RTRV-ALM-ALL RTRV-ALM-BITS RTRV-ALM-ENV	RTRV-ALM-EQPT RTRV-ALM-RING RTRV-ALM-SYNCN RTRV-ALM-UCP RTRV-COND-<MOD2ALM> RTRV-COND-ALL RTRV-COND-BITS RTRV-COND-ENV RTRV-COND-EQPT RTRV-COND-RING RTRV-COND-SYNCN RTRV-COND-UCP

Section	REPT ALM <MOD2ALM> Description (continued)
Output Format	SID DATE TIME ** ATAG REPT ALM <MOD2ALM> "<AID>:<NTFCNCDE>,<CONDTYPE>,<SRVEFF>,,,,:[<DESC>], [<AIDDET>]" ; where: • <AID> is the access identifier from the "ALL" section on page 4-10 • <NTFCNCDE> indicates a 2-letter notification code; valid values for <NTFCNCDE> are shown in the "NOTIF_CODE" section on page 4-78 • <CONDTYPE> indicates an alarm condition; valid values for <CONDTYPE> are shown in the "CONDITION" section on page 4-47 • <SRVEFF> is the effect on service caused by the alarm condition; valid values for <SRVEFF> are shown in the "SERV_EFF" section on page 4-86 • <DESC> is the condition description; <DESC> is a string and is optional • <AIDDET> specifies the AID type; valid values for <AIDDET> are shown in the "EQPT_TYPE" section on page 4-63, <AIDDET> is optional
Output Example	TID-000 1998-06-20 14:30:00 ** 100.100 REPT ALM CLNT "FAC-2-1:MJ,LOS,SA,,,,:\"LOSS OF SIGNAL\",OC12" ;

3.4.86 REPT ALM BITS: Report Alarm Building Integrated Timing Supply

Reports an alarm condition on a BITS facility.

Section	REPT ALM BITS Description	
Category	Synchronization	
Security	Retrieve	
Related Messages	ED-BITS ED-NE-SYNCN ED-SYNCN OPR-SYNCNSW REPT ALM <MOD2ALM> REPT ALM COM REPT ALM ENV REPT ALM EQPT REPT ALM RING REPT ALM SYNCN REPT ALM UCP REPT EVT BITS REPT EVT COM REPT EVT SYNCN RLS-SYNCNSW RTRV-ALM-<MOD2ALM> RTRV-ALM-ALL	RTRV-ALM-BITS RTRV-ALM-ENV RTRV-ALM-EQPT RTRV-ALM-RING RTRV-ALM-SYNCN RTRV-ALM-UCP RTRV-BITS RTRV-COND-<MOD2ALM> RTRV-COND-ALL RTRV-COND-BITS RTRV-COND-ENV RTRV-COND-EQPT RTRV-COND-RING RTRV-COND-SYNCN RTRV-COND-UCP RTRV-NE-SYNCN RTRV-SYNCN

Section	REPT ALM BITS Description (continued)
Output Format	SID DATE TIME ** ATAG REPT ALM BITS "<AID>:<NTFCNCDE>,<CONDTYPE>,<SRVEFF>,,,,:[<DESC>]" ; where: • <AID> is the access identifier from the "BITS" section on page 4-18 • <NTFCNCDE> identifies a 2-letter notification code; valid values for <NTFCNCDE> are shown in the "NOTIF_CODE" section on page 4-78 • <CONDTYPE> indicates an alarm condition; valid values for <CONDTYPE> are shown in the "CONDITION" section on page 4-47 • <SRVEFF> is the effect on service caused by the alarm condition; valid values for <SRVEFF> are shown in the "SERV_EFF" section on page 4-86 • <DESC> is the condition description; <DESC> is a string and is optional
Output Example	TID-000 1998-06-20 14:30:00 ** 100.100 REPT ALM BITS "BITS-1:MJ,SYNC,SA,,,,:\"LOSS OF TIMING\"" ;

3.4.87 REPT ALM COM: Report Alarm COM

Reports an alarm condition when an AID cannot be given, for example, a fan failure is reported using this message.

Section	REPT ALM COM Description	
Category	Fault	
Security	Retrieve	
Related Messages	REPT ALM <MOD2ALM> REPT ALM BITS REPT ALM ENV REPT ALM EQPT REPT ALM RING REPT ALM SYNCN REPT ALM UCP REPT EVT COM RTRV-ALM-<MOD2ALM> RTRV-ALM-ALL RTRV-ALM-BITS RTRV-ALM-ENV	RTRV-ALM-EQPT RTRV-ALM-RING RTRV-ALM-SYNCN RTRV-ALM-UCP RTRV-COND-<MOD2ALM> RTRV-COND-ALL RTRV-COND-BITS RTRV-COND-ENV RTRV-COND-EQPT RTRV-COND-RING RTRV-COND-SYNCN RTRV-COND-UCP

Section	REPT ALM COM Description (continued)
Output Format	SID DATE TIME ** ATAG REPT ALM COM "[<AID>]:<NTFCNCDE>,<CONDTYPE>,<SRVEFF>,,,,:[<DESC>]" ; where: • <AID> indicates the alarm without AID; <AID> is a string and is optional • <NTFCNCDE> indicates a notification code; valid values for <NTFCNCDE> are shown in the "NOTIF_CODE" section on page 4-78 • <CONDTYPE> indicates an alarm condition; valid values for <CONDTYPE> are shown in the "CONDITION" section on page 4-47 • <SRVEFF> is the effect on service caused by the alarm condition; valid values for <SRVEFF> are shown in the "SERV_EFF" section on page 4-86 • <DESC> is the condition description; <DESC> is a string and is optional
Output Example	TID-000 1998-06-20 14:30:00 ** 100.100 REPT ALM COM "COM:MJ,FAN,NSA,,,,:\"FAN FAILURE\"" ;

3.4.88 REPT ALM ENV: Report Alarm Environment

Reports a customer-defined condition on an environmental alarm input.

Section	REPT ALM ENV Description
Category	Environment Alarms and Controls
Security	Retrieve
Related Messages	OPR-ACO-ALL OPR-EXT-CONT REPT ALM <MOD2ALM> REPT ALM BITS REPT ALM COM REPT ALM EQPT REPT ALM RING REPT ALM SYNCN REPT ALM UCP REPT EVT COM REPT EVT ENV RLS-EXT-CONT RTRV-ALM-<MOD2ALM> RTRV-ALM-ALL RTRV-ALM-BITS RTRV-ALM-ENV RTRV-ALM-EQPT RTRV-ALM-RING RTRV-ALM-SYNCN RTRV-ALM-UCP RTRV-ATTR-CONT RTRV-ATTR-ENV RTRV-COND-<MOD2ALM> RTRV-COND-ALL RTRV-COND-BITS RTRV-COND-ENV RTRV-COND-EQPT RTRV-COND-RING RTRV-COND-SYNCN RTRV-COND-UCP RTRV-EXT-CONT SET-ATTR-CONT SET-ATTR-ENV

Section	REPT ALM ENV Description (continued)
Output Format	SID DATE TIME ** ATAG REPT ALM ENV "<AID>:<NTFCNCDE>,<ALMTYPE>,,,[<DESC>]" ; where: • <AID> identifies an environmental input and is from the "ENV" section on page 4-20 • <NTFCNCDE> identifies a 2-letter notification code; valid values for <NTFCNCDE> are shown in the "NOTIF_CODE" section on page 4-78 • <ALMTYPE> abbreviated code identifying the alarm; valid values for <ALMTYPE> are shown in the "ENV_ALM" section on page 4-62 • <DESC> is the alarm message; <DESC> is a string and is optional
Output Example	TID-000 1998-06-20 14:30:00 ** 100.100 REPT ALM ENV "ENV-IN-1:MJ,OPENDR,,,\"OPEN DOOR\"" ;

3.4.89 REPT ALM EQPT: Report Alarm Equipment

Reports an alarm condition against an equipment unit or slot.

Section	REPT ALM EQPT Description	
Category	Equipment	
Security	Retrieve	
Related Messages	ALW-SWDX-EQPT ALW-SWTOPROTN-EQPT ALW-SWTOWKG-EQPT DLT-EQPT ED-EQPT ENT-EQPT INH-SWDX-EQPT INH-SWTOPROTN-EQPT INH-SWTOWKG-EQPT REPT ALM <MOD2ALM> REPT ALM BITS REPT ALM COM REPT ALM ENV REPT ALM RING REPT ALM SYNCN REPT ALM UCP REPT EVT COM REPT EVT EQPT RTRV-ALM-<MOD2ALM>	RTRV-ALM-ALL RTRV-ALM-BITS RTRV-ALM-ENV RTRV-ALM-EQPT RTRV-ALM-RING RTRV-ALM-SYNCN RTRV-ALM-UCP RTRV-COND-<MOD2ALM> RTRV-COND-ALL RTRV-COND-BITS RTRV-COND-ENV RTRV-COND-EQPT RTRV-COND-RING RTRV-COND-SYNCN RTRV-COND-UCP RTRV-EQPT SW-DX-EQPT SW-TOPROTN-EQPT SW-TOWKG-EQPT

Section	REPT ALM EQPT Description (continued)
Output Format	SID DATE TIME ** ATAG REPT ALM EQPT "<AID>:<NTFCNCDE>,<CONDITION>,<SRVEFF>,,,,:[<DESC>],[<AIDDET>]" ; where: • <AID> is the equipment AID SLOT from the "EQPT" section on page 4-21 • <NTFCNCDE> is the notification code; valid values for <NTFCNCDE> are shown in the "NOTIF_CODE" section on page 4-78 • <CONDITION> is the type of alarm condition; valid values for <CONDTYPE> are shown in the "CONDITION" section on page 4-47 • <SRVEFF> is the effect on service caused by the alarm condition; valid values for <SRVEFF> are shown in the "SERV_EFF" section on page 4-86 • <DESC> is the condition description; <DESC> is a string and is optional • <AIDDET> specifies the type of AID; valid values for <AIDDET> are shown in the "EQPT_TYPE" section on page 4-63, <AIDDET> is optional
Output Example	TID-000 1998-06-20 14:30:00 ** 100.100 REPT ALM EQPT "SLOT-7:MJ,CONTR,NSA,,,,:\"CONTROLLER FAILURE\",TCC" ;

3.4.90 REPT ALM RING: Report Alarm Ring

Reports an alarm condition against a ring object for BLSR.

Section	REPT ALM RING Description	
Category	Fault	
Security	Retrieve	
Related Messages	DLT-BLSR ED-BLSR REPT ALM <MOD2ALM> REPT ALM BITS REPT ALM COM REPT ALM ENV REPT ALM EQPT REPT ALM SYNCN REPT ALM UCP REPT EVT COM REPT EVT RING RTRV-ALM-<MOD2ALM> RTRV-ALM-ALL RTRV-ALM-BITS	RTRV-ALM-ENV RTRV-ALM-EQPT RTRV-ALM-RING RTRV-ALM-SYNCN RTRV-ALM-UCP RTRV-BLSR RTRV-COND-<MOD2ALM> RTRV-COND-ALL RTRV-COND-BITS RTRV-COND-ENV RTRV-COND-EQPT RTRV-COND-RING RTRV-COND-SYNCN RTRV-COND-UCP

Section	REPT ALM RING Description (continued)
Output Format	SID DATE TIME ** ATAG REPT ALM RING "<AID>:<NTFCNCDE>,<CONDTYPE>,<SRVEFF>,,,,:[<DESC>]" ; where: • <AID> is from the "BLSR" section on page 4-18 • <NTFCNCDE> indicates a 2-letter notification code; valid values for <NTFCNCDE> are shown in the "NOTIF_CODE" section on page 4-78 • <CONDTYPE> indicates a BLSR alarm; valid values for <CONDTYPE> are shown in the "CONDITION" section on page 4-47 • <SRVEFF> is the effect on service caused by the alarm condition; valid values for <SRVEFF> are shown in the "SERV_EFF" section on page 4-86 • <DESC> is the condition description; <DESC> is a string and is optional
Output Example	TID-000 1998-06-20 14:30:00 ** 100.100 REPT ALM RING "BLSR-999:MJ,PRC-DUPID,SA,,,,:\"DUPLICATE NODE ID\"," ;

3.4.91 REPT ALM SYNCN: Report Alarm Synchronization

Reports an alarm condition against a synchronization reference.

Section	REPT ALM SYNCN Description	
Category	Synchronization	
Security	Retrieve	
Related Messages	ED-BITS ED-NE-SYNCN ED-SYNCN OPR-SYNCNSW REPT ALM <MOD2ALM> REPT ALM BITS REPT ALM COM REPT ALM ENV REPT ALM EQPT REPT ALM RING REPT ALM UCP REPT EVT BITS REPT EVT COM REPT EVT SYNCN RLS-SYNCNSW RTRV-ALM-<MOD2ALM> RTRV-ALM-ALL	RTRV-ALM-BITS RTRV-ALM-ENV RTRV-ALM-EQPT RTRV-ALM-RING RTRV-ALM-SYNCN RTRV-ALM-UCP RTRV-BITS RTRV-COND-<MOD2ALM> RTRV-COND-ALL RTRV-COND-BITS RTRV-COND-ENV RTRV-COND-EQPT RTRV-COND-RING RTRV-COND-SYNCN RTRV-COND-UCP RTRV-NE-SYNC RTRV-SYNCN

Section	REPT ALM SYNCN Description (continued)
Output Format	SID DATE TIME ** ATAG REPT ALM SYNCN "<AID>:<NTFCNCDE>,<CONDTYPE>,<SRVEFF>,,,,:[<DESC>]" ; where: • <AID> identifies a synchronization reference with alarm condition and is from the "SYNC_REF" section on page 4-28 • <NTFCNCDE> indicates a 2-letter notification code; valid values for <NTFCNCDE> are shown in the "NOTIF_CODE" section on page 4-78 • <CONDTYPE> indicates an alarm condition; valid values for <CONDTYPE> are shown in the "CONDITION" section on page 4-47 • <SRVEFF> is the effect on service caused by the alarm condition; valid values for <SRVEFF> are shown in the "SERV_EFF" section on page 4-86 • <DESC> is the condition description; <DESC> is a string and is optional
Output Example	TID-000 1998-06-20 14:30:00 ** 100.100 REPT ALM SYNCN "SYNC-NE:MJ,MAN,SA,,,,:\"MANUAL SWITCH\"," ;

3.4.92 REPT ALM UCP: Report Alarm Unified Control Plane

Reports an alarm condition against a UCP object.

Section	REPT ALM UCP Description
Category	UCP
Security	Retrieve
Related Messages	DLT-UCP-CC DLT-UCP-IF DLT-UCP-NBR ED-UCP-CC ED-UCP-IF ED-UCP-NBR ED-UCP-NODE ENT-UCP-CC ENT-UCP-IF ENT-UCP-NBR REPT ALM <MOD2ALM> REPT ALM BITS REPT ALM COM REPT ALM UCP REPT ALM ENV REPT ALM EQPT REPT ALM RING REPT ALM SYNCN REPT ALM UCP RTRV-COND-<MOD2ALM> RTRV-COND-ALL RTRV-COND-BITS RTRV-COND-ENV RTRV-COND-EQPT RTRV-COND-RING RTRV-COND-SYNCN RTRV-COND-UCP RTRV-UCP-CC RTRV-UCP-IF RTRV-UCP-NBR RTRV-UCP-NODE

Section	REPT ALM UCP Description (continued)
Output Format	SID DATE TIME ** ATAG REPT ALM UCP "<AID>:<NTFCNCDE>,<CONDTYPE>,<SRVEFF>,,,,:[<DESC>]" ; where: • <AID> identifies a UCP object with alarm condition and is from the "ALL" section on page 4-10 • <NTFCNCDE> is a notification code; valid values for <NTFCNCDE> are shown in the "NOTIF_CODE" section on page 4-78 • <CONDTYPE> is the type of condition to be retrieved; valid values for <CONDTYPE> are shown in the "CONDITION" section on page 4-47 • <SRVEFF> is the effect on service caused by the alarm condition; valid values for <SRVEFF> are shown in the "SERV_EFF" section on page 4-86 • <DESC> is the condition description; <DESC> is a string and is optional
Output Example	TID-000 1998-06-20 14:30:00 ** 100.100 REPT ALM UCP "CC-1:MJ,LMP-HELLODOWN,SA,,,,: \"LMP HELLO FSM ON CONTROL CHANNEL DOWN\"," ;

3.4.93 REPT DBCHG: Report Database Change Message

Reports any changes on the NE that result from:

1. TL1 provisioning commands or their GUI equivalents containing the verbs: ALW, DLT, ED, ENT, INH, INIT, OPR, RLS, SET, and SW (for example, DLT-EQPT, ENT-CRS-STS1)
2. External event such as a board insertion.

Section	REPT DBCHG Description
Category	Log
Security	Retrieve
Related Messages	ALW-MSG-DBCHG INH-MSG-DBCHG RTRV-LOG

Section	REPT DBCHG Description (continued)
Output Format	SID DATE TIME A ATAG REPT DBCHG “TIME=<TIME>,DATE=<DATE>,[SOURCE=<SOURCE>,] [USERID=<USERID>,]DBCHGSEQ=<DBCHGSEQ>:<COMMAND>:<VT>” ; where: • <TIME> is the time of the message triggered by the NE; <TIME> is a time • <DATE> is the date of the message triggered by the NE; <DATE> is a date • <SOURCE> is an input command CTAG if present; <SOURCE> is an integer and is optional • <USERID> is the user name or user identifier; <USERID> is a string and is optional • <DBCHGSEQ> is a sequential number of the DBCHG message; <DBCHGSEQ> is an integer • <COMMAND> is the input command or substitute; <COMMAND> is a string • <VT> is the AID from the “VT1_5” section on page 4-30
Output Example	TID-000 1998-06-20 14:30:00 A 001 REPT DBCHG “TIME=14-35-46,DATE=99-07-28,SOURCE=123,USERID=CISCO15, DBCHGSEQ=456:ENT-CRS-VT1:VT1-4-1-2-6-4” ;

3.4.94 REPT EVT <MOD2ALM>: Report Event (CLNT, DS1, E100, E1000, EC1, FSTE, G1000, GIGE, OC12, OC192, OC3, OC48, OCH, POS, STS1, STS12C, STS192C, STS24C, STS3C, STS48C, STS6C, STS9C, T1, T3, UDCDCC, UDCF, VT1)

See Table 4-11 on page 4-6 for supported modifiers by platform.

Reports the occurrence of a non-alarmed event.

Section	REPT EVT <MOD2ALM> Description
Category	Fault
Security	Retrieve
Related Messages	—
Output Format	SID DATE TIME A ATAG REPT EVT <MOD2ALM> "<AID>:<CONDTYPE>,[<CONDEFF>],,,[<LOCN>],,[<MONVAL>],[<THLEV>],[<TMPER>]:[<DESC>],[<AIDDET>]" ; where: • <AID> indicates an event with the condition type and is from the "ALL" section on page 4-10 • <CONDTYPE> indicates an event with the condition type and is a string • <CONDEFF> is the effect of the condition on the NE; valid values are shown in the "COND_EFF" section on page 4-47, <CONDEFF> is optional • <LOCN> indicates the location; valid values for <LOCN> are shown in the "LOCATION" section on page 4-71, <LOCN> is optional • <MONVAL> is the monitored value and is a float; <MONVAL> is an integer and is optional • <THLEV> is the threshold value and is a float; <THLEV> is an integer and is optional • <TMPER> is the accumulation time period for the PM information; valid values for <TMPER> are shown in the "TMPER" section on page 4-93. <TMPER> is optional • <DESC> is the condition description; <DESC> is a string and is optional • <AIDDET> specifies the type of AID; valid values for <AIDDET> are shown in the "EQPT_TYPE" section on page 4-63, <AIDDET> is optional
Output Example	TID-000 1998-06-20 14:30:00 A 100.100 REPT EVT DS1 "FAC-5-1:WKSWPR,TC,,,FEND,,12,13,15-MIN:\"WORKING SWITCH TO PROTECTION\",OC48" ;

3.4.95 REPT EVT BITS: Report Event BITS

Reports a non-alarmed event against a BITS facility.

Section	REPT EVT BITS Description
Category	Synchronization
Security	Retrieve
Related Messages	ED-BITS ED-NE-SYNCN ED-SYNCN OPR-SYNCNSW REPT ALM BITS REPT ALM SYNCN REPT EVT SYNCN RLS-SYNCNSW RTRV-ALM-BITS RTRV-ALM-SYNCN RTRV-BITS RTRV-COND-BITS RTRV-COND-SYNCN RTRV-NE-SYNCN RTRV-SYNCN
Output Format	SID DATE TIME A ATAG REPT EVT BITS "<AID>:<CONDTYPE>,[<CONDEFF>],,,,,,,:[<DESC>]" ; where: • <AID> indicates an access identifier and is from the "BITS" section on page 4-18 • <CONDTYPE> indicates a condition type and the valid values are shown in the "CONDITION" section on page 4-47 • <CONDEFF> indicates an effect of the condition on the NE; valid values for are shown in the "COND_EFF" section on page 4-47, <CONDEFF> is optional • <DESC> is the condition description; <DESC> is a string and is optional
Output Example	TID-000 1998-06-20 14:30:00 A 100.100 REPT EVT BITS "BITS-1:SSM-STU,TC,,,,,,,:\"SYNCHRONIZED - TRACEABILITY UNKNOWN\"" ;

3.4.96 REPT EVT COM: Report Event COM

Reports a non-alarmed event against an NE when there is no AID associated with it.

Section	REPT EVT COM Description
Category	Fault
Security	Retrieve
Related Messages	REPT ALM <MOD2ALM> REPT ALM BITS REPT ALM COM REPT ALM ENV REPT ALM EQPT REPT ALM RING REPT ALM SYNCN REPT ALM UCP RTRV-ALM-<MOD2ALM> RTRV-ALM-ALL RTRV-ALM-BITS RTRV-ALM-ENV RTRV-ALM-EQPT RTRV-ALM-RING RTRV-ALM-SYNCN RTRV-ALM-UCP RTRV-COND-<MOD2ALM> RTRV-COND-ALL RTRV-COND-BITS RTRV-COND-ENV RTRV-COND-EQPT RTRV-COND-RING RTRV-COND-SYNCN RTRV-COND-UCP
Output Format	SID DATE TIME A ATAG REPT EVT COM "[<AID>]:<CONDTYPE>,[<CONDEFF>],,,,,,,:[<DESC>]" ; where: • <AID> indicates this event is from the NE. <AID> is a string and is optional. • <CONDTYPE> indicates an event condition type. Valid values are shown in the "CONDITION" section on page 4-47 • <CONDEFF> indicates an effect of the condition on the NE; valid values for <CONDEFF> are shown in the "COND_EFF" section on page 4-47, <CONDEFF> is optional • <DESC> is the description message for the condition; <DESC> is a string and is optional
Output Example	TID-000 1998-06-20 14:30:00 A 100.100 REPT EVT COM "COM:CLDRESTART,TC,,,,,,,:\"COLD RESTART\"," ;

3.4.97 REPT EVT ENV: Report Event Environment

Reports the occurrence of a non-alarmed event against an environment alarm input.

Section	REPT EVT ENV Description
Category	Environment Alarms and Controls
Security	Retrieve
Related Messages	OPR-ACO-ALL OPR-EXT-CONT REPT ALM ENV RLS-EXT-CONT RTRV-ALM-ENV RTRV-ATTR-CONT RTRV-ATTR-ENV RTRV-COND-ENV RTRV-EXT-CONT SET-ATTR-CONT SET-ATTR-ENV
Output Format	SID DATE TIME A ATAG REPT EVT ENV "<AID>:<ALMTYPE>,[<CONDEFF>],,,,,,,:[<DESC>]" ; where: • <AID> identifies an environmental input and is from the "ENV" section on page 4-20 • <ALMTYPE> is an abbreviated code identifying the alarm and the valid values are shown in the "ENV_ALM" section on page 4-62 • <CONDEFF> indicates an effect of the condition on the NE; valid values for <CONDEFF> are shown in the "COND_EFF" section on page 4-47, <CONDEFF> is optional • <DESC> is an alarm message; <DESC> is a string and is optional
Output Example	TID-000 1998-06-20 14:30:00 A 100.100 REPT EVT ENV "ENV-IN-2:OPENDR,TC,,,,,,,:\"OPEN DOOR\"" ;

3.4.98 REPT EVT EQPT: Report Event Equipment

Reports the occurrence of a non-alarmed event against an equipment unit or slot.

Section	REPT EVT EQPT Description	
Category	Equipment	
Security	Retrieve	
Related Messages	ALW-SWDX-EQPT ALW-SWTOPROTN-EQPT ALW-SWTOWKG-EQPT DLT-EQPT ED-EQPT ENT-EQPT INH-SWDX-EQPT INH-SWTOPROTN-EQPT	INH-SWTOWKG-EQPT REPT ALM EQPT RTRV-ALM-EQPT RTRV-COND-EQPT RTRV-EQPT SW-DX-EQPT SW-TOPROTN-EQPT SW-TOWKG-EQPT
Output Format	SID DATE TIME A ATAG REPT EVT EQPT "<AID>:<CONDTYPE>,[<CONDEFF>],,,,,,,:[<DESC>],[<AIDDET>]" ; where: • <AID> indicates an equipment AID SLOT and is from the "EQPT" section on page 4-21 • <CONDTYPE> indicates an event condition type; <CONDTYPE> defaults to EQPT and the valid values are shown in the "CONDITION" section on page 4-47 • <CONDEFF> indicates an effect of the condition on the NE; valid values for <CONDEFF> are shown in the "COND_EFF" section on page 4-47, <CONDEFF> is optional • <DESC> is the condition description; <DESC> is a string and is optional • <AIDDET> specifies the type of AID; valid values for <AIDDET> are shown in the "EQPT_TYPE" section on page 4-63, <AIDDET> is optional	
Output Example	TID-000 1998-06-20 14:30:00 A 100.100 REPT EVT EQPT "SLOT-7:PLUGIN,TC,,,,,,,:\"EQUIPMENT PLUG-IN\",TCC" ;	

3.4.99 REPT EVT FXFR: Report Event Software Download

Reports the FTP software download status of the start, completion, and completed percentage.

Notes:

1. The FXFR_RSLT is only sent when the FXFR_STATUS is COMPLD.
2. The BYTES_XFRD is only sent when the FXFR_STATUS is IP or COMPLD.

Section	REPT EVT FXFR Description
Category	System
Security	Retrieve
Related Messages	ALW-MSG-ALL APPLY COPY-RFILE ED-DAT ED-NE-GEN ED-NE-SYNCN INH-MSG-ALL INIT-SYS RTRV-HDR RTRV-INV RTRV-MAP-NETWORK RTRV-NE-GEN RTRV-NE-IPMAP RTRV-NE-SYNCN RTRV-TOD SET-TOD
Output Format	SID DATE TIME A ATAG REPT EVT FXFR "<FILENAME>,<FXFR_STATUS>,[<FXFR_RSLT>],[<BYTES_XFRD>]" ; where: • <FILENAME> when a package is being transferred between the FTP server and the controller cards, the <FILENAME> field will contain the string "active". Following the transfer, if there is a second controller card on the node, the file will be copied over to the second card. While this is happening, REPT EVT FXFR messages will be generated with a filename of "standby". <FILENAME> is a string • <FXFR_STATUS> indicates the file transferred status; START, or IP (In Progress), or COMPLD. Valid values for <FXFR_STATUS> are shown in the "TX_STATUS" section on page 4-95 • <FXFR_RSLT> indicates the file transferred result; SUCCESS or FAILURE. Valid values for <FXFR_RSLT> are shown in the "TX_RSLT" section on page 4-95 and <FXFR_RSLT> is optional • <BYTES_XFRD> indicates the transferred byte count; <BYTES_XFRD> is a string and is optional
Output Example	TID-000 1998-06-20 14:30:00 A 100.100 REPT EVT FXFR "NEW.PKG,COMPLD,SUCCESS,21215147" ;

3.4.100 REPT EVT IOSCFG: Report Event IOS Config File

(Cisco ONS 15454 only)

Reports the status of copying the IOS configuration file when the COPY-IOSCFG command is issued.

Notes:

1. You can identify if this message is caused by an IOS config file downloading/uploading/merging by looking at the SRC and DEST field in the message. Refer to the COPY-IOSCFG command for more details.
2. There is no success/failure in the message to indicate the success or failure of the merge process when merging the startup IOS config file to the running config file.

Section	REPT EVT IOSCFG Description
Category	IOS
Security	Retrieve
Related Messages	COPY IOSCFG
Output Format	SID DATE TIME A ATAG REPT EVT IOSCFG "<AID>:<SRC>,<DEST>,<STATUS>,[<RESULT>]" ; where: • <AID> slot AID for the equipment and is from the AID "EQPT" section on page 4-21 • <SRC> specifies where the IOS config file is copied from and is a string • <DEST> specifies where the IOS config file is copied to and is a string • <STATUS> indicates the status of COPY-IOSCFG: Start, IP (In Process), or COMPLD; valid values are shown in the "TX_STATUS" section on page 4-95 • <RESULT> indicates the result of COPY-IOSCFG: Success or Failure; valid values are shown in the "TX_RSLT" section on page 4-95 and <RESULT> is optional
Output Example	TID-000 1998-06-20 14:30:00 A 100.100 REPT EVT IOSCFG "SLOT-1:STARTUP,IOS-CONFIG-FILE-IN-NETWORK,COMPLD,SUCCESS" ;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.101 REPT EVT RING: Report Event Ring

Reports the occurrence of a non-alarmed event against a ring object for BLSR.

In this release, the BLSR-UPDATED condition has been added and will be reported as a transient message, not a standing condition/alarm.

Note When a change is made to a BLSR, including creating a new circuit, the circuit will not have BLSR protection until after the BLSR-UPDATED message is received.

Section	REPT EVT RING Description
Category	BLSR
Security	Retrieve
Related Messages	DLT-BLSR ED-BLSR ENT-BLSR REPT ALM RING RTRV-ALM-RING RTRV-BLSR RTRV-COND-RING
Output Format	SID DATE TIME A ATAG REPT EVT RING "<AID>:<CONDTYPE>,[<CONDEFF>],,,,,,,:[<DESC>]" ; where: • <AID> is from the "BLSR" section on page 4-18 • <CONDTYPE> indicates an event condition type; valid values for <CONDTYPE> are shown in the "CONDITION" section on page 4-47 • <CONDEFF> is the effect of the condition on the NE; valid values for <CONDEFF> are shown in the "COND_EFF" section on page 4-47 • <DESC> is the condition description; <CONDDESR> is a string and is optional
Output Example	TID-000 1998-06-20 14:30:00 A 100.100 REPT EVT RING "BLSR-88:BLSR-RESYNC,TC,,,,,,,:\"BLSR TABLESRESYNCHRONIZED\"," ;

3.4.102 REPT EVT SECU: Report Event Security

Reports the occurrence of a non-alarmed security event against the NE.

Based on TR-NWT-000835 in TR-NWT-000835 and the AID of the security alarm should be the Connection Identifier (CID) which is not supported in this release. The COM or UID is an acceptable substitute for the AID here. CID's will be supported in a future release.

For the rule of single failure, single message/alarm, the security alarm will not be reported as REPT ALM COM, because it is reported as REPT ALM SECU.

Because the NE sends this security message as a transient message, to make all TL1 autonomous messages consistent, the TL1 agent reports the security message into REPT EVT SECU.

Section	REPT EVT SECU Description
Category	Security
Security	Retrieve
Related Messages	ACT-USER CANC CANC-USER DLT-USER-SECU ED-PID ED-USER-SECU ENT-USER-SECU RTRV-USER-SECU
Output Format	SID DATE TIME A ATAG REPT EVT SECU "<AID>:<CONDTYPE>,[<CONDEFF>],,,,,,,:[<DESC>]" ; where: • <AID> identifies an entity with the condition and defaults to "COM"; <AID> is a string • <CONDTYPE> is the condition type and valid values are shown in the "CONDITION" section on page 4-47 • <CONDEFF> indicates an effect of the condition on the NE and valid values are shown in the "COND_EFF" section on page 4-47; <CONDEFF> is optional • <DESC> is the condition description; <DESC> is a string and is optional
Output Example	TID-000 1998-06-20 14:30:00 A 100.100 REPT EVT SECU "COM:INTRUSION,TC,,,,,,,:\"SECURITY-INVALID LOGIN (SEE AUDIT TRIAL)\"" ;

3.4.103 REPT EVT SESSION: Report Event Session

Reports a non-alarmed event related to establishing a session with the NE.

Notes:

1. The WARN field may contain different information depending on the type of session-related event.
2. If a session is terminated for any reason (except a user timeout), this message is sent to indicate the reason for the session termination.

Section	REPT EVT SESSION Description
Category	Security
Security	Retrieve
Related Messages	ACT-USER ALW-MSG-SECU CANC CANC-USER DLT-USER-SECU ED-PID ED-USER-SECU ENT-USER-SECU INH-MSG-SECU REPT EVT SECU RTRV-USER-SECU
Output Format	SID DATE TIME A ATAG REPT EVT SESSION "<AID>:<EXP>,[<PCN>]" ; where: • <AID> identifies the NE with which a session is being attempted; <AID> is a string • <EXP> indicates whether the password is "alive" (i.e., no password updating is required at the moment), has expired, or is about to expire. For release 4.0, this value is always NO. Valid values are shown in the "EXP" section on page 4-68 • <PCN> not applicable in this release (R4.0)
Output Example	TID-000 1998-06-20 14:30:00 A 100.100 REPT EVT SESSION "AID:EXP,PCN" ;
Output Format	SID DATE TIME A ATAG REPT EVT SESSION "<WARN>" ; where: • <WARN> free format text containing additional information about the security event. <WARN> is a string
Output Example	TID-000 1998-06-20 14:30:00 A 100.100 REPT EVT SESSION "/* WARN */" ;

3.4.104 REPT EVT SYNCN: Report Event Synchronization

Reports the occurrence of a non-alarmed event against a synchronization entity.

Section	REPT EVT SYNCN Description
Category	Synchronization
Security	Retrieve
Related Messages	ED-BITS ED-NE-SYNCN ED-SYNCN OPR-SYNCNSW REPT ALM BITS REPT ALM SYNCN REPT EVT BITS RLS-SYNCNSW RTRV-ALM-BITS RTRV-ALM-SYNCN RTRV-BITS RTRV-COND-BITS RTRV-COND-SYNCN RTRV-NE-SYNCN RTRV-SYNCN
Output Format	SID DATE TIME A ATAG REPT EVT SYNCN "<AID>:<CONDTYPE>,[<CONDEFF>],,,,,,,:[<DESC>],[<AIDDET>]" ; where: • <AID> identifies the synchronization entity with the condition and is from the "SYNC_REF" section on page 4-28 • <CONDTYPE> indicates the condition type; <CONDTYPE> defaults to SYNCN and the valid values are shown in the "CONDITION" section on page 4-47 • <CONDEFF> indicates the effect of the condition on the NE; valid values for <CONDEFF> are shown in the "COND_EFF" section on page 4-47, <CONDEFF> is optional • <DESC> is the condition description; <DESC> is a string and is optional • <AIDDET> specifies the type of AID; valid values for <AIDDET> are shown in the "EQPT_TYPE" section on page 4-63, <AIDDET> is optional
Output Example	TID-000 1998-06-20 14:30:00 A 100.100 REPT EVT SYNCN "SYNC-NE:SWTOINT,SC,,,,,,,:\"SWITCH TO INTERNAL CLOCK\",TCC" ;

3.4.105 REPT EVT UCP: Report Event Unified Control Plane

Reports the occurrence of a non-alarmed even against a UCP object.

Section	REPT EVT UCP Description
Category	UCP
Security	Retrieve
Related Messages	DLT-UCP-CC DLT-UCP-IF DLT-UCP-NBR ED-UCP-CC ED-UCP-IF ED-UCP-NBR ED-UCP-NODE ENT-UCP-CC ENT-UCP-IF ENT-UCP-NBR REPT ALM UCP RTRV-ALM-UCP RTRV-COND-UCP RTRV-UCP-CC RTRV-UCP-IF RTRV-UCP-NBR RTRV-UCP-NODE
Output Format	SID DATE TIME A ATAG REPT EVT UCP "<AID>:[<CONDTYPE>],<CONDEFF>,,,,,,,:[<DESC>]" ; where: • <AID> identifies a UCP object with alarm condition and is from the "ALL" section on page 4-10 • <CONDTYPE> is the type of condition to be retrieved. Valid values for <CONDTYPE> are shown in the "CONDITION" section on page 4-47; <CONDTYPE> is optional • <CONDEFF> is the effect on service caused by the alarm condition; valid values for <CONDEFF> are shown in the "COND_EFF" section on page 4-47 • <DESC> is a condition description; <DESC> is a string and is optional
Output Example	TID-000 1998-06-20 14:30:00 A 100.100 REPT EVT UCP "CC-1:LMP-HELLODOWN,TC,,,,,,,:\"LMP HELLO FSM ON CONTROL CHANNEL DOWN\"," ;

3.4.106 REPT PM <MOD2>: Report Performance Monitoring (CLNT, DS1, EC1, OC12, OC192, OC3, OC48, OCH, STS1, STS12C, STS192C, STS24C, STS3C, STS48C, STS6C, STS9C, T1, T3, VT1)

See Table 4-11 on page 4-6 for supported modifiers by platform.

Reports autonomous monitoring statistics as a result of the schedule created by SCHED-PMREPT.

Section	REPT PM <MOD2> Description
Category	Performance
Security	Retrieve
Related Messages	ALW-PMREPT-ALL INH-PMREPT-ALL INIT-REG-<MOD2> RTRV-PM-<MOD2> RTRV-PMMODE-<STS_PATH> RTRV-PMSCHED-<MOD2> RTRV-PMSCHED-ALL RTRV-PMSCHED-ALL SCHED-PMREPT-<MOD2> SET-PMMODE-<STS_PATH> SET-TH-<MOD2>
Output Format	SID DATE TIME A ATAG REPT PM <MOD2> "<AID>:<MONTYPE>,<MONVAL>,<VLDTY>,<LOCN>,<DIRN>, <TMPER>,<MONDAT>,<MONTM>" ; where: • <AID> access identifier from the "ALL" section on page 4-10 • <MONTYPE> type of monitored parameter; valid values are shown in the "ALL_MONTYPE" section on page 4-33 • <MONVAL> measured value of monitored parameter; <MONVAL> is a string • <VLDTY> validity indicator for the reported PM data; valid values for <VLDTY> are shown in the "VALIDITY" section on page 4-98 • <LOCN> indicates the location; valid values are shown in "LOCATION" section on page 4-71 • <DIRN> direction of PM relative to the entity identified by the AID; valid values are shown in the "DIRECTION" section on page 4-60 • <TMPER> indicates the accumulation time period for the PM data; valid values are shown in the "TMPER" section on page 4-93 • <MONDAT> is the date of the beginning of the PM period specified by the TMPER parameter; <MONDAT> is a string • <MONTM> is the beginning time of day of the PM period specified by the TMPER parameter; <MONTM> is a string
Output Example	TID-000 1998-06-20 14:30:00 A 100 REPT PM CLNT "FAC-3-1:CVL,10,PRTL,NEND,BTH,15-MIN,05-25,14-46" ;

3.4.107 REPT SW: Report Switch

(Cisco ONS 15454 only)

Reports the autonomous switching of a unit in a duplex equipment pair to the standby state and its mate unit to the active state. An automatic report for the occurrence or clearance of an alarm or event that triggers the switch may be associated with the message.

Section	REPT SW Description
Category	UPSR Switching
Security	Retrieve
Related Messages	OPR-PROTNSW-<STS_PATH> OPR-PROTNSW-VT1 RLS-PROTNSW-<STS_PATH> RLS-PROTNSW-VT1 RTRV-PROTNSW-<STS_PATH> RTRV-PROTNSW-VT1
Output Format	SID DATE TIME A ATAG REPT SW "<ACTID>,<STDBYID>" ; where: • <ACTID> identifies the equipment unit that has been placed in the active state. Parameter grouping cannot be used with this parameter; <ACTID> is the AID from the "EQPT" section on page 4-21 • <STDBYID> identifies the equipment unit that was placed in the standby state. Parameter grouping cannot be used with this parameter; <STDBYID> is the AID from the "EQPT" section on page 4-21
Output Example	TID-000 1998-06-20 14:30:00 A 001 REPT SW "SLOT-8,SLOT-10" ;

3.4.108 RLS-EXT-CONT: Release External Control

This command releases a forced contact state and returns the control of the contact to an AUTOMATIC control state. In AUTOMATIC control state, the contact could be opened or closed depending on triggers that may or may not be provisioned in the NE. Therefore, issuing an RLS might not produce any contact state change.

The NE defaults to having no triggers provisioned for external controls which consequently produces default open contacts. An NE with this default provisioning will always produce an open contact with a RLS-EXT-CONT command.

Notes:

1. The duration is not supported, it defaults to CONTS.
2. In an automatic state, the contact could be opened or closed depending on the provisioned trigger. Therefore, issuing an OPR-EXT-CONT command followed by an RLS-EXT-CONT command might not produce any contact state change.

3. The RLS-EXT-CONT is not allowed during the MNTRY duration. The command is allowed for the CONTS duration. The length of MNTRY duration is set to be 2 seconds.

Section	RLS-EXT-CONT Description
Category	Environment Alarms and Controls
Security	Maintenance
Related Messages	OPR-ACO-ALL OPR-EXT-CONT REPT ALM ENV REPT EVT ENV RTRV-ALM-ENV RTRV-ATTR-CONT RTRV-ATTR-ENV RTRV-COND-ENV RTRV-EXT-CONT SET-ATTR-CONT SET-ATTR-ENV
Input Format	RLS-EXT-CONT:[<TID>]:<AID>:<CTAG>[::,]; where: • <AID> identifies the external control being released and is from the "ENV" section on page 4-20
Input Example	RLS-EXT-CONT:CISCO:ENV-OUT-2:123;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.109 RLS-LPBK-<MOD2>: Release Loopback (CLNT, DS1, EC1, OC12, OC192, OC3, OC48, OCH, STS1, STS12C, STS192C, STS24C, STS3C, STS48C, STS6C, STS9C, T1,T3, VT1)

See Table 4-11 on page 4-6 for supported modifiers by platform.

This command releases a signal loopback on an I/O card or a cross-connect.

Notes:

1. The value CRS for the LPBKTYPE parameter is applicable only for the STS modifier. The FACILITY and TERMINAL values for LPBKTYPE parameter are applicable to the ports.
2. The optional [<LPBKTYPE>] field defaults to the current existing loopback type.
3. The TERMINAL loopback type is not supported for a DS3XM card.

Section	RLS-LPBK-<MOD2> Description
Category	Testing
Security	Maintenance
Related Messages	OPR-LPBK-<MOD2>
Input Format	RLS-LPBK-<MOD2>:[<TID>]:<SRC>:<CTAG>::,,,[<LPBKTYPE>]; where: • <SRC> is an access identifier from the "DS1" section on page 4-20; valid values for AID are facility, DS1, and STS • <LPBKTYPE> indicates the loopback type; valid values for <LPBKTYPE> are shown in the "LPBK_TYPE" section on page 4-71

Section	RLS-LPBK-<MOD2> Description (continued)
Input Example	RLS-LPBK-DS1:PTREYES:DS1-4-1-2-13:203::,,,FACILITY;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.110 RLS-PROTNSW-<OCN_TYPE>: Release Protection Switch (OC3, OC12, OC48, OC192)

See Table 4-11 on page 4-6 for supported modifiers by platform.

This command releases a SONET line protection switch request.

The release of a protection switch request is applicable only to the OPR-PROTNSW protection switch commands, the user-initiated switch protection commands.

Notes:

1. This command is not used for the common control (TCC+/TCC2 or XC/XCVT/XC10G) cards. Sending a command on a common control card will generate an IIAC (Input, Invalid Access Identifier) error message. To query the common control card switching commands, use SW-DX-EQPT, ALW-SWDX-EQPT commands.
2. When sending this command on non-SONET (OCN) cards, an IIAC (Input, Invalid Access Identifier) error message should be responsed. To use this command on a non-SONET card switching command, use ALW-SWTOPROTN/SWTOWKG-EQPT and INH-SWTOPROTN/SWTOWKG-EQPT commands.
3. When sending this command to query on a card that is not in a protection group, the SNVS (Status, Not in Valid State) error message should be responsed.
4. When sending this command to a working card that is failed or missing, the SWFA (Status, Working unit Failed) error message should be responsed.
5. When sending this command to a protect card that is failed or missing, the SPFA (Status, Protection unit Failed) error message should be responsed.
6. When sending this command to a card that is not in protection, the SNPR (Status, Not in Protection State) error message should be responsed.
7. Sending this command to an OCN line that is already in clear mode will return a SAMS (Already in Clear Maintenance State) error message.
8. To get the protection switching state (manual, lockout, forced), use the RTRV-COND-ALL or RTRV-ALM-ALL command.

Section	RLS-PROTNSW-<OCN_TYPE> Description
Category	SONET Line Protection
Security	Maintenance
Related Messages	DLT-FFP-<OCN_TYPE> ED-FFP-<OCN_TYPE> ENT-FFP-<OCN_TYPE> EX-SW-<OCN_TYPE> OPR-PROTNSW-<OCN_TYPE> RTRV-FFP-<OCN_TYPE> RTRV-PROTNSW-<OCN_TYPE>

Section	RLS-PROTNSW-<OCN_TYPE> Description (continued)
Input Format	RLS-PROTNSW-<OCN_TYPE>:[<TID>]:<AID>:<CTAG>[::]; where: • <AID> identifies the facility in the NE to which the switch request is directed and is from the "FACILITY" section on page 4-22
Input Example	RLS-PROTNSW-OC48:PETALUMA:FAC-6-1:209;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.111 RLS-PROTNSW-<STS_PATH>: Release Protection Switch (STS1, STS3C, STS6C, STS9C, STS12C, STS24C, STS48C, STS192C)

See Table 4-11 on page 4-6 for supported modifiers by platform.

This command releases a SONET path protection switch request that was established with the OPR-PROTNSW-<STS_PATH> command. This command assumes that only one user-initiated switch is active per AID.

Notes:

1. This command applies to UPSR configuration only.
2. The VTAID should be working or protect AID only.
3. If sending this command on the Drop AID, a DENY (Invalid AID, should use working/protect AID) message will be returned.
4. To get the protection switching state (manual, lockout, forced), use the RTRV-COND-ALL or RTRV-ALM-ALL command.

Section	RLS-PROTNSW-<STS_PATH> Description
Category	UPSR Switching
Security	Maintenance
Related Messages	OPR-PROTNSW-<STS_PATH> OPR-PROTNSW-VT1 REPT SW RLS-PROTNSW-VT1 RTRV-PROTNSW-<STS_PATH> RTRV-PROTNSW-VT1
Input Format	RLS-PROTNSW-<STS_PATH>:[<TID>]:<AID>:<CTAG>[::]; where: • <AID> identifies the entity in the NE to which the switch request is directed and is from the "STS" section on page 4-24
Input Example	RLS-PROTNSW-STS1:CISCO:STS-2-1:123;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.112 RLS-PROTNSW-CLNT: Release Protection Switch Client

This command releases a Y cable protection switch on client facilities.

Section	RLS-PROTNSW-CLNT Description
Category	DWDM
Security	Maintenance
Related Messages	OPR-PROTNSW-CLNT RTRV-FFP-CLNT ED-FFP-CLNT ED-DWDM RTRV-DWDM RTRV-COND-CLNT RTRV-ALM-CLNT RTRV-FFP-CLNT ED-FFP-CLNT ENT-FFP-CLNT
Input Format	RLS-PROTNSW-CLNT:[<TID>]:<AID>:<CTAG>[::]; where: • <AID> is from the "FACILITY" section on page 4-22
Input Example	RLS-PROTNSW-CLNT:CISCO:FAC-1-1:100;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.113 RLS-PROTNSW-VT1: Release Protection Switch VT1

This command releases a SONET path protection switch request that was established with the OPR-PROTNSW-VT1 command. This command assumes that only one user-initiated switch is active per AID.

Notes:

1. This command applies to UPSR configuration only.
2. The VTAID should be working or protect AID only.
3. Sending this command on the Drop AID, a DENY (Invalid AID, should use working/protect AID) message will be returned.
4. To get the protection switching state (manual, lockout, forced), use the RTRV-COND-ALL or RTRV-ALM-ALL command.

Section	RLS-PROTNSW-VT1 Description
Category	UPSR Switching
Security	Maintenance

Section	RLS-PROTNSW-VT1 Description (continued)
Related Messages	OPR-PROTNSW-<STS_PATH> OPR-PROTNSW-VT1 REPT SW RLS-PROTNSW-<STS_PATH> RTRV-PROTNSW-<STS_PATH> RTRV-PROTNSW-VT1
Input Format	RLS-PROTNSW-VT1:[<TID>]:<AID>:<CTAG>[::]; where: • <AID> identifies the entity in the NE to which the switch request is directed and is from the "VT1_5" section on page 4-30
Input Example	RLS-PROTNSW-VT1:CISCO:VT1-4-2-3-1:123;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.114 RLS-SYNCNSW: Release Synchronization Switch

This command releases the previous synchronization reference provided by the OPR-SYNCNSW command.

In a non-revertive system, the use of the RLS-SYNCNSW command may not be appropriate. All the switching between synchronization references should be initiated with the OPR-SYNCNSW command.

Once a switch is released, a minor alarm "MANSWTOPRI", (Manual Switch to Primary Reference or Secondary...) or "FRDCSWTOPRI" (Forced Switch to Primary Reference or Secondary...), will be cleared.

Section	RLS-SYNCNSW Description	
Category	Synchronization	
Security	Maintenance	
Related Messages	ED-BITS ED-NE-SYNCN ED-SYNCN OPR-SYNCNSW REPT ALM BITS REPT ALM SYNCN REPT EVT BITS REPT EVT SYNCN	RTRV-ALM-BITS RTRV-ALM-SYNCN RTRV-BITS RTRV-COND-BITS RTRV-COND-SYNCN RTRV-NE-SYNCN RTRV-SYNCN
Input Format	RLS-SYNCNSW:[<TID>]:[<AID>]:<CTAG>; where: • <AID> is the access identifier from the "SYNC_REF" section on page 4-28. The default value is SYNC-NE.	
Input Example	RLS-SYNCNSW:CISCO:SYNC-NE:3;	
Errors	Errors are listed in Table 7-30 on page 7-20.	

3.4.115 RMV-<MOD2_IO>: Remove (CLNT, DS1, EC1, G1000, OC12, OC192, OC3, OC48, OCH, T1, T3)

See Table 4-11 on page 4-6 for supported modifiers by platform.

This command removes a facility from service.

Section	RMV-<MOD2_IO> Description
Category	Ports
Security	Maintenance
Related Messages	ED-<OCN_TYPE> ED-DS1 ED-EC1 ED-G1000 ED-T1 ED-T3 INIT-REG-G1000 RST <MOD2_IO> RTRV-<OCN_TYPE> RTRV-DS1 RTRV-EC1 RTRV-FSTE RTRV-G1000 RTRV-GIGE RTRV-POS RTRV-T1 RTRV-T3
Input Format	RMV-<MOD2_IO>:[<TID>]:<AID>:<CTAG>::[<CMDMODE>],[<PST>],[<SST>]; where: • <AID> is the access identifier from the "ALL" section on page 4-10 • <CMDMODE> is the command mode; valid values are shown in the "CMD_MODE" section on page 4-46 • <PST> primary state; valid values are shown in the "PST" section on page 4-85 • <SST> secondary state; valid values are shown in the "SST" section on page 4-87
Input Example	RMV-EC1:CISCO:FAC-1-1:1::NORM,OOS,AINS;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.116 RST-<MOD2_IO>: Restore (CLNT, DS1, EC1, G1000, OC12, OC192, OC3, OC48, OCH, T1, T3)

See Table 4-11 on page 4-6 for supported modifiers by platform.

This command provisions a facility in service.

Section	RST-<MOD2_IO> Description
Category	Ports
Security	Maintenance

Section	RST-<MOD2_IO> Description (continued)	
Related Messages	ED-<OCN_TYPE> ED-DS1 ED-EC1 ED-G1000 ED-T1 ED-T3 INIT-REG-G1000 RMV <MOD2_IO> RTRV-<OCN_TYPE>	RTRV-DS1 RTRV-EC1 RTRV-FSTE RTRV-G1000 RTRV-GIGE RTRV-POS RTRV-T1 RTRV-T3
Input Format	RST-<MOD2_IO>:[<TID>]:<AID>:<CTAG>[::]; where: • <AID> is an access identifier from the "ALL" section on page 4-10	
Input Example	RST-EC1:CISCO:FAC-1-1:1;	
Errors	Errors are listed in Table 7-30 on page 7-20.	

3.4.117 RTRV-<OCN_TYPE>: Retrieve (OC3, OC12, OC48, OC192)

See Table 4-11 on page 4-6 for supported modifiers by platform.

This command retrieves the attributes (i.e., service parameters) and the state of an OC-N facility.

Both RINGID and BLSRTYPE identify the OCN port connected with a BLSR. These attributes are only presented for the OC12, OC48, OC192 ports within a BLSR connection. The RTRV-BLSR command with the AID BLSR-RINGID, can provide more information on this BLSR.

Note This command does not show the WVLEN attribute if the OCN port has zero value on WVLELN.

UNI-C DCC provisioning notes:

1. The attributes DCC(Y/N) and mode (SONET/SDH) remain the same in the ED/RTRV-OCN commands when the DCC is used for UNI-C, in which case the port attribute UNIC is enabled (UNIC=Y).
2. UNI-C DCC termination ca not be deleted by the regular DCC de-provisioning command.
3. If the DCC is created under regular SONET provisioning, and this port is used by UNI-C, the port is converted as an UNI-C DCC automatically.
4. De-provisioning UNI-C IF/IB IPCC will free up DCC termination automatically.

Section	RTRV-<OCN_TYPE> Description
Category	Ports
Security	Retrieve

Section	RTRV-<OCN_TYPE> Description (continued)
Related Messages	ED-<OCN_TYPE> ED-DS1 ED-EC1 ED-G1000 ED-T1 ED-T3 RMV-<MOD2_IO> RST-<MOD2_IO> RTRV-DS1 RTRV-EC1 RTRV-G1000 RTRV-T1 RTRV-T3
Input Format	RTRV-<OCN_TYPE>:[<TID>]:<AID>:<CTAG>[::::]; where: • <AID> is the access identifier from the "FACILITY" section on page 4-22 and must not be null.
Input Example	RTRV-OC48:PENNGROVE:FAC-6-1:236;
Output Format	SID DATE TIME M CTAG COMPLD "<AID>:,,[<ROLE>],[<STATUS>]:[DCC=<DCC>,][TMGREF=<TMGREF>,] [SYNCMSG=<SYNCMSG>,][SENDDUS=<SENDDUS>,] [PJMON=<PJMON>,][SFBER=<SFBER>,][SDBER=<SDBER>,] [MODE=<MODE>,][WVLEN=<WVLEN>,][RINGID=<RINGID>,] [BLSRTYPE=<BLSRTYPE>,][MUX=<MUX>,][UNIC=<UNIC>,] [CCID=<CCID>,][NBRIX=<NBRIX>,][SOAK=<SOAK>]: <PST>,[<SST>]" ; where: • <AID> is the access identifier from the "FACILITY" section on page 4-22 • <ROLE> identifies the OCN port role (e.g. WORK or PROT); valid values for <ROLE> are shown in the "SIDE" section on page 4-87, <ROLE> is optional • <STATUS> identifies the OCN port status (e.g. Active or Standby); valid values for <STATUS> are shown in the "STATUS" section on page 4-87, <STATUS> is optional • <DCC> identifies the OCN port DCC connection and defaults to N; valid values for <DCC> are shown in the "ON_OFF" section on page 4-79, <DCC> is optional • <TMGREF> identifies if an OCN port has timing reference and defaults to N; valid values for <TMGREF> are shown in the "ON_OFF" section on page 4-79, <TMGREF> is optional • <SYNCMSG> indicates if sync status messaging is enabled or disabled on the facility; <SYNCMSG> defaults to Y and the valid values are shown in the "ON_OFF" section on page 4-79. <SYNCMSG> is optional. • <SENDDUS> indicates that the facility will send out the DUS (do not use for synchronization) value as the sync status message for that facility; <SENDDUS> defaults to N and the valid values are shown in the "ON_OFF" section on page 4-79. <SENDDUS> is optional • <PJMON> identifies the OCN port PJMON; <PJMON> defaults to 0 (zero), is an integer and is optional

Section	RTRV-<OCN_TYPE> Description (continued)
Output Format (continued)	• <SFBER> identifies the OCN port SFBER and defaults to 1E-4; valid values for <SFBER> are shown in the "SF_BER" section on page 4-86, <SFBER> is optional • <SDBER> identifies the OCN port SDBER and defaults to 1E-7; valid values for <SDBER> are shown in the "SD_BER" section on page 4-85, <SDBER> is optional • <MODE> identifies the OCN port mode (e.g. SONET, SDH) and defaults to SONET; valid values for <MODE> are shown in the "OPTICAL_MODE" section on page 4-80, <MODE> is optional • <WVLEN> identifies the OCN port wavelength; <WVLEN> is wavelength in nm (nanometer) for unit, e.g. WVLEN=1310.00 means it operates at 1310 nm in the DWM application. <WVLEN> is a float and is optional • <RINGID> identifies the BLSR RINGID with which the port is connected. The <RINGID> ranges from 0–9999; <RINGID> is an integer and is optional • <BLSRTYPE> identifies the BLSR type with which the port is connected. Valid values for <BLSRTYPE> are shown in the "BLSR_TYPE" section on page 4-43 and <BLSRTYPE> is optional. • <MUX> BLSR Extension Byte. Valid values for <MUX> are shown in the "MUX_TYPE" section on page 4-78; <MUX> is optional. • <UNIC> indicates if the port connects to the UCP; valid values are shown in the "ON_OFF" section on page 4-79 and <UNIC> is optional • <CCID> indicates the UCP control channel ID; <CCID> is an integer and is optional • <NBRIX> indicates the UCP neighbor ID. <NBRIX> is an integer and is optional • <SOAK> OOS-AINS to IS transition soak time measured in 15 minute intervals. <SOAK> is an integer and is optional • <PST> primary state; valid values for <PST> are shown in the "PST" section on page 4-85 • <SST> secondary state; valid values are shown in the "SST" section on page 4-87 and <SST> is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "FAC-6-1:,,WORK,ACT:DCC=N,TMGREF=N,SYNCMSG=Y,SENDDUS=N, PJMON=48,SFBER=1E-4,SDBER=1E-6,MODE=SONET,WVLEN=1310.00, RINGID=43,BLSRTYPE=WESTWORK,MUX=E2,UNIC=Y,CCID=8, NBRIX=2,SOAK=10:OOS,AINS" ;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.118 RTRV-<STS_PATH>: Retrieve (STS1, STS3C, STS6C, STS9C, STS12C, STS24C, STS48C, STS192C)

See Table 4-11 on page 4-6 for supported modifiers by platform.

This command retrieves the attributes associated with an STS path.

The SFBER, SDBER, RVRTV, RVTM, SWPDIP, HOLDOFFTIMER, AND UPSRPTHSTATE parameters only apply to UPSR.

The path trace message is a 64 character string including the terminating CR (carriage return) and LF (line feed) that is transported in the J1 byte of the SONET STS Path overhead.

The EXPTRC indicates the contents of the expected incoming path trace are provisioned by the user in the ED-STS_PATH command. The TRC indicates the contents of the outgoing path trace message. The INCTRC indicates the contents of the incoming path trace message.

The path trace mode has three modes: OFF, MANUAL, and AUTO. The mode defaults to OFF. The MANUAL mode performs the comparison of the received string with the user entered expected string. The AUTO mode performs the comparison of the present received string with an expected string set to a previously received string. If there is a mismatch, the TIM-P alarm is raised. When the path trace mode is in OFF mode, there is no path trace processing, and all the alarm and state conditions are reset.

When the expected string is queried under the OFF path trace mode, the expected string is a copy of the provisioned string or NULL. When an expected string is queried under the MANUAL path trace mode, the expected string is a copy of the user entered string. When an expected string is queried under the AUTO path trace mode, the expected string is a copy of the acquired received string or NULL if the string has not been acquired.

When the incoming string is queried under the OFF path trace mode, the incoming string is NULL. When an incoming string is queried under the MANUAL or AUTO path trace mode, the incoming string is a copy of the received string or NULL if the string has not been received.

J1 (EXPTRC) is implemented on the DS1/DS1N, DS3E/DS3NE, DS3XM, EC1, OC3, OC48AS and OC192.

TRC and INCTRC are supported on DS1(N), DS3(N)E, and DS3XM cards.

Notes:

1. An optional parameter BLSRPTHTYPE is introduced into this command to provide more options to retrieve J1/C2 of a particular BLSR path. This field is valid only if the queried AID port has BLSR. The BLSRPTHTYPE defaults to “non-pca” path type if the BLSR is switched, or defaults to all BLSR path types if there is no BLSR switching.
2. Sending this command while BLSRPTHTYPE=PCA, whether there is BLSR switch or not, the PCA path J1/C2 data will be returned (if there is PCA circuit on the AID). Sending this command with an STS AID without circuits and no BLSR switched on the STS, an error message will be returned.
3. An optional output parameter BLSRPTHSTATE is introduced into this command output. Each J1/C2 output data of this command will include the BLSR path state information.
4. After the BLSR switching, the J1/IPPM/C2 data can be retrieved over the protection path, to provision J1 trace string, trace mode, or threshold is not allowed on the protection path.

Section	RTRV-<STS_PATH> Description
Category	STS and VT Paths
Security	Retrieve

Section	RTRV-<STS_PATH> Description (continued)
Related Messages	ED-<STS_PATH> RTRV-PTHTRC-<STS_PATH>
Input Format	RTRV-<STS_PATH>:[<TID>]:<AID>:<CTAG>::: [BLSRPTHTYPE=<BLSRPTHTYPE>][:]; where: • <AID> is an access identifier from the "CrossConnectID" section on page 4-14 and must not be null • <BLSRPTHTYPE> indicates the BLSR path type only if the port is on the BLSR. It defaults to "non-pca". Valid values are shown in the "BLSR_PTH_TYPE" section on page 4-43. A null value defaults to "non-pca"
Input Example	RTRV-STS1:FERNDALE:STS-2-1-4:238:::BLSRPTHTYPE=NON-PCA;
Output Format	SID DATE TIME M CTAG COMPLD "<AID>::[LEVEL=<LEVEL>,][SFBER=<SFBER>,][SDBER=<SDBER>,] [RVRTV=<RVRTV>,][RVTM=<RVTM>,][SWPDIP=<SWPDIP>,] [HOLDOFFTIMER=<HOLDOFFTIMER>,] [EXPTRC=<EXPTRC>,][TRC=<TRC>,][INCTRC=<INCTRC>,] [TRCMODE=<TRCMODE>,][TACC=<TACC>,] [UPSRPTHSTATE=<UPSRPTHSTATE>,][C2=<C2>,] [BLSRPTHSTATE=<BLSRPTHSTATE>]:[<PST>],[<SST>]" ; where: • <AID> is an access identifier from the "CrossConnectID" section on page 4-14 • <LEVEL> indicates the rate of the cross connected channel; valid values for <LEVEL> are shown in the "STS_PATH" section on page 4-88, <LEVEL> is optional • <SFBER> identifies the STS path SFBER which only applies to UPSR; <SFBER> defaults to 1E-4 and valid values are shown in the "SF_BER" section on page 4-86, <SFBER> is optional • <SDBER> identifies the STS path SDBER which only applies to UPSR; <SDBER> defaults to 1E-6 and valid values are shown in the "SD_BER" section on page 4-85, <SDBER> is optional • <RVRTV> identifies a revertive mode which only applies to UPSR and defaults to N (non-revertive mode) when a UPSR STSp is created; valid values for <RVRTV> are shown in the "ON_OFF" section on page 4-79 and <RVRTV> is optional • <RVTM> identifies a revertive time which only applies to UPSR and defaults to empty because <RVRTV> is N when a UPSR STSp is created; valid values for <RVTM> are shown in the "REVERTIVE_TIME" section on page 4-85 and <RVTM> is optional

Section	RTRV-<STS_PATH> Description (continued)
Output Format (continued)	• Valid values for <SWPDIP> are shown in the "ON_OFF" section on page 4-79; <SWDIP> is optional • <HOLDOFFTIMER> is an integer and is optional • <EXPTRC> indicates the expected path trace message (J1) contents. The EXPTRC is any 64 character string, including the terminating CR (carriage return) and LF (line feed); <EXPTRC> defaults to null when a UPSR STSp is created. <EXPTRC> is a string and is optional • <TRC> identifies the path trace message to be transmitted. The TRC is any combination of 64 characters, including the terminating CR (carriage return) and LF (line feed). The trace byte (J1) continuously transmits a 64 byte string, one byte at a time. A null value defaults to the NE transmitting null characters (Hex 00); <TRC> defaults to null when a UPSR STSp is created. <TRC> is a string and is optional • <INCTRC> identifies the incoming path trace message contents. The INCTRC is any combination of 64 characters; <INCTRC> defaults to null when UPSR STSp is created. <INCTRC> is a string and is optional • <TRCMODE> indicates the path trace mode, and defaults to the OFF mode when a UPSR STSp is created; valid values for <TRCMODE> are shown in the"TRCMODE" section on page 4-94 and <TRCMODE> is optional • <TACC> is the AID from the "TACC" section on page 4-29 and is optional • Valid values for <UPSRPTHSTATE> are shown in the "STATUS" section on page 4-87 • <C2> indicates C2 Byte Hex Code; valid values are shown in the "C2_BYTE" section on page 4-44 • <BLSRPTHSTATE> indicates the BLSR path state only if the port is on the BLSR; valid values are shown in the "BLSR_PTH_STATE" section on page 4-43 • <PST> primary state; valid values are shown in the "PST" section on page 4-85 • <SST> secondary state; valid values are shown in the "SST" section on page 4-87. <SST> is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "STS-2-1-4::LEVEL=STS1,SFBER=1E-3,SDBER=1E-5,RVRTV=Y, RVTM=1.0,SWPDIP=Y,HOLDOFFTIMER=2000, EXPTRC="EXPTRCSTRING",TRC="TRCSTRING", INCTRC="INCTRCSTRING",TRCMODE=AUTO,TACC=8, UPSRPTHSTATE=ACT,C2=0X04, BLSRPTHSTATE=PROTPTHACT:OOS,AINS" ;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.119 RTRV-ALM-<MOD2ALM>:Retrieve Alarm (CLNT, DS1, E100, E1000, EC1, FSTE, G1000, GIGE, OC12, OC192, OC3, OC48, OCH, POS, STS1, STS12C, STS192C, STS24C, STS3C, STS48C, STS6C, STS9C, T1, T3, UDCDCC, UDCF, VT1)

See Table 4-11 on page 4-6 for supported modifiers by platform.

This command retrieves and sends the current status of alarm conditions. The alarm condition or severity to be retrieved can be specified by using the input parameters as a filter.

Notes:

1. VT1-n-n-n replaces PS_VT1-n-n-n for the VT1 alarm AID.
2. The [<AIDTYPE>] shows STS1 for STS alarms.

Section	RTRV-ALM-<MOD2ALM> Description
Category	Fault
Security	Retrieve
Related Messages	REPT ALM <MOD2ALM> REPT ALM BITS REPT ALM COM REPT ALM ENV REPT ALM EQPT REPT ALM RING REPT ALM SYNCN REPT ALM UCP REPT EVT COM RTRV-ALM-ALL RTRV-ALM-BITS RTRV-ALM-ENV RTRV-ALM-EQPT RTRV-ALM-RING RTRV-ALM-SYNCN RTRV-ALM-UCP RTRV-COND-<MOD2ALM> RTRV-COND-ALL RTRV-COND-BITS RTRV-COND-ENV RTRV-COND-EQPT RTRV-COND-RING RTRV-COND-SYNCN RTRV-COND-UCP
Input Format	RTRV-ALM-<MOD2ALM>:[<TID>]:<AID>:<CTAG>::[<NTFCNCDE>],[<CONDTYPE>],[<SRVEFF>][,,,]; where: • <AID> is the access identifier from the “ALL” section on page 4-10 and must not be null • <NTFCNCDE> is the 2-letter notification code; valid values for <NTFCNCDE> are shown in the “NOTIF_CODE” section on page 4-78. A null value is equivalent to ALL. • <CONDTYPE> is the alarm condition; valid values for <CONDTYPE> are shown in the “CONDITION” section on page 4-47. A null value is equivalent to ALL. • <SRVEFF> is the effect on service caused by the alarm condition; valid values for <SRVEFF> are shown in the “SERV_EFF” section on page 4-86. A null value is equivalent to ALL.
Input Example	RTRV-ALM-OC12:ELDRIDGE:FAC-5-1:225::MN,SD,SA;

Section	RTRV-ALM-<MOD2ALM> Description (continued)
Output Format	SID DATE TIME M CTAG COMPLD "<AID>,[<AIDTYPE>]:<NTFCNCDE>,<CONDTYPE>,<SRVEFF>,,,,:[<DESC>]" ; where: • <AID> is the access identifier from the "ALL" section on page 4-10 • <AIDTYPE> is the type of access identifier; valid values for <AIDTYPE> are shown in the "MOD2ALM" section on page 4-73, <AIDTYPE> is optional • <NTFCNCDE> is the 2-letter notification code; valid values for <NTFCNCDE> are shown in the "NOTIF_CODE" section on page 4-78 • <CONDTYPE> is the alarm condition; valid values for <CONDTYPE> are shown in the "CONDITION" section on page 4-47 • <SRVEFF> is the effect on service caused by the alarm condition; valid values for <SRVEFF> are shown in the "SERV_EFF" section on page 4-86 • <DESC> is the condition description; <DESC> is a string and is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "FAC-5-1,OC12:MJ,SD,SA,,,,:\"BER AT SIGNAL DEGRADE LEVEL\"," ;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.120 RTRV-ALM-ALL: Retrieve Alarm All

This command retrieves and sends the current status of all active alarm conditions. The alarm condition or severity to be retrieved is specified using the input parameters as a filter.

According to GR-833, the RTRV-ALM-ALL command only reports EQPT, RING, COM, and rr (T1, T3, OCN, EC1, STSN, VT1, and DS1) alarms.

To retrieve all the NE alarms, issue all of the following commands:

RTRV-ALM-ALL
RTRV-ALM-ENV
RTRV-ALM-BITS
RTRV-ALM-RING
RTRV-ALM-SYNCN

Section	RTRV-ALM-ALL Description
Category	Fault
Security	Retrieve

Section	RTRV-ALM-ALL Description (continued)
Related Messages	REPT ALM <MOD2ALM> REPT ALM BITS REPT ALM COM REPT ALM ENV REPT ALM EQPT REPT ALM RING REPT ALM SYNCN REPT ALM UCP REPT EVT COM RTRV-ALM-<MOD2ALM> RTRV-ALM-BITS RTRV-ALM-ENV RTRV-ALM-EQPT RTRV-ALM-RING RTRV-ALM-SYNCN RTRV-ALM-UCP RTRV-COND-<MOD2ALM> RTRV-COND-ALL RTRV-COND-BITS RTRV-COND-ENV RTRV-COND-EQPT RTRV-COND-RING RTRV-COND-SYNCN RTRV-COND-UCP
Input Format	RTRV-ALM-ALL:[<TID>]::<CTAG>::[<NTFCNCDE>],[<CONDITION>],[<SRVEFF>][,,,]; where: • <NTFCNCDE> is a notification code; valid values for <NTFCNCDE> are shown in the "NOTIF_CODE" section on page 4-78. A null value is equivalent to ALL. • <CONDITION> is the type of alarm condition; valid values for <CONDITION> are shown in the "CONDITION" section on page 4-47. A null value is equivalent to ALL. • <SRVEFF> is the effect on service caused by the alarm condition; valid values for <SRVEFF> are shown in the "SERV_EFF" section on page 4-86. A null value is equivalent to ALL.
Input Example	RTRV-ALM-ALL:COTATI::229::MN,PWRRESTART,NSA;
Output Format	SID DATE TIME M CTAG COMPLD "[<AID>],[<AIDTYPE>]:<NTFCNCDE>,<CONDTYPE>,<SRVEFF>,,,,:[<DESC>],[<AIDDET>]" ; where: • <AID> is the identifier that has an alarm condition and is from the "ALL" section on page 4-10, <AID> is optional • <AIDTYPE> is the type of access identifier; valid values for <AIDTYPE> are shown in the "MOD2B" section on page 4-74, <AIDTYPE> is optional • <NTFCNCDE> is the notification code; valid values for <NTFCNCDE> are shown in the "NOTIF_CODE" section on page 4-78 • <CONDTYPE> is the single type of alarm condition being reported on this particular line; valid values are shown in the "CONDITION" section on page 4-47 • <SRVEFF> is the effect on service caused by the alarm condition; valid values for <SRVEFF> are shown in the "SERV_EFF" section on page 4-86 • <DESC> is the condition description; <DESC> is a string and is optional • <AIDDET> is the supplementary equipment identification; <AIDDET> is a string and is optional

Section	RTRV-ALM-ALL Description (continued)
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "SLOT-2,EQPT:MN,PWRRESTART,NSA,,,,:\"POWER FAIL RESTART\", DS1-14" ;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.121 RTRV-ALM-BITS: Retrieve Alarm Building Integrated Timing Supply

This command retrieves and sends the current status of alarm conditions associated with the BITS facility. The alarm condition or severity retrieved is specified using the input parameters as a filter.

Section	RTRV-ALM-BITS Description	
Category	Synchronization	
Security	Retrieve	
Related Messages	ED-BITS ED-NE-SYNCN ED-SYNCN OPR-SYNCNSW REPT ALM <MOD2ALM> REPT ALM BITS REPT ALM COM REPT ALM ENV REPT ALM EQPT REPT ALM RING REPT ALM SYNCN REPT ALM UCP REPT EVT BITS REPT EVT COM REPT EVT SYNCN RLS-SYNCNSW RTRV-ALM-<MOD2ALM>	RTRV-ALM-ALL RTRV-ALM-ENV RTRV-ALM-EQPT RTRV-ALM-RING RTRV-ALM-SYNCN RTRV-ALM-UCP RTRV-BITS RTRV-COND-<MOD2ALM> RTRV-COND-ALL RTRV-COND-BITS RTRV-COND-ENV RTRV-COND-EQPT RTRV-COND-RING RTRV-COND-SYNCN RTRV-COND-UCP RTRV-NE-SYNCN RTRV-SYNCN

Section	RTRV-ALM-BITS Description (continued)
Input Format	RTRV-ALM-BITS:[<TID>]:<AID>:<CTAG>::[<NTFCNCDE>],[<CONDTYPE>],[<SRVEFF>][,,,]; where: • <AID> is an identifier that has an alarm condition and is from the AID "BITS" section on page 4-18; <AID> must not be null • <NTFCNCDE> is a 2-letter notification code; valid values for <NTFCNCDE> are shown in the "NOTIF_CODE" section on page 4-78. A null value is equivalent to ALL. • <CONDTYPE> is an alarm condition; valid values for <CONDTYPE> are shown in the "CONDITION" section on page 4-47. A null value is equivalent to ALL. • <SRVEFF> is the effect on service caused by the alarm condition; valid values for <SRVEFF> are shown in the "SERV_EFF" section on page 4-86. A null value is equivalent to ALL.
Input Example	RTRV-ALM-BITS:ELVERANO:BITS-1:228::CR,LOS,SA;
Output Format	SID DATE TIME M CTAG COMPLD "<AID>,[<AIDTYPE>]:<NTFCNCDE>,<CONDTYPE>,<SRVEFF>,,,,:[<DESC>]" ; where: • <AID> is the identifier that has an alarm condition and is from the "BITS" section on page 4-18 • <AIDTYPE> is the type of access identifier; valid values for <AIDTYPE> are shown in the "MOD2B" section on page 4-74 and <AIDTYPE> is optional • <NTFCNCDE> is the 2-letter notification code; valid values for <NTFCNCDE> are shown in the "NOTIF_CODE" section on page 4-78 • <CONDTYPE> is the alarm condition; valid values for <CONDTYPE> are shown in the "CONDITION" section on page 4-47 • <SRVEFF> is the effect on service caused by the alarm condition; valid values for <SRVEFF> are shown in the "SERV_EFF" section on page 4-86 • <DESC> is the condition description; <DESC> is a string and is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "BITS-1,BITS:CR,LOS,SA,,,,:\"LOSS OF SIGNAL\"," ;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.122 RTRV-ALM-ENV: Retrieve Alarm Environment

This command retrieves the environmental alarms.

Section	RTRV-ALM-ENV Description	
Category	Environment Alarms and Controls	
Security	Retrieve	
Related Messages	OPR-ACO-ALL OPR-EXT-CONT REPT ALM <MOD2ALM> REPT ALM BITS REPT ALM COM REPT ALM ENV REPT ALM EQPT REPT ALM RING REPT ALM SYNCN REPT ALM UCP REPT EVT COM REPT EVT ENV RLS-EXT-CONT RTRV-ALM-<MOD2ALM> RTRV-ALM-ALL RTRV-ALM-BITS RTRV-ALM-EQPT	RTRV-ALM-RING RTRV-ALM-SYNCN RTRV-ALM-UCP RTRV-ATTR-CONT RTRV-ATTR-ENV RTRV-COND-<MOD2ALM> RTRV-COND-ALL RTRV-COND-BITS RTRV-COND-ENV RTRV-COND-EQPT RTRV-COND-RING RTRV-COND-SYNCN RTRV-COND-UCP RTRV-EXT-CONT SET-ATTR-CONT SET-ATTR-ENV
Input Format	RTRV-ALM-ENV:[<TID>]:<AID>:<CTAG>::[<NTFCNCDE>],[<ALMTYPE>]; where: • <AID> is the access identifier from the "ENV" section on page 4-20; <AID> must not be null **Note** For RTRV-ALM-ENV, only ENV-IN-{1-4} is a valid AID for ONS 15454 and only ENV-IN-{1-6} is a valid AID for ONS 15327. ENV-OUT-{1,6} is not a valid AID for RTRV-ALM-ENV. • <NTFCNCDE> is a notification code; valid values for <NTFCNCDE> are shown in the "NOTIF_CODE" section on page 4-78. A null value is equivalent to ALL. • <ALMTYPE> is the alarm type for the environmental alarm; valid values for <ALMTYPE> are shown in the "ENV_ALM" section on page 4-62. A null value is equivalent to ALL.	
Input Example	RTRV-ALM-ENV:CISCO:ENV-IN-1:123::MJ,OPENDR;	

Section	RTRV-ALM-ENV Description (continued)
Output Format	SID DATE TIME M CTAG COMPLD "<AID>:<NTFCNCDE>,<ALMTYPE>,,,[<DESC>]" ; where: • <AID> is an access identifier from the "ENV" section on page 4-20 • <NTFCNCDE> is the notification code; valid values for <NTFCNCDE> are shown in the "NOTIF_CODE" section on page 4-78 • <ALMTYPE> is the alarm type for the environmental alarm; valid values for <ALMTYPE> are shown in the "ENV_ALM" section on page 4-62 • <DESC> is the alarm message; <DESC> is a string and is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "ENV-IN-1:MJ,OPENDR,,,\"OPEN DOOR\"" ;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.123 RTRV-ALM-EQPT: Retrieve Alarm Equipment

This command retrieves and sends the current status of alarm conditions associated with the equipment units. The alarm condition or severity to be retrieved is specified using the input parameters as a filter.

Section	RTRV-ALM-EQPT Description	
Category	Equipment	
Security	Retrieve	
Related Messages	ALW-SWDX-EQPT ALW-SWTOPROTN-EQPT ALW-SWTOWKG-EQPT DLT-EQPT ED-EQPT ENT-EQPT INH-SWDX-EQPT INH-SWTOPROTN-EQPT INH-SWTOWKG-EQPT REPT ALM <MOD2ALM> REPT ALM BITS REPT ALM COM REPT ALM ENV REPT ALM EQPT REPT ALM RING REPT ALM SYNCN REPT ALM UCP REPT ALM COM REPT EVT EQPT	RTRV-ALM-<MOD2ALM> RTRV-ALM-ALL RTRV-ALM-BITS RTRV-ALM-ENV RTRV-ALM-RING RTRV-ALM-SYNCN RTRV-ALM-UCP RTRV-COND-<MOD2ALM> RTRV-COND-ALL RTRV-COND-BITS RTRV-COND-ENV RTRV-COND-EQPT RTRV-COND-RING RTRV-COND-SYNCN RTRV-COND-UCP RTRV-EQPT SW-DX-EQPT SW-TOPROTN-EQPT SW-TOWKG-EQPT

Section	RTRV-ALM-EQPT Description (continued)
Input Format	RTRV-ALM-EQPT:[<TID>]:<AID>:<CTAG>::[<NTFCNCDE>],[<CONDTYPE>],[<SRVEFF>][,,,]; where: • <AID> is an identifier that has an alarm condition and is from the "EQPT" section on page 4-21; <AID> must not be null • <NTFCNCDE> is the 2-letter notification code; valid values for <NTFCNCDE> are shown in the "NOTIF_CODE" section on page 4-78. A null value is equivalent to ALL. • <CONDTYPE> is the alarm condition; valid values for <CONDTYPE> are shown in the "CONDITION" section on page 4-47. A null value is equivalent to ALL. • <SRVEFF> is the effect on service caused by the alarm condition; valid values for <SRVEFF> are shown in the "SERV_EFF" section on page 4-86. A null value is equivalent to ALL.
Input Example	RTRV-ALM-EQPT:TWOROCK:SLOT-7:227::MJ,HITEMP,NSA;
Output Format	SID DATE TIME M CTAG COMPLD "[<AID>],[<AIDTYPE>]:<NTFCNCDE>,<CONDTYPE>,<SRVEFF>,,,,:[<DESC>]" ; where: • <AID> is an identifier that has an alarm condition and is from the "EQPT" section on page 4-21; <AID> is optional • valid values for <AIDTYPE> are shown in the "MOD2B" section on page 4-74; <AIDTYPE> is optional • <NTFCNCDE> is a 2-letter notification code; valid values for <NTFCNCDE> are shown in the "NOTIF_CODE" section on page 4-78 • <CONDTYPE> is an alarm condition; valid values for <CONDTYPE> are shown in the "CONDITION" section on page 4-47 • <SRVEFF> is the effect on service caused by the alarm condition; valid values for <SRVEFF> are shown in the "SERV_EFF" section on page 4-86 • <DESC> is a condition description; <DESC> is a string and is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "SLOT-7,EQPT:MJ,HITEMP,NSA,,,,:\"HI TEMPERATURE\"," ;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.124 RTRV-ALM-RING: Retrieve Alarm Ring

This command retrieves and sends the current status of all active alarm conditions against a ring object for BLSR. The alarm condition or severity to be retrieved can be specified by using the input parameters as a filter.

Section	RTRV-ALM-RING Description	
Category	Fault	
Security	Retrieve	
Related Messages	DLT-BLSR ED-BLSR ENT-BLSR REPT ALM <MOD2ALM> REPT ALM BITS REPT ALM COM REPT ALM ENV REPT ALM EQPT REPT ALM RING REPT ALM SYNCN REPT ALM UCP REPT EVT COM REPT EVT RING RTRV-ALM-<MOD2ALM> RTRV-ALM-ALL	RTRV-ALM-BITS RTRV-ALM-ENV RTRV-ALM-EQPT RTRV-ALM-SYNCN RTRV-ALM-UCP RTRV-BLSR RTRV-COND-<MOD2ALM> RTRV-COND-ALL RTRV-COND-BITS RTRV-COND-ENV RTRV-COND-EQPT RTRV-COND-RING RTRV-COND-SYNCN RTRV-COND-UCP
Input Format	RTRV-ALM-RING:[<TID>]:[<AID>]:<CTAG>::[<NTFCNCDE>],[<CONDITION>],[<SRVEFF>][,,,]; where: • <AID> identifies a BLSR RING ID with alarm condition and is the AID from the "BLSR" section on page 4-18; <AID> is a string and a null value is equivalent to ALL. • <NTFCNCDE> is a notification code; valid values for <NTFCNCDE> are shown in the "NOTIF_CODE" section on page 4-78 and a null value is equivalent ALL. • <CONDITION> indicates a BLSR alarm condition; valid values for <CONDITION> are shown in the "CONDITION" section on page 4-47 and a null value is equivalent to ALL. • <SRVEFF> is the effect on service caused by the alarm condition; valid values for <SRVEFF> are shown in the "SERV_EFF" section on page 4-86 and a null value is equivalent to ALL.	
Input Example	RTRV-ALM-RING:CISCO:BLSR-999:123::MJ,PRC-DUPID,SA;	

Section	RTRV-ALM-RING Description (continued)
Output Format	SID DATE TIME M CTAG COMPLD "<AID>:<NTFCNCDE>,<CONDTYPE>,<SRVEFF>,,,,:[<DESC>]" ; where: • <AID> identifies a BLSR RING ID with alarm condition and is from the "BLSR" section on page 4-18 • <NTFCNCDE> is a notification code; valid values for <NTFCNCDE> are shown in the "NOTIF_CODE" section on page 4-78 • <CONDTYPE> indicates a BLSR alarm condition; valid values for <CONDTYPE> are shown in the "CONDITION" section on page 4-47 • <SRVEFF> is the effect on service caused by the alarm condition; valid values for <SRVEFF> are shown in the "SERV_EFF" section on page 4-86 • <DESC> is a condition description; <DESC> is a string and is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "BLSR-999:MJ,PRC-DUPID,SA,,,,:\"DUPLICATE NODE ID\"," ;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.125 RTRV-ALM-SYNCN: Retrieve Alarm Synchronization

This command retrieves and sends the current status of alarm conditions associated with a synchronization facility. The alarm condition or severity to be retrieved can be specified by using the input parameters as a filter.

Section	RTRV-ALM-SYNCN Description
Category	Synchronization
Security	Retrieve

Section	RTRV-ALM-SYNCN Description (continued)	
Related Messages	ED-BITS ED-NE-SYNCN ED-SYNCN OPR-SYNCNSW REPT ALM <MOD2ALM> REPT ALM BITS REPT ALM COM REPT ALM ENV REPT ALM EQPT REPT ALM RING REPT ALM SYNCN REPT ALM UCP REPT EVT BITS REPT EVT COM REPT EVT SYNCN RLS-SYNCNSW RTRV-ALM-<MOD2ALM>	RTRV-ALM-ALL RTRV-ALM-BITS RTRV-ALM-ENV RTRV-ALM-EQPT RTRV-ALM-RING RTRV-ALM-UCP RTRV-BITS RTRV-COND-<MOD2ALM> RTRV-COND-ALL RTRV-COND-BITS RTRV-COND-ENV RTRV-COND-EQPT RTRV-COND-RING RTRV-COND-SYNCN RTRV-COND-UCP RTRV-NE-SYNCN RTRV-SYNCN
Input Format	RTRV-ALM-SYNCN:[<TID>]:<AID>:<CTAG>::[<NTFCNCDE>],[<CONDTYPE>],[<SRVEFF>][,,,]; where: • <AID> identifies the access identifier from the "SYNC_REF" section on page 4-28, <AID> must not be null • <NTFCNCDE> is the 2-letter notification code; valid values for <NTFCNCDE> are shown in the "NOTIF_CODE" section on page 4-78. A null value is equivalent to ALL. • <CONDTYPE> is the alarm condition; valid values for <CONDTYPE> are shown in the "CONDITION" section on page 4-47. A null value is equivalent to ALL. • <SRVEFF> is the effect on service caused by the alarm condition; valid values for <SRVEFF> are shown in the "SERV_EFF" section on page 4-86. A null value is equivalent to ALL.	
Input Example	RTRV-ALM-SYNCN:FULTON:SYNC-NE:226::CR,FAILTOSW,SA;	

Section	RTRV-ALM-SYNCN Description (continued)
Output Format	SID DATE TIME M CTAG COMPLD "<AID>,[<AIDTYPE>]:<NTFCNCDE>,<CONDTYPE>, <SRVEFF>,,,,:[<DESC>]" ; where: • <AID> is the identifier that has an alarm condition and is from the "SYN" section on page 4-26 • <AIDTYPE> is the type of access identifier: valid values for <AIDTYPE> are shown in the "MOD2B" section on page 4-74 and <AIDTYPE> is optional • <NTFCNCDE> is the 2-letter notification code; valid values for <NTFCNCDE> are shown in the "NOTIF_CODE" section on page 4-78 • <CONDTYPE> is the alarm condition; valid values for <CONDTYPE> are shown in the "CONDITION" section on page 4-47 • <SRVEFF> is the effect on service caused by the alarm condition; valid values for <SRVEFF> are shown in the "SERV_EFF" section on page 4-86 • <DESC> is the condition description; <DESC> is a string and is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "SYNC-NE,SYNCN:CR,FAILTOSW,SA,,,,: \"FAILURE TO SWITCH TO PROTECTION\"," ;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.126 RTRV-ALM-UCP: Retrieve Alarm Unified Control Plane

This retrieves and sends the current status of all active alarm conditions against a UCP object. The alarm condition or severity to be retrieved can be specified by using the input parameters as a filter.

Section	RTRV-ALM-UCP Description
Category	UCP
Security	Retrieve

Section	RTRV-ALM-UCP Description (continued)
Related Messages	DLT-UCP-CC DLT-UCP IF DLT-UCP-NBR ED-UCP-CC ED-UCP-IF ED-UCP-NBR ED-UCP-NODE ENT-UCP-CC ENT-UCP-IF ENT-UCP-NBR REPT ALM <MOD2ALM> REPT ALM BITS REPT ALM COM REPT ALM ENV REPT ALM EQPT REPT ALM RING REPT ALM SYNCN REPT ALM UCP REPT EVT COM REPT EVT UCP RTRV-ALM-<MOD2ALM> RTRV-ALM-ALL RTRV-ALM-BITS RTRV-ALM-ENV RTRV-ALM-EQPT RTRV-ALM-RING RTRV-ALM-SYNCN RTRV-COND-<MOD2ALM> RTRV-COND-ALL RTRV-COND-BITS RTRV-COND-ENV RTRV-COND-EQPT RTRV-COND-RING RTRV-COND-SYNCN RTRV-COND-UCP RTRV-UCP-CC RTRV-UCP-IF RTRV-UCP-NBR RTRV-UCP-NODE
Input Format	RTRV-ALM-UCP:[<TID>]:<AID>:<CTAG>::[<NTFCNCDE>],[<CONDTYPE>],[<SRVEFF>][,,,]; where: • <AID> identifies a UCP object with alarm condition; <AID> is from the "UCP" section on page 4-17 and must not be null • <NTFCNCDE> is a notification code; valid values <NTFCNCDE> are shown in the "NOTIF_CODE" section on page 4-78. A null value is equivalent to ALL • <CONDTYPE> is the type of condition to be retrieved; valid values are shown in the "CONDITION" section on page 4-47. A null value is equivalent to ALL • <SRVEFF> is the effect on service caused by the alarm condition; valid values are shown in the "SERV_EFF" section on page 4-86. A null value is equivalent to ALL
Input Example	RTRV-ALM-UCP:CISCO:CC-1:123::MJ,LMP-HELLODOWN,SA;

Section	RTRV-ALM-UCP Description (continued)
Output Format	SID DATE TIME M CTAG COMPLD "<AID>:<NTFCNCDE>,<CONDTYPE>,<SRVEFF>,,,,:[<DESC>]" ; where: • <AID> identifies a UCP object with alarm condition; <AID> is from the "UCP" section on page 4-17 • <NTFCNCDE> is a notification code; valid values are shown in the "NOTIF_CODE" section on page 4-78 • <CONDTYPE> is the type of condition to be retrieved; valid values are shown in the "CONDITION" section on page 4-47 • <SRVEFF> is the effect on service caused by the alarm condition; valid values are shown in the "SERV_EFF" section on page 4-86 • <DESC> is a condition description; <DESC> is a string and is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "CC-1:MJ,LMP-HELLODOWN,SA,,,,:\ "LMP HELLO FSM ON CONTROL CHANNEL DOWN\"," ;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.127 RTRV-ATTR-CONT: Retrieve Attribute Control

This command retrieves and sends the attributes associated with an external control. These attributes are used when an external control is operated or released. To set these attributes, use the SET-ATTR-CONT command.

Section	RTRV-ATTR-CONT Description
Category	Environment Alarms and Controls
Security	Retrieve
Related Messages	OPR-EXT-CONT REPT ALM ENV REPT EVT ENV RLS-EXT-CONT RTRV-ALM-ENV RTRV-ATTR-ENV RTRV-COND-ENV RTRV-EXT-CONT SET-ATTR-CONT SET-ATTR-ENV
Input Format	RTRV-ATTR-CONT:[<TID>]:<AID>:<CTAG>[::<CONTTYPE>]; where: • <AID> identifies the external control for which attributes are being set; <AID> is from the "ENV" section on page 4-20 and must not be null • <CONTTYPE> is the type of external control; valid values for <CONTTYPE> are shown in the "CONTTYPE" section on page 4-59. A null value is equivalent to ALL
Input Example	RTRV-ATTR-CONT:CISCO:ENV-OUT-2:123::AIRCOND;

Section	RTRV-ATTR-CONT Description (continued)
Output Format	SID DATE TIME M CTAG COMPLD "<AID>:[<CONTTYPE>]" ; where: • <AID> identifies the external control for which attributes are being set and is from the "ENV" section on page 4-20 • <CONTTYPE> is the type of external control; valid values are shown in the "CONTTYPE" section on page 4-59 and <CONTTYPE> is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "ENV-OUT-2:AIRCOND" ;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.128 RTRV-ATTR-ENV: Retrieve Attribute Environment

This command retrieves the attributes associated with an environmental alarm.

Section	RTRV-ATTR-ENV Description	
Category	Environment Alarms and Controls	
Security	Retrieve	
Related Messages	OPR-EXT-CONT REPT ALM ENV REPT EVT ENV RLS-EXT-CONT RTRV-ALM-ENV	RTRV-ATTR-CONT RTRV-COND-ENV RTRV-EXT-CONT SET-ATTR-CONT SET-ATTR-ENV
Input Format	RTRV-ATTR-ENV:[<TID>]:<AID>:<CTAG>::[<NTFCNCDE>],[<ALMTYPE>]; where: • <AID> is the access identifier from the "ENV" section on page 4-20 and must not be null • <NTFCNCDE> is the notification code for the environmental alarm; valid values are shown in the "NOTIF_CODE" section on page 4-78. A null value is equivalent to ALL • <ALMTYPE> is the alarm type for the environmental alarm; valid values are shown in the "ENV_ALM" section on page 4-62. A null value is equivalent to ALL	
Input Example	RTRV-ATTR-ENV:CISCO:ENV-IN-1:123::MJ,OPENDR;	

Section	RTRV-ATTR-ENV Description (continued)
Output Format	SID DATE TIME M CTAG COMPLD "<AID>:[<NTFCNCDE>],[<ALMTYPE>],[<DESC>]" ; where: • <AID> is the access identifier from the "ENV" section on page 4-20 • <NTFCNCDE> is the notification code for the environmental alarm; valid values are shown in the "NOTIF_CODE" section on page 4-78, <NTFCNCDE> is optional • <ALMTYPE> is the alarm type for the environmental alarm; valid values are shown in the "ENV_ALM" section on page 4-62, <ALMTYPE> is optional • <DESC> is the alarm description; <DESC> is a string and is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "ENV-IN-1:MJ,OPENDR,\"OPEN DOOR\"" ;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.129 RTRV-BITS: Retrieve Building Integrated Timing Supply

This command retrieves the BITS configuration command.

Section	RTRV-BITS Description
Category	Synchronization
Security	Retrieve
Related Messages	ED-BITS ED-NE-SYNCN ED-SYNCN OPR-SYNCNSW REPT ALM BITS REPT ALM SYNCN REPT EVT BITS REPT EVT SYNCN RLS-SYNCNSW RTRV-ALM-BITS RTRV-ALM-SYNCN RTRV-COND-BITS RTRV-COND-SYNCN RTRV-NE-SYNCN RTRV-SYNCN
Input Format	RTRV-BITS:[<TID>]:<AID>:<CTAG>[::::]; where: • <AID> is a bit access identifier from the "BITS" section on page 4-18 and must not be null
Input Example	RTRV-BITS:SONOMA:BITS-1:782;

Section	RTRV-BITS Description (continued)
Output Format	SID DATE TIME M CTAG COMPLD "<AID>::[LINECDE=<LINECDE>,][FMT=<FMT>,][LBO=<LBO>,][SYNCMSG=<SYNCMSG>,][AISTHRSHLD=<AISTHRSHLD>]:[<PST>]" ; where: • <AID> is an access identifier from the "BITS" section on page 4-18 • <LINECDE> is a line code; valid values for <LINECDE> are shown in the "LINE_CODE" section on page 4-70, <LINECDE> is optional • <FMT> is a frame format; valid values are shown in the "FRAME_FORMAT" section on page 4-69, <FMT> is optional • <LBO> indicates BITS line build-out; valid values are shown in the "BITS_LineBuildOut" section on page 4-42, <LBO> is optional • <SYNCMSG> indicates a sync messaging; <SYNCMSG> defaults to (Y) and valid values are shown in the "ON_OFF" section on page 4-79, <SYNCMSG> is optional • <AIRTHRSHLD> is the AIS threshold. Valid values are shown in the "SYNC_CLOCK_REF_QUALITY_LEVEL" section on page 4-89; <AIRTHRSHLD> is optional • <PST> is the state; valid values are shown in the "PST" section on page 4-85, <PST> is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "BITS-1::LINECDE=AMI,FMT=ESF,LBO=0-133,SYNCMSG=Y,AISTHRSHLD=PRS:IS" ;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.130 RTRV-BLSR: Retrieve Bidirectional Line Switched Ring

This command retrieves the BLSR information of the NE. A two-fiber or four-fiber BLSR can be retrieved.

Output examples:

4F BLSR

"BLSR-43::RINGID=43,NODEID=3,MODE=4F,RVRTV=Y,RVTM=5.0,SRVRTV=Y, SRVTM=5.0,EASTWORK=FAC-5-1,WESTWORK=FAC-6-1,EASTPROT=FAC-12-1, WESTPROT=FAC-13-1"

2F BLSR

"BLSR-12::RINGID=12,NODEID=2,MODE=2F,RVRTV=Y,RVTM=5.0,EASTWORK=FAC-5-1, WESTWORK=FAC-6-1"

Error conditions:

1. Only ALL, null, or single "BLSR-#" in the AID in is allowed in this command.
2. A NULL AID defaults to the AID ALL.
3. If the system fails on getting IOR, a SDBE (Status, Internal Data Base Error) error message will be returned.
4. If the NE does not have BSLR, the TL1 session will return the COMPLD error message with empty information to the user.

Section	RTRV-BLSR Description
Category	BLSR
Security	Retrieve
Related Messages	DLT-BLSR ED-BLSR ENT-BLSR REPT ALM RING REPT EVT RING RTRV-ALM-RING RTRV-COND-RING
Input Format	RTRV-BLSR:[<TID>]:[<AID>]:<CTAG>[::::]; where: • <AID> identifies the BLSR of the NE. Only ALL, NULL, or single "BLSR-#" in <AID> is allowed; <AID> is from the "BLSR" section on page 4-18. A null value is equivalent to ALL.
Input Example	RTRV-BLSR:PETALUMA:ALL:123;

Section	RTRV-BLSR Description (continued)
Output Format	SID DATE TIME M CTAG COMPLD "[<AID>]::[RINGID=<RINGID>,][NODEID=<NODEID>,] [MODE=<MODE>,][RVRTV=<RVRTV>,][RVTM=<RVTM>,] [SRVRTV=<SRVRTV>,][SRVTM=<SRVTM>,] [EASTWORK=<EASTWORK>,][WESTWORK=<WESTWORK>,] [EASTPROT=<EASTPROT>,][WESTPROT=<WESTPROT>]" ; where: • <AID> identifies the BLSR of the NE and is from the "BLSR" section on page 4-18 • <RINGID> identifies the BLSR ID of the NE and ranges from 0–9999; <RINGID> is an integer • <NODEID> identifies the BLSR node ID of the NE and ranges from 0–31; <NODEID> is an integer • <MODE> identifies the BLSR mode and can be 2-fiber or 4-fiber; valid values for <MODE> are shown in the "BLSR_MODE" section on page 4-42 • <RVRTV> identifies the revertive mode; valid values are shown in the "ON_OFF" section on page 4-79 • <RVTM> identifies the revertive time; valid values are shown in the "REVERTIVE_TIME" section on page 4-85 • <SRVRTV> identifies the span revertive mode; valid values are shown in the "ON_OFF" section on page 4-79 and <SRVRTV> is optional • <SRVTM> identifies the span revertive time; valid values are shown in the "REVERTIVE_TIME" section on page 4-85. <SRVTM> is optional. • <EASTWORK> identifies the east working facility and is the AID from the "FACILITY" section on page 4-22 • <WESTWORK> identifies the west working facility and is the AID from the "FACILITY" section on page 4-22 • <EASTPROT> identifies the east protecting facility and is the AID from the "FACILITY" section on page 4-22; <EASTPROT> is optional • <WESTPROT> identifies the west protecting facility and is the AID from the "FACILITY" section on page 4-22; <WESTPROT> is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "BLSR-43::RINGID=43,NODEID=3,MODE=4F,RVRTV=Y,RVTM=5.0, SRVRTV=Y,SRVTM=5.0,EASTWORK=FAC-5-1,WESTWORK=FAC-6-1, EASTPROT=FAC-12-1,WESTPROT=FAC-13-1" ;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.131 RTRV-CLNT: Retrieve Client

This command retrieves client facility attributes.

See the "Provisioning Rules for MXP_2.5G_10G and TXP_MR_10G Cards" section on page 1-8 for specific MXP/TXP card provisioning rules.

Section	RTRV-CLNT Description
Category	DWDM
Security	Retrieve
Related Messages	ED-CLNT RTRV-ALM-CLNT RTRV-COND-CLNT RST-CLNT RMV-CLNT ED-DWDM RTRV-DWDM
Input Format	RTRV-CLNT:[<TID>]:<AID>:<CTAG>; where: • <AID> is from the "FACILITY" section on page 4-22 and must not be null
Input Example	RTRV-CLNT:CISCO:FAC-1-1:100;
Output Format	SID DATE TIME M CTAG COMPLD "<AID>:,,[<ROLE>],<STATUS>:[COMM=<COMM>,][SFBER=<SFBER>,][SDBER=<SDBER>,][ALSMODE=<ALSMODE>,][ALSRCINT=<ALSRCINT>,][ALSRCPW=<ALSRCPW>,][SYNCMSG=<SYNCMSG>,][SENDDUS=<SENDDUS>,][LSRSTAT=<LSRSTAT>,][CLEI=<CLEI>,][PN=<PARTNUM>,][SN=<SERIALNUM>,][VENDOR=<VENDOR>,][VENDORREV=<VENDORREV>,][OPTICS=<OPTICS>,][MACADDR=<MACADDR>,][SOAK=<SOAK>]:<PST>,[<SST>]" ; where: • <AID> is the facility AID from the "FACILITY" section on page 4-22 • <ROLE> identifies an OCn port role (i.e. WORK or PROT); valid values for are shown in the "SIDE" section on page 4-87 • <STATUS> identifies an OCn port status (i.e. Active or Standby); valid values are shown in the "STATUS" section on page 4-87 • <COMM> indicates if the GCC or DCC is enabled or disabled. The GCC can be enabled only if the digital wrapper has been enabled for the card. The default is NONE. Valid values are shown in the "COMM_TYPE" section on page 4-46. Rules for a MXP/TXP Client port are; only the DCC can be provisioned, if the termination mode is not transparent and the payload is SONET. On a MXP/TXP DWDM port, the DCC can be enabled only if the G.709 is not enabled and if the payload is SONET and the termination mode is not transparent. On a MXP/TXP DWDM port, the GCC can be enabled if there is no DCC and the G.709 flag is enabled.

Section	RTRV-CLNT Description (continued)
Output Format (continued)	• <SFBER> signal fail bit error ration that defaults to 1E-7; valid values are shown in the "SF_BER" section on page 4-86 and <SFBER> is optional • <SDBER> signal degrade bit error ratio that defaults to 1E-7; valid values are shown in the "SD_BER" section on page 4-85 and <SDBER> is optional • <ALSMODE> automatic laser shutdown mode that defaults to DISABLED; valid values are shown in the "ALS_MODE" section on page 4-41 and <ALSMODE> is optional • <ALSRCINT> ALS interval; <ALSRCINT> is an integer and is optional • <ALSRCPW> ALS pulse width; <ALSRCPW> is a float and is optional • <SYNCMSG> indicates that the facility be enabled to provide the synchronization clock. This does not apply to a TXP card. This applies for a MXP card only if the payload is SONET/SDH and the card termination mode is as follows: TXP–no ports are available for timing selection. MXP–TRANSPARENT–all client ports are available for all timing selections. All trunk ports are not available. LINE–all ports are available for all timing selections. Valid values are shown in the "ON_OFF" section on page 4-79 and <SYNCMSG> is optional • <SENDDUS> indicates that the facility be enabled to provide the synchronization clock. This does not apply to a TXP card. This applies for a MXP card only if the payload is SONET/SDH and the card termination mode is as follows: TXP–no ports are available for timing selection. MXP–TRANSPARENT–All client ports are available for all timing selections. All trunk ports are not available. LINE–All ports are available for all timing selections. Valid values are shown in the "ON_OFF" section on page 4-79 and <SENDDUS> is optional • <LSRSTAT> indicates the laser status; valid values are shown in the "UP_DOWN" section on page 4-98 and <LSRSTAT> is optional • <CLEI> is the CLEI code for the SFP for the MXP card; <CLEI> is a string and is optional • <PARTNUM> is the part number for the SFP for the MXP card; <PARTNUM> is a string and is optional • <SERIALNUM> is the serial number of the SFP for the MXP card; <SERIALNUM> is a string and is optional • <VENDOR> is the vendor name for the SFP in a MXP card; <VENDOR> is a string and is optional • <VENDORREV> is the vendor SFP revision number; <VENDORREV> is a string and is optional

Section	RTRV-CLNT Description (continued)
Output Format (continued)	• <OPTICS> is the wavelength reach information for the SFP MXP card; <OPTICS> is a string and is optional • <MACADDR> identifies the MAC address for the 10GE payload; <MACADDR> is a string and is optional • <SOAK> OOS-AINS to IS transition soak time as measured in 15-minute intervals. A value of 4 equals a soak time of 1 hour. The allowable range is 0–480 intervals. <SOAK> is an integer and is optional • <PST> is the primary state; valid values are shown in the "PST" section on page 4-85 • <SST> is the secondary state; valid values are shown in the "SST" section on page 4-87 and <SST> is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "FAC-1-1:,,ROLE,ACT:COMM=DCC,SFBER=1E-4,SDBER=1E-6, ALSMODE=Y,ALSRCINT=30,ALSRCPW=35.1,SYNCMSG=Y,SENDDUS=Y, LSRSTAT=UP,CLEI=ABC,PN=123,SN=123,VENDOR=CISCO, VENDORREV=111,OPTICS=LR,MACADDR=00-11-22-33-44-55,SOAK=10: IS,AINS"" ;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.132 RTRV-COND-<MOD2ALM>: Retrieve Condition (CLNT, DS1, E100, E1000, EC1, FSTE, G1000, GIGE, OC12, OC192, OC3, OC48, OCH, POS, STS1, STS12C, STS192C, STS24C, STS3C, STS48C, STS6C, STS9C, T1, T3, UDCDCC, UDCF, VT1)

See Table 4-11 on page 4-6 for supported modifiers by platform.

This command retrieves the current standing condition and state associated with an entity.

Section	RTRV-COND-<MOD2ALM> Description	
Category	Fault	
Security	Retrieve	
Related Messages	REPT ALM <MOD2ALM> REPT ALM BITS REPT ALM COM REPT ALM ENV REPT ALM EQPT REPT ALM RING REPT ALM SYNCN REPT ALM UCP REPT EVT COM RTRV-ALM-<MOD2ALM> RTRV-ALM-ALL RTRV-ALM-BITS	RTRV-ALM-ENV RTRV-ALM-EQPT RTRV-ALM-RING RTRV-ALM-SYNCN RTRV-ALM-UCP RTRV-COND-ALL RTRV-COND-BITS RTRV-COND-ENV RTRV-COND-EQPT RTRV-COND-RING RTRV-COND-SYNCN RTRV-COND-UCP

Section	RTRV-COND-<MOD2ALM> Description (continued)
Input Format	RTRV-COND-<MOD2ALM>:[<TID>]:<AID>:<CTAG>::[<TYPEREQ>][,,,]; where: • <AID> is the identifier that has an alarm condition; <AID> is from the "ALL" section on page 4-10 and must not be null • <TYPEREQ> is the type of condition to be retrieved; valid values are shown in the "CONDITION" section on page 4-47. A null value is equivalent to ALL.
Input Example	RTRV-COND-T3:TID:FAC-2-1:229::LOS;
Output Format	SID DATE TIME M CTAG COMPLD "<AID>,[<AIDTYPE>]:[<NTFCNCDE>],<TYPEREP>,[<SRVEFF>], [<OCRDAT>],[<OCRTM>],,,[<DESC>]" ; where: • <AID> is an identifier that has an alarm condition and is from the "ALL" section on page 4-10 • Valid values for <AIDTYPE> are shown in the "MOD2ALM" section on page 4-73, <AIDTYPE> is optional • <NTFCNCDE> is a notification code; valid values are shown in the "NOTIF_CODE" section on page 4-78, <NTFCNCDE> is optional • <TYPEREP> is the condition itself; valid values are shown in the "CONDITION" section on page 4-47 • <SRVEFF> is the effect on service caused by the alarm condition; valid values are shown in the "SERV_EFF" section on page 4-86, <SRVEFF> is optional • <OCRDAT> is a date and is optional • <OCRTM> is a time and is optional • <DESC> is a condition description; <DESC> is a string and is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "FAC-2-1,T3:CR,LOS,SA,01-01,16-00-20,,,\"LOS OF SIGNAL\"" ;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.133 RTRV-COND-ALL: Retrieve Condition All

This command retrieves the current standing condition for all entities.

According to GR-833, the RTRV-COND-ALL command only reports EQPT, COM, and rr (T1, T3, OCN, EC1, STSN, VT1, and DS1) alarms.

To retrieve all the NE conditions, issue all of the following commands:

RTRV-COND-ALL
RTRV-COND-ENV
RTRV-COND-BITS
RTRV-COND-RING
RTRV-COND-SYNCN

RTRV-COND-ALL does not return all conditions that are returned by other, more specific RTRV-COND commands. Instead it returns a subset of those conditions. This is a requirement from section 6.2.1.8.4 of GR-253-CORE. The specific requirements are R6-288, R6-289 and R6-290. Section 6.2.1.8.4 states a retrieval that returns ALL conditions from a node (RTRV-COND-ALL) must omit any conditions that are “same root cause” as other raised conditions. The section also states any retrieval of a subset of the conditions from a node, regardless of how the subsetting occurs, should not omit these “same root cause” conditions. RTRV-COND-STS1, for example, must include “same root cause” conditions in the set it returns, while RTRV-COND-ALL must not.

Section	RTRV-COND-ALL Description
Category	Fault
Security	Retrieve
Related Messages	REPT ALM <MOD2ALM> REPT ALM BITS REPT ALM COM REPT ALM ENV REPT ALM EQPT REPT ALM RING REPT ALM SYNCN REPT ALM UCP REPT EVT COM RTRV-ALM-<MOD2ALM> RTRV-ALM-ALL RTRV-ALM-BITS RTRV-ALM-ENV RTRV-ALM-EQPT RTRV-ALM-RING RTRV-ALM-SYNCN RTRV-ALM-UCP RTRV-COND-<MOD2ALM> RTRV-COND-BITS RTRV-COND-ENV RTRV-COND-EQPT RTRV-COND-RING RTRV-COND-SYNCN RTRV-COND-UCP
Input Format	RTRV-COND-ALL:[<TID>]::<CTAG>::[<TYPEREQ>][,,,]; where: • <TYPEREQ> is the type of condition to be retrieved; valid values are shown in the “CONDITION” section on page 4-47. A null value is equivalent to ALL
Input Example	RTRV-COND-ALL:TID::229::LOS;

Section	RTRV-COND-ALL Description (continued)
Output Format	SID DATE TIME M CTAG COMPLD "<AID>,[<AIDTYPE>]:[<NTFCNCDE>],<TYPEREP>,[<SRVEFF>], [<OCRDAT>],[<OCRTM>],,,[<DESC>]" ; where: • <AID> is an identifier that has an alarm condition; <AID> is from the "ALL" section on page 4-10 • <AIDTYPE> is the type of access identifier; valid values are shown in the "MOD2B" section on page 4-74, <AIDTYPE> is optional • <NTFCNCDE> is the notification code; valid values are shown in the "NOTIF_CODE" section on page 4-78, <NTFCNCDE> is optional • <TYPEREP> is the type of condition to be retrieved; valid values are shown in the "CONDITION" section on page 4-47 • <SRVEFF> is the effect on service caused by the alarm condition; valid values are shown in the "SERV_EFF" section on page 4-86, <SRVEFF> is optional • <OCRDAT> is a date and is optional • <OCRTM> is a time and is optional • <DESC> is the condition description; <DESC> is a string and is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "FAC-2-1,OC3:CR,LOS,SA,01-01,16-02-15,,,\"LOS OF SIGNAL\"" ;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.134 RTRV-COND-BITS: Retrieve Condition Building Integrated Timing Supply

This command retrieves the standing conditions on BITS.

Section	RTRV-COND-BITS Description	
Category	Synchronization	
Security	Retrieve	
Related Messages	ED-BITS ED-NE-SYNCN ED-SYNCN OPR-SYNCNSW REPT ALM <MOD2ALM> REPT ALM BITS REPT ALM COM REPT ALM ENV REPT ALM EQPT REPT ALM RING REPT ALM SYNCN REPT ALM UCP REPT EVT BITS REPT EVT COM REPT EVT SYNCN RLS-SYNCNSW RTRV-ALM-<MOD2ALM>	RTRV-ALM-ALL RTRV-ALM-BITS RTRV-ALM-ENV RTRV-ALM-EQPT RTRV-ALM-RING RTRV-ALM-SYNCN RTRV-ALM-UCP RTRV-BITS RTRV-COND-<MOD2ALM> RTRV-COND-ALL RTRV-COND-ENV RTRV-COND-EQPT RTRV-COND-RING RTRV-COND-SYNCN RTRV-COND-UCP RTRV-NE-SYNCN RTRV-SYNCN
Input Format	RTRV-COND-BITS:[<TID>]:<AID>:<CTAG>::[<TYPEREQ>][,,,]; where: • <AID> is the access identifier from the "BITS" section on page 4-18 and must not be null • <TYPEREQ> is the type of condition to be retrieved; valid values are shown in the "CONDITION" section on page 4-47. A null value is equivalent to ALL	
Input Example	RTRV-COND-BITS:TID:BITS-1:229::LOS;	

Section	RTRV-COND-BITS Description (continued)
Output Format	SID DATE TIME M CTAG COMPLD "<AID>,[<AIDTYPE>]:[<NTFCNCDE>],<TYPEREP>,[<SRVEFF>], [<OCRDAT>],[<OCRTM>],,,[<DESC>]" ; where: • <AID> is an identifier that has an alarm condition and is from the "BITS" section on page 4-18 • <AIDTYPE> is the type of AID. It is always reported as BITS; valid values are shown in the "MOD2B" section on page 4-74, <AIDTYPE> is optional • <NTFCNCDE> is the notification code; valid values are shown in the "NOTIF_CODE" section on page 4-78, <NTFCNCDE> is optional • <TYPEREP> is the type of condition to be retrieved; valid values are shown in the "CONDITION" section on page 4-47 • <SRVEFF> is the effect on service caused by the alarm condition; valid values are shown in the "SERV_EFF" section on page 4-86, <SRVEFF> is optional • <OCRDAT> is a date and is optional • <OCRTM> is a time and is optional • <DESC> is a string and is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "BITS-1,BITS:CR,LOS,SA,01-01,16-02-15,,,\"LOS OF SIGNAL\"" ;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.135 RTRV-COND-ENV: Retrieve Environmental Condition

This command retrieves the environmental conditions.

Section	RTRV-COND-ENV Description
Category	Environment Alarms and Controls
Security	Retrieve
Related Messages	OPR-EXT-CONT REPT ALM <MOD2ALM> REPT ALM BITS REPT ALM COM REPT ALM ENV REPT ALM EQPT REPT ALM RING REPT ALM SYNCN REPT ALM UCP REPT EVT COM REPT EVT ENV RLS-EXT-CONT RTRV-ALM-<MOD2ALM> RTRV-ALM-ALL RTRV-ALM-BITS RTRV-ALM-ENV RTRV-ALM-EQPT RTRV-ALM-RING RTRV-ALM-SYNCN RTRV-ALM-UCP RTRV-ATTR-CONT RTRV-ATTR-ENV RTRV-COND-<MOD2ALM> RTRV-COND-ALL RTRV-COND-BITS RTRV-COND-EQPT RTRV-COND-RING RTRV-COND-SYNCN RTRV-COND-UCP RTRV-EXT-CONT SET-ATTR-CONT SET-ATTR-ENV
Input Format	RTRV-COND-ENV:[<TID>]:<AID>:<CTAG>::[<NTFCNCDE>],[<ALMTYPE>][,,,]; where: • <AID> is an access identifier from the "ENV" section on page 4-20 and must not be null **Note** For RTRV-COND-ENV, only ENV-IN-{1-4} is a valid AID for ONS 15454 and only ENV-IN-{1-6} is a valid AID for ONS 15327. ENV-OUT-{1,6} is not a valid AID for RTRV-COND-ENV. • <NTFCNCDE> is a notification code; valid values are shown in the "NOTIF_CODE" section on page 4-78. A null value is equivalent to ALL. • <ALMTYPE> is the condition type for the environmental conditions; valid values are shown in the "ENV_ALM" section on page 4-62. A null value is equivalent to ALL.
Input Example	RTRV-COND-ENV:CISCO:ENV-IN-1:123::MJ,OPENDR;

Section	RTRV-COND-ENV Description (continued)
Output Format	SID DATE TIME M CTAG COMPLD "<AID>:<NTFCNCDE>,<ALMTYPE>,[<OCRDAT>], [<OCRTM>],,,,[<DESC>]" ; where: • <AID> is an access identifier and is from the "ENV" section on page 4-20 • <NTFCNCDE> is the notification code; valid values are shown in the "NOTIF_CODE" section on page 4-78 • <ALMTYPE> is an alarm type for the environmental alarm; valid values are shown in the "ENV_ALM" section on page 4-62 • <OCRDAT> is a date and is optional • <OCRTM> is a time and is optional • <DESC> is the description of the condition; <DESC> is a string and is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "ENV-IN-1:MJ,OPENDR,01-01,16-02-15,,,,\"OPEN DOOR\"" ;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.136 RTRV-COND-EQPT: Retrieve Condition Equipment

This command retrieves the equipment conditions.

Section	RTRV-COND-EQPT Description
Category	Equipment
Security	Retrieve

Section	RTRV-COND-EQPT Description (continued)	
Related Messages	ALW-SWDX-EQPT ALW-SWTOPROTN-EQPT ALW-SWTOWKG-EQPT DLT-EQPT ED-EQPT ENT-EQPT INH-SWDX-EQPT INH-SWTOPROTN-EQPT INH-SWTOWKG-EQPT REPT ALM <MOD2ALM> REPT ALM BITS REPT ALM COM REPT ALM ENV REPT ALM EQPT REPT ALM RING REPT ALM SYNCN REPT ALM UCP REPT EVT COM REPT EVT EQPT	RTRV-ALM-<MOD2ALM> RTRV-ALM-ALL RTRV-ALM-BITS RTRV-ALM-ENV RTRV-ALM-EQPT RTRV-ALM-RING RTRV-ALM-SYNCN RTRV-ALM-UCP RTRV-COND-<MOD2ALM> RTRV-COND-ALL RTRV-COND-BITS RTRV-COND-ENV RTRV-COND-RING RTRV-COND-SYNCN RTRV-COND-UCP RTRV-EQPT SW-DX-EQPT SW-TOPROTN-EQPT SW-TOWKG-EQPT
Input Format	RTRV-COND-EQPT:[<TID>]:<AID>:<CTAG>::[<TYPEREQ>][,,,]; where: • <AID> is an identifier that has an alarm condition; <AID> is from the "EQPT" section on page 4-21 and must not be null • <TYPEREQ> is the type of condition to be retrieved; valid values are shown in the "CONDITION" section on page 4-47. A null value is equivalent to ALL	
Input Example	RTRV-COND-EQPT:TID:SLOT-1:229::LOS;	

Section	RTRV-COND-EQPT Description (continued)
Output Format	SID DATE TIME M CTAG COMPLD "<AID>,[<AIDTYPE>]:[<NTFCNCDE>],<TYPEREP>,[<SRVEFF>], [<OCRDAT>],[<OCRTM>],,,[<DESC>]" ; where: • <AID> is the identifier that has an alarm condition and is from the "EQPT" section on page 4-21 • <AIDTYPE> is the type of the AID. It is always reported as EQPT for the equipment condition; valid values are shown in the "MOD2B" section on page 4-74, <AIDTYPE> is optional • <NTFCNCDE> is the notification code; valid values are shown in the "NOTIF_CODE" section on page 4-78, <NTFCNCDE> is optional • <TYPEREP> is the type of condition to be retrieved; valid values are shown in the "CONDITION" section on page 4-47 • <SRVEFF> is the effect on service caused by the alarm condition; valid values are shown in the "SERV_EFF" section on page 4-86, <SRVEFF> is optional • <OCRDAT> is a date and is optional • <OCRTM> is a time and is optional • <DESC> is the condition description; <DESC> is a string and is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "SLOT-1,EQPT:CR,LOS,SA,01-01,16-02-15,,,\"LOS OF SIGNAL\"" ;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.137 RTRV-COND-RING: Retrieve Condition Ring

This command retrieves the current standing condition against a ring object for BLSR. The condition BLSR-UPDATED has been added and is always reported as a transient message, not a standing condition/alarm.

Note When a change is made to a BLSR, including creating a new circuit, the circuit will not have BLSR protection until after the BLSR-UPDATED message is received.

Section	RTRV-COND-RING Description	
Category	BLSR	
Security	Retrieve	
Related Messages	DLT-BLSR ED-BLSR ENT-BLSR REPT ALM <MOD2ALM> REPT ALM BITS REPT ALM COM REPT ALM ENV REPT ALM EQPT REPT ALM RING REPT ALM SYNCN REPT ALM UCP REPT EVT COM REPT EVT RING RTRV-ALM-<MOD2ALM> RTRV-ALM-ALL	RTRV-ALM-BITS RTRV-ALM-ENV RTRV-ALM-EQPT RTRV-ALM-RING RTRV-ALM-UCP RTRV-ALM-SYNCN RTRV-BLSR RTRV-COND-<MOD2ALM> RTRV-COND-ALL RTRV-COND-BITS RTRV-COND-ENV RTRV-COND-EQPT RTRV-COND-SYNCN RTRV-COND-UCP
Input Format	RTRV-COND-RING:[<TID>]:[<AID>]:<CTAG>::[<TYPEREQ>][,,,]; where: • <AID> identifies a BLSR ID with alarm condition; <AID> is a string and a null value is equivalent to ALL • Valid values for <TYPEREQ> are shown in the "CONDITION" section on page 4-47 and a null value is equivalent to ALL	
Input Example	RTRV-COND-RING:CISCO:RING-88:123::RING-MISMATCH;	

Section	RTRV-COND-RING Description (continued)
Output Format	SID DATE TIME M CTAG COMPLD "<AID>:[<NTFCNCDE>],<TYPEREP>,[<SRVEFF>],[<OCRDAT>], [<OCRTM>],,,[<DESC>]" ; where: • <AID> identifies a BLSR ID with alarm condition; <AID> is from the "BLSR" section on page 4-18 • Valid values for <NTFCNCDE> are shown in the "NOTIF_CODE" section on page 4-78. <NTFCNCDE> is optional. • Valid values for <TYPEREP> are shown in the "CONDITION" section on page 4-47 • <SRVEFF> is the effect on service caused by the alarm condition; valid values are shown in the "SERV_EFF" section on page 4-86. <SRVEFF> is optional. • <OCRDAT> is a date and is optional • <OCRTM> is a time and is optional • <DESC> is a string and is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "BLSR-88:MN,RING-MISMATCH,SA,01-01,16-02-15,,, \"FAR END OF FIBER IS PROVISIONED WITH DIFFERENT RING ID\"," ;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.138 RTRV-COND-SYNCN: Retrieve Condition Synchronization

This command retrieves the synchronization condition.

Section	RTRV-COND-SYNCN Description
Category	Synchronization
Security	Retrieve

Section	RTRV-COND-SYNCN Description (continued)	
Related Messages	ED-BITS ED-NE-SYNCN ED-SYNCN OPR-SYNCNSW REPT ALM <MOD2ALM> REPT ALM BITS REPT ALM COM REPT ALM ENV REPT ALM EQPT REPT ALM RING REPT ALM SYNCN REPT ALM UCP REPT EVT BITS REPT EVT COM REPT EVT SYNCN RLS-SYNCNSW RTRV-ALM-<MOD2ALM>	RTRV-ALM-ALL RTRV-ALM-BITS RTRV-ALM-ENV RTRV-ALM-EQPT RTRV-ALM-RING RTRV-ALM-SYNCN RTRV-ALM-UCP RTRV-BITS RTRV-COND-<MOD2ALM> RTRV-COND-ALL RTRV-COND-BITS RTRV-COND-ENV RTRV-COND-EQPT RTRV-COND-RING RTRV-COND-UCP RTRV-NE-SYNCN RTRV-SYNCN
Input Format	RTRV-COND-SYNCN:[<TID>]:<AID>:<CTAG>::[<TYPEREQ>][,,,]; where: • <AID> is an identifier that has an alarm condition; <AID> is from the "SYNC_REF" section on page 4-28 and must not be null • <TYPEREQ> is the type of condition to be retrieved; valid values are shown in the "CONDITION" section on page 4-47. A null value is equivalent to ALL	
Input Example	RTRV-COND-SYNCN:TID:SYNC-NE:229::LOS;	
Output Format	SID DATE TIME M CTAG COMPLD "<AID>,[<AIDTYPE>]:[<NTFCNCDE>],<TYPEREP>,[<SRVEFF>], [<OCRDAT>],[<OCRTM>],,,[<DESC>]" ; where: • <AID> is the identifier that has an alarm condition and is from the "SYN" section on page 4-26 • <AIDTYPE> is the type of AID. It is always reported as SYNCN; valid values are shown in the "MOD2B" section on page 4-74, <AIDTYPE> is optional • <NTFCNCDE> is the notification code; valid values for <NTFCNCDE> are shown in the "NOTIF_CODE" section on page 4-78, <NTFCNCDE> is optional • <TYPEREP> is the type of condition to be retrieved; valid values are shown in the "CONDITION" section on page 4-47 • <SRVEFF> is the effect on service caused by the alarm condition; valid values are shown in the "SERV_EFF" section on page 4-86, <SRVEFF> is optional • <OCRDAT> is a date and is optional • <OCRTM> is a time and is optional • <DESC> is the condition description; <DESC> is a string and is optional	

Section	RTRV-COND-SYNCN Description (continued)
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "SYNC-NE,SYNCN:MJ,FRNGSYNC,SA,01-01,16-02-15,,, \"FREE RUNNING SYNCHRONIZATION MODE\"" ;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.139 RTRV-COND-UCP: Retrieve Condition Unified Control Plane

This command retrieves the current standing condition against a UCP object.

Section	RTRV-COND-UCP Description	
Category	UCP	
Security	Retrieve	
Related Messages	DLT-UCP-CC DLT-UCP IF DLT-UCP-NBR ED-UCP-CC ED-UCP-IF ED-UCP-NBR ED-UCP-NODE ENT-UCP-CC ENT-UCP-IF ENT-UCP-NBR REPT ALM <MOD2ALM> REPT ALM BITS REPT ALM COM REPT ALM ENV REPT ALM EQPT REPT ALM RING REPT ALM SYNCN REPT ALM UCP REPT EVT COM REPT EVT UCP	RTRV-ALM-<MOD2ALM> RTRV-ALM-ALL RTRV-ALM-BITS RTRV-ALM-ENV RTRV-ALM-EQPT RTRV-ALM-RING RTRV-ALM-SYNCN RTRV-ALM-UCP RTRV-COND-<MOD2ALM> RTRV-COND-ALL RTRV-COND-BITS RTRV-COND-ENV RTRV-COND-EQPT RTRV-COND-RING RTRV-COND-SYNCN RTRV-UCP-CC RTRV-UCP-IF RTRV-UCP-NBR RTRV-UCP-NODE
Input Format	RTRV-COND-UCP:[<TID>]:<AID>:<CTAG>::[<TYPEREQ>][,,,]; where: • <AID> identifies a UCP object with alarm condition; <AID> is from the "UCP" section on page 4-17 and must not be NULL • <TYPEREQ> is the type of condition to be retrieved; valid values are shown in the "CONDITION" section on page 4-47 and a NULL value is equivalent to ALL	
Input Example	RTRV-COND-UCP:CISCO:CC-18:123::LMP-HELLODOWN;	

Section	RTRV-COND-UCP Description (continued)
Output Format	SID DATE TIME M CTAG COMPLD "<AID>:[<NTFCNCDE>],<TYPEREP>,[<SRVEFF>],[<OCRDAT>], [<OCRTM>],,,[<DESC>]" ; where: • <AID> identifies a UCP object with alarm condition; <AID> is from the "UCP" section on page 4-17 • <NTFCNCDE> is a notification code; valid values are shown in the "NOTIF_CODE" section on page 4-78 and <NTFCNCDE> is optional • <TYPEREP> is the type of condition to be retrieved; valid values are shown in the "CONDITION" section on page 4-47 • <SRVEFF> is the effect on service caused by the alarm condition; valid values are shown in the "SERV_EFF" section on page 4-86 and <SRVEFF> is optional • <OCRDAT> is a date and is optional • <OCRTM> is a time and is optional • <DESC> is a condition description, a string and is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "CC-18:MN,LMP-HELLODOWN,SA,01-01,16-02-15,,, \"LMP HELLO FSM ON CONTROL CHANNEL DOWN\"," ;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.140 RTRV-CRS: Retrieve Cross Connect

This command retrieves all the cross-connections based on the required CRSTYPE (for all STS connections), STS1, STS3C, STS6C, STS9C, STS12C, STS24C, STS48C, STS192C and VT).

Notes:

1. A NULL AID defaults to ALL (NE).
2. A NULL CRSTYPE defaults to all the existing cross-connections.
3. The level in the output field is an optional field, and is used to indicate the bandwidth of the STS cross-connection.

Section	RTRV-CRS Description	
Category	Cross Connections	
Security	Retrieve	
Related Messages	DLT-CRS-<STS_PATH> DLT-CRS-VT1 ED-CRS-<STS_PATH> ED-CRS-VT1	ENT-CRS-<STS_PATH> ENT-CRS-VT1 RTRV-CRS-<STS_PATH> RTRV-CRS-VT1

Section	RTRV-CRS Description (continued)
Input Format	RTRV-CRS:[<TID>]:<AID>:<CTAG>:::[CRSTYPE=<CRSTYPE>][:]; where: • <AID> indicates the access identifier. It can be a facility AID, an STS AID, a VT AID, or ALL AID. The ALL AID defaults to NE, which reports all the existing cross-connections of the NE. <AID> is from the "ALL" section on page 4-10 and must not be NULL • <CRSTYPE> specifies the cross-connection type. It is STS or VT or both. It defaults to all existing cross-connections. Valid values for <CRSTYPE> are shown in the "CRS_TYPE" section on page 4-60 and a NULL value is equivalent to ALL
Input Example	RTRV-CRS:CISCO:ALL:123:::CRSTYPE=STS;
Output Format	SID DATE TIME M CTAG COMPLD "<FROM>,<TO>:<CCT>,<MOD>::<PST>,[<SST>]" ; where: • <FROM> identifies an entity at one end of the cross-connection; <FROM> is from the "ALL" section on page 4-10 • <TO> identifies an entity at the other end of the cross-connection; <TO> is from the "ALL" section on page 4-10 • <CCT> identifies the cross-connection type; valid values are shown in the "CCT" section on page 4-45 • Valid values for <MOD> are shown in the "MOD2" section on page 4-72 • <PST> primary state; valid values are shown in the "PST" section on page 4-85 • <SST> secondary state; valid values are shown in the "SST" section on page 4-87 and <SST> is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "STS-6-1,STS-12-4:2WAY,STS3C::OOS,AINS" ;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.141 RTRV-CRS-<STS_PATH>: Retrieve Cross Connect (STS1, STS3C, STS6C, STS9C, STS12C, STS24C, STS48C, STS192C)

See Table 4-11 on page 4-6 for supported modifiers by platform.

This command retrieves any connections associated with the entered AID(s) or AID range. The information on both ends is returned along with the type of connection.

Notes:

1. The UPSR STS cross-connection can be retrieved by using "&" in the AID fields of this command.
   a. To retrieve a 1-way selector or 2-way selector and bridge cross-connection with:

      from points: F1, F2

      to points: T1

      the output will be:

      1-way

      "F1&F2,T1:CCT,STS3C"

      2-way

      If retrieved on point F1 or F2, the output format is the same as the 1-way output.

      If retrieved on point T1, the output will be:

      "T1,F1&F2:CCT,STS3C"

   b. To retrieve a 1-way bridge or 2-way selector and bridge cross-connection with:

      from point: F1

      to points: T1, T2

      the output will be:

      1-way

      "F1,T1&T2:CCT,STS3C"

      2-way

      "T1&T2,F1:CCT,STS3C"

   c. To retrieve a 1-way subtending UPSR connection or 2-way subtending UPSR cross-connection with:

      from point: F1, F2

      to points: T1, T2

      the output will be:

      1-way:

      "F1&F2,T1&T2:CCT,STS3C"

      2-way:

      If retrieved on point F1 or F2, the output format is the same as the 1-way output.

      If retrieved on point T1 or T2, the output will be:

      "T1&T2,F1&F2:CCT,STS3C"

d. To retrieve a 2-way selector and bridge cross-connection with:
ENT-CRS-<STS_PATH>::F1&F2,S1&S2:<CTAG>::2WAY;
from points: F1, F2 (F1 is the working side, F2 is the protect side)
selector: S1, S2 (s1 is the working side, S2 is the protect side)
the output will be:
If retrieved on point F1 or F2, the output will be:
"F1&F2,S1&S2:CCT,STS3C"
If retrieved on selector S1 or S2, the output will be:
"S1&S2,F1&F2:CCT,STS3C"

e. To retrieve a UPSR IDRI cross-connect with:
from points: F1, F2
to points: T1, T2
the output will be:
"F1&F2,T1&T2:CCT,STS3C"

f. To retrieve a UPSR DRI cross-connect with:
from points: F1, F2
to points: T1
the output will be:
"F1&F2,T1:CCT,STS3C"

2. All A&B AIDs in the TL1 cross-connection command are in the format of WorkingAID&ProtectAID.
3. <STS_PATH> does not include STS for the RTRV-CRS command because STS is not a standard designator as defined by GR-833 A-2.
4. Both the 1WAYPCA and 2WAYPCA is used to specify a PCA cross-connection.
5. The facility AID is only valid on slots with a G1000-4 card.
6. The virtual facility AID (VFAC) is only valid on slots holding the ML-series card.

Section	RTRV-CRS-<STS_PATH> Description
Category	Cross Connections
Security	Retrieve
Related Messages	DLT-CRS-<STS_PATH> DLT-CRS-VT1 ED-CRS-<STS_PATH> ED-CRS-VT1 ENT-CRS-<STS_PATH> ENT-CRS-VT1 RTRV-CRS RTRV-CRS-VT1

Section	RTRV-CRS-<STS_PATH> Description (continued)
Input Format	RTRV-CRS-<STS_PATH>:[<TID>]:<SRC>:<CTAG>[::::]; where: • <AID> is from the AID "CrossConnectID" section on page 4-14
Input Example	RTRV-CRS-STS3C:KENWOOD:STS-6-1-1:223;
Output Format	SID DATE TIME M CTAG COMPLD "<CROSSCONNECTID>,<CROSSCONNECTID1>:<CCT>,<MOD>::<PST>,[<SST>]" ; where: • <CROSSCONNECTID> is the AID from the "CrossConnectID" section on page 4-14 • <CROSSCONNECTID1> is the AID from the "CrossConnectID" section on page 4-14 • <CCT> identifies the cross-connection type; valid values are shown in the "CCT" section on page 4-45 • Valid values for <MOD> are shown in the "MOD2" section on page 4-72 • <PST> primary state; valid values are shown in the "PST" section on page 4-85 • <SST> secondary state; valid values are shown in the "SST" section on page 4-87
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "STS-6-1-1,STS-12-1-4:2WAY,STS3C::OOS,AINS" ;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.142 RTRV-CRS-VT1: Retrieve Cross Connect Virtual Tributary

This command retrieves the VT cross-connection information.

Notes:

1. The UPSR VT cross-connection can be retrieved by using "&" in the AID fields of this command.
   a. To retrieve a 1-way selector or 2-way selector and bridge cross-connection with:

      from points: F1, F2

      to points: T1

      the output will be:

      1-way:

      "F1&F2,T1:CCT"

      2-way:

      If retrieved on point F1 or F2, the output form is the same as the 1-way output.

      If retrieved on T1, the output will be:

      "T1,F1&F2:CCT"
   b. To retrieve a 1-way bridge or 2-way selector and bridge cross-connection with:

      from point: F1

      to points: T1, T2

      the output will be:

      1-way:

      "F1,T1&T2:CCT"

      2-way:

      "T1&T2,F1:CCT"
   c. To retrieve a 1-way subtending UPSR connection or 2-way subtending UPSR cross-connection with:

      from point: F1, F2

      to points: T1, T2

      the output will be:

      1-way:

      "F1&F2,T1&T2:CCT"

      2-way:

      If retrieved on point F1 or F2, the output format is the same as the 1-way output.

      If retrieved on point T1 or T2, the output will be:

      "T1&T2,F1&F2:CCT"
   d. To retrieve a 2-way selector bridge cross-connection with:

      ENT-CRS-VT1::F1&F2,S1&S2:<CTAG>::2WAY;

      from points F1, F2 (F1 is the working side, F2 is the protect side)

      selector: S1, S2 (S1 is the working side, S2 is the protect side) the output will be:

If retrieved on point F1 or F2, the output will be:

"F1&F2,S1&S2:CCT"

If retrieved on selector S1 or S2, the output will be:

"S1&S2,F1&F2:CCT"

e. To retrieve a UPSR IDIR cross-connect with:

from points: F1, F2

to points: T1, T2

The output will be:

"F1&F2,T1&T2:CCT"

f. To retrieve a UPSR DRI cross-connect with:

from points: F1, F2

to points: T1

The output will be:

"F1&F2,T1:CCT"

2. All A&B AIDs in the TL1 cross-connection command are in the format of WorkingAID&ProtectAID

3. Both 1WAYPCA and 2WAYPCA is used to specify a PCA cross-connection.

Section	**RTRV-CRS-VT1 Description**
Category	Cross Connections
Security	Retrieve
Related Messages	DLT-CRS-<STS_PATH> DLT-CRS-VT1 ED-CRS-<STS_PATH> ED-CRS-VT ENT-CRS-<STS_PATH> ENT-CRS-VT1 RTRV-CRS RTRV-CRS-<STS_PATH>
Input Format	RTRV-CRS-VT1:[<TID>]:<AID>:<CTAG>[::::]; where: • <AID> identifies VT to check for connection membership. <AID> can be Facility, VT or ALL. The ALL AID defaults to NE which reports all the existing cross-connections of the NE. <AID> is from the "ALL" section on page 4-10 and must not be null
Input Example	RTRV-CRS-VT1:CISCO:VT1-1-1-1-1:1234;

Section	RTRV-CRS-VT1 Description (continued)
Output Format	SID DATE TIME M CTAG COMPLD "<VT>,<VT1>:<CCT>::<PST>,[<SST>]" ; where: • <VT> is the AID from the "VT1_5" section on page 4-30 • <VT1> is the AID from the "VT1_5" section on page 4-30 • Valid values for <CCT> are shown in the "CCT" section on page 4-45 • <PST> primary state; valid values are shown in the "PST" section on page 4-85 • <SST> secondary state; valid values are shown in the "SST" section on page 4-87 and <SST> is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "VT1-1-1-1-1-1,VT1-4-1-4-5-2:1WAY::OOS,AINS" ;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.143 RTRV-DS1: Retrieve DS1

(Cisco ONS 15454 only)

This command retrieves the test access attributes on a DS1 layer of a DS3XM card.

Section	RTRV-DS1 Description
Category	Ports
Security	Retrieve
Related Messages	ED-<OCN_TYPE> RST-<MOD2_IO> ED-DS1 RTRV-<OCN_TYPE> ED-EC1 RTRV-EC1 ED-G1000 RTRV-G1000 ED-T1 RTRV-T1 ED-T3 RTRV-T3 RMV-<MOD2_IO>
Input Format	RTRV-DS1:[<TID>]:<AID>:<CTAG>[::::]; where: • <AID> is the access identifier of a DS1 layer entity on the DS3XM card; <AID> is from the "DS1" section on page 4-20 and must not be null
Input Example	RTRV-DS1:PETALUMA:DS1-2-6-12:123;

Section	RTRV-DS1 Description (continued)
Output Format	SID DATE TIME M CTAG COMPLD "<AID>::[TACC=<TACC>]" ; where: • <AID> is the access identifier from the "DS1" section on page 4-20 • <TACC> defines the STS as a test access port with a selected unique TAP number. The TAP number ranges from 0–999; <TACC> is an integer and is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "DS1-2-6-12::TACC=8" ;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.144 RTRV-DWDM: Retrieve Dense Wavelength Division Multiplexing

This command retrieves DWDM card-level attributes.

See the "Provisioning Rules for MXP_2.5G_10G and TXP_MR_10G Cards" section on page 1-8 for specific MXP/TXP card provisioning rules.

Section	RTRV-DWDM Description
Category	DWDM
Security	Retrieve
Related Messages	ED-DWDM ED-CLNT RTRV-CLNT ED-OCH RTRV-OCH RTRV-FFP-CLNT DLT-FFP-CLNT RLS-PROTNSW-CLNT
Input Format	RTRV-DWDM:[<TID>]:<AID>:<CTAG>; where: • <AID> is access identifier from the "EQPT" section on page 4-21 and must not be null
Input Example	RTRV-DWDM:VA454-22:SLOT-1:100;

Section	RTRV-DWDM Description (continued)
Output Format	SID DATE TIME M CTAG COMPLD "<AID>:<AIDTYPE>,<EQUIP>,,[<STATUS>]:[PEERID=<PEERID>,][TERMMODE=<TERMMODE>,][PAYLOAD=<PAYLOAD>,][CARDNAME=<CARDNAME>,][PWL=<PWL>,][TWL1=<TWL1>,][TWL2=<TWL2>,]:[<PST>],[<SST>]" ; where: • <AID> is the access identifier from the "EQPT" section on page 4-21 • <AIDTYPE> specifies the type of AID; valid values are shown in the "EQPT_TYPE" section on page 4-63 and <AIDTYPE> is a string • <EQUIP> indicates if the equipment unit is physically present; valid values are shown in the "EQUIP" section on page 4-66 • <STATUS> indicates a status. SONET card status is shown on its card level; valid values are shown in the "STATUS" section on page 4-87 and <STATUS> is optional • <PEERID> is the regeneration group peer card slot. <PEERID> is the AID from the "EQPT" section on page 4-21 and is optional • <TERMMODE> is the termination mode of the card; valid values are shown in the "TERM_MODE" section on page 4-93 and <TERMMODE> is optional • <PAYLOAD> is the type of payload carried; valid values are shown in the "PAYLOAD" section on page 4-83 and <PAYLOAD> is optional • <CARDNAME> is the name of the card as assigned in the manufacturing information; <CARDNAME> is a string and is optional • <PWL> provisioned wavelength; valid values are shown in the "OPTICAL_WLEN" section on page 4-81 and <PWL> is optional • <TWL1> tunable wavelength 1; valid values are shown in the "OPTICAL_WLEN" section on page 4-81 and <TWL1> is optional • <TWL2> tunable wavelength 1; valid values are shown in the "OPTICAL_WLEN" section on page 4-81 and <TWL2> is optional • <PST> primary state; valid values are shown in the "PST" section on page 4-85 and <PST> is optional • <SST> secondary state; valid values are shown in the "SST" section on page 4-87 and <SST> is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "SLOT-1:TRANS-10G,EQUIP,,ACT:PEERID=SLOT-2,TERMMODE=TRANS,PAYLOAD=SONET,CARDNAME=TRUNK-1,PWL=1530.33,TWL1=1530.33,TWL2=1531.12:IS,AINS" ;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.145 RTRV-EC1: Retrieve EC1

(Cisco ONS 15454 only)

This command retrieves the facility status of an EC1 card.

Section	RTRV-EC1 Description
Category	Ports
Security	Retrieve
Related Messages	ED-<OCN_TYPE> ED-DS1 ED-EC1 ED-G1000 ED-T1 ED-T3 RMV-<MOD2_IO> RST-<MOD2_IO> RTRV-<OCN_TYPE> RTRV-DS1 RTRV-G1000 RTRV-T1 RTRV-T3
Input Format	RTRV-EC1:[<TID>]:<AID>:<CTAG>[::::]; where: • <AID> is from the "FACILITY" section on page 4-22 and must not be null
Input Example	RTRV-EC1:CISCO:FAC-1-1:1234;
Output Format	SID DATE TIME M CTAG COMPLD "<AID>::[PJMON=<PJMON>,][LBO=<LBO>,][RXEQUAL=<RXEQUAL>,][SOAK=<SOAK>]:<PST>,[<SST>]" ; where: • <AID> is the facility AID of an EC1 port and is from the "FACILITY" section on page 4-22 • <PJMON> is the SONET pointer monitor attribute of an EC1 port; <PJMON> is an integer and is optional • <LBO> is the line build-out value of an EC1 port; valid values for <LBO> are shown in the "E_LBO" section on page 4-62, <LBO> is optional • Valid values for <RXEQUAL> are shown in the "EXT_RING" section on page 4-68, <RXEQUAL> is optional • <SOAK> OOS-AINS to IS transition soak time measured in 15 minute intervals; <SOAK> is an integer and is optional • <PST> primary state; valid values are shown in the "PST" section on page 4-85 • <SST> secondary state; valid values are shown in the "SST" section on page 4-87 and <SST> is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "FAC-1-1::PJMON=0,LBO=0-225,RXEQUAL=Y,SOAK=10:OOS,AINS" ;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.146 RTRV-EQPT: Retrieve Equipment

This command retrieves protection group information and status information for all the cards.

This command returns the PRTYPE, PROTID, RVTM, and RVRTV parameters for a card inside of a protection group by the following scenario:

1. A working AID/card within a 1:1 protection group should return PRTYPE, PROTID, RVTM and RVRTV.
2. A protection/AID card within a 1:1 protection group should return PRTYPE, RVTM and RVRTV.
3. A working AID/card within a 1:N protection group should return PRTYPE, PROTID, RVTM and RVRTV=Y.
4. A protection AID/card of a 1:1 protection group should return PRTYPE, RVTM and RVRTV=Y.
5. An unprotected AID/card, the AID type, equip (equip/unequip), status (act/standby) and state (IS/OOS) values.

Error conditions:

1. The equipment is not provisioned.

Section	RTRV-EQPT Description	
Category	Equipment	
Security	Retrieve	
Related Messages	ALW-SWDX-EQPT ALW-SWTOPROTN-EQPT ALW-SWTOWKG-EQPT DLT-EQPT ED-EQPT ENT-EQPT INH-SWDX-EQPT INH-SWTOPROTN-EQPT	INH-SWTOWKG-EQPT REPT ALM EQPT REPT EVT EQPT RTRV-ALM-EQPT RTRV-COND-EQPT SW-DX-EQPT SW-TOPROTN-EQPT SW-TOWKG-EQPT
Input Format	RTRV-EQPT:[<TID>]:<AID>:<CTAG>[::::]; where: • <AID> is from the "EQPT" section on page 4-21 and must not be null	
Input Example	RTRV-EQPT:MIRABEL:SLOT-12:230;	

Section	RTRV-EQPT Description (continued)
Output Format	SID DATE TIME M CTAG COMPLD "<AID>:<AIDTYPE>,<EQUIP>,[<ROLE>],[<STATUS>]: [PROTID=<PROTID>,][PRTYPE=<PRTYPE>,] [RVRTV=<RVRTV>,][RVTM=<RVTM>,] [CARDNAME=<CARDNAME>,] [IOSCFG=<IOSCFG>]:[<PST>],[<SST>]" ; where: • <AID> is the equipment unit identifier and is from the"EQPT" section on page 4-21 • <AIDTYPE> is a string • <EQUIP> indicates if the equipment unit is physically present; valid values are shown in the "EQUIP" section on page 4-66 • <ROLE> indicates if the card is a working unit or a protecting unit; valid values are shown in the "SIDE" section on page 4-87, <ROLE> is optional • <STATUS> indicates a status. SONET card status is shown on it's line/port level. Valid values for <STATUS> are shown in the "STATUS" section on page 4-87, <STATUS> is optional • <PROTID> indicates the protecting identifier; <PROTID> is from the "PRSLOT" section on page 4-16 and is optional • <PRTYPE> indicates the protection type; valid values are shown in the "PROTECTION_GROUP" section on page 4-84, <PRTYPE> is optional • <RVRTV> indicates a revertive mode; valid values are shown in the "ON_OFF" section on page 4-79, <RVRTV> is optional • <RVTM> indicates the revertive time; valid values for <RVTM> are shown in the "REVERTIVE_TIME" section on page 4-85, <RVTM> is optional • <CARDNAME> is a string and is optional • <IOSCFG> displays the information about startup IOS config file for the ML1000-2 and ML100T-12 cards. An example of this field is "TL1,11.22.33.44//DIR/IOS.CONF,2002/1/1 9:1:1 EST". The following information is included in this field: 1) Where the config file is from: TL1, or CTC/CTM/CLI/TCC; 2) The host (IP address)/directory/file name, if the config file is downloaded from the network; 3) When the startup config file is created (by copying from the network, for example). This field only applies to ML1000-2 and ML100T-12 cards. <IOSCFG> is a String. <IOSCFG> is optional. • <PST> primary state; valid values are shown in the "PST" section on page 4-85, <PST> is optional • <SST> secondary state; valid values are shown in the "SST" section on page 4-87, <SST> is optional

Section	RTRV-EQPT Description (continued)
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "SLOT-12:DS1,EQUIP,,ACT:PROTID=SLOT-13,PRTYPE=1-1,RVRTV=Y, RVTM=8.5,CARDNAME=DESCRIPTION,IOSCFG= "IOS CONFIG INFO FOR ML SERIES CARD":OOS,AINS" ;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.147 RTRV-EXT-CONT: Retrieve External Control

This command retrieves the control state of an external control. The command can be used to audit the result of an OPR-EXT-CONT or a RLS-EXT-CONT command.

Notes:

1. If the CONTTYPE is null, the existing conttype on this AID will be returned.
2. The duration is not supported, it defaults to CONTS.

Section	RTRV-EXT-CONT Description
Category	Environment Alarms and Controls
Security	Retrieve
Related Messages	OPR-ACO-ALL OPR-EXT-CONT REPT ALM ENV REPT EVT ENV RLS-EXT-CONT RTRV-ALM-ENV RTRV-ATTR-CONT RTRV-ATTR-ENV RTRV-COND-ENV SET-ATTR-CONT SET-ATTR-ENV
Input Format	RTRV-EXT-CONT:[<TID>]:<AID>:<CTAG>[::<CONTTYPE>]; where: • <AID> is from the "ENV" section on page 4-20 and must not be null. **Note** For this command only ENV-OUT-{1-2} is a valid AID. • Valid values for <CONTTYPE> are shown in the "CONTTYPE" section on page 4-59. A null value is equivalent to ALL
Input Example	RTRV-EXT-CONT:CISCO:ENV-OUT-2:123::AIRCOND;

Section	RTRV-EXT-CONT Description (continued)
Output Format	SID DATE TIME M CTAG COMPLD "<AID>:[<CONTTYPE>],<DUR>,[<CONTSTATE>]" ; where: • <AID> identifies the external control for which control state is being retrieved and is from the "ENV" section on page 4-20 • <CONTTYPE> is the type of control for which control state is being retrieved; valid values are shown in the "CONTTYPE" section on page 4-59, <CONTTYPE> is optional • <DUR> is the duration for which the external control can be operated; valid values are shown in the "DURATION" section on page 4-62 • <CONTSTATE> is the control of the external control; valid values are shown in the "CONT_MODE" section on page 4-59, <CONTSTATE> is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "ENV-OUT-2:AIRCOND,CONTS,OPEN" ;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.148 RTRV-FFP-<OCN_TYPE>: Retrieve Facility Protection Group (OC3, OC12, OC48, OC192)

See Table 4-11 on page 4-6 for supported modifiers by platform.

This command retrieves the optical facility protection information.

Section	RTRV-FFP-<OCN_TYPE> Description
Category	SONET Line Protection
Security	Retrieve
Related Messages	DLT-FFP-<OCN_TYPE> ED-FFP-<OCN_TYPE> ENT-FFP-<OCN_TYPE> EX-SW-<OCN_BLSR> OPR-PROTNSW-<OCN_TYPE> RLS-PROTNSW-<OCN_TYPE> RTRV-PROTNSW-<OCN_TYPE>
Input Format	RTRV-FFP-<OCN_TYPE>:[<TID>]:<AID>:<CTAG>[::::]; where: • <AID> is the optical facility AID from the "FACILITY" section on page 4-22 and must not be null
Input Example	RTRV-FFP-OC3:PETALUMA:FAC-1-1:1;

Section	RTRV-FFP-<OCN_TYPE> Description (continued)
Output Format	SID DATE TIME M CTAG COMPLD "<WORK>,<PROTECT>::[PROTID=<PROTID>,][RVRTV=<RVRTV>,][RVTM=<RVTM>,][PSDIRN=<PSDIRN>]" ; where: • <WORK> identifies the working port and is the AID from the "FACILITY" section on page 4-22 • <PROTECT> identifies the protection port and is the AID from the "FACILITY" section on page 4-22 • <PROTID> is a protection group identifier (protection group name). It defaults to the protecting port of the protection group; <PROTID> is a string, it is optional and can have a maximum length of 32 characters • <RVRTV> identifies a revertive mode and defaults to N (non-revertive mode); valid values are shown in the "ON_OFF" section on page 4-79, <RVRTV> is optional • <RVTM> identifies the revertive time and defaults to 5.0 minutes; valid values are shown in the "REVERTIVE_TIME" section on page 4-85, <RVTM> is optional • <PSDIRN> indicates the switch mode and defaults to UNI. valid values are shown in the "UNI_BI" section on page 4-97, <PSDIRN> is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "FAC-2-1,FAC-1-1::PROTID=PROT_NAME,RVRTV=Y,RVTM=1.0,PSDIRN=BI" ;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.149 RTRV-FFP-CLNT: Retrieve Facility Protection Group Client

This command retrieves Y cable protection on client facilities.

See the "Provisioning Rules for MXP_2.5G_10G and TXP_MR_10G Cards" section on page 1-8 for specific MXP/TXP card provisioning rules.

Section	RTRV-FFP-CLNT Description
Category	DWDM
Security	Retrieve
Related Messages	ENT-FFP-CLNT ED-FFP-CLNT DLT-FFP-CLNT RTRV-CLNT ED-CLNT ED-DWDM RTRV-DWDM

Section	RTRV-FFP-CLNT Description (continued)
Input Format	RTRV-FFP-CLNT:[<TID>]:<AID>:<CTAG>[::::]; where: • <AID> is the access identifier from the "FACILITY" section on page 4-22 and must not be null
Input Example	RTRV-FFP-CLNT:CISCO:FAC-1-1:100;
Output Format	SID DATE TIME M CTAG COMPLD "<WORKAID>,<PROTAID>::[PROTTYPE=<PROTTYPE>,][PROTID=<PROTID>,][RVRTV=<RVRTV>,][RVTM=<RVTM>,][PSDIRN=<PSDIRN>]" ; where: • <WORKAID> identifies a working port and is the AID from the "FACILITY" section on page 4-22 • <PROTAID> identifies a protection port and is the AID from the "FACILITY" section on page 4-22 • <PROTTYPE> identifies the type of facility protection; valid values are shown in the "PROTTYPE" section on page 4-84 and <PROTTYPE> is optional • <PROTID> protection group identifier (protection group name). Defaults to the protecting port AID of the protection group. Is is a string and can have a maximum length of 32 characters; <PROTID> is a string and is optional • <RVRTV> identifies the revertive mode. Defaults to N (non-revertive mode); valid values are shown in the "ON_OFF" section on page 4-79 and <RVRTV> is optional • <RVTM> identifies the revertive time. Defaults to 5.0 minutes; valid values are shown in the "REVERTIVE_TIME" section on page 4-85 and <RVTM> is optional • <PSDIRN> identifies the switching mode and defaults to UNI; valid values are shown in the "UNI_BI" section on page 4-97 and <PSDIRN> is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "FAC-1-1,FAC-2-1::PROTTYPE=Y-CABLE,PROTID=DC-METRO,RVRTV=N,RVTM=1.0,PSDIRN=BI" ;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.150 RTRV-FSTE: Retrieve Fast Ethernet

See Table 4-11 on page 4-6 for supported modifiers by platform.

This command retrieves the front end port information of the ML100T-12 Ethernet card.

Section	RTRV-FSTE Description
Category	Ports
Security	Retrieve
Related Messages	ED-<OCN_TYPE> ED-DS1 ED-EC1 ED-G1000 ED-T1 ED-T3 INIT-REG-G1000 RMV-<MOD2_IO> RST-<MOD2_IO> RTRV-<OCN_TYPE> RTRV-DS1 RTRV-EC1 RTRV-G1000 RTRV-GIGE RTRV-POS RTRV-T1 RTRV-T3
Input Format	RTRV-FSTE:[<TID>]:<AID>:<CTAG>; where: • <AID> is the facility AID from the "FACILITY" section on page 4-22 and must not be null
Input Example	RTRV-FSTE:TID:FAC-1-1:CTAG;
Output Format	SID DATE TIME M CTAG COMPLD "<AID>::[ADMINSTATE=<ADMINSTATE>,][LINKSTATE=<LINKSTATE>,][MTU=<MTU>,][FLOWCTRL=<FLOWCTRL>,][DUPLEX=<DUPLEX>,][SPEED=<SPEED>]" ; where: • <AID> is the AID from the "FACILITY" section on page 4-22 • <ADMINSTATE> administration type; valid values are shown in the "UP_DOWN" section on page 4-98. <ADMINSTATE> is optional • <LINKSTATE> link protocol; valid values are shown in the "UP_DOWN" section on page 4-98. <LINKSTATE> is optional • <MTU> maximum transport unit; <MTU> is an integer and is optional • <FLOWCTRL> flow control; valid values are shown in the "FLOW" section on page 4-69. <FLOWCTRL> is optional • <DUPLEX> duplex mode; valid values are shown in the "ETHER_DUPLEX" section on page 4-67. <DUPLEX> is optional • <SPEED> Ethernet speed; valid values are shown in the "ETHER_SPEED" section on page 4-68. <SPEED> is optional

Section	RTRV-FSTE Description (continued)
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "FAC-1-1::ADMINSTATE=DOWN,LINKSTATE=DOWN,MTU=1500, FLOWCTRL=SYMMETRIC,DUPLEX=AUTO,SPEED=AUTO" ;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.151 RTRV-G1000: Retrieve G1000 Facility

(Cisco ONS 15454 only)

This command retrieves the G1000 facilities configuration.

Section	RTRV-G1000 Description	
Category	Ports	
Security	Retrieve	
Related Messages	ED-<OCN_TYPE> ED-DS1 ED-EC1 ED-G1000 ED-T1 ED-T3 INIT-REG-G1000 RMV-<MOD2_IO> RST-<MOD2_IO>	RTRV_<OCN_TYPE> RTRV-DS1 RTRV-EC1 RTRV-FSTE RTRV-GIGE RTRV-POS RTRV-T1 RTRV-T3
Input Format	RTRV-G1000:[<TID>]:<AID>:<CTAG>; where: • <AID> is from the "FACILITY" section on page 4-22 and must not be null	
Input Example	RTRV-G1000:TID:FAC-1-1:CTAG;	

Section	RTRV-G1000 Description (continued)
Output Format	SID DATE TIME M CTAG COMPLD "<AID>::[MFS=<MFS>,][FLOW=<FLOW>,][LAN=<LAN>,] [OPTICS=<OPTICS>]:<PST>,[<SST>]" ; where: • <AID> is from the "FACILITY" section on page 4-22 • Valid values for <MFS> are shown in the "MFS_TYPE" section on page 4-71; <MFS> is optional • Valid values for <FLOW> are shown in the "ON_OFF" section on page 4-79; <FLOW> is optional • Valid values for <LAN> are shown in the "FLOW" section on page 4-69; <LAN> is optional • Valid values for <OPTICS> are shown in the "OPTICS" section on page 4-82; <OPTICS> is optional • <PST> primary state; valid values are shown in the "PST" section on page 4-85 • <SST> secondary state; valid values are shown in the "SST" section on page 4-87; <SST> is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "FAC-1-1::MFS=9032,FLOW=N,LAN=ASYMMETRIC, OPTICS=UNKNOWN:OOS" ;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.152 RTRV-GIGE: Retrieve Gigabit Ethernet

See Table 4-11 on page 4-6 for supported modifiers by platform.

This command retrieves the front end port information for the ML1000-2 Ethernet card.

Section	RTRV-GIGE Description	
Category	Ports	
Security	Retrieve	
Related Messages	ED-<OCN_TYPE> ED-DS1 ED-EC1 ED-G1000 ED-T1 ED-T3 INIT-REG-G1000 RMV-<MOD2_IO> RST-<MOD2_IO>	RTRV_<OCN_TYPE> RTRV-DS1 RTRV-EC1 RTRV-FSTE RTRV-G1000 RTRV-POS RTRV-T1 RTRV-T3

Section	RTRV-GIGE Description (continued)
Input Format	RTRV-GIGE:[<TID>]:<AID>:<CTAG>; where: • <AID> is from the "FACILITY" section on page 4-22 and must not be null
Input Example	RTRV-GIGE:TID:FAC-1-1:CTAG;
Output Format	SID DATE TIME M CTAG COMPLD "<AID>::[ADMINSTATE=<ADMINSTATE>,][LINKSTATE=<LINKSTATE>,] [MTU=<MTU>,][FLOWCTRL=<FLOWCTRL>,][OPTICS=<OPTICS>,] [DUPLEX=<DUPLEX>,][SPEED=<SPEED>]" ; where: • <AID> is the AID from the "FACILITY" section on page 4-22 • <ADMINSTATE> administration type; valid values are shown in the "UP_DOWN" section on page 4-98. <ADMINSTATE> is optional • <LINKSTATE> link protocol; valid values are shown in the "UP_DOWN" section on page 4-98. <LINKSTATE> is optional • <MTU> maximum transport unit; <MTU> is an integer and is optional • <FLOWCTRL> flow control; valid values are shown in the "FLOW" section on page 4-69. <FLOWCTRL> is optional • <OPTICS> is the optics type; valid values are shown in "OPTICS" section on page 4-82. <OPTICS> is optional • <DUPLEX> duplex mode; valid values are shown in the "ETHER_DUPLEX" section on page 4-67. <DUPLEX> is optional • <SPEED> Ethernet speed; valid values are shown in the "ETHER_SPEED" section on page 4-68. <SPEED> is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "FAC-1-1::ADMINSTATE=DOWN,LINKSTATE=DOWN,MTU=1500, FLOWCTRL=SYMMETRIC,OPTICS=1000_BASE_SX,DUPLEX=AUTO, SPEED=AUTO" ;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.153 RTRV-HDR: Retrieve Header

This command retrieves the header of a TL1 response message. Used by TL1 clients to determine if the link to the NE is still active and if the NE is responding to commands.

Section	RTRV-HDR Description	
Category	System	
Security	Retrieve	
Related Messages	ALW-MSG-ALL APPLY COPY-RFILE ED-DAT ED-NE-GEN ED-NE-SYNCN INH-MSG-ALL INIT-SYS	REPT EVT FXFR RTRV-INV RTRV-MAP-NETWORK RTRV-NE-GEN RTRV-NE-IPMAP RTRV-NE-SYNCN RTRV-TOD SET-TOD
Input Format	RTRV-HDR:[<TID>]::<CTAG>;	
Input Example	RTRV-HDR:SONOMA::232;	

3.4.154 RTRV-INV: Retrieve Inventory

This command retrieves a listing of the equipment inventory. For each unit in the system, it identifies the unit's firmware numbers and the unit's CLEI code.

Section	RTRV-INV Description	
Category	System	
Security	Retrieve	
Related Messages	ALW-MSG-ALL APPLY COPY-RFILE ED-DAT ED-NE-GEN ED-NE-SYNCN INH-MSG-ALL INIT-SYS	REPT EVT FXFR RTRV-HDR RTRV-MAP-NETWORK RTRV-NE-GEN RTRV-NE-IPMAP RTRV-NE-SYNCN RTRV-TOD SET-TOD
Input Format	RTRV-INV:[<TID>]:<AID>:<CTAG>[::::]; where: • <AID> is an access identifier from the "EQPT" section on page 4-21 and must not be null	
Input Example	RTRV-INV:OCCIDENTAL:SLOT-15:301;	

Section	RTRV-INV Description (continued)
Output Format	SID DATE TIME M CTAG COMPLD "<AID>,<AIDTYPE>::[PN=<PN>,][HWREV=<HWREV>,] [FWREV=<FWREV>,][SN=<SN>,][CLEI=<CLEI>][TWL1=<TWL1>,] [TWL2=<TWL2>,][PLUGINVERNDORID=<PLUGINVERNDORID>,] [PLUGINPN=<PLUGINPN>,][PLUGINHWREV=<PLUGINHWREV>,] [PLUGINFWREV=<PLUGINFWREV>,][PLUGINSN=<PLUGINSN>,] [ILOSSREF=<ILOSSREF>]" ; where: • <AID> is the access identifier from the "EQPT" section on page 4-21 • <AIDTYPE> specifies the type of AID and is a string • <PN> is the HW part number; <PN> is a string and is optional • <HWREV> is the HW Rev; <HWREV> is a string and is optional • <FWREV> is the firmware Rev; <FWREV> is a string and is optional • <SN> is the serial number; <SN> is a string and is optional • <CLEI> is a string and is optional • <TW1> tunable wavelength 1; valid values are shown in the "OPTICAL_WLEN" section on page 4-81 and <TW1> is optional • <TW2> tunable wavelength 2; valid values are shown in the "OPTICAL_WLEN" section on page 4-81 and <TW2> is optional • <PLUGINHWREV> applicable in a future release • <PLUGINFWREV> applicable in a future release • <PLUGINSN> applicable in a future release • <ILOSSREF> applicable in a future release
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "SLOT-15,OC3-IR-4::PN=87-31-00002,HWREV=004K, FWREV=76-99-00009-004A,SN=013510,CLEI=NOCLEI,TWL1=1546.12, TWL2=1546.92,PLUGINVERNDORID=012345,PLUGINPN=ABCDE, PLUGINHWREV=ABCDE,PLUGINFWREV=01-02-03, PLUGINSN=01234,ILOSSREF=1.0" ;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.155 RTRV-LOG: Retrieve Log

This command retrieves the alarm log of the NE.

Note The only option reported for LOGNM is ALARM.

Section	RTRV-LOG Description
Category	Log
Security	Superuser
Related Messages	ALW-MSG-DBCHG INH-MSG-DBCHG REPT DBCHG
Input Format	RTRV-LOG:[<TID>]::<CTAG>::<LOGNM>; where: • <LOGNM> is the log name - ALARM; <LOGNM> is a string and must not be null
Input Example	RTRV-LOG:CISCO::123::ALARM;
Output Format	SID DATE TIME M CTAG COMPLD "<AID>,<ALMNUMBER>:CURRENT=<CURRENT>, [PREVIOUS=<PREVIOUS>,]<CONDITION>,<SRVEFF>,[TIME=<OCRTIME>,] [DATE=<OCRDAT>]:<ALMDESCR>" ; where: • <AID> is an access identifier from the "ALL" section on page 4-10 • <ALMNUMBER> is an alarm number of the log and is an integer • <CURRENT> is a current severity; valid values are shown in the "NOTIF_CODE" section on page 4-78 • <PREVIOUS> is a previous severity; valid values are shown in the "COND_EFF" section on page 4-47, <PREVIOUS> is optional • <CONDITION> is a condition; valid values are shown in the "CONDITION" section on page 4-47 • <SRVEFF> is a service effect; valid values are shown in the "SERV_EFF" section on page 4-86 • <OCRTIME> is the time an alarm is triggered and is optional • <OCRDAT> is the date an alarm is triggered and is optional • <ALMDESCR> is the alarm description and is a string
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "FAC-3-1,18:CURRENT=MJ,PREVIOUS=CL,EOC,NSA, TIME=16-33-04,DATE=1971-02-03:\"SDCC TERMINATION FAILURE\"" ;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.156 RTRV-MAP-NETWORK: Retrieve Map Network

This command retrieves all the NE attributes which are reachable from the GNE (gateway NE). The NE attributes include the node IP address (IPADDR), node name (TID), and the product type of the NE (PRODUCT).

Note The product type field in the response will be displayed as "unknown" for nodes that are not running the 4.0 version software.

Section	RTRV-MAP-NETWORK Description
Category	Network
Security	Retrieve
Related Messages	RTRV-NE-IPMAP
Input Format	RTRV-MAP-NETWORK:[<TID>]::<CTAG>;
Input Example	RTRV-MAP-NETWORK:CISCO::123;
Output Format	SID DATE TIME M CTAG COMPLD "<IPADDR>,<NODENAME>,<PRODUCT>" ; where: • <IPADDR> indicates the node IP address and is a string • <NODENAME> indicates the node name (TID) and is a string • <PRODUCT> indicates the product type of the NE; valid values are shown in the "PRODUCT_TYPE" section on page 4-84
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "172.20.222.225,TID-000,15454" ;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.157 RTRV-NE-GEN: Retrieve Network Element General

This command retrieves the general NE attributes.

The ETHIPADDR/ETHIPMASK are used to show the Ethernet interface address and mask. Both default to the node's IP address and mask.

Section	RTRV-NE-GEN Description
Category	System
Security	Retrieve

Section	RTRV-NE-GEN Description (continued)
Related Messages	ALW-MSG-ALL APPLY COPY-RFILE ED-DAT ED-NE-GEN ED-NE-SYNCN INH-MSG-ALL INIT-SYS REPT EVT FXFR RTRV-HDR RTRV-INV RTRV-MAP-NETWORK RTRV-NE-IPMAP RTRV-NE-SYNCN RTRV-TOD SET-TOD
Input Format	RTRV-NE-GEN:[<TID>]::<CTAG>;
Input Example	RTRV-NE-GEN:CISCO::123;
Output Format	SID DATE TIME M CTAG COMPLD "[IPADDR=<IPADDR>,][IPMASK=<IPMASK>,][DEFRTR=<DEFRTR>,] [IIOPPORT=<IIOPPORT>,][NTP=<NTP>,][ETHIPADDR=<ETHIPADDR>,] [ETHIPMASK=<ETHIPMASK>,][NAME=<NAME>,][SWVER=<SWVER>,] [LOAD=<LOAD>,][PROTSWVER=<PROTSWVER>,] [PROTLOAD=<PROTLOAD>,][DEFDESC=<DEFDESC>] [PLATFORM=<PLATFORM>]" ; where: • <IPADDR> indicates the node IP address; <IPADDR> is a string and is optional • <IPMASK> indicates the node IP mask; <IPMASK> is a string and is optional • <DEFRTR> indicates the node default router; <DEFRTR> is a string and is optional • <IIOPPORT> indicates the node IIOP port; <IIOPPORT> is an integer and is optional • <NTP> indicates the node's NTP timing source address; <NTP> is a string and is optional • <ETHIPADDR> indicates the node's Ethernet IP address; <ETHIPADDR> is a string and is optional • <ETHIPMASK> indicates the node's Ethernet IP mask; <ETHIPMASK> is a string and is optional • <NAME> is the node name; <NAME> is a string and is optional • <SWVER> is the software version; <SWVER> is a string and is optional • <LOAD> is a string and is optional • <PROTSWVER> is protect software version; <PROTSWVER> is a string and is optional • <PROTLOAD> is a string and is optional • <DEFDESC> is a string and is optional • <PLATFORM> is the NE platform type; <PLATFORM> is a string and is optional

Section	RTRV-NE-GEN Description (continued)
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "IPADDR=192.168.100.52,IPMASK=255.255.255.0,DEFRTR=192.168.100.1, IIOPPORT=57970,NTP=192.168.100.52,ETHIPADDR=172.20.208.225, ETHIPMASK=255.255.255.0,NAME="NODENAME",SWVER=2.01.03, LOAD=02.13-E09A-08.15,PROTSWVER=2.01.02, PROTLOAD=02.12-E09A-09.25,DEFDESC=\"NE DEFAULTS FEATURE\", PLATFORM=15454-ANSI" ;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.158 RTRV-NE-IPMAP: Retrieve Network Element IPMAP

This command retrieves the IP address and node name of the NEs that have the DCC connection with this NE.

Note This command only reports the active DCC link. If there is no active DCC link on the port (or the node), the command will return COMPLD without IPMAP information.

Section	RTRV-NE-IPMAP Description
Category	Network
Security	Retrieve
Related Messages	ALW-MSG-ALL ED-DAT ED-NE-GEN ED-NE-SYNCN INH-MSG-ALL INIT-SYS RTRV-HDR RTRV-INV RTRV-MAP-NEWORK RTRV-NE-GEN RTRV-NE-SYNCN RTRV-TOD SET-TOD
Input Format	RTRV-NE-IPMAP:[<TID>]:[<AID>]:<CTAG>; where: • <AID> is the port of an NE carrying the DCC connection; <AID> is from the "FACILITY" section on page 4-22 and a null value is equivalent to ALL
Input Example	RTRV-NE-IPMAP:CISCO:FAC-12-1:123;

Section	RTRV-NE-IPMAP Description (continued)
Output Format	SID DATE TIME M CTAG COMPLD "<AID>:<IPADDR>,<NODENAME>" ; where: • <AID> is the port of an NE carrying a DCC connection and is from the "FACILITY" section on page 4-22 • <IPADDR> indicates the NE IP address and is a string • <NODENAME> indicates the NE node name and is a string
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "FAC-12-1:172.20.208.225,NODENAME2" ;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.159 RTRV-NE-SYNCN: Retrieve Network Element Synchronization

This command retrieves the synchronization attributes of the NE.

Notes:

1. Although mixed mode timing is supported in this release, it is not recommended. See the "Mixed Mode Timing Support" section on page 1-14 for more information.
2. The existing external and line modes have the same functionality in all 3.x releases:
   - External mode: the node derives its timing from the BITS inputs.
   - Line mode: the node derives its timing from the SONET line(s).
   - Mixed mode: the node derives its timing from the BITS input or SONET lines.

Section	RTRV-NE-SYNCN Description
Category	Synchronization
Security	Retrieve

Section	RTRV-NE-SYNCN Description (continued)
Related Messages	ALW-MSG-ALL APPLY COPY-RFILE ED-BITS ED-DAT ED-NE-GEN ED-NE-SYNCN ED-SYNCN INH-MSG-ALL INIT-SYS OPR-SYNCNSW REPT ALM BITS REPT ALM SYNCN REPT EVT BITS REPT EVT FXFR REPT EVT SYNCN RLS-SYNCNSW RTRV-ALM-BITS RTRV-ALM-SYNCN RTRV-BITS RTRV-COND-BITS RTRV-COND-SYNCN RTRV-HDR RTRV-INV RTRV-MAP-NETWORK RTRV-NE-GEN RTRV-NE IPMAP RTRV-SYNCN RTRV-TOD SET-TOD
Input Format	RTRV-NE-SYNCN:[<TID>]::<CTAG>[::::];
Input Example	RTRV-NE-SYNCN:CISCO::123;
Output Format	SID DATE TIME M CTAG COMPLD "::[TMMD=<TMMD>,][SSMGEN=<SSMGEN>,][QRES=<QRES>,][RVRTV=<RVRTV>,][RVTM=<RVTM>]" ; where: • <TMMD> is a timing mode; valid values are shown in the "TIMING_MODE" section on page 4-93, <TMMD> is optional • <SSMGEN> is an SSM generator; valid values are shown in the "SYNC_GENERATION" section on page 4-90, <SSMGEN> is optional • <QRES> is a quality of RES; valid values are shown in the "SYNC_QUALITY_LEVEL" section on page 4-90, <QRES> is optional • <RVRTV> is a revertive mode; valid values are shown in the "ON_OFF" section on page 4-79, <RVRTV> is optional • <RVTM> is a revertive time; valid values are shown in the "REVERTIVE_TIME" section on page 4-85, <RVTM> is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "::TMMD=LINE,SSMGEN=GEN1,QRES=ABOVE-PRS,RVRTV=Y,RVTM=8.0" ;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.160 RTRV-OCH: Retrieve Optical Channel

(Cisco ONS 15454 only)

This command retrieves the attributes (service parameters) and state of an OCH facility.

See the "Provisioning Rules for MXP_2.5G_10G and TXP_MR_10G Cards" section on page 1-8 for specific MXP/TXP card provisioning rules.

Section	RTRV-OCH Description
Category	DWDM
Security	Retrieve
Related Messages	ED-OCH ED-DWDM RTRV-DWDM RTRV-ALM-OCH RTRV-COND-OCH
Input Format	RTRV-OCH:[<TID>]:<AID>:<CTAG>; where: • <AID> is an access identifier from the "CHANNEL" section on page 4-19 and must not be null
Input Example	RTRV-OCH:PENNGROVE:CHAN-6-2:236;
Output Format	SID DATE TIME M CTAG COMPLD "<AID>:,,,[<STATUS>],[<RDIRN>],[<OPTICALPORTTYPE>],[<POWER>], [<EXPWLEN>],[<ACTWLEN>]:[ILOSS=<ILOSS>,] [VOAMODE=<VOAMODE>,][VOAATTN=<VOAATTN>,] [VOAPWR=<VOAPWR>,][VOAREFATTN=<VOAREFATTN>,] [VOAREFPWR=<VOAREFPWR>,][REFOPWR=<REFOPWR>,] [CALOPWR=<CALOPWR>,][SFBER=<SFBER>,][SDBER=<SDBER>,] [ALSMODE=<ALSMODE>,][ALSRCINT=<ALSRCINT>,] [ALSRCPW=<ALSRCPW>,][COMM=<COMM>,][GCCRATE=<GCCRATE>,] [DWRAP=<DWRAP>,][FEC=<FEC>,][OSFBER=<OSFBER>,] [OSDBER=<OSDBER>,][MACADDR=<MACADDR>,] [SYNCMSG=<SYNCMSG>,][SENDDUS=<SENDDUS>,] [LSRSTAT=<LSRSTAT>,][SOAK=<SOAK>]:<PST>,[<SST>]" ;

Section	RTRV-OCH Description (continued)
Output Format (continued)	where: • <AID> is an access identifier and is from the "CHANNEL" section on page 4-19 • Valid values for <STATUS> are shown in the "STATUS" section on page 4-87 and <STATUS> is optional • <RDIRN> applicable in a future release • <OPTICALPORTTYPE> applicable in a future release • <POWER> applicable in a future release • <EXPWLEN> applicable in a future release • <ACTWLEN> applicable in a future release • <ILOSS> applicable in a future release • <VOAMODE> applicable in a future release • <VOAATTN> identifies the transmit power attenuation for the variable optical attenuation (VOA). It is expressed in Dbm. The range for MXP/TXP cards is -24.0–=2.0 Dbm. <VOAATTN> is a string and is optional • <VOAPWR> applicable in a future release • <VOAREFATTN> applicable in a future release • <VOAREFPWR> applicable in a future release • <REFOPWR> applicable in a future release • <CALOPWR> applicable in a future release • <SFBER> identifies the SFBER for the SONET payload; valid values are shown in the "SF_BER" section on page 4-86 • <SDBER> identifies the SDBER for the SONET payload; valid values are shown in the "SD_BER" section on page 4-85 • <ALSMODE> indicates if the Automatic Laser Shutdown is enabled or disabled; valid values are shown in the "ALS_MODE" section on page 4-41 and <ALSMODE> is optional • <ALSRCINT> indicates the ALS recovery interval. Range is 20–300 seconds; <ALSRCINT> is an integer and is optional • <ALSRCPW> indicates the ALS recovery pulse width. The range is 2–100 seconds, in increments of 100ms, e.g. 30.1; <ALSRCPW> is a float and is optional • <COMM> indicates if the GCC or DCC is enabled or disabled. The GCC can be enabled only if the digital wrapper has been enabled for the card. The default is NONE. Valid values are shown in the "COMM_TYPE" section on page 4-46. Rules for a MXP/TXP Client port are; only the DCC can be provisioned, if the termination mode is not transparent and the payload is SONET. On a MXP/TXP DWDM port, the DCC can be enabled only if the G.709 is not enabled and if the payload is SONET and the termination mode is not transparent. On a MXP/TXP DWDM port, the GCC can be enabled if there is no DCC and the G.709 flag is enabled. <COMM> is optional

Section	RTRV-OCH Description (continued)
Output Format (continued)	• <GCCRATE> indicates the data rate of the GCC traffic. Valid values are shown in the "GCCRATE" section on page 4-69. The default is 192Kbps. For MXP/TXP cards this applies only to the DWDM port. The 576K option is not supported for this release. <GCCRATE> is optional • <DWRAP> is the G.709 digital wrapper. It is either on or off. The system default is ON. For MXP/TXP, this applies only to the DWDM port. To enable G.709 there should be no GCC on the DWDM port. To disable G.709 there should be no GCC on the DWDM port. The FEC should be turned to off; valid values are shown in the "ON_OFF" section on page 4-79 and <DWRAP> is optional • <FEC> is the Forward Error Correction. It can be enabled only if the G.709 is turned ON. It is either on or off. The system default is ON. For MXP/TXP this applies only to the DWDM port. The FEC level PM and thresholds apply if the FEC is turned on; valid values are shown in the "ON_OFF" section on page 4-79 and <FEC> is optional • <OSFBER> identifies the SFBER for the OTN level. Applicable only if the G.709 is enabled; valid values are shown in the "SF_BER" section on page 4-86 and <OSFBER> is optional • <OSDBER> identifies the SDBER for the OTN level. Applicable only if the G.709 is enabled; valid values are shown in the "SD_BER" section on page 4-85 and <OSDBER> is optional • <MACADDR> identifies the MAC address for the 10GE payload; <MACADDR> is a string • <SYNCMSG> indicates that the facility be enabled to provide the synchronization clock. This does not apply to a TXP card. This applies to an MXP card, only if the payload is SONET/SDH and the card termination mode is as follows: TRANSPARENT - All Client ports are available for all timing selections. All Trunk ports are not available. LINE - All ports are available for all-timing selections. • <SENDDUS> indicates that the facility send out a Do not Use for Sync message. This does not apply to a TXP card. This applies to a MXP card, only if the payload is SONET/SDH and the card termination mode is as follows: TRANSPARENT - All Client ports are available for all timing selections. All Trunk ports are not available. LINE - All ports are available for all-timing selections. Valid values are shown in the "ON_OFF" section on page 4-79 and <SENDDUS> is optional • <LSRSTAT> indicates the laser status. If the laser has been shut down it shows DOWN. If it has not been shut down it shows UP. Valid values are shown in the "UP_DOWN" section on page 4-98 and <LSRSTAT> is optional • <SOAK> OOS-AINS to IS transition soak time as measured in 15–minute intervals. A value of 4 translates to a soak time of one hour. The allowable range is 0–480 intervals. <SOAK> is an integer and is optional • <PST> primary state; valid values are shown in the "PST" section on page 4-85 • <SST> secondary state; valid values are shown in the "SST" section on page 4-87

Section	RTRV-OCH Description (continued)
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "CHAN-6-1:,,,ACT,W_E,DROP,10.0,1530.33,1530.33:ILOSS=1.0, VOAMODE=ATTN,VOAATTN=0.5,VOAPWR=0.0,VOAREFATTN=3.5, VOAREFPWR=5.0,REFOPWR=10.5,CALOPWR=0,SFBER=1E-4, SDBER=1E-5,ALSMODE=Y,ALSRCINT=30,ALSRCPW=40.1, COMM=GCC,GCCRATE=192K,DWRAP=Y,FEC=Y,OSFBER=1E-5, OSDBER=1E-4,MACADDR=00-0E-AA-BB-CC-FF,SYNCMSG=Y, SENDDUS=Y,LSRSTAT=UP,SOAK=10:OOS,AINS" ;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.161 RTRV-PM-<MOD2>: Retrieve Performance (CLNT, DS1, EC1, OC3, OC12, OC48, OC192, OCH, STS1, STS3C, STS6C, STS9C, STS12C, STS24C, STS48C, STS192C, T1, T3, VT1)

See Table 4-11 on page 4-6 for supported modifiers by platform.

This command retrieves the values of PM parameters for a specified card type.

<MONTYPE>, <MONLEV>, <MONDAT> and <MONTM> are supported in this release.

<MONLEV> is in the format of LEV-DIRN. Valid values for <DIRN> are shown in the "DIRN" section on page 4-61.

The format of <MONDAT> is MM-DD, where MM (month of the year) ranges from 1–12 and DD (day of the month) ranges from 1–31.

The format for <MONTM> is HH-MM, where HH (hour of the day) ranges from 0–23 and MM (minute of the hour) ranges from 0–59.

Notes:

1. If the <TMPER> is 1-DAY, <MONTM> is not applicable (null), and is treated as null if <MONTM> is not null.
2. A null value for <MONLEV> defaults to 1-UP.
3. A null value for <MONDAT> defaults to the current date (MM-DD).
4. A null value for <MONTM> defaults to the current time (HH-MM).
5. Unless otherwise stated, DS1 cards are the only cards that support the BTH, RCV, and TRMT directions. All other cards only support the RCV direction.
6. After the BLSR switching, the working path is switched out, the traffic goes through the protection path, and the IPPM can be retrieved from the protection STS path.
7. If there is a STS PCA on the protection path, during the BLSR switching, the PCA path is pre-emptive; sending this command on the protection path after BLSR switch, the command returns the PMs off the protection path, not from the PCA path.
8. Retrieve the PM data for the OCH facility.

   The rules are as follows: Client port only–Laser and SONET PM's are applicable and will be displayed. If the card payload is in SONET mode, then SONET PM's will be displayed, provided the MONLEV criteria is met.

Trunk port Laser PM's are always available. Laser PM's are only for Near End. If G.709 is enabled, then the OTN PM's will be displayed. If G.709 is enabled and FEC is enabled, then the FEC PM's will be displayed. If the card payload is in SONET mode, then SONET PM's will be displayed. All PM MONVALUES should pass the MONLEV filter criteria.

Section	**RTRV-PM-<MOD2> Description**
Category	Performance
Security	Retrieve
Related Messages	ALW-PMREPT-ALL INH-PMREPT-ALL INIT-REG-<MOD2> REPT PM <MOD2> RTRV-PMMODE-<STS_PATH> RTRV-PMSCHED-<MOD2> RTRV-PMSCHED-ALL RTRV-TH-<MOD2> SCHED-PMREPT-<MOD2> SET-PMMODE-<STS_PATH> SET-TH-<MOD2>
Input Format	RTRV-PM-<MOD2>:[<TID>]:<AID>:<CTAG>::[<MONTYPE>],[<MONLEV>],[<LOCN>],[<DIRN>],[<TMPER>],[<DATE>],[<TIME>]; where: • <AID> is the access identifier. All the STS, VT1, FACILITY and DS1 AIDs are supported; <AID> is from the "ALL" section on page 4-10 and must not be null • <MONTYPE> indicates the type of the monitored parameter; valid values are shown in the "ALL_MONTYPE" section on page 4-33. A null value is equivalent to ALL • <MONLEV> specifies the discriminating level for the requested monitored parameter. <MONLEV> is in the format of LEVEL-DIRN where LEVEL is the measured value of the monitored parameter (MONVAL) and valid values for DIRN are shown in the "DIRN" section on page 4-61. A null value for <MONLEV> defaults to 1-UP. <MONLEV> is a string • <LOCN> indicates the location; valid values are shown in the "LOCATION" section on page 4-71. A null value defaults to NEND • <DIRN> is the direction of PM relative to the entity identified by the AID. <DIRN> defaults to ALL, which means that the command initializes all the registers irrespective of the PM direction. Valid values for <DIRN> are shown in the "DIRECTION" section on page 4-60. • <TMPER> indicates the accumulation time period for the PM information. If the <TMPER> is 1-DAY, <MONTM> is not applicable (null), and is treated as null if <MONTM> is not null. Valid values for <TMPER> are shown in the "TMPER" section on page 4-93. A null value defaults to 15-MIN • <DATE> is the beginning date of the PM or storage register period specified in <TMPER>. The format of <MONDAT> is MM-DD, where MM (month of year> ranges from 1–12 and DD (day of month) ranges from 1–31. A null value for <MONDAT> defaults to the current date • <TIME> is the beginning time of day of the PM or storage register period specified in <TMPER>. The format for <MONTM> is HH-MM, where HH (hour of day) ranges from 0–23 and MM (minute of hour) ranges from 0–59. A null value for <MONTM> defaults to the current time (HH-MM)
Input Example	RTRV-PM-T1:TID:FAC-2-1:123::CVL,10-UP,NEND,BTH,15-MIN,04-11,12-45;

Section	RTRV-PM-<MOD2> Description (continued)
Output Format	SID DATE TIME M CTAG COMPLD "<AID>,[<AIDTYPE>]:<MONTYPE>,<MONVAL>,[<VLDTY>], [<LOCN>],[<DIRN>],[<TMPER>],[<MONDAT>],[<MONTM>]" ; where: • <AID> is an access identifier from the "ALL" section on page 4-10 • <AIDTYPE> specifies the type of AID; valid values are shown in the "MOD2B" section on page 4-74, <AIDTYPE> is optional • <MONTYPE> indicates the type of monitored parameter; valid values are shown in the "ALL_MONTYPE" section on page 4-33 • <MONVAL> is the measured value of the monitored parameter and is a string • <VLDTY> is the validity indicator of historical monitoring information; valid values are shown in the "VALIDITY" section on page 4-98, <VLDTY> is optional • <LOCN> indicates the location; valid values are shown in the "LOCATION" section on page 4-71, <LOCN> is optional • <DIRN> is the direction of PM relative to the entity identified by the AID; valid values are shown in the "DIRECTION" section on page 4-60, <DIRN> is optional • <TMPER> indicates the accumulation time period for the PM information; valid values are shown in the "TMPER" section on page 4-93, <TMPER> is optional • <MONDAT> is the beginning date of the PM or storage register period specified in <TMPER>. The format of <MONDAT> is MM-DD, where MM (month of year> ranges from 1–12 and DD (day of month) ranges from 1–31. <MONDAT> is a string and is optional • <MONTM> is the beginning time of the day of the PM or storage register period specified in <TMPER>. The format for <MONTM> is HH-MM, where HH (hour of day) ranges from 0– 23 and MM (minute of hour) ranges from 0–59. <MONTM> is a string and is optional.
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "FAC-2-1,DS1-14:CVL,21,COMPL,NEND,BTN,15-MIN,04-11,12-45" ;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.162 RTRV-PMMODE-<STS_PATH>: Retrieve Performance Mode of PM Data Collection (STS1, STS3C, STS6C, STS9C, STS12C, STS24C, STS48C, STS192C)

See Table 4-11 on page 4-6 for supported modifiers by platform.

This command retrieves the type of PM mode that has been previously set in the NE. This command can be used to identify whether the PM parameters are Section, Line or Path type, and to identify whether or not the PM are being collected by the NE.

This command returns the categories that are enabled only.

The PM mode and state of an entity is set by using the SET-PMMODE command.

Notes:

1. This near end monitoring of the intermediate-path PM (IPPM) only supports OC-3, OC-12, OC-48, OC-48AS, OC-192, and EC-1 on STS Path.
2. The far end PM data collection is not supported by the current ONS 15454 in this release.
3. This release of software will support only the Path (P) mode type PM parameters with this command, that is, this command will not be applicable for Line (L) and Section (S) mode types. It should be noted that the PM monitoring for Line (L) and Section (S) are supported by the ONS 15454, and the storing PM data is always performed.
4. This command only returns the categories that are enabled (pmstate is ON), and does not return the categories that are disabled (pmstate is OFF).

Section	RTRV-PMMODE-<STS_PATH> Description
Category	Performance
Security	Retrieve
Related Messages	ALW-PMREPT-ALL INH-PMREPT-ALL INIT-REG-<MOD2> REPT PM <MOD2> RTRV-PM-<MOD2> RTRV-PMSCHED-<MOD2> RTRV-PMSCHED-ALL RTRV-TH-<MOD2> SCHED-PMREPT-<MOD2> SET-PMMODE-<STS_PATH> SET-TH-<MOD2>
Input Format	RTRV-PMMODE-<STS_PATH>:[<TID>]:<AID>:<CTAG>::<LOCN>; where: • <AID> identifies the entity from where the PM mode is being retrieved; <AID> is from the "STS" section on page 4-24 and must not be null • <LOCN> identifies the location from where the PM mode is being retrieved; valid values are shown in the "LOCATION" section on page 4-71. <LOCN> must not be null
Input Example	RTRV-PMMODE-STS1:CISCO:STS-4-2:123::NEND;

Section	RTRV-PMMODE-<STS_PATH> Description (continued)
Output Format	SID DATE TIME M CTAG COMPLD "<AID>:[<LOCN>],<MODETYPE>" ; where: • <AID> identifies the entity from where the PM mode is being retrieved; <AID> is from the "STS" section on page 4-24 • <LOCN> identifies the location from where the PM mode is being retrieved; valid values are shown in the "LOCATION" section on page 4-71. <LOCN> is optional. • <MODETYPE> identifies whether or not the PM mode type is turned on or off; valid values are shown in the "PM_MODE" section on page 4-83
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "STS-4-2:NEND,P" ;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.163 RTRV-PMSCHED-<MOD2>:Retrieve Performance Monitoring Schedule (CLNT, DS1, EC1, OC3, OC12, OC48, OC192, OCH, STS1, STS3C, STS6C, STS9C, STS12C, STS24C, STS48C, STS192C, T1, T3, VT1)

See Table 4-11 on page 4-6 for supported modifiers by platform.

This command retrieves the PM reporting schedule that was set for the NE by the SCHED-PMREPT command.

Section	RTRV-PMSCHED-<MOD2> Description
Category	Performance
Security	Retrieve
Related Messages	ALW-PMREPT-ALL INH-PMREP-ALL INIT-REG-<MOD2> REPT PM <MOD2> RTRV-PM-<MOD2> RTRV-PMMODE-<STS_PATH> RTRV-PMSCHED-ALL RTRV-TH-<MOD2> SCHED-PMREPT-<MOD2> SET-PMMODE-<STS-PATH> SET-TH-<MOD2>
Input Format	RTRV-PMSCHED-<MOD2>:[<TID>]:<AID>:<CTAG>; where: • <AID> is an access identifier from the "ALL" section on page 4-10; <AID> must not be null
Input Example	RTRV-PMSCHED-OC3:CISCO-NODE:FAC-3-1:123;

Section	RTRV-PMSCHED-<MOD2> Description (continued)
Output Format	SID DATE TIME M CTAG COMPLD "<AID>,[<AIDTYPE>]:<REPTINVL>,<REPTDAT>,<REPTTM>, [<NUMINVL>],,[<MONLEV>],<LOCN>,,[<TMPER>],[<TMOFST>], [<INHMODE>]" ; where: • <AID> access identifier from the "ALL" section on page 4-10 • <AIDTYPE> type of access identifier; valid values are shown in the "MOD2" section on page 4-72. <AIDTYPE> is optional • <REPTINVL> interval between PM reports; <REPTINVL> is a string • <REPTDAT> date for the next report; <REPTDAT> is a string • <REPTTM> the time of day for the next PM report; <REPTTM> is a string • <NUMINVL> remaining number of intervals over which PM is being reported; <NUMINVL> is and integer and is optional • <MONLEV> discriminating level for the requested monitored parameter; <MONLEV> is a string and is optional • <LOCN> location being performance-monitored and refers to the entity identified by the AID; valid values are shown in the "LOCATION" section on page 4-71 • <TMPER> accumulation time period for the PM information; valid values are shown in the "TMPER" section on page 4-93 and <TMPER> is optional • <TMOFST> is the time offset from the end of the last complete accumulation time period to the beginning of the accumulation period specified by TMPER parameter. <TMOFST> is a string and is optional • <INHMODE> describes whether the reporting of PM data is inhibited (via the INH-PMREPT-ALL command) or is allowed (via the ALW-PMREPT-ALL command); valid values are shown in the "INH_MODE" section on page 4-70
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "FAC-3-1,OC3:30-MIN,5-25,14-46,100,,1-UP,NEND,,15-MIN,0-0-15,ALW" ;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.164 RTRV-PMSCHED-ALL: Retrieve Performance Schedule All

This command retrieves all the PM reporting schedules that were set for the NE by the SCHED-PMREPT command.

Section	RTRV-PMSCHED-ALL Description
Category	Performance
Security	Retrieve

Section	RTRV-PMSCHED-ALL Description (continued)
Related Messages	ALW-PMREPT-ALL INH-PMREPT-ALL INIT-REG-<MOD2> REPT PM <MOD2> RTRV-PM-<MOD2> RTRV-PMMODE-<STS_PATH> RTRV-PMSCHED-<MOD2> RTRV-TH-<MOD2> SCHED-PMREPT-<MOD2> SET-PMMODE-<STS_PATH SET-TH-<MOD2>
Input Format	RTRV-PMSCHED-ALL:[<TID>]::<CTAG>;
Input Example	RTRV-PMSCHED-ALL:CISCO-NODE::123;
Output Format	SID DATE TIME M CTAG COMPLD "<AID>,[<AIDTYPE>]:<REPTINVL>,<REPTDAT>,<REPTTM>, [<NUMINVL>],,[<MONLEV>],<LOCN>,,[<TMPER>],<TMOFST>, [<INHMODE>]" ; where: • <AID> access identifier from the "ALL" section on page 4-10 • <AIDTYPE> type of access identifier; valid values are shown in the "MOD2" section on page 4-72. <AIDTYPE> is optional • <REPTINVL> interval between PM reports; <REPTINVL> is a string • <REPTDAT> date for the next report; <REPTDAT> is a string • <REPTTM> the time of day for the next PM report; <REPTTM> is a string • <NUMINVL> remaining number of intervals over which PM is being reported; <NUMINVL> is and integer and is optional • <MONLEV> discriminating level for the requested monitored parameter; <MONLEV> is a string and is optional • <LOCN> location being performance-monitored and refers to the entity identified by the AID; valid values are shown in the "LOCATION" section on page 4-71 • <TMPER> accumulation time period for the PM information; valid values are shown in the "TMPER" section on page 4-93 and <TMPER> is optional • <TMOFST> is the time offset from the end of the last complete accumulation time period to the beginning of the accumulation time period specified by the TMPER parameter; <TMOFST> is a string • <INHMODE> describes whether the reporting of PM data is inhibited (via the INH-PMREPT-ALL command) or is allowed (via the ALW-PMREPT-ALL command); valid values are shown in the "INH_MODE" section on page 4-70
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "FAC-3-1,OC3:30-MIN,5-25,14-46,100,,1-UP,NEND,,15-MIN,0-0-15,ALW" ;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.165 RTRV-POS: Retrieve Packet Over SONET

See Table 4-11 on page 4-6 for supported modifiers by platform.

This command retrieves the back end port information for the ML-series Ethernet cards when the back end port is working in POS mode.

Note Because the back end port is virtual, the Virtual Facility (VFAC) AID should be used when issuing the command.

Section	RTRV-POS Description
Category	Ports
Security	Retrieve
Related Messages	ED-<OCN_TYPE> ED-DS1 ED-EC1 ED-G1000 ED-T1 ED-T3 INIT-REG-G1000 RMV-<MOD2_IO> RST-<MOD2_IO> RTRV_<OCN_TYPE> RTRV-DS1 RTRV-EC1 RTRV-FSTE RTRV-G1000 RTRV-GIGE RTRV-T1 RTRV-T3
Input Format	RTRV-POS:[<TID>]:<AID>:<CTAG>; where: • <AID> is the access identifier from the "FACILITY" section on page 4-22 and must not be null
Input Example	RTRV-POS:TID:VFAC-1-1:CTAG;
Output Format	SID DATE TIME M CTAG COMPLD "<AID>::[ADMINSTATE=<ADMINSTATE>,][LINKSTATE=<LINKSTATE>,] [MTU=<MTU>]" ; where: • <AID> is the access identifier from the "FACILITY" section on page 4-22 • <ADMINSTATE> administration speed; valid values are shown in the "UP_DOWN" section on page 4-98 and <ADMINSTATE> is optional • <MTU> maximum transport unit; <MTU> is an integer and is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "VFAC-1-1::ADMINSTATE=DOWN,LINKSTATE=DOWN,MTU=1500" ;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.166 RTRV-PROTNSW-<OCN_TYPE>: Retrieve Protection Switch (OC3, OC12, OC48, OC192)

See Table 4-11 on page 4-6 for supported modifiers by platform.

This command retrieves the switching state of a SONET line specified in the AID.

Section	RTRV-PROTNSW-<OCN_TYPE> Description
Category	SONET Line Protection
Security	Retrieve
Related Messages	DLT-FFP-<OCN_TYPE> ED-FFP-<OCN_TYPE> ENT-FFP-<OCN_TYPE> EX-SW-<OCN_BLSR> OPR-PROTNSW-<OCN_TYPE> RLS-PROTNSW-<OCN_TYPE> RTRV-FFP-<OCN_TYPE>
Input Format	RTRV-PROTNSW-<OCN_TYPE>:[<TID>]:<AID>:<CTAG>[::::]; where: • <AID> indicates the entity in the NE and is from the "FACILITY" section on page 4-22; <AID> must not be null
Input Example	RTRV-PROTNSW-OC48:CISCO:FAC-5-1:123;
Output Format	SID DATE TIME M CTAG COMPLD "<AID>:<SC>,[<SWITCHTYPE>]" ; where: • <AID> indicates the entity in the NE and is from the "FACILITY" section on page 4-22 • <SC> is the switch operation on the path/AID; valid values are shown in the "SW" section on page 4-88 • Valid values for <SWITCHTYPE> are shown in the "SWITCH_TYPE" section on page 4-89: <SWITCHTYPE> is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "FAC-5-1:MAN,MANWKSWBK" ;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.167 RTRV-PROTNSW-<STS_PATH>: Retrieve Protection Switch (STS1, STS3C, STS6C, STS9C, STS12C, STS24C, STS48C, STS192C)

See Table 4-11 on page 4-6 for supported modifiers by platform.

This command retrieves the switching state of a SONET UPSR STS path specified in the AID. Because the GR-1400 does not allow the LOCKOUT_OF_WORKING on the UPSR WORKING path/AID, the "AID:LOCKOUT,LOCKOUTOFWK" is not presented in this protection switch retrieval result.

Section	RTRV-PROTNSW-<STS_PATH> Description
Category	UPSR Switching
Security	Retrieve
Related Messages	OPR-PROTNSW-<STS_PATH> RLS-PROTNSW-<STS_PATH> OPR-PROTNSW-VT1 RLS-PROTNSW-VT1 REPT SW RTRV-PROTNSW-VT1
Input Format	RTRV-PROTNSW-<STS_PATH>:[<TID>]:<AID>:<CTAG>[::::]; where: • <AID> indicates the entity in the NE and is from the "STS" section on page 4-24; <AID> must not be null
Input Example	RTRV-PROTNSW-STS1:CISCO:STS-5-1:123;
Output Format	SID DATE TIME M CTAG COMPLD "<AID>:<SC>,[<SWITCHTYPE>]" ; where: • <AID> is from the "STS" section on page 4-24 • <SC> is the switch operation on the path/AID; valid values are shown in the "SW" section on page 4-88 • Valid values for <SWITCHTYPE> are shown in the "SWITCH_TYPE" section on page 4-89: <SWITCHTYPE> is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "STS-5-1:MAN,MANWKSWBK" ;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.168 RTRV-PROTNSW-CLNT: Retrieve Protection Switch Client

This command retrieves protection switch status of client facilities.

Section	RTRV-PROTNSW-CLNT Description
Category	DWDM
Security	Retrieve
Related Messages	OPR-PROTNSW-CLNT RLS-PROTNSW-CLNT RTRV-FFP-CLNT ED-FFP-CLNT ED-DWDM RTRV-DWDM RTRV-COND-CLNT RTRV-ALM-CLNT DLT-FFP-CLNT ENT-FFP-CLNT
Input Format	RTRV-PROTNSW-CLNT:[<TID>]:<AID>:<CTAG>[::::]; where: • <AID> is from the "FACILITY" section on page 4-22
Input Example	RTRV-PROTNSW-CLNT:CISCO:FAC-1-1:100;
Output Format	SID DATE TIME M CTAG COMPLD "<AID>:<SC>,[<SWITCHTYPE>]" ; where: • <AID> is from the "STS" section on page 4-24 • Valid values for <SC> are shown in the "SW" section on page 4-88 • Valid values for <SWITCHTYPE> are shown in the "SWITCH_TYPE" section on page 4-89
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "FAC-1-1:FRCD,MANWKSWBK" ;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.169 RTRV-PROTNSW-VT1: Retrieve Protection Switch VT1

This command retrieves the switching state of a SONET UPSR VT path specified in the AID. Because the GR-1400 does not allow the LOCKOUT_OF_WORKING on the UPSR WORKING path/AID, the "AID:LOCKOUT,LOCKOUTOFWK" is not presented in this protection switch retrieval result.

Section	RTRV-PROTNSW-VT1 Description
Category	UPSR Switching
Security	Retrieve
Related Messages	OPR-PROTNSW-<STS_PATH> RLS-PROTNSW-<STS_PATH> OPR-PROTNSW-VT1 RLS-PROTNSW-VT1 REPT SW RTRV-PROTNSW-<STS_PATH>
Input Format	RTRV-PROTNSW-VT1:[<TID>]:<AID>:<CTAG>[::::]; where: • <AID> indicates the entity in the NE and is from the "VT1_5" section on page 4-30; <AID> must not be null
Input Example	RTRV-PROTNSW-VT1:CISCO:VT1-5-1-1-2:123;
Output Format	SID DATE TIME M CTAG COMPLD "<AID>:<SC>,[<SWITCHTYPE>]" ; where: • <AID> indicates the entity in the NE and is from the "VT1_5" section on page 4-30 • <SC> is the switch operation on the path/AID; valid values are shown in the "SW" section on page 4-88 • Valid values for <SWITCHTYPE> are shown in the "SWITCH_TYPE" section on page 4-89: <SWITCHTYPE> is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "VT1-5-1-1-2:MAN,MANWKSWBK" ;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.170 RTRV-PTHTRC-<STS_PATH>: Retrieve Path Trace (STS1, STS3C, STS6C, STS9C, STS12C, STS24C, STS48C, STS192C)

See Table 4-11 on page 4-6 for supported modifiers by platform.

This command retrieves the contents of the SONET path trace message that is transported in the J1 byte of the SONET STS Path.

The path trace message is a 64-character string with the last two characters reserved for the terminating CR (carriage return) and the LF (line feed). The message can be an incoming path trace message, an expected incoming path trace message, or an outgoing path trace message which is inserted into the path overhead of the outgoing signal.

The path trace mode has three modes: OFF, MANUAL, and AUTO. The path trace mode defaults to OFF mode. The MANUAL mode performs the comparison of the received string with the user-entered expected string. The AUTO mode performs the comparison of the present received string with an expected string set to a previously received string. If there is a mismatch, the TIM-P alarm is raised. When the path trace mode is in OFF mode, there is no path trace processing, and all the alarm and state conditions are reset.

When the expected string is queried under the OFF path trace mode, the expected string is a copy of the provisioned string or NULL. When an expected string is queried under the MANUAL path trace mode, the expected string is a copy of the user-entered string. When an expected string is queried under the AUTO path trace mode, the expected string is a copy of the acquired received string or NULL if the string has not been acquired.

When the incoming string is queried under the OFF path trace mode, the incoming string is NULL. When an incoming string is queried under the MANUAL or AUTO path trace mode, the incoming string is a copy of the received string or NULL if the string has not been received.

When the transmitted string is queried under the OFF, MANUAL or AUTO path trace mode, the transmitted string is the provisioned transmit string.

Notes:

1. A null value for the <MSGTYPE> defaults to INCTRC.
2. Only the NEND of the <LOCN> value is supported. A null value of the <LOCN> defaults to NEND.
3. Sending a FEND of the <LOCN> with this command, an "unsupported locn value" error message will display.
4. J1 (EXPTRC/INCTRC) is implemented on the DS1/DS1N, DS3E/DS3NE, DS3XM, EC1, OC3, OC48AS and OC192 cards.
5. TRC is supported only on DS1(N), DS3(N)E, and DS3XM cards.

Section	RTRV-PTHTRC-<STS_PATH> Description
Category	STS Paths
Security	Retrieve
Related Messages	ED-<STS_PATH> RTRV-<STS_PATH>
Input Format	RTRV-PTHTRC-<STS_PATH>:[<TID>]:<AID>:<CTAG>::[<MSGTYPE>][:<LOCN>]; where: • <AID> is an access identifier from the "STS" section on page 4-24 and must not be null • <MSGTYPE> is the type of trace message to be retrieved; valid values are shown in the "MSGTYPE" section on page 4-77 and a null value defaults to INCTRC. A null value is equivalent to ALL. • <LOCN> is the location of the trace message; valid values are shown in the "LOCATION" section on page 4-71. A null value is equivalent to ALL.
Input Example	RTRV-PTHTRC-STS1:CISCO:STS-2-1:123::EXPTRC:NEND;

Section	RTRV-PTHTRC-<STS_PATH> Description (continued)
Output Format	SID DATE TIME M CTAG COMPLD "<TRACMSG>" ; where: • <TRACMSG> is the Path Trace message returned to the requester. The message should be up 64 characters in length.The user is allowed to enter up to 62 characters, the last two characters are reserved for the terminating CR (carriage return) and LF (line feed); <TRACMSG> is a string
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "TRACMSG" ;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.171 RTRV-SYNCN: Retrieve Synchronization

This command retrieves the synchronization reference list used to determine the sources for the NE's reference clock and the BITS output clock. For each clock, up to three synchronization sources may be specified (e.g. PRIMARY, SECOND, THIRD).

Notes:

1. To retrieve/set the timing mode, SSM message Set or Quality of RES information, use the RTRV-NE-SYNCN and ED-NE-SYNCN commands.
2. The output example shown here is under line timing mode.

Section	RTRV-SYNCN Description	
Category	Synchronization	
Security	Retrieve	
Related Messages	ED-BITS ED-NE-SYNCN ED-SYNCN OPR-SYNCNSW REPT ALM BITS REPT ALM SYNCN REPT EVT BITS REPT EVT SYNCN	RLS-SYNCNSW RTRV-ALM-BITS RTRV-ALM-SYNCN RTRV-BITS RTRV-COND-BITS RTRV-COND-SYNCN RTRV-NE-SYNCN
Input Format	RTRV-SYNCN:[<TID>]:<AID>:<CTAG>[::::]; where: • <AID> identifies the synchronization reference to retrieve; <AID> is from the "SYNC_REF" section on page 4-28, is listable and must not be null	
Input Example	RTRV-SYNCN:BOYES:SYNC-NE:234;	

Section	RTRV-SYNCN Description (continued)
Output Format	SID DATE TIME M CTAG COMPLD "<AID>:<REF>,<REFVAL>,[<QREF>],[<STATUS>],[<PROTECTSTATUS>]" ; where: • <AID> is the synchronization reference to be modified and is from the "SYNC_REF" section on page 4-28 • <REF> is the rank of the synchronization reference and is from the "SYNCSW" section on page 4-29 • <REFVAL> is the value of the synchronization reference and is from the "SYN_SRC" section on page 4-27 • <QREF> is the quality of the reference source; valid values are shown in the "SYNC_CLOCK_REF_QUALITY_LEVEL" section on page 4-89, <QREF> is optional • <STATUS> is the active status of the synchronization source; valid values are shown in the "STATUS" section on page 4-87, <STATUS> is optional • <PROTECTSTATUS> indicates whether the working or protect card (in a protection group) provides timing. This parameter has no significance if the reference source is BITS or INTERNAL and is left blank. Valid values are shown in the "SIDE" section on page 4-87 and <PROTECTSTATUS> is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "SYNC-NE:PRI,FAC-1-2,PRS,ACT,WORK" ;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.172 RTRV-T1: Retrieve T1 Facility

This command retrieves the DS-1 facilities configuration.

(The facilities are on the XTC card for the ONS 15327)

Section	RTRV-T1 Description	
Category	Ports	
Security	Retrieve	
Related Messages	ED-<OCN_TYPE> ED-DS1 ED-EC1 ED-G1000 ED-T1 ED-T3 RMV <MOD2_IO>	RST <MOD2_IO> RTRV-<OCN_TYPE> RTRV-DS1 RTRV-EC1 RTRV-G1000 RTRV-T3

<table>
<tr><th>Section</th><th>RTRV-T1 Description (continued)</th></tr>
<tr><td>Input Format</td><td>RTRV-T1:[<TID>]:<AID>:<CTAG>[::::];

where:
<AID> is an access identifier from the "FACILITY" section on page 4-22 and must not be null</td></tr>
<tr><td>Input Example</td><td>RTRV-T1:TID:FAC-2-1:1223;</td></tr>
<tr><td>Output Format</td><td>SID DATE TIME
M CTAG COMPLD
"<AID>::[LINECDE=<LINECDE>,][FMT=<FMT>,]
[LBO=<LBO>,][TACC=<TAP>,][SOAK=<SOAK>]:<PST>,[<SST>]"
;

where:
<AID> is an access identifier from the "FACILITY" section on page 4-22
<LINECDE> is a line code; valid values are shown in the "LINE_CODE" section on page 4-70, <LINECDE> is optional
<FMT> is a frame format; valid values are shown in the "FRAME_FORMAT" section on page 4-69, <FMT> is optional
<LBO> is a line buildout; valid values are shown in the "LINE_BUILDOUT" section on page 4-70, <LBO> is optional
<TAP> defines the STS as a test access port with a selected unique TAP number. The TAP number ranges from 1–999. When TACC is 0, the TAP is deleted. <TAP> is from the "TACC" section on page 4-29 and <TAP> is optional
<SOAK> OOS-AINS to IS transition soak time measured in 15 minute intervals; <SOAK> is an integer and is optional
<PST> primary state; valid values are shown in the "PST" section on page 4-85
<SST> secondary state; valid values are shown in the "SST" section on page 4-87 and <SST> is optional</td></tr>
<tr><td>Output Example</td><td>TID-000 1998-06-20 14:30:00
M 001 COMPLD
"FAC-2-1::LINECDE=AMI,FMT=ESF,LBO=0-131,
TACC=8,SOAK=10:OOS,AINS"
;</td></tr>
<tr><td>Errors</td><td>Errors are listed in Table 7-30 on page 7-20.</td></tr>
</table>

3.4.173 RTRV-T3: Retrieve T3

This command retrieves the facility properties of a DS3 and a DS3XM card.

(The facilities are on the XTC card for the ONS 15327)

Notes:

1. CTC can set the FMT attribute of a DS3(N)E line to autoprovision to set the framing based on the framing is coming in. This would result in the FMT field being blanked out for a few seconds blanked forever for a preprovisioned DS3(N)E card on CTC.
2. The autoprovision is not considered a valid DS3 framing type. It is used only to trigger an autosense and subsequent autoprovisioning of a valid DS3 framing type (unframed, M23, C-BIT).
3. TL1 does not have the autoprovision mode according to GR-199. TL1 maps/returns the autoprovision to be the unframed framing type.

Section	RTRV-T3 Description
Category	Ports
Security	Retrieve
Related Messages	ED-<OCN_TYPE> ED-DS1 ED-EC1 ED-G1000 ED-T1 ED-T3 RMV-<MOD2_IO> RST-<MOD2_IO> RTRV-<OCN_TYPE> RTRV-DS1 RTRV-EC1 RTRV-G1000 RTRV-T1
Input Format	RTRV-T3:[<TID>]:<AID>:<CTAG>[::::]; where: • <AID> is the access identifier from the "FACILITY" section on page 4-22 and must not be null
Input Example	RTRV-T3:CISCO:FAC-1-2:123;

Section	RTRV-T3 Description (continued)
Output Format	SID DATE TIME M CTAG COMPLD "<AID>::[FMT=<FMT>,][LINECDE=<LINECDE>,] [LBO=<LBO>,][TACC=<TAP>,][SOAK=<SOAK>]:<PST>,[<SST>]" ; where: • <AID> is an access identifier from the "FACILITY" section on page 4-22 • <FMT> is a frame format; valid values are shown in the "DS_LINE_TYPE" section on page 4-61, <FMT> is optional • <LINECDE> is a line code; valid values are shown in the "DS_LINE_CODE" section on page 4-61, <LINECDE> is optional • <LBO> is a line buildout; valid values are shown in the "E_LBO" section on page 4-62, <LBO> is optional • <TAP> defines the STS as a test access port with a selected unique TAP number. The TAP number ranges from 1–999. When TACC is 0, the TAP is deleted. <TAP> is from the "TACC" section on page 4-29 and is optional • <SOAK> OOS-AINS to IS transition soak time measured in 15 minute intervals; <SOAK> is an integer and is optional • <PST> primary state; valid values are shown in the "PST" section on page 4-85 • <SST> secondary state; valid values are shown in the "SST" section on page 4-87
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "FAC-1-2::FMT=C-BIT,LINECDE=B3ZS,LBO=0-225, TACC=8,SOAK=10:OOS,AINS" ;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.174 RTRV-TACC: Retrieve Test Access

This command retrieves details associated with a TAP. The TAP is identified by the TAP number. The ALL input TAP value means that the command will return all the configured TACCs in the NE.

Section	RTRV-TACC Description
Category	Test Access
Security	Retrieve
Related Messages	CHG-ACCMD-<MOD_TACC> CONN-TACC-<MOD_TACC> DISC-TACC

Section	RTRV-TACC Description (continued)
Input Format	RTRV-TACC:[<TID>]:<TAP>:<CTAG>; where: • <TAP> indicates the assigned numeric number for the AID being used as a TAP. The TAP number must be an integer with a range of 1–999. The ALL TAP value means that the command will return all the configured TACCs in the NE. <TAP> is a string and must not be null
Input Example	RTRV-TACC:CISCO:241:CTAG;
Output Format	SID DATE TIME M CTAG COMPLD "<TAP>:<TACC_AID1>,<TACC_AID2>,[<MD>],[<E_CONN>],[<F_CONN>]" ; where: • <TAP> indicates the assigned numeric number for the AID being used as a TAP; <TAP> is a string • <TACC_AID1> is the STS or VT AID that was designated as a test access point and assigned to the TAP; <TACC_AID1> is from the "ALL" section on page 4-10 • <TACC_AID2> is the STS or VT AID that was designated as a test access point and assigned to the TAP+1; <TACC_AID2> is from the "ALL" section on page 4-10 • <MD> indicates the test access mode. It identifies the status of the circuit connected to the TACC. Valid values are shown in the "TACC_MODE" section on page 4-92 • <E_CONN> indicates the E side STS or VT AID of a circuit connected to the TACC or under test; <E_CONN> is from the "ALL" section on page 4-10 and is optional • <F_CONN> indicates the F side STS or VT AID of a circuit connected to the TACC or under test; <F_CONN> is from the "ALL" section on page 4-10
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "241:STS-2-1,STS-2-2,MONE,STS-12-1,STS-13-1" ;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.175 RTRV-TH-<MOD2>: Retrieve Threshold (CLNT, DS1, EC1, OC3, OC12, OC48, OC192, OCN, STS1, STS3C, STS6C, STS9C, STS12C, STS24C, STS48C, STS192C, T1, T3, VT1)

See Table 4-11 on page 4-6 for supported modifiers by platform.

This command retrieves the threshold level of one or more monitored parameters.

Notes:

1. After the BLSR switching, the working path is switched out, the traffic goes through the protection path and the threshold can be retrieved from the protection path.
2. If there is a STS PCA on the protection path, during the BLSR switching, the PCA path is pre-emptive; sending this command on the protection path after BLSR switch, the command returns the PMs off the protection path, not from the PCA path.

   The message is issued to retrieve the thresholds for PM and the alarm thresholds. If it is used to retrieve the alarm thresholds, the time-period is not applicable.

   The presentation rules are as follows: Client port only–Laser, Alarm and SONET Thresholds are applicable and will be displayed. Laser and alarm thresholds are only for Near End. If the card payload is in SONET mode, then SONET Thresholds will be displayed. The Receiver Temperature Montypes (RXT) are only applicable to the Trunk Port. The Transceiver Voltage Montypes (XCVR) are not applicable, though it is displayed or handled.

   Laser and Alarm thresholds are always available. Laser and alarm thresholds are only for Near End. If G.709 is enabled, then the OTN thresholds will be displayed. If G.709 is enabled and FEC is enabled, then the FEC thresholds will be displayed. If the card payload is in SONET mode, then SONET Thresholds will be displayed. The Transceiver Voltage Montypes (XCVR) are not applicable, though it is displayed or handled.

See the "Provisioning Rules for MXP_2.5G_10G and TXP_MR_10G Cards" section on page 1-8 for specific MXP/TXP card provisioning rules.

Section	RTRV-TH-<MOD2> Description	
Category	Performance	
Security	Retrieve	
Related Messages	ALW-PMREPT-ALL INH-PMREPT-ALL INIT-REG-<MOD2> INIT-REG-G1000 REPT PM <MOD2> RTRV-PM-<MOD2>	RTRV-PMMODE-<STS_PATH> RTRV-PMSCHED-<MOD2> RTRV-PMSCHED-ALL SCHED-PMREPT-<MOD2> SET-PMMODE-<STS_PATH> SET-TH-<MOD2>

Section	RTRV-TH-<MOD2> Description (continued)
Input Format	RTRV-TH-<MOD2>:[<TID>]:<AID>:<CTAG>:: [<MONTYPE>],[<LOCN>],<TMPER>[::]; where: • <AID> is an access identifier from the "ALL" section on page 4-10 and must not be null • <MONTYPE> is the monitored type and defaults to CVL; valid values are shown in the "ALL_MONTYPE" section on page 4-33. A null value is equivalent to ALL. **Note** <MONTYPE> defaults to: CVL for OCN, EC1 and DSN, ESP for STSp, UASV for VT1, AISSP for DS1 layer of DS3XM. LOCN defaults to NEND. TMPER defaults to 15 minutes. • <LOCN> is the location; valid values are shown in the "LOCATION" section on page 4-71. A null value is equivalent to ALL • <TMPER> indicates the accumulation time period; valid values are shown in the "TMPER" section on page 4-93 and <TMPER> must not be null
Input Example	RTRV-TH-T3:CISCO:FAC-1-3:1234::CVL,NEND,15-MIN;
Output Format	SID DATE TIME M CTAG COMPLD "<AID>,[<AIDTYPE>]:<MONTYPE>,[<LOCN>],,<THLEV>,[<TMPER>]" ; where: • <AID> is from the "ALL" section on page 4-10 • <AIDTYPE> specifies the type of AID; valid values are shown in the "MOD2B" section on page 4-74, <AIDTYPE> is optional • <MONTYPE> indicates the monitored type; valid values are shown in the "ALL_MONTYPE" section on page 4-33 • <LOCN> is a location; valid values are shown in the "LOCATION" section on page 4-71, <LOCN> is optional • <THLEV> is the threshold value and is a float; <THLEV> is an integer • <TMPER> is the accumulation time period for the PM information; valid values are shown in the "TMPER" section on page 4-93, <TMPER> is optional
Output Example	TID-0001998-06-20 14:30:00 M 001 COMPLD "FAC-1-3,DS3:CVL,NEND,,1,15-MIN" ;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.176 RTRV-TOD: Retrieve Time of Day

This command retrieves the system date and time at the instant when the command was executed. The time returned is in Coordinated Universal Time (UTC).

Section	RTRV-TOD Description
Category	System
Security	Retrieve
Related Messages	ALW-MSG-ALL APPLY COPY-RFILE ED-DAT ED-NE-GEN ED-NE-SYNCN INH-MSG-ALL INIT-SYS REPT EVT FXFR RTRV-HDR RTRV-INV RTRV-MAP-NETWORK RTRV-NE-GEN RTRV-NE-IPMAP RTRV-NE-SYNCN SET-TOD
Input Format	RTRV-TOD:[<TID>]::<CTAG>;
Input Example	RTRV-TOD:CAZADERO::230;
Output Format	SID DATE TIME M CTAG COMPLD "<YEAR>,<MONTH>,<DAY>,<HOUR>, <MINUTE>,<SECOND>,<TMTYPE>" ; where: • <YEAR> is the current calendar year and is a string • <MONTH> is the month of the year and ranges from 01–12; <MONTH> is a string • <DAY> is the day of the month and ranges from 01–31; <DAY> is a string • <HOUR> is the hour of the day and ranges from 00–23; <HOUR> is a string • <MINUTE> is the minute of the hour and ranges from 00–59; <MINUTE> is a string • <SECOND> is the second of the minute and ranges from 00–59; <SECOND> is a string • <TMTYPE> identifies the time zone and is a string
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "1998,05,08,17,01,33,UTC" ;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.177 RTRV-TRC-<OCN_BLSR>: Retrieve Trace Client (OC12, OC192, OC48)

See Table 4-11 on page 4-6 for supported modifiers by platform.

This command retrieves the valid J1 expected trace string, retrieved trace string, trace mode, C2 byte, and STS bandwidth of the OCn port only if the port has a BLSR.

Note This command only applies to OC48AS and OC192 cards.

Note Sending this command over unsupported BLSR path trace cards, or unequipmented cards will result in a J1 Trace Not Supported On This Card (IIAC) error.

Section	RTRV-TRC-<OCN_BLSR> Description
Category	BLSR
Security	Retrieve
Related Messages	ED-<STS_PATH> RTRV-<STS_PATH>, RTRV-PTHTRC-<STS_PATH>
Input Format	RTRV-TRC-<OCN_BLSR>:[<TID>]:<AID>:<CTAG>; where: • <AID> is the AID from the "FACILITY" section on page 4-22 and must not be null
Input Example	RTRV-TRC-OC48:CISCO:FAC-6-1:238;
Output Format	SID DATE TIME M CTAG COMPLD "<AID>::[LEVEL=<LEVEL>,][EXPTRC=<EXPTRC>,][INCTRC=<INCTRC>,][TRCMODE=<TRCMODE>,][C2=<C2>]" ; where: • <AID> is an access identifier from the "STS" section on page 4-24 • <LEVEL> indicates the rate of the cross connected channel; valid values are shown in the "STS_PATH" section on page 4-88. <LEVEL> is optional • <EXPTRC> indicates the expected path trace message (J1) contents. <EXPTRC> is any 64-character string, including the terminating CR (carriage return) and LF (line feed). <EXPTRC> is a string and is optional • <INCTRC> indicates the incoming path trace message contents. <INCTRC> is any 64-character string, including the CR and LF. <INCTRC> is a string and is optional • <TRCMODE> indicates the trace mode; valid values are shown in the "TRCMODE" section on page 4-94 and <TRCMODE> is optional • <C2> indicates C2 Byte Hex Code; valid values are shown in the "C2_BYTE" section on page 4-44 and <C2> is optional

Section	RTRV-TRC-<OCN_BLSR> Description (continued)
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "STS-6-1-25::LEVEL=STS1,EXPTRC="EXPTRCSTRING",INCTRC= "INCTRCSTRING",TRCMODE=AUTO,C2=0X04" ;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.178 RTRV-TRC-CLNT: Retrieve Trace Client

This command retrieves the SONET J0 Section sent trace string, expected trace string, received trace string, trace mode, and the trace level for the client facility.

The following rules apply: Client port–only J0 Section trace applies. The J0 Section trace applies only if the card termination mode is not transparent and the payload is SONET/SDH.

Depending on the settings, the following filtering applies: If no TRCLEVEL is provided, all TRCLEVELS are reported as applicable. If TRCLEVEL is provided and no MSGTYPE is provided, all applicable MSGTYPES for the given level is displayed. If no MSGTYPE is provided, all MSGTYPES are reported as applicable. If a MSGTYPE is provided without a TRCLEVEL, then the given MSGTYPE for all TRCLEVELS are displayed.

See the "Provisioning Rules for MXP_2.5G_10G and TXP_MR_10G Cards" section on page 1-8 for specific MXP/TXP card provisioning rules.

Section	RTRV-TRC-CLNT Description
Category	DWDM
Security	Retrieve
Related Messages	ED-TRC-CLNT ED-DWDM RTRV-DWDM ED-CLNT RTRV-CLNT
Input Format	RTRV-TRC-CLNT:[<TID>]:<SRC>:<CTAG>::[<MSGTYPE>], [<TRCLEVEL>][::]; where: • <SRC> is the AID from the "FACILITY" section on page 4-22 and must not be null • <MSGTYPE> is the type of trace message to be retrieved. Valid values for <MSGTYPE> are shown in the "MSGTYPE" section on page 4-77. A null value is equivalent to ALL • <TRCLEVEL> is the level at which the trace information is handled. Valid values are shown in the "TRCLEVEL" section on page 4-94 and a null value is equivalent to ALL
Input Example	RTRV-TRC-CLNT:CISCO:FAC-2-1:100::EXPTRC,J0-SEC;

Section	RTRV-TRC-CLNT Description (continued)
Output Format	SID DATE TIME M CTAG COMPLD "[TRCLEVEL=<TRCLEVEL>,][EXPTRC=<EXPTRC>,][TRC=<TRC>,] [INCTRC=<INCTRC>,][TRCMODE=<TRCMODE>,] [TRCFORMAT=<TRCFORMAT>]" ; where: • Valid values for <TRCLEVEL> are shown in the "TRCLEVEL" section on page 4-94 and <TRCLEVEL> is optional • <EXPTRC> expected path trace message to be retrieved; <EXPTRC> is a string and is optional • <TRC> trace message sent; <TRC> is a string and is optional • <INCTRC> incoming trace message to be retrieved; <INCTRC> is a string and is optional • Valid values for <TRCMODE> are shown in the "ALS_MODE" section on page 4-41 and <TRCMODE> is optional • Valid values for <TRCFORMAT> are shown in the "TRCFORMAT" section on page 4-94 and <TRCFORMAT> is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "TRCLEVEL=J0-SEC,EXPTRC="AAA",TRC="AAA",INCTRC="AAA", TRCMODE=MAN,TRCFORMAT=16-BYTE" ;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.179 RTRV-TRC-OCH: Retrieve Trace Optical Channel

This command retrieves the sent trace string, expected trace string, received trace string, trace mode, and the trace level for the SONET J0 Section, the TTI PATH and SECTION monitoring levels of the DWDM facility.

The following rules apply: Client port–only the J0 Section trace applies. The J0 Section trace applies only if the card termination mode is not transparent and the payload is SONET/SDH. On the DWDM port the J0 Section trace, the TTI Path, Section trace monitoring point traces are allowed. The J0 Section trace is allowed only if the payload for the card is set to SONET/SDH. The J0 Section trace is allowed only if the card termination mode is not transparent. The TTI Path, Section trace is allowed only if the G.709 (DWRAP) is enabled.

Depending on the settings, the following filtering applies: If no TRCLEVEL is provided, all TRCLEVELS are reported as applicable. If TRCLEVEL is provided and no MSGTYPE is provided, all applicable MSGTYPES for the given level is displayed. If no MSGTYPE is provided, all MSGTYPES are reported as applicable. If a MSGTYPE is provided with out a TRCLEVEL, then the given MSGTYPE for all TRCLEVELS are displayed.

See the "Provisioning Rules for MXP_2.5G_10G and TXP_MR_10G Cards" section on page 1-8 for specific MXP/TXP card provisioning rules.

Section	RTRV-TRC-OCH Description
Category	DWDM
Security	Retrieve
Related Messages	ED-TRC-OCH ED-DWDM RTRV-DWDM ED-OCH RTRV-OCH
Input Format	RTRV-TRC-OCH:[<TID>]:<SRC>:<CTAG>::[<MSGTYPE>],[<TRCLEVEL>][::]; where: • <SRC> is the AID from the "CHANNEL" section on page 4-19 and must not be null • <MSGTYPE> is the type of trace message to be retrieved. Valid values for <MSGTYPE> are shown in the "MSGTYPE" section on page 4-77. A null value is equivalent to ALL • <TRCLEVEL> is the level at which the trace information is handled. Valid values are shown in the "TRCLEVEL" section on page 4-94 and a null value is equivalent to ALL
Input Example	RTRV-TRC-OCH:CISCO:CHAN-2-2:100::EXPTRC,PATH;
Output Format	SID DATE TIME M CTAG COMPLD "[TRCLEVEL=<TRCLEVEL>,][EXPTRC=<EXPTRC>,][TRC=<TRC>,] [INCTRC=<INCTRC>,][TRCMODE=<TRCMODE>,] [TRCFORMAT=<TRCFORMAT>]" ; where: • <TRCLEVEL> level at which the trace information is handled; valid values are shown in the "TRCLEVEL" section on page 4-94 and <TRCLEVEL> is optional • <EXPTRC> expected path trace message to be retrieved; <EXPTRC> is a string and is optional • <TRC> trace message sent; <TRC> is a string and is optional • <INCTRC> incoming trace message to be retrieved; <INCTRC> is a string and is optional • <TRCMODE> indicates the trace mode; valid values are shown in the "TRCMODE" section on page 4-94 and <TRCMODE> is optional • <TRCFORMAT> is the size of the trace message. In SONET/SDH mode, only 1 or 16 bytes are applicable for the J0 section trace. The TT1 level trace is only 64 bytes. Valid values are shown in the "TRCFORMAT" section on page 4-94 and <TRCFORMAT> is optional

Section	RTRV-TRC-OCH Description (continued)
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "TRCLEVEL=SEC,EXPTRC="AAA",TRC="AAA",INCTRC="AAA", TRCMODE=MAN,TRCFORMAT=64-BYTE" ;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.180 RTRV-UCP-CC: Retrieve Unified Control Plane Control Channel

(Cisco ONS 15454 only)

This command creates a UCP IP control channel attributes.

The ALL AID is used for UCP retrieving command input only. A NULL AID in the IPCC's retrieval command defaults to the ALL AID, which returns all the IPCCs of the node.

Retrieve all of the UCP IPCCs example:

RTRV-UCP-CC:::A;

Notes:

1. If the control channel is not found, a SRQN (Status, Invalid Request) error message is returned.
2. If the IPCC type is ROUTED (CCTYPE=ROUTED), both MTU and CRCMD fields are grayed out.

Section	RTRV-UCP-CC Description	
Category	UCP	
Security	Retrieve	
Related Messages	DLT-UCP-CC DLT-UCP-IF DLT-UCP-NBR ED-UCP-CC ED-UCP-IF ED-UCP-NBR ED-UCP-NODE ENT-UCP-CC ENT-UCP-IF	ENT-UCP-NBR REPT ALM UCP REPT EVT UCP RTRV-ALM-UCP RTRV-COND-UCP RTRV-UCP-IF RTRV-UCP-NBR RTRV-UCP-NODE
Input Format	RTRV-UCP-CC:[<TID>]:[<AID >]:<CTAG>[::::]; where: <AID> indicates an individual IPCC ID. The ALL AID is used for UCP retrieving command input only. A NULL AID in the IPCCs retrieval command defaults to the ALL AID which returns all the IPCCs of the node. <AID> is from the "IPCC" section on page 4-16 and a null value is equivalent to ALL	
Input Example	RTRV-UCP-CC:CISCO:CC-9:CTAG;	

Section	RTRV-UCP-CC Description (continued)
Output Format	SID DATE TIME M CTAG COMPLD "[<AID>]::NBRIX=<NBRIX>,CCTYPE=<CCTYPE>,[PORT=<PORT>,] LOCALCCID=<LOCALCCID>,LOCALIPCC=<LOCALIPCC>, REMOTECCID=<REMOTECCID>,[REMOTEIPCC=<REMOTEIPCC>,] LMPHELLOINT=<LMPHELLOINT>, OPERLMPHELLOINT=<OPERLMPHELLOINT>, LMPHELLODEADINT=<LMPHELLODEADINT>, OPERLMPHELLODEADINT=<OPERLMPHELLODEADINT>, [TUNMD=<TUNMD>,][MTU=<MTU>,][CRCMD=<CRCMD>]" ; where: • <AID> indicates an individual IPCC ID; <AID> is from the "IPCC" section on page 4-16 and <AID> is optional • <NBRIX> indicates the neighbor node index and is an integer • <CCTYPE> indicates the type of the control channel; valid values are shown in the "UCP_IPCC_TYPE" section on page 4-97 • <PORT> indicates the port which the control channel is configured, while the CCTYPE is the type of SDCC; <PORT> is from the "FACILITY" section on page 4-22 and is optional • <LOCALCCID> indicates the local control channel ID and is an integer • <LOCALIPCC> indicates the local IP address of the control channel and is a string • <REMOTECCID> indicates the remote control channel ID and is an integer • <REMOTEIPCC> indicates the remote IP address of the control channel; <REMOTEIPCC> is a string and is optional • <LMPHELLOINT> indicates the provisioned interval between hello messages sent by this node. <LMPHELLOINT> has a range of 1–10 seconds with a default of 5 seconds; <LMPHELLOINT> is an integer • <OPERLMPHELLOINT> indicates the LMP hello interval negotiated between a node and it's neighbor and the negotiated value is used during operation. This value is the negotiated, operational value of LMP Hello interval. This value is initialized to the hello Interval at the time of IPCC creation and is updated after the negotiation is done with the neighbor; <OPERLMPHELLOINT> is a float • <LMPHELLODEADINT> indicates the control channel time-out interval (in milliseconds) by the neighbor if the neighbor does not receive the hello message, and defaults to 15 (with the range of 3–30). This interval has to be at least as large as the hello interval and is normally set to 3 times the hello interval. Its range is 3 seconds to 30 seconds with a default of 15 seconds. <LMPHELLODEADINT> is an integer • <OPERLMPHELLODEADINT> indicates the operational value of the LMP interval negotiated between this node and its neighbor. This value is initialized to the helloDeadInterval at the time of IPCC creation and is updated after the negotiation is done with the neighbor; <OPERLMPHELLODEADINT> is a float

Section	RTRV-UCP-CC Description (continued)
Output Format (continued)	• <TUNMD> indicates the IP tunneling option. It defaults to disabled; valid values are shown in the "UCP_CC_TUN_MD" section on page 4-96 and <TUNMD> is optional • <MTU> indicates the MTU size of this control channel; <MTU> is an integer and is optional • <CRCMD> indicates the CRC mode for this control channel. It is applicable to IPCCs in SDCC type; valid values are shown in the "UCP_CRC_MODE" section on page 4-97 and <CRCMD> is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "CC-9::NBRIX=8,CCTYPE=SDCC,PORT=FAC-2-1,LOCALCCID=9, LOCALIPCC=172.20.209.31,REMOTECCID=2, REMOTEIPCC=172.20.209.15,LMPHELLOINT=10, OPERLMPHELLOINT=10.00,LMPHELLODEADINT=30, OPERLMPHELLODEADINT=30.00,TUNMD=DISABLED, MTU=1500,CRCMD=16-BIT" ;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.181 RTRV-UCP-IF: Retrieve Unified Control Plane Interface

(Cisco ONS 15454 only)

This command retrieves UCP interface attributes.

The local interface ID (LOCALIFID) is used by LMP/RSVP (Line Management Protocol/Resource reservation Protocol). If zero is passed in as the local Interface ID of the data link, then the node assigns a value for it. If the user specifies a non-zero value, then the node checks if that Interface ID is available and uses it.

If the UCP interface/data link control channel type is SDCC type, the local interface ID should be same as CCID.

Retrieve all of the UCP interfaces example:

RTRV-UCP-IF:::A;

Note If this command is sent twice or inputs invalid data, as SRQN (Status, Invalid Request) error message is returned.

Section	RTRV-UCP-IF Description
Category	UCP
Security	Retrieve

Section	RTRV-UCP-IF Description (continued)
Related Messages	DLT-UCP-CC DLT-UCP-IF DLT-UCP-NBR ED-UCP-CC ED-UCP-IF ED-UCP-NBR ED-UCP-NODE ENT-UCP-CC ENT-UCP-IF ENT-UCP-NBR REPT ALM UCP REPT EVT UCP RTRV-ALM-UCP RTRV-COND-UCP RTRV-UCP-CC RTRV-UCP-NBR RTRV-UCP-NODE
Input Format	RTRV-UCP-IF:[<TID>]:[<AID>]:<CTAG>[::::]; where: • <AID> indicates the interface port index of the data link; <AID> is from the "FACILITY" section on page 4-22 and a null value is equivalent to ALL
Input Example	RTRV-UCP-IF:CISCO:FAC-2-1:CTAG;
Output Format	SID DATE TIME M CTAG COMPLD "[<AID>]::NBRIX=<NBRIX>,CCID=<CCID>,LOCALIFID=<LOCALIFID>, REMOTEIFID=<REMOTEIFID>,TNATYPE=<TNATYPE>, TNAADDR=<TNAADDR>,CORENETWORKID=<CORENETWORKID>" ; where: • <AID> indicates the interface port index of the data link; <AID> is from the "FACILITY" section on page 4-22 and is optional • <NBRIX> indicates a neighbor within the local node; <NBRIX> is an integer • <CCID> indicates the control channel ID and is an integer • <LOCALFID> indicates the local interface ID used by LMP/RSVP (line management protocol/resource reservation protocol); <LOCALFID> is an integer • <REMOTEFID> indicates the interface ID on the neighbor's side and in an integer • <TNATYPE> indicates the TNA (transport network administered) type; valid values are shown in the "UCP_TNA_TYPE" section on page 4-97 • <TNAADDR> indicates the TNA IP address and is a string • <CORENETWORKID> indicates the core network ID and is an integer
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "FAC-2-1::NBRIX=12,CCID=16,LOCALIFID=16,REMOTEIFID=5, TNATYPE=IPV4,TNAADDR=172.20.209.73,CORENETWORKID=9" ;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.182 RTRV-UCP-NBR: Retrieve Unified Control Plane Neighbor

(Cisco ONS 15454 only)

This command retrieves a UCP neighbor.

The default value of the node name can be overwritten by the TL1 user to a string in a maximum size of 20 characters. If the node name includes non-identified TL1 characters (e.g. space), the text string format with the double quotes is required.

The ALL AID is used for UCP retrieving command input only. A NULL AID in the retrieval command defaults to the ALL AID, which returns all the UCP neighbors of the node.

Retrieve all the UCP neighbors example:

RTRV-UCP-NBR:::A;

Section	RTRV-UCP-NBR Description
Category	UCP
Security	Retrieve
Related Messages	DLT-UCP-CC DLT-UCP-IF DLT-UCP-NBR ED-UCP-CC ED-UCP-IF ED-UCP-NBR ED-UCP-NODE ENT-UCP-CC ENT-UCP-IF ENT-UCP-NBR REPT ALM UCP REPT EVT UCP RTRV-ALM-UCP RTRV-COND-UCP RTRV-UCP-CC RTRV-UCP-IF RTRV-UCP-NODE
Input Format	RTRV-UCP-NBR:[<TID>]:[<AID>]:<CTAG>[::::]; where: • <AID> indicates an individual neighbor AID of the UCP; <AID> is from the "NBR" section on page 4-16 and a null value is equivalent to ALL
Input Example	RTRV-UCP-NBR:CISCO:NBR-8:CTAG;

Section	RTRV-UCP-NBR Description (continued)
Output Format	SID DATE TIME M CTAG COMPLD "<AID>::[NBRIX=<NBRIX>,][NODEID=<NODEID>,][NAME=<NAME>,][NDEN=<NDEN>,][HELLOEN=<HELLOEN>,][HELLOINT=<HELLOINT>,][REFREDEN=<REFREDEN>,][NUMRXMTS=<NUMRXMTS>]" ; where: • <AID> indicates an individual neighbor AID of the UCP. The ALL AID and NODEID (IP address, e.g. "AAA.BB.CC.D") are used for UCP retrieving command input only; <AID> is from the "NBR" section on page 4-16 • <NBRIX> indicates a neighbor within the local node; <NBRIX> is an integer and is optional • <NODEID> indicates the neighbor node ID as received in RSVP, LMP messages from that node; <NODEID> is a string and is optional • <NAME> is a string and is optional • <NDEN> indicates if the neighbor discovery is enabled or not for this neighbor; valid values are shown in the "ON_OFF" section on page 4-79 and <NDEN> is optional • <HELLOEN> indicates if the RSVP hello is enabled to this neighbor or not; valid values are shown in the "ON_OFF" section on page 4-79 and <HELLOEN> is optional • <HELLOINT> indicates the interval between hello messages to the neighbor; <HELLOINT> is an integer and is optional • <REFREDEN> indicates if the refresh reduction is enabled or not; valid values are shown in the "ON_OFF" section on page 4-79 and <REFREDEN> is optional • <NUMRXMTS> indicates the maximum number of retransmits of each message; <NUMRXMTS> is not editable, is an integer and is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "NBR-8::NBRIX=8,NODEID=192.168.100.52,NAME=NODE-B,NDEN=Y,HELLOEN=Y,HELLOINT=20,REFREDEN=N,NUMRXMTS=3" ;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.183 RTRV-UCP-NODE: Retrieve Unified Control Plane Node

(Cisco ONS 15454 only)

This command retrieves UCP node level attributes.

The NODEID is the unique number used to identify the local node in LMP, RSVP messages sent to the neighbors. It defaults to the local ethernet interface address (ISA).

The retry initial interval (in seconds) is used for that have been released by the net work side. This interval has a range of 60 seconds (1 minute) to 1800 seconds (30 minutes), with a default value of 180 seconds.

The retry max interval (in seconds) is used for released circuits. The node will back off exponentially from the initial retry interval to this maximum value of 600 seconds (10 minutes).

The restart time is used to be signaled to neighbors. It indicates the time taken by this node (in seconds) to restart. This timer has a range of 1 second to 10 seconds with a default of 5 seconds.

The recovery time is used to be signaled to neighbors. It indicates the time taken by this node (in seconds) to re-sync path, reservation state with a given neighbor. This timer has a range of 300 seconds (5 minutes) to 1800 seconds (30 minutes) and a default value of 600 seconds (10 minutes).

The transmit interval is used to retransmit un-acknowledged messages. This timer has a range of 1 second to 7 seconds with a default value of 1 second.

The refresh interval is used to refresh path, reservation state. This interval has a range of 30 seconds to 4060800 seconds (47 days) with a default value of 30 seconds.

The timeout RESV interval is used to wait for a reservation message in response to a PATH message. This interval has a range of 10–180 seconds with a default value of 60 seconds.

The timeout RESV CONF interval is used to wait for a RESV CONF message in response to a RESV message. This interval has a range of 10–180 seconds with a default value of 60 seconds.

The Source Deletion in progress is a timeout interval while the source is in the progress of cleanly deleting a call. This interval has a range of 10–180 seconds with a default of 60 seconds.

The Destination Deletion progress is a timeout interval while the destination is in the progress of cleanly deleting a call. This interval has a range of 10–180 seconds with a default value of 60 seconds.

Notes:

1. If the retry initial interval is set to zero, it will be interpreted as having the retry procedure disable.
2. The retry maximum interval has to be set to a higher value than the initial retry interval.

Section	RTRV-UCP-NODE Description	
Category	UCP	
Security	Retrieve	
Related Messages	DLT-UCP-CC DLT-UCP-IF DLT-UCP-NBR ED-UCP-CC ED-UCP-IF ED-UCP-NBR ED-UCP-NODE ENT-UCP-CC ENT-UCP-IF	ENT-UCP-NBR REPT ALM UCP REPT EVT UCP RTRV-ALM-UCP RTRV-COND-UCP RTRV-UCP-CC RTRV-UCP-IF RTRV-UCP-NBR
Input Format	RTRV-UCP-NODE:[<TID>]::<CTAG>[::::];	
Input Example	RTRV-UCP-NODE:CISCO::CTAG;	

Section	RTRV-UCP-NODE Description (continued)
Output Format	SID DATE TIME M CTAG COMPLD "::[NODEID=<NODEID>,][INITRETRY=<INITRETRY>,] [MAXRETRY=<MAXRETRY>,][RESTARTTM=<RESTARTTM>,] [RECOVTM=<RECOVTM>,][RXMTINT=<RXMTINT>,] [RFRSHINT=<RFRSHINT>,][RESVTIMEOUT=<RESVTIMEOUT>,] [RESVCONFTIMEOUT=<RESVCONFTIMEOUT>,] [SOURCEDIP=<SOURCEDIP>,][DESTINATIONDIP=<DESTINATIONDIP>]" ; where: • <NODEID> indicates the node IP address, is a string and is optional • <INITRETRY> indicates the circuit retry initial interval (in seconds); <INITRETRY> is an integer and is optional • <MAXRETRY> indicates the circuit retry maximum retry interval (in seconds); <MAXRETRY> is an integer and is optional • <RESTARTTM> indicates the restart time taken by the local node; <RESTARTTM> is an integer and is optional • <RECOVTM> indicates the time taken by the local node to re-synchronize the path, reservation state with a given neighbor; <RECOVTM> is an integer and is optional • <RXMTINT> indicates the interval for re-transmitting un-acknowledged messages; <RXMTINT> is an integer and is optional • <RFRSHINT> indicates the interval for refreshing path, reservation state; <RFRSHINT> is an integer and is optional • <RESVTIMEOUT> indicates the timeout interval for waiting for a reservation message in response to a PATH message; <RESVTIMEOUT> is an integer and is optional • <RESVCONFTIMEOUT> indicates the timeout interval for waiting for a RESV CONF message in response to a RESV message; <RESVCONFTIMEOUT> is an integer and is optional • <SOURCEDIP> indicates the timeout interval of the SourceDip (Source Deletion in Progress) while the source is in the process of cleanly deleting a call; <SOURCEDIP> is an integer and is optional • <DESTINATIONDIP> indicates the timeout interval of the DestinationDip (Destination Deletion in Progress) while the destination is in the process of cleanly deleting a call; <DESTINATIONDIP> is an integer and is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "::NODEID=192.168.100.52,INITRETRY=180,MAXRETRY=600, RESTARTTM=5,RECOVTM=600,RXMTINT=1,RFRSHINT=30, RESVTIMEOUT=60,RESVCONFTIMEOUT=60, SOURCEDIP=60,DESTINATIONDIP=60"
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.184 RTRV-USER-SECU: Retrieve User Security

This command retrieves the security information of a specified user or list of users. The keyword ALL can be used to obtain a list of all users. For security reasons the password cannot be retrieved.

A Superuser can retrieve any user's security information. A user with MAINT, PROV, or RTRV privileges can only retrieve their own information.

Note When using the keyword ALL, all users created for the system are displayed. This includes users created via CTC that are not legal and valid TL1 users (i.e., userids/passwords greater than 20 characters in length). Although displayed via the RTRV-USER-SECU command, these users will not be able to log into the TL1 environment.

Section	RTRV-USER-SECU Description
Category	Security
Security	Superuser
Related Messages	ACT-USER CANC CANC-USER DLT-USER-SECU ED-PID ED-USER-SECU ENT-USER-SECU REPT EVT SECU
Input Format	RTRV-USER-SECU:[<TID>]:<UID>:<CTAG>; where: • <UID> the user ID or the keyword ALL. A non-superuser can only specify their own user ID; <UID> is a string and must not be null
Input Example	RTRV-USER-SECU::CISCO15:1;
Output Format	SID DATE TIME M CTAG COMPLD "<UID>:,<UAP>" ; where: • <UID> the user ID that was retrieved; <UID> is a string • <UAP> the privilege of the user; valid values are shown in the "PRIVILEGE" section on page 4-83
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "CISCO15:,SUPER" ;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.185 RTRV-VT1: Retrieve VT1

This command retrieves the attributes associated with a VT1 path.

Note RVRTV, RVTM, HOLDOFFTIMER and UPSRPTHSTATE parameters only apply to UPSR.

Section	RTRV-VT1 Description
Category	STS and VT Paths
Security	Retrieve
Related Messages	ED-VT1
Input Format	RTRV-VT1:[<TID>]:<SRC>:<CTAG>[::::]; where: • <SRC> is an access identifier from the "VT1_5" section on page 4-30 and must not be null
Input Example	RTRV-VT1:CISCO:VT1-2-1-4-1-2:123;
Output Format	SID DATE TIME M CTAG COMPLD "<VT>::[RVRTV=<RVRTV>,][RVTM=<RVTM>,] [HOLDOFFTIMER=<HOLDOFFTIMER>,][TACC=<TACC>] [UPSRPTHSTATE=<UPSRPTHSTATE>]:[<PST>],[<SST>]" ; where: • <VT> is an access identifier from the "VT1_5" section on page 4-30 • <RVRTV> is a revertive mode which only applies to a UPSR VT1 path. <RVRTV> defaults to N (non-revertive mode) when UPSR VT1 is created; valid values are shown in the "ON_OFF" section on page 4-79 and <RVRTV> is optional • <RVTM> is a revertive time which only applies to a UPSR VT1 path. <RVTM> defaults to empty because <RVRTV> is N when UPSR VT1 is created. Valid values are shown in the "REVERTIVE_TIME" section on page 4-85 and <RVTM> is optional • <HOLDOFFTIMER> is an integer and is optional • <TACC> is from the "TACC" section on page 4-29 and is optional • <UPSRPTHSTATE> indicates if the VT_AID is the working or standby path of a UPSR cross-connect; valid values are shown in the "STATUS" section on page 4-87 and <UPSRPTHSTATE> is optional • <PST> primary state; valid values are shown in the "PST" section on page 4-85 and <PST> is optional • <SST> secondary state; valid values are shown in the "SST" section on page 4-87 and <SST> is optional

Section	RTRV-VT1 Description (continued)
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "VT1-2-1-4-1-2::RVRTV=Y,RVTM=1.0,HOLDOFFTIMER=2000, TACC=8,UPSRPTHSTATE=ACT:OOS,AINS" ;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.186 SCHED-PMREPT-<MOD2>: Schedule Performance Monitoring Report (CLNT, DS1, EC1, OC3, OC12, OC48, OC192, OCH, STS1, STS3C, STS6C, STS9C, STS12C, STS24C, STS48C, STS192C, T1, T3, VT1)

See Table 4-11 on page 4-6 for supported modifiers by platform.

This command schedules/reschedules the NE to report the performance monitoring data for a line facility or for an STS/VT path periodically, using the automatic REPT PM message. This command can also remove the previously created schedule.

The automatic performance monitoring reporting scheduled by this command is inhibited by default. ALW-PMREPT-ALL can be used to allow the NE to send the performance monitoring report. INH-PMREPT-ALL can be used to stop the NE from sending the performance monitoring report. The schedules created for the NE can be retrieved by RTRV-PMSCHED command.

The deletion of the schedule for the automatic performance monitoring reporting can be done by issuing SCHED-PMREPT-<MOD2> with the <NUMREPT> parameter equal to zero.

Notes:

1. The current maximum number of schedules allowed to be created for a NE is 1000. If this number of schedules has been created for the NE, an error message "Reach Limits Of MAX Schedules Allowed. Can Not Add More" will be returned if another schedule creation is attempted on the NE. Frequent use of automatic performance monitoring reporting will significantly degrade the performance of the NE.
2. A schedule cannot be created if the card associated with the schedule is not provisioned, or if the cross-connection associated with the schedule has not been created. However, a schedule is allowed to be deleted even if a card is not provisioned, or if the cross-connection has not been created.
3. The number of outstanding performance monitoring reports counter <NUMREPT> will not be decremented, and the scheduled automatic performance monitoring reporting will not start if the card associated with the schedule is not physically plugged into the slot.
4. An expired schedule would not be automatically removed. The SCHED-PMREPT command has to be issued with the <NUMREPT> parameter equal to zero in order to delete the expired schedule.
5. Identical schedules for an NE is not allowed. Two schedules are considered identical if they have the same AID, MOD2 type, performance monitor type, performance monitor level, location, direction and time period.

   An error message "Duplicate Schedule" is returned when trying to create a schedule which is a duplicate of a existing schedule. However, if the existing schedule expires (with the parameter <NUMINVL> equal to zero when retrieved by the RTRV-PMSCHED command, i.e., no more performance monitoring reporting sent) the new schedule with the identical parameter will replace the existing schedule.

6. When a electrical or optical card is unprovisioned by the DLT-EQPT command, or a cross-connection is deleted by the DLT-CRS command, the schedules associated with that card or that cross-connection will be removed silently by the NE. This removal prevents another type of card or cross-connection with the same AID to be provisioned on the NE, and prevents the NE from trying to send automatic performance monitoring reports based on the existing schedules.

   The card or cross connect can be unprovisioned or deleted through CTC. The schedules associated with that card or that cross-connection will also be removed silently by the NE.
7. When creating schedules on an ONS 15327 XTC card, only schedules against the working XTC card (in Slot 6) are allowed. An error message "Can Not Create Schedule On Protect Card" will be returned if you try to create a schedule on protect XTC card in Slot 5.
8. When you create a PM schedule, the minimum report interval should not be less than five minutes.

Section	SCHED-PMREPT-<MOD2> Description
Category	Performance
Security	Maintenance
Related Messages	ALW-PMREPT-ALL INH-PMREPT-ALL INIT-REG-<MOD2> INIT-REG-G1000 REPT PM <MOD2> RTRV-PM-<MOD2> RTRV-PMMODE-<STS_PATH> RTRV-PMSCHED-<MOD2> RTRV-PMSCHED-ALL RTRV-TH-<MOD2> SET-PMMODE-<STS_PATH> SET-TH-<MOD2>
Input Format	SCHED-PMREPT-<MOD2>:[<TID>]:<SRC>:<CTAG>::[<REPTINVL>],[<REPTSTATM>],[<NUMREPT>],,[<MONLEV>],[<LOCN>],,[<TMPER>],[<TMOFST>]; where: • <SRC> is from the "ALL" section on page 4-10 • <REPTINVL> specifies how often a performance monitoring report is generated. The format for <REPTINVL> is VAL-UN; valid values for VAL (value) are: – 1–31 if UN (units of time) is DAY – 1–24 if UN is HR – 1–1440 if UN is MIN Examples are: 10-DAY, 12-HR, or 100-MIN. A null value for the input would default to 15-MIN. <REPTINVL> is a string **Note** The minimum time for processing PM schedules is every five minutes. A <REPTINVL> value of less than five minutes will process every five minutes. • <REPTSTATM> starting time for the performance monitoring report. The format is HOD-MOH, where HOD (hour of day) ranges from 0–23, and MOH (minute of hour) ranges from 0–59. If the input value of the starting time is smaller than the current time; for example, the input value is 5-30 (5:30 in the morning) and the current time is 10:30, then the reporting will be scheduled to start at 5:30 the next day. A null value defaults to the current time of day; <REPTSTATM> is a string

Section	SCHED-PMREPT-<MOD2> Description (continued)
	• <NUMREPT> the number of reports that the schedule is expected to produce. A value of 0 is used to delete an existing identical schedule (see Note 5 above). If <NUMREPT> is null the schedule will be in effect forever until it is deleted. The value of <NUMREPT> will continue to be decremented even though the automatic performance monitoring reporting is inhibited; <NUMREPT> is an integer • <MONLEV> discriminating level for the requested monitored parameter. It applies to all MONTYPE of the scheduled performance monitoring report. The format is LEV-DIRN; valid values for LEV are decimal numbers, and valid values for DIRN are as follows: UP Monitored parameter with values equal to or greater than the value of LEV will be reported. DN Monitored parameter with values equal to or less than the value of LEV will be reported. The null input defaults to 1-UP; <MONLEV> is a string • <LOCN> the location being performance-monitored. The valid value is NEND or FEND. A null input defaults to NEND. FEND is not supported by all MOD2 types; valid values are shown in the "LOCATION" section on page 4-71 • <TMPER> the accumulation time period. It defaults to 15-MIN; valid values are shown in the "TMPER" section on page 4-93 • <TMOFST> the time offset from the end of the last complete accumulation time period to the beginning of the accumulation time period specified in TMPER. The format for is DAY-HR-MIN, where DAYS (days) range from 0–99, HR (hours) range from 0–23, and MIN (minutes) range from 0–59. A null value defaults to 0-0-0. Grouping of this parameter is not supported. <TMOFST> is a String.
Input Example	SCHED-PMREPT-OC3:NE-NAME:FAC-3-1: 123::60-MIN,15-30,100,,1-UP,NEND,,15-MIN,0-0-15;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.187 SET-ATTR-CONT: Set Attribute Control

This command sets the attributes associated with an external control. The attributes are used when an external control is operated or released. To send the attributes, use the RTRV-ATTR-CONT command.

Notes:

1. If the <CONTTYPE> parameter is not specified, the control specified by <AID> is unprovisioned.
2. A control should be unprovisioned before it is reprovisioned to another type of control.

Section	SET-ATTR-CONT Description	
Category	Environment Alarms and Controls	
Security	Provisioning	
Related Messages	OPR-ACO-ALL OPR-EXT-CONT REPT ALM ENV REPT EVT ENV RLS-EXT-CONT RTRV-ALM-ENV	RTRV-ATTR-CONT RTRV-ATTR-ENV RTRV-COND-ENV RTRV-EXT-CONT SET-ATTR-ENV

Section	SET-ATTR-CONT Description (continued)
Input Format	SET-ATTR-CONT:[<TID>]:<AID>:<CTAG>[::<CONTTYPE>]; where: • <AID> identifies the external control for which attributes are being retrieved and is from the "ENV" section on page 4-20 • <CONTTYPE> is the type of control for which the attribute is being retrieved; valid values are shown in the "CONTTYPE" section on page 4-59. The default value is MISC
Input Example	SET-ATTR-CONT:CISCO:ENV-OUT-1:123::AIRCOND;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.188 SET-ATTR-ENV: Set Attribute Environment

This command sets the attributes associated with an external control.

Notes:

1. If the <NTFCNCDE>, <ALMTYPE>, and <ALMMSG> parameters are omitted, the environmental alarm specified by <AID> is unprovisioned.
2. An alarm should be unprovisioned and you should wait for any raised alarm to clear before reprovisioning the alarm to another alarm type.

Section	SET-ATTR-ENV Description	
Category	Environment Alarms and Controls	
Security	Provisioning	
Related Messages	OPR-ACO-ALL OPR-EXT-CONT REPT ALM ENV REPT EVT ENV RLS-EXT-CONT RTRV-ALM-ENV	RTRV-ATTR-CONT RTRV-ATTR-ENV RTRV-COND-ENV RTRV-EXT-CONT SET-ATTR-CONT
Input Format	SET-ATTR-ENV:[<TID>]:<AID>:<CTAG>::[<NTFCNCDE>],[<ALMTYPE>],[<ALMMSG>]; where: • <AID> is an access identifier from the "ENV" section on page 4-20 and must not be null • <NTFCNCDE> is a notification code; valid values are shown in the "NOTIF_CODE" section on page 4-78. A null value is equivalent to ALL • <ALMTYPE> is an alarm type for the environmental alarm; valid values are shown in the "ENV_ALM" section on page 4-62. A null value is equivalent to ALL • <ALMMSG> is an alarm message and is a string. A null value is equivalent to ALL	
Input Example	SET-ATTR-ENV:CISCO:ENV-IN-1:123::MJ,OPENDR,\"OPEN DOOR\"	
Errors	Errors are listed in Table 7-30 on page 7-20.	

3.4.189 SET-PMMODE-<STS_PATH>: Set Performance Mode of PM Data Collection (STS1, STS3C, STS6C, STS9C, STS12C, STS24C, STS48C, STS192C)

See Table 4-11 on page 4-6 for supported modifiers by platform.

This command sets the mode and turns the PM data collection mode on or off. The Cisco ONS 15454 is capable of collecting and storing section, line and path PM data.

The PM mode and state of an entity are retrieved by using the RTRV-PMMODE command.

Notes:

1. The near end monitoring of the intermediate-path PM (IPPM) only supports OC-3, OC-12, OC-48, OC-48AS, OC-192, and EC-1 on STS Path.
2. The far end PM data collection is not supported for the ONS 15454 in this release.
3. This release of software will support only the Path (P) mode type PM parameters with this command, that is, this command is not applicable for Line (L) and Section (S) mode types.

   The PM monitoring for Line (L) and Section (S) are supported by the ONS 15454, and the storing PM data is always performed.

Section	SET-PMMODE-<STS_PATH> Description
Category	Performance
Security	Provisioning
Related Messages	ALW-PMREPT-ALL INH-PMREPT-ALL INIT-REG-<MOD2> REPT PM <MOD2> RTRV-PM-<MOD2> RTRV-PMMODE-<STS_PATH> RTRV-PMSCHED-<MOD2> RTRV-PMSCHED-ALL RTRV-TH-<MOD2> SCHED-PMREPT-<MOD2> SET-TH-<MOD2>
Input Format	SET-PMMODE-<STS_PATH>:[<TID>]:<AID>: <CTAG>::<LOCN>,<MODETYPE>,[<PMSTATE>]; where: • <AID> identifies the entity where the PM mode is being set; <AID> is from the "STS" section on page 4-24 • <LOCN> identifies the location to which the PM mode is to be set and only supports near end PM data collection; valid values are shown in the "LOCATION" section on page 4-71 • <MODETYPE> identifies the type of PM parameters; only the Path (P) PM parameter is supported and valid values are shown in the "PM_MODE" section on page 4-83 • <PMSTATE> directs the named PM mode type to turn On or Off and a null value defaults to On; valid values are shown in the "PM_STATE" section on page 4-83
Input Example	SET-PMMODE-STS1:CISCO:STS-4-2:123::NEND,P,ON;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.190 SET-TH-<MOD2>: Set Threshold (CLNT, DS1, EC1, OC3, OC12,OC48, OC192, OCH, STS1, STS3C, STS6C, STS9C, STS12C, STS24C, STS48C, STS192C,T1, T3, VT1)

See Table 4-11 on page 4-6 for supported modifiers by platform.

This command sets the threshold for PM and sets the alarm thresholds for the MXP/TXP cards. If this command is used to set the alarm thresholds, the time-period is not applicable.

The rules are as follows: The PM Thresholds have a default of NEND for the location. The Alarm Thresholds do not require or interpret the location. The TMPER is not applicable to alarm thresholds. The TMPER default is 15-MIN. The client ports only accept SONET, Laser and alarm MONTYPES. The trunk ports accept SONET, Laser, alarm, FEC, OTN MONTYPES. The Receiver Temperature Montypes (RXT) are only applicable to the trunk port. The Transceiver Voltage Montypes (XCVR) is not applicable, though it is displayed or handled.

See the "Provisioning Rules for MXP_2.5G_10G and TXP_MR_10G Cards" section on page 1-8 for specific MXP/TXP card provisioning rules.

Section	SET-TH-<MOD2> Description
Category	Performance
Security	Provisioning
Related Messages	ALW-PMREPT-ALL INH-PMREPT-ALL INIT-REG-<MOD2> REPT PM <MOD2> RTRV-PM-<MOD2> RTRV-PMMODE-<STS_PATH> RTRV-PMSCHED-<MOD2> RTRV-PMSCHED-ALL RTRV-TH-<MOD2> SCHED-PMREPT-<MOD2> SET-PMMODE-<STS_PATH>
Input Format	SET-TH-<MOD2>:[<TID>]:<AID>:<CTAG>::<MONTYPE>,<THLEV>,[<LOCN>],,[<TMPER>]; where: • <AID> indicates the access identifier. All the STS, VT1, Facility and DS1 AIDs are supported and <AID> is from the "ALL" section on page 4-10 • <MONTYPE> is the monitored value; valid values are shown in the "ALL_MONTYPE" section on page 4-33 • <THLEV> is the threshold value and is a float; <THLEV> is an integer • <LOCN> is the location; valid values are shown in the "LOCATION" section on page 4-71 • <TMPER> indicates the accumulation time period for the PM information; valid values are shown in the "TMPER" section on page 4-93
Input Example	SET-TH-T3:CISCO:FAC-1-1:123::CVL,12,NEND,,15-MIN;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.191 SET-TOD: Set Time of Day

This command sets the system date and time for the NE. The year should be entered using four digits while the hour should be entered using a 24-hour time period (i.e., military time).

Section	SET-TOD Description
Category	System
Security	Provisioning
Related Messages	ALW-MSG-ALL APPLY COPY-RFILE ED-DAT ED-NE-GEN ED-NE-SYNCN INH-MSG-ALL INIT-SYS RTRV-HDR RTRV-INV RTRV-MAP-NETWORK RTRV-NE-GEN RTRV-NE-IPMAP RTRV-NE-SYNCN RTRV-TOD
Input Format	SET-TOD:[<TID>]::<CTAG>::<YEAR>,<MONTH>,<DAY>,<HOUR>,<MINUTE>,<SECOND>,[<DIFFERENCE>][:DST=<DST>]; where: • <YEAR> is the current calendar year and is an integer • <MONTH> is the month of the year and ranges from 01–12; <MONTH> is an integer • <DAY> is the day of the month and ranges from 01–31; <DAY> is an integer • <HOUR> is the hour of the day and ranges from 00–23; <HOUR> is an integer • <MINUTE> is the minute of the hour and ranges from 00–59; <MINUTE> is an integer • <SECOND> is the second of the minute and ranges from 00–59; second is an integer • <DIFFERENCE> is the number of minutes off UTC and is an integer • <DST> identifies if the time is a Daylight Saving Time (Y) or not (N); valid values are shown in the "ON_OFF" section on page 4-79
Input Example	SET-TOD:CAZADERO::240::1998,05,08,13,18,55,480:DST=Y;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.192 SW-DX-EQPT: Switch Duplex Equipment

(Cisco ONS 15454 only)

This command switches an XC/XCVT/XC10G card with the mate card within the NE.

Note If sending a mode parameter with a value other than NORM, FRCD, or NULL, the IDNV (Input, Data Not Valid) error message will be returned.

Section	SW-DX-EQPT Description
Category	Equipment
Security	Maintenance
Related Messages	ALW-SWDX-EQPT ALW-SWTOPROTN-EQPT ALW-SWTOWKG-EQPT DLT-EQPT ED-EQPT ENT-EQPT INH-SWDX-EQPT INH-SWTOPROTN-EQPT INH-SWTOWKG-EQPT REPT ALM EQPT REPT EVT EQPT RTRV-ALM-EQPT RTRV-COND-EQPT RTRV-EQPT SW-TOPROTN-EQPT SW-TOWKG-EQPT
Input Format	SW-DX-EQPT:[<TID>]:<AID>:<CTAG>::[<MODE>][,]; where: • <AID> identifies the equipment (XC/XCVT/XC10G) unit in the NE that is to be switched with its mate unit; <AID> is from the "EQPT" section on page 4-21 • Valid values for <MODE> are shown in the "CMD_MODE" section on page 4-46
Input Example	SW-DX-EQPT:CISCO:SLOT-1:123::FRCD;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.193 SW-TOPROTN-EQPT: Switch to Protection Equipment

(Cisco ONS 15454 only)

This command performs an equipment unit protection switch.

This command is used for non-SONET line cards (e.g. DS1, DS3, DS3XM, and EC1). DS1 and DS3 cards have 1:1 and 1:N equipment protection. DS3XM and EC1 cards have only 1:1 equipment protection.

This command will switch the traffic from the working card specified in the AID to the protect card.

There is a priority for the switch to protection commands. In a 1:N protection group with N > 1, consider two working cards - A and B. Card A is switched to the protect card with the SW-TOPROTN command. If card B is pulled from the system, the protect card will carry the traffic of card B and card A will raise the FAILTOSW condition and carry traffic. When card B is replaced and the revert timer expires, card B will carry traffic and card A will switch to the protect card. The FAILTOSW condition on card A will be cleared. Note:1:N protection groups in the system are always revertive.

In a revertive protection group, the unit specified by the AID will raise the standing condition of WKSWPR if the command were executed without an error. In a non-revertive protection group, the unit specified by the AID will raise the transient condition of WKSWPR if the command were executed without an error.

Notes:

1. The default PROTID is the protecting unit if there is only one protection unit per protection group in the NE, otherwise a DENY error message will be responsed.
2. This command only supports one value of the <DIRN> parameter - BTH or null. A command with any other value is considered an incorrect use of the command. An IDNV (Input, Data Not Valid) error message will be responsed.

3. This command is not used for the common control (TCC+/TCC2 or XC/XCVT/XC10G) cards. A command on a common control card will generate an IIAC (Input, Invalid Access Identifier) error message. To use the common control card switching commands, use the SW-DX-EQPT and ALW-SWDX-EQPT commands.
4. This command is not used for SONET (OCN) cards. A command on a SONET card will generate an IIAC (Input, Invalid Access Identifier) error message. To use a SONET card switching command, use the OPR-PROTNSW and RLS-PROTNSW commands.
5. If this command is used on a card that is not in a protection group, the SNVS (Status, Not in Valid State) error message will be responsed.
6. If this command is sent to a missing working card, the SWFA (Status, Working Unit Failed) error message will be responsed.
7. If this command is used on a protection card, the IIAC (Input, Invalid Access Identifier) error message will be responsed.
8. If sending a mode parameter with a value other than NORM, FRCD, or null, the IDNV (Input, Data Not Valid) error message will be responsed.
9. If sending the SW-TOPROTN command to a working card when the working card has raised INHSWPR, the SWLD (Status, Working Unit Locked) error message will be responsed.
10. If sending the SW-TOPROTN command to a working card when the protection card has raised INHSWPR, the SPLD (Status, Protection Unit Locked) error message will be responsed.
11. If sending the SW-TOPROTN command to an active working card when the protect card is already carrying traffic. This only occurs in a 1:N protection group with N greater than one, the SNVS (Status, Not in Valid State) error message will be responsed.
12. If sending the SW-TOPROTN command to an active working card when the protect card is failed or missing, the SPFA (Status, Protection Unit Failed) error message will be responsed.
13. If sending this command to a standby working card, the SNVS (Status, Not in Valid State) error message will be responsed.

Section	SW-TOPROTN-EQPT Description	
Category	Equipment	
Security	Maintenance	
Related Messages	ALW-SWDX-EQPT ALW-SWTOPROTN-EQPT ALW-SWTOWKG-EQPT DLT-EQPT ED-EQPT ENT-EQPT INH-SWDX-EQPT INH-SWTOPROTN-EQPT	INH-SWTOWKG-EQPT REPT ALM EQPT REPT EVT EQPT RTRV-ALM-EQPT RTRV-COND-EQPT RTRV-EQPT SW-DX-EQPT SW-TOWKG-EQPT

Section	SW-TOPROTN-EQPT Description (continued)
Input Format	SW-TOPROTN-EQPT:[<TID>]:<AID>:<CTAG>::[<MODE>],[<PROTID>],[<DIRN>]; where: • <AID> is the parameter that specifies the working unit which will have traffic switched to protection and is from the "EQPT" section on page 4-21 • <MODE> is the parameter that will only support the NORM value. The null value for <MODE> will default to NORM. Sending the FRCD value for <MODE> will generate the same switching behavior as sending the NORM value. Valid values are shown in the "CMD_MODE" section on page 4-46 • <PROTID> identifies the protection unit to be switched when there is more than one protection unit within the NE; <PROTID> is from the "PRSLOT" section on page 4-16 • <DIRN> is the direction of transmission in which switching is to be made. The command only supports one value of the <DIRN> parameter - BTH. This parameter defaults to BTH; valid values for <DIRN> are shown in the "DIRECTION" section on page 4-60
Input Example	SW-TOPROTN-EQPT:CISCO:SLOT-1:123::FRCD,SLOT-3,BTH;
Errors	Errors are listed in Table 7-30 on page 7-20.

3.4.194 SW-TOWKG-EQPT: Switch to Working Equipment

(Cisco ONS 15454 only)

This command switches the protected working unit back to working unit.

This command is used for non-SONET line cards (e.g. DS1, DS3, DS3XM, and EC1). DS1 and DS3 cards have 1:1 and 1:N equipment protection. DS3XM and EC1 cards have only 1:1 equipment protection cards.

This command will switch the traffic from the protection card to the working card specified by the AID.

In a revertive protection group, the unit specified by the AID will clear the standing condition of WKSWPR if the command were executed without an error. In a non-revertive protection group, the unit specified by the AID will raise the transient condition of WKSWBK if the command were executed without an error.

Notes:

1. This command only supports one value of the <DIRN> parameter - BTH or null. A command with any other value is considered an incorrect use of the command. An IDNV (Input, Data Not Valid) error message should be responsed
2. This command is not used for the common control (TCC+/TCC2 or XC/XCVT/XC10G) cards. A command on a common control card will generate an IIAC (Input, Invalid Access Identifier) error message. To use the common control card switching commands, use the SW-DX-EQPT and ALW-SWDX-EQPT commands.
3. This command is not used for SONET (OCN) cards. A command on a SONET card will generate an IIAC (Input, Invalid Access Identifier) error message. To use a SONET card switching command, use the OPR-PROTNSW and RLS-PROTNSW commands.

4. If this command is used on a card that is not in a protection group, the SNVS (Status, Not in Valid State) error message will be responsed.
5. If this command is sent to a missing working card, the SWFA (Status, Working Unit Failed) error message will be responsed.
6. If this command is used on a protection card, the IIAC (Input, Invalid Access Identifier) error message will be responsed.
7. If sending a mode parameter with a value other than NORM, FRCD, or null, the IDNV (Input, Data Not Valid) error message will be responsed.
8. If sending the SW-TOWKG command to a working card when the working card has raised INHSWWKG, the SWLD (Status, Working Unit Locked) error message will be responsed.
9. If sending the SW-TOWKG command to a working card when the protection card has raised INHSWWKG, the SPLD (Status, Protection Unit Locked) error message will be responsed.
10. If sending the SW-TOWKG command to an active working card, the SNVS (Status, Not in Valid State) error message will be responsed.

Section	**SW-TOWKG-EQPT Description**
Category	Equipment
Security	Maintenance
Related Messages	ALW-SWDX-EQPT ALW-SWTOPROTN-EQPT ALW-SWTOWKG-EQPT DLT-EQPT ED-EQPT ENT-EQPT INH-SWDX-EQPT INH-SWTOPROTN-EQPT INH-SWTOWKG-EQPT REPT ALM EQPT REPT EVT EQPT RTRV-ALM-EQPT RTRV-COND-EQPT RTRV-EQPT SW-DX-EQPT SW-TOPROTN-EQPT
Input Format	SW-TOWKG-EQPT:[<TID>]:<AID>:<CTAG>::[<MODE>],[<DIRN>]; where: • <AID> identifies the working unit that is to be released from protection. <AID> is from the "PRSLOT" section on page 4-16 • <MODE> will only support the NORM value. The null value will default to NORM. Sending the FRCD value will generate the same switching behavior as sending the NORM value. Valid values for <MODE> are shown in the "CMD_MODE" section on page 4-46 • <DIRN> is the direction of transmission. The command only supports one value of the <DIRN> parameter - BTH. This parameter defaults to BTH; valid values for <DIRN> are shown in the "DIRECTION" section on page 4-60
Input Example	SW-TOWKG-EQPT:CISCO:SLOT-2:123::FRCD,BTH;
Errors	Errors are listed in Table 7-30 on page 7-20.

TL1 Command Components

This chapter describes the components of TL1 commands and autonomous messages for the Cisco ONS 15454 and the Cisco ONS 15327, Release 4.0, including:

- TL1 default values
- Modifier support by platform
- Starting positions for an STS-Mc SPE
- Access identifiers (AIDs)
- Parameter types

4.1 TL1 Default Values

4.1.1 BLSR

Table 4-1 BLSR Default Values

BLSR	Default
RVRTV	Y
RVTM	5.0 minutes
SRVRTV	Y
SRVTM	5.0 minutes

4.1.2 Cross Connections

Table 4-2 Cross Connections Default Values

Cross Connections	Default
CCT	2WAY for both STSp and VT1 cross-connections

4.1.3 Environment Alarms and Controls

Table 4-3 Environment Alarms and Controls Default Values

Environment Alarms and Controls	Default
OPR-EXT-CONT	CONTTYPE is set as one provisioned in the respective AID, there is not default for it. It is only used as a filter if entered. DUR is always taken as CONT.
RTRV-ATTR-CONT	There is no default for CONTTYPE. It is only used as a filter if entered.
RTRV-ATTR-ENV	There is no default for both NTFCNCDE and ALMTYPE, which are only used as filters if entered.
RTRV-EXT-CONT	CONTTYPE defaults to the conttype associated with the AID.
SET-ATTR-ENV	NTFCNCDE defaults to NR. ALMTYPE defaults to NULL. ALMMSG defaults to \“Env Alarm Input 1\”.

4.1.4 Equipment

Table 4-4 Equipment Default Values

Equipment	Default
ALW-SWTOPROTN-EQPT, INH-SWTOPROTN-EQPT and ALW-SWTOWKG-EQPT, ING-SWTOWKG-EQPT	DIRN defaults to BTH
ENT-EQPT	PROTID, PRTYPE, RVRTV and RVTM defaults to NULL
SW-DX-EQPT	MODE defaults to NORM
SW-TOPROTN-EQPT and SW-TOWKG-EQPT	MODE defaults to NORM DIRN defaults to BTH

4.1.5 Performance

Table 4-5 Performance Default Values

Performance	Default
INIT-REG-<MOD2>	LOCN defaults to NEND (near end)
RTRV-PM-<MOD2>	LOCN defaults to NEND TMPER defaults to 15 minutes

Table 4-5 Performance Default Values (continued)

Performance	Default
RTRV-TH-<MOD2>	MONTYPE defaults to CVL for OCN, EC1, and DSN MONTYPE defaults to ESP for STSp MONTYPE defaults to UASV for VT1 MONTYPE defaults to AISSP for the DS1 layer of the DS3XM card LOCN defaults to NEND TMPER defaults to 15 minutes
SET-PMMODE-<STS_PATH>	PMSTATE defaults to ON
SET-TH-<MOD2>	LOCN defaults to NEND TMPER defaults to 15 minutes

4.1.6 Ports

Table 4-6 Ports Default Values

Ports	Default
OCN Line	DCC defaults to N TMGREF defaults to N SYNCMSG defaults to Y SENDDUS defaults to N PJMON defaults to 0 SFBER defaults to 1E-4 SDBER defaults to 1E-7 MODE defaults to SONET PST defaults to OOS
EC1 Line	PJMON defaults to 0 (zero) LBO defaults to 0-225 RXEQUAL is Y PST defaults to defaults to OOS
T1 Line (DS1/DS1N)	LINECDE defaults to AMI FMT defaults to D4 LBO defaults to 0-133 PST defaults to OOS
T3 Line (DS3, DS3E, DS3NE, DS3XM)	DS3/T3 LINECDE defaults to 0-225 DS3 PST defaults to OOS DS3E/DS3NE FMT defaults to UNFRAMED DS3E/DS3NE LINECDE defaults to B3ZS DS3E/DS3NE LBO defaults to 0-225 DS3 of DS3XM PST defaults to OOS

4.1.7 SONET Line Protection

Table 4-7 SONET Line Protection Default Values

SONET Line Protection	Default
EX-SW-<OCN>	ST (switch type) is optional and for BLSR protection switch only ST defaults to BLSR RING switch type
OCN Line Protection	PROTID defaults to the protecting port of the protection group (SLOT-#(OCN)PORT-#). It is a string that can have a maximum length of 32 characters RVRTV defaults to N (non-revertive mode) RVTM defaults to 5.0 minutes PSDIRN defaults to UNI
OPR-PROTNSW-<OCN>	ST (switch type) is optional and for BLSR protection switch only ST defaults to BLSR RING switch type

4.1.8 STS and VT Paths

Table 4-8 STS and VT Paths Default Values

STS and VT Paths	Default
STS Path	SFBER, SDBER, RVRTV, and RVTM apply to UPSR STS paths only SFBER defaults to 1E-4 SDBER defaults to 1E-6 RVRTV defaults to N RVTM defaults to empty because RVRTV is N when UPSR STSp is created J1 is implemented on DS1, DS1N, DS3, DS3E, DS3NE, DS3XM, EC1, OC3, OC48AS AND OC192 cards TRCMODE defaults to the OFF mode EXPTRC defaults to a copy of the provisioned string or NULL when TRCMODE is OFF mode EXPTRC defaults to the user entered string when the TRCMODE is MANUAL mode EXPTRC defaults to a copy of the acquired received string or NULL if the string has not been acquired when the TRCMODE is AUTO mode INCTRC defaults to the incoming string (NULL) when the TRCMODE is under OFF mode INCTRC defaults to a copy of the received string or NULL if the string has not been received when the TRCMODE is under MANUAL or AUTO mode
VT Path	RVRTV, RVTM apply to UPSR VT paths only RVRTV defaults to N RVTM defaults to empty because RVRTV is N when UPSR VT1 is created

4.1.9 Synchronization

Table 4-9 Synchronization Default Values

Synchronization	Default
BITS	LINECDE defaults to B8ZS FMT defaults to ESF SYNCMSG defaults to Y PST defaults to OOS
NE-SYNCN	TMMDE defaults to EXTERNAL SSMGEN defaults to GEN1 QRES defaults to SAME-AS-DUS RVRTV defaults to Y RVTM defaults to 5.0 minutes
SYNCN	PRI/SEC QREF defaults to PRS PRI STATUS defaults to ACT SEC STATUS defaults to STBY THIRD QREF defaults to ST3 STATUS defaults to STBY

4.1.10 Testing

Table 4-10 Testing Default Values

Testing	Default
OPR-LPBK	LPBKTYPE defaults to FACILITY
RLS-LPBK	LPBKTYPE defaults to current existing loopback type

4.2 Modifier Support by Platform

Table 4-11 details the TL1 modifiers supported on the ONS 15454 and ONS 15327 for commands that have carets (< >) in part of their input format; for example, RTRV-<OCN_TYPE>. A "Yes" in the ONS 15454 or ONS 15327 column indicates that a particular modifier is supported in that platform. A "No" in the ONS 15454 or ONS 15327 column indicates that a particular modifier is not supported in that platform. A "—" indicates that a particular modifier is not applicable to that platform.

Table 4-11 Modifier Support

Modifier	ONS 15454	ONS 15327
DS1	Yes	—
EC1	Yes	—
T1	Yes	Yes
T3	Yes	Yes
VT1	Yes	Yes
STS1	Yes	Yes
STS3C	Yes	Yes
STS6C	Yes	Yes
STS9C	Yes	Yes
STS12C	Yes	Yes
STS24C	Yes	Yes
STS48C	Yes	Yes
STS192C	Yes	No
OC3	Yes	Yes
OC12	Yes	Yes
OC48	Yes	Yes
OC192	Yes	No
G1000	Yes	Yes
GIGE	Yes	No
FSTE	Yes	No
POS	Yes	No
E100	Yes	Yes
E1000	Yes	Yes
CLNT	Yes	No
OCH (TXP, MXP)	Yes	No

4.3 Starting Positions for an STS-Mc SPE

Table 4-12, Table 4-13, and Table 4-14 list possible starting positions for Cisco ONS 15454 and Cisco ONS 15327 STS-Mc SPE. In each of the tables a "Y" indicates "Yes, this position is supported" and an "N" indicates, "No, this position is not supported". More information about the generic NE support requirement can be found in *GR-253-CORE: Synchronous Optical Network (SONET) Transport Systems: Common Generic Criteria*.

Table 4-12 Starting Positions for an STS-Mc SPE in an OC-12 Signal

STS-1 Number	STS-3c SPE	STS-6c SPE	STS-9c SPE	STS-12c SPE
1	Y	Y	Y	Y
4	Y	Y	Y	N
7	Y	Y	N	N
10	Y	N	Y	N

Table 4-13 Starting Positions for an STS-Mc SPE in an OC-48 Signal

STS-1 Number	STS-3c SPE	STS-6c SPE	STS-9c SPE	STS-12c SPE	STS-24c SPE	STS-48c SPE
1	Y	Y	Y	Y	Y	Y
4	Y	Y	Y	N	Y	N
7	Y	Y	N	N	Y	N
10	Y	N	Y	N	Y	N
13	Y	Y	Y	Y	Y	N
16	Y	Y	Y	N	Y	N
19	Y	Y	Y	N	Y	N
22	Y	N	N	N	Y	N
25	Y	Y	Y	Y	Y	N
28	Y	Y	Y	N	N	N
31	Y	Y	N	N	N	N
34	Y	N	N	N	N	N
37	Y	Y	Y	Y	N	N
40	Y	Y	Y	N	N	N
43	Y	Y	N	N	N	N
46	Y	N	Y	N	N	N

Table 4-14 Starting positions for an STS-Mc SPE in an OC-192 Signal

STS-1 Number	STS-3c SPE	STS-6c SPE	STS-9c SPE	STS-12c SPE	STS-24c SPE	STS-48c SPE	STS-192c SPE
1	Y	Y	Y	Y	Y	Y	Y
4	Y	Y	Y	N	N	N	N
7	Y	Y	N	N	N	N	N
10	Y	N	Y	N	N	N	N
13	Y	Y	Y	Y	N	N	N
16	Y	Y	Y	N	N	N	N
19	Y	Y	Y	N	N	N	N
22	Y	N	N	N	N	N	N
25	Y	Y	Y	Y	N	N	N
28	Y	Y	Y	N	N	N	N
31	Y	Y	N	N	N	N	N
34	Y	N	N	N	N	N	N
37	Y	Y	Y	Y	N	N	N
40	Y	Y	Y	N	N	N	N
43	Y	Y	N	N	N	N	N
46	Y	N	Y	N	N	N	N
49	Y	Y	Y	Y	Y	Y	N
52	Y	Y	Y	N	N	N	N
55	Y	Y	Y	N	N	N	N
58	Y	N	N	N	N	N	N
61	Y	Y	Y	Y	N	N	N
64	Y	Y	Y	N	N	N	N
67	Y	Y	N	N	N	N	N
70	Y	N	N	N	N	N	N
73	Y	Y	Y	Y	N	N	N
76	Y	Y	Y	N	N	N	N
79	Y	Y	N	N	N	N	N
82	Y	N	Y	N	N	N	N
85	Y	Y	Y	Y	N	N	N
88	Y	Y	Y	N	N	N	N
91	Y	Y	Y	N	N	N	N
94	Y	N	N	N	N	N	N
97	Y	Y	Y	Y	Y	Y	N
100	Y	Y	Y	N	N	N	N
103	Y	Y	N	N	N	N	N

Table 4-14 Starting positions for an STS-Mc SPE in an OC-192 Signal (continued)

STS-1 Number	STS-3c SPE	STS-6c SPE	STS-9c SPE	STS-12c SPE	STS-24c SPE	STS-48c SPE	STS-192c SPE
106	Y	N	N	N	N	N	N
109	Y	Y	Y	Y	N	N	N
112	Y	Y	Y	N	N	N	N
115	Y	Y	N	N	N	N	N
118	Y	N	Y	N	N	N	N
121	Y	Y	Y	Y	N	N	N
124	Y	Y	Y	N	N	N	N
127	Y	Y	Y	N	N	N	N
130	Y	N	N	N	N	N	N
133	Y	Y	Y	Y	N	N	N
136	Y	Y	Y	N	N	N	N
139	Y	Y	N	N	N	N	N
142	Y	N	N	N	N	Y	N
145	Y	Y	Y	Y	Y	N	N
148	Y	Y	Y	N	N	N	N
151	Y	Y	N	N	N	N	N
154	Y	N	Y	N	N	N	N
157	Y	Y	Y	Y	N	N	N
160	Y	Y	Y	N	N	N	N
163	Y	Y	Y	N	N	N	N
166	Y	N	N	N	N	N	N
169	Y	Y	Y	Y	N	N	N
172	Y	Y	Y	N	N	N	N
175	Y	Y	N	N	N	N	N
178	Y	N	N	N	N	N	N
181	Y	Y	Y	Y	N	N	N
184	Y	Y	Y	N	N	N	N
187	Y	Y	N	N	N	N	N
190	Y	N	Y	N	N	N	N

4.4 Access Identifiers

The AID code directs an input command to its intended physical or data entity inside the NE. Equipment modules and facilities are typical examples of entities addressed by the access code.

4.4.1 ALL

Table 4-15 ALL for ONS 15454 and ONS 15327

AID	ONS 15454	ONS 15327
CrossConnect ID	FACILITY STS VT	—
IPCC	ALL CC-{1–16}	—
NBR	AAA.BBB.CC.DD ALL NBR-{1–16}	—
PRSLOT	NULL SLOT-1 SLOT-3 SLOT-5 SLOT-13 SLOT-15 SLOT-17	—
UCP	IPCCAID NBRAID STSAID	—
AONS	AONS-{W_E,E_W}	—
BAND	BAND-{2-6,12-16}-{1-4}-ALL BAND-{2-6,12-16}-{1-4}-{RX,TX} BAND-{2-6,12-16}-{1}-ALL BAND-{2-6,12-16}-{1}-{RX,TX}	
BITS	BITS-ALL BITS-{1,2}	BITS-ALL BITS-{1,2}
BLSR	ALL BLSR-{0-9999}	ALL BLSR-ALL BLSR-{0-9999}
CHANNEL	CHAN-{1-6,12-17}-ALL CHAN-{1-6,12-17}-{1-32}-ALL CHAN-{1-6,12-17}-{1-32}-{RX,TX} CHAN-{1-6,12-17}-{1-4}-ALL CHAN-{1-6,12-17}-{1-4}-{RX,TX} CHAN-{1-6,12-17}-{2,3} CHAN-{1-6,12-17}-{2,5}	—
COM	Common	Common

Table 4-15 ALL for ONS 15454 and ONS 15327 (continued)

AID	ONS 15454	ONS 15327
DS1	DS1-{1-6,12-17}-{1-6}-{1-28}	—
ENV	ENV-IN-ALL ENV-IN-{1-20} ENV-IN-{1-32} ENV-IN-{1-4} ENV-IN-{1-6} ENV-OUT-ALL ENV-OUT-{1-16} ENV-OUT-{1-2} ENV-OUT-{1-4}	ENV-{IN,OUT}-{1-6} 6 Input, 2 Output
EQPT	AIP ALL BP FAN SLOT-ALL SLOT-{1-17} SLOT-{1-6,12-17}	SLOT-ALL SLOT-{1-8}
FACILITY	FAC-{1-4,14-17}-{1-8} FAC-{1-6,12-17}-1 FAC-{1-6,12-17}-ALL FAC-{1-6,12-17}-{0-11} FAC-{1-6,12-17}-{0-1} FAC-{1-6,12-17}-{1-12} FAC-{1-6,12-17}-{1-14} FAC-{1-6,12-17}-{1-4} FAC-{1-6,12-17}-{1-6} FAC-{1-6,12-17}-{1} FAC-{5,6,12,13}-{1} FAC-{8,10}-{1} VFAC-{1-6,12-17}-{0-1}	FAC-{1-6}-ALL FAC-{1-4}-{1} OC12, OC48 FAC-{5-6}-{1-3} XTC-14 DS3 FAC-{5-6}-{1-28} XTC-14/XTC-28 DS1 FAC-{1-4}-{2} G1000-2 FAC-{1-4}-{1-4} OC3
LINE	LINE-{1-6,12-17}-{1-2}-ALL LINE-{1-6,12-17}-{1-2}-{RX,TX} LINE-{1-6,12-17}-{1-3}-ALL LINE-{1-6,12-17}-{1-3}-{RX,TX} LINE-{8,10}-{1}-ALL LINE-{8,10}-{1}-{RX,TX}	—
OSC	ALL OSC-{1-9999}	—
RFILE	RFILE-DB RFILE-PKG	—

Table 4-15 ALL for ONS 15454 and ONS 15327 (continued)

AID	ONS 15454	ONS 15327
STS	FAC-{1-6,12-17}-{1-4} STS-{1-4,14-17}-{1-4}-1 STS-{1-4,14-17}-{1-4}-ALL STS-{1-4,14-17}-{1-4}-{1,4,7,10} STS-{1-4,14-17}-{1-4}-{1,4,7} STS-{1-4,14-17}-{1-4}-{1-3} STS-{1-4,14-17}-{1-8}-1 STS-{1-4,14-17}-{1-8}-ALL STS-{1-4,14-17}-{1-8}-{1-3} STS-{1-6,12-17}-1 STS-{1-6,12-17}-1-1 STS-{1-6,12-17}-1-ALL STS-{1-6,12-17}-1-{1,13,25,37} STS-{1-6,12-17}-1-{1,4,10,13,16,19,25,28,37,40} STS-{1-6,12-17}-1-{1,4,7,10,13,16,19,22,25} STS-{1-6,12-17}-1-{1,4,7,10-46} STS-{1-6,12-17}-1-{1,4,7,10} STS-{1-6,12-17}-1-{1,4,7,13,16,19,25,28,37,40,43} STS-{1-6,12-17}-1-{1,4,7} STS-{1-6,12-17}-1-{1,4} STS-{1-6,12-17}-1-{1-12} STS-{1-6,12-17}-1-{1-48} STS-{1-6,12-17}-ALL STS-{1-6,12-17}-{1-12} STS-{1-6,12-17}-{1-4}-1 STS-{1-6,12-17}-{1-4}-ALL STS-{1-6,12-17}-{1-4}-{1,4,7,10-46} STS-{1-6,12-17}-{1-4}-{1,4,7} STS-{1-6,12-17}-{1-4}-{1,4} STS-{1-6,12-17}-{1-4}-{1-12} STS-{1-6,12-17}-{1-6} STS-{5,6,12,13}-1-1 STS-{5,6,12,13}-1-{1,13,25,37-180} STS-{5,6,12,13}-1-{1,13,25,37} STS-{5,6,12,13}-1-{1,4,7,10,13,16,19,22,25} STS-{5,6,12,13}-1-{1,4,7,10-190} STS-{5,6,12,13}-1-{1,4,7,10-46} STS-{5,6,12,13}-1-{1,4,7,13,16,19,25,28,37,40,43} STS-{5,6,12,13}-1-{1,49,97,145}|STS-{5,6,12,13}-1-{1-192} STS-{5,6,12,13}-1-{1-48} VFAC-{1-6,12-17}-{0-1}	FAC-{1-6,12-17}-{1-4}Dynamically Allocated STSs STS-{1-4}-1-ALL ALL AID for Optical Cards STS-{1-4}-1-1 STS48c for OC48 STS-{1-4}-1-{1,13,25,37} STS12c for OC48 STS-{1-4}-1-{1,7,13,19,...,43} STS6c for OC48 STS-{1-4}-1-{1,7} STS6c for OC12 STS-{1-4}-1-{1,4,7,10,...,46} STS3c for OC48 STS-{1-4}-1-{1,4,7,10} STS3c for OC3 and OC12 STS-{1-4}-1-{1-12} STS1 for OC3, OC12 STS-{1-4}-1-{1-48} STS1 for OC48 STS-{5-6}-ALL ALL AID for XTC Cards STS-{5-6}-{1} STS1 for XTC-14/XTC-28 DS1 STS-{5-6}-{2-4} STS1 for XTC-28 DS3 VFAC-{1-4}-{1-2}
SYN	SYNC-NE	SYNC-NE

Table 4-15 ALL for ONS 15454 and ONS 15327 (continued)

AID	ONS 15454	ONS 15327
SYN_SRC	BITS-1 BITS-2 FAC-{1-6,12-17}-{1-4} FAC-{1-6,12-17}-{1} FAC-{5,6,12,13}-{1} INTERNAL NONE SYNC-NE	FAC-{1-4}-{1} OC12, OC48 FAC-{1-4}-{1-4} OC3 INTERNAL SYNC-NE SYNC-{BITS1,BITS2}
SYNC_REF	SYNC-ALL SYNC-NE SYNC-{BITS1,BITS2}	SYNC-ALL SYNC-NE SYNC-{BITS1,BITS2}
SYNCSW	INT PRI SEC THIRD	INT PRI SEC THIRD
TACC	{0, 1-999}	{0, 1-999}
UDC	UDC-{F,DCC}-{A,B}	—
VT1_5	VT1-{1-4,14-17}-{1-8}-{1-3}-{1-7}-{1-4} VT1-{1-6,12-17}-1-{1-12}-{1-7}-{1-4} VT1-{1-6,12-17}-1-{1-48}-{1-7}-{1-4} VT1-{1-6,12-17}-1-{1-7}-{1-2} VT1-{1-6,12-17}-{1-12}-1-{1-7}-{1-4} VT1-{1-6,12-17}-{1-4}-{1-12}-{1-7}-{1-4} VT1-{1-6,12-17}-{1-4}-{1-3}-{1-7}-{1-4} VT1-{1-6,12-17}-{1-6}-{1-7}-{1-4} VT1-{5,6,12,13}-1-{1-192}-{1-7}-{1-4} VT1-{5,6,12,13}-1-{1-48}-{1-7}-{1-4}	ALL VT1-{5-6}-{1-2}-{1-7}-{1-2} XTC-14 DS1 VT1-{5-6}-{1-2}-{1-7}-{1-4} XTC-28 DS1 VT1-{1-4}-{1-12}-{1-7}-{1-4 } OC3, OC12 VT1-{1-4}-{1-48}-{1-7}-{1-4 } OC48
WLEN	WLEN-{W_E,E_W}-{1530.33,1531.12,1531 .90,1532.68,1534.25,1535.04,1535.82,1536.6 1,1538.19,1538.98,1539.77,1540.56,1542.14, 1542.94,1543.73,1544.53,1546.12,1546.92,,1 547.72,1548.51,1550.12,1550.92,1551.72,15 52.52,1554.13,1554.94,1555.75,1556.55,155 8.17,1558.98,1559.79,1560.61}	—

4.4.2 CrossConnectID

(ONS 15454 only)

Table 4-16 CrossConnectID for ONS 15454

AID	ONS 15454 Pattern
FACILITY	FAC-{1-4,14-17}-{1-8} FAC-{1-6,12-17}-1 FAC-{1-6,12-17}-ALL FAC-{1-6,12-17}-{0-11} FAC-{1-6,12-17}-{0-1} FAC-{1-6,12-17}-{1-12} FAC-{1-6,12-17}-{1-14} FAC-{1-6,12-17}-{1-4} FAC-{1-6,12-17}-{1-6} FAC-{1-6,12-17}-{1} FAC-{5,6,12,13}-{1} FAC-{8,10}-{1} VFAC-{1-6,12-17}-{0-1}

Table 4-16 CrossConnectID for ONS 15454 (continued)

AID	ONS 15454 Pattern
STS	FAC-{1-6,12-17}-{1-4} STS-{1-4,14-17}-{1-4}-1 STS-{1-4,14-17}-{1-4}-ALL STS-{1-4,14-17}-{1-4}-{1,4,7,10} STS-{1-4,14-17}-{1-4}-{1,4,7} STS-{1-4,14-17}-{1-4}-{1-3} STS-{1-4,14-17}-{1-8}-1 STS-{1-4,14-17}-{1-8}-ALL STS-{1-4,14-17}-{1-8}-{1-3} STS-{1-6,12-17}-1 STS-{1-6,12-17}-1-1 STS-{1-6,12-17}-1-ALL STS-{1-6,12-17}-1-{1,13,25,37} STS-{1-6,12-17}-1-{1,4,10,13,16,19,25, 28,37,40} STS-{1-6,12-17}-1-{1,4,7,10,13,16,19,22,25} STS-{1-6,12-17}-1-{1,4,7,10-46} STS-{1-6,12-17}-1-{1,4,7,10} STS-{1-6,12-17}-1-{1,4,7,13,16,19,25,28,37,40,43} STS-{1-6,12-17}-1-{1,4,7} STS-{1-6,12-17}-1-{1,4} STS-{1-6,12-17}-1-{1-12} STS-{1-6,12-17}-1-{1-48} STS-{1-6,12-17}-ALL STS-{1-6,12-17}-{1-12} STS-{1-6,12-17}-{1-4}-1 STS-{1-6,12-17}-{1-4}-ALL STS-{1-6,12-17}-{1-4}-{1,4,7,10-46} STS-{1-6,12-17}-{1-4}-{1,4,7} STS-{1-6,12-17}-{1-4}-{1,4} STS-{1-6,12-17}-{1-4}-{1-12} STS-{1-6,12-17}-{1-6} STS-{5,6,12,13}-1-1 STS-{5,6,12,13}-1-{1,13,25,37-180} STS-{5,6,12,13}-1-{1,13,25,37} STS-{5,6,12,13}-1-{1,4,7,10,13,16,19,22,25} STS-{5,6,12,13}-1-{1,4,7,10-190} STS-{5,6,12,13}-1-{1,4,7,10-46} STS-{5,6,12,13}-1-{1,4,7,13,16,19,25,28,37,40,43} STS-{5,6,12,13}-1-{1,49,97,145}|STS-{5,6,12,13}-1-{1-192} STS-{5,6,12,13}-1-{1-48} VFAC-{1-6,12-17}-{0-1}

4.4.3 IPCC

(ONS 15454 only)

IP Control Channel AIDs are used to access the IPCC of the UCP.

Table 4-17 IPCC for ONS 15454

Pattern	Description
ALL	Indicates the whole IPCCs of the UCP. The “ALL” AID is used for UCP retrieving command input only. A NULL AID in the IPCCs retrieval command defaults to the ALL AID, which returns all the IPCCs of the node
CC-{1-16}	Indicates individual IPCC of the UCP

4.4.4 NBR

(ONS 15454 only)

UCP neighbor AIDs are used to access the neighbors of the UCP.

Table 4-18 NBR for ONS 15454

Pattern	Description
AAA.BBB.CC.DD	Indicates the UCP neighbor or IP address. It is a character string.
ALL	Indicates the whole neighbors of the UCP. It is used for UCP retrieving command input only.
NBR-{1-16}	Indicates an individual neighbor index (1-16) of the UCP. It is optional in the ENT-UCP-NBR command which returns a neighbor index.

4.4.5 PRSLOT

(ONS 15454 only)

Valid protection slots for the electrical cards

Table 4-19 PRSLOT for ONS 15454

Pattern	Description
NULL	Indicates there is no protection group. Used when trying to delete a protection group.
SLOT-1	The No.1 slot of an NE
SLOT-3	The No.3 slot of an NE
SLOT-5	The No.5 slot of an NE
SLOT-13	The No.13 slot of an NE
SLOT-15	The No.15 slot of an NE

Table 4-19 PRSLOT for ONS 15454 (continued)

Pattern	Description
SLOT-17	The No.17 slot of an NE

4.4.6 UCP

(ONS 15454 only)

UCP alarm AID

Table 4-20 UCP for ONS 15454

Pattern	Description
IPCCAID	Indicates UCP Control Channel AIDs, in the type of "CC-CCID"
NBRAID	Indicates UCP Neighbor AIDs, in the type of "CC-NEIGHBORID"
STSAID	Indicates UCP STS Circuit AIDs, in the type of "STS-SLOT#-STS#"

4.4.7 AONS

(ONS 15454 only)

This AID is used to access the automatic optical node setup (AONS) application of the NE.

Table 4-21 AONS for ONS 15454

Pattern	Description
AONS-{W_E,E_W}	Automatic Optical Node Setup identifier (is per ring direction based)

4.4.8 BAND

(ONS 15454 only)

The BAND AID is used to access Optical Multiplex Section (OMS) layer of Optical Network units.

Table 4-22 BAND for ONS 15454

Pattern	Description
BAND-{2-6,12-16}-{1-4}-ALL	All the Channels in a Band OADM (1Bn, 4Bn) units
BAND-{2-6,12-16}-{1-4}-{RX,TX}	The Receive/Transmit Channels in a Band OADM (1Bn, 4Bn) units
BAND-{2-6,12-16}-{1}-ALL	All the Channels in an Optical Multiplexer/Demultiplexer (4Ch) units

Table 4-22 BAND for ONS 15454 (continued)

Pattern	Description
BAND-{2-6,12-16}-{1}-{RX,TX}	The Receive/Transmit Channels in an Optical Multiplexer/Demultiplexer (4Ch) units

4.4.9 BITS

4.4.9.1 BITS for ONS 15454

AID for BITS

Table 4-23 BITS for ONS 15454

Pattern	Description
BITS-ALL	BITS AIDS of both BITS-1 and BITS-2 in the RTRV-BITS command
BITS-{1,2}	Individual BITS AID

4.4.9.2 BITS for ONS 15327

AID for BITS

Table 4-24 BITS for ONS 15327

Pattern	Description
BITS-ALL	BITS AIDS of both BITS-1 and BITS-2 in the RTRV-BITS command
BITS-{1,2}	Individual BITS AID

4.4.10 BLSR

4.4.10.1 BLSR for ONS 15454

BLSR AIDs are used to access the specific BLSR of the NE.

Table 4-25 BLSR for ONS 15454

Pattern	Description
ALL	The whole BLSR of the NE
BLSR-ALL	The whole BLSR of the NE
BLSR-{0-9999}	Individual BLSR of the NE

4.4.10.2 BLSR for ONS 15327

BLSR AIDs are used to access the specific BLSR of the NE.

Table 4-26 BLSR for ONS 15327

Pattern	Description
ALL	The whole BLSR of the NE
BLSR-ALL	The whole BLSR of the NE
BLSR-{0-9999}	Individual BLSR of the NE

4.4.11 CHANNEL

(ONS 15454 only)

Accesses the Optical Channels (OCH) layer of Optical Network/Client units.

Table 4-27 CHANNEL Values

CHANNEL Values	Description
CHAN-{1-6,12-17}-ALL	All the Channels of an Optical Transponder/Muxponder
CHAN-{1-6,12-17}-{1-32}-ALL	All the Channels in an Optical Multiplexer/Demultiplexer (32Ch) units
CHAN-{1-6,12-17}-{1-32}-{RX,TX}	The Receive/Transmit Channels in an Optical Multiplexer/Demultiplexer (32Ch) units
CHAN-{1-6,12-17}-{1-4}-ALL	All the Channels in an OADM (1Ch, 2Ch, 4Ch) units and Optical
CHAN-{1-6,12-17}-{1-4}-{RX,TX}	The Receive/Transmit Channels in an OADM (1Ch, 2Ch, 4Ch) units and Optical Multiplexer/Demultiplexer (4Ch) units
CHAN-{1-6,12-17}-{2,3}	A single channel of an Optical Transponder/Muxponder. The TXP uses CHAN-slot-2 for the 1 DWDM Facility.
CHAN-{1-6,12-17}-{2,5}	A single channel of an Optical Transponder/Muxponder. The TXP uses CHAN-slot-2 for the 1 DWDM facility. MXP uses the CHAN-slot-5 for the 1 DWDM facility

4.4.12 COM

4.4.12.1 COM for ONS 15454

Common

Table 4-28 COM for ONS 15454

Pattern	Description
COM	Common

4.4.12.2 COM for ONS 15327

Common

Table 4-29 COM for ONS 15327

Pattern	Description
COM	Common

4.4.13 DS1

(ONS 15454 only)

Used to access the DS-1 frame layer of the DS3XM.

Table 4-30 DS1 for ONS 15454

Pattern	Description
DS1-{1-6,12-17}-{1-6}-{1-28}	DS1 AID for the DX3XM card

4.4.14 ENV

4.4.14.1 ENV for ONS 15454

The environmental AID for the AIC/AICI card

ENV-IN-{1-4}—Environmental AID for AIC Card on the 15454. “IN” is used for Environmental Alarms.

ENV-IN-{1-20}—Environmental AID for AICI Card on the 15454. “IN” is used for Environmental Alarms.

ENV-IN-{1-32}—Environmental AID for AICI Card Extensions on the 15454. “IN” is used for Environmental Alarms.

ENV-IN-ALL—All Environmental Alarm Input contacts

ENV-OUT-{1-4}—Environmental AID for AIC/AICI Card on the 15454. “OUT” is used for Environmental Controls.

ENV-OUT-{1-16}—Environmental AID for AICI Card Extensions on the 15454. “OUT” is used for Environmental Controls.

ENV-OUT-ALL—All Environmental Control Output contacts

Table 4-31 ENV for ONS 15454

Pattern	Description
ENV-IN-ALL	ENV-IN-{1-4} - Environmental aid for AIC/AICI Cards on the 15454. “IN” is used for Environmental Alarms.
ENV-IN-{1-20}	Environmental aid for AICI Card on the 15454. “IN” is used for Environmental Alarms.

Table 4-31 ENV for ONS 15454 (continued)

Pattern	Description
ENV-IN-{1-32}	Environmental aid for AIC/AICI Cards on the 15454. “IN” is used for Environmental Alarms.
ENV-IN-{1-4}	Environmental aid for AIC Card on the 15454. “IN” is used for Environmental Alarms.
ENV-OUT-ALL	Environmental aid for AIC/AICI Cards on the 15454. “OUT” is used for Environmental Controls.
ENV-OUT-{1-16}	Environmental aid for AICI Extensions on the 15454. “OUT” is used for Environmental Controls.
ENV-OUT-{1-4}	Environmental aid for AIC/AICI Cards on the 15454. “OUT” is used for Environmental Controls.

4.4.14.2 ENV for ONS 15327

The environmental components within the XTC card.

ENV-IN-{1-6}—Environmental aid on the 15327. “IN” is used for Environmental Alarms.

ENV-OUT-{1-2}—Environmental aid on the 15327. “OUT” is used for Environmental Controls.

Table 4-32 ENV for ONS 15327

Pattern	Description
ENV-{IN,OUT}-{1-6}	Environmental alarm AID. “IN” is used for environmental AID, “OUT” is used for control AID.
ENV-IN-{1-6}	Environmental AID for the 15327. “IN” is used for Environmental Alarms.
ENV-OUT-{1-2}	Environmental AID for 15327. “OUT” is used for Environmental Controls.

4.4.15 EQPT

4.4.15.1 EQPT for ONS 15454

Equipment AIDs are used to access specific cards. The OC48/OC192 cards can only use the high speed slots (Slot 5, Slot 6, Slot 12, Slot 13).

Table 4-33 EQPT for ONS 15454

Pattern	Description
AIP	The AID for the AIP. It is used for RTRV-INV output only.
ALL	The ALL AID is only used for the RTRV-INV input command. It reports all of the inventory information of the whole NE: AIP, BP, FAN and SLOT-ALL.
BP	The AID for the backplane. It is used for RTRV-INV output only.

Table 4-33 EQPT for ONS 15454 (continued)

Pattern	Description
FAN	The AID for the fan tray. It is used for RTRV-INV output only.
SLOT-ALL	All of the NE equipment AIDs
SLOT-{1-17}	Individual equipment AID of an NE
SLOT-{1-6,12-17}	Individual equipment AID of the I/O card units or slots

4.4.15.2 EQPT for ONS 15327

Equipment AIDs are used to access specific cards. The I/O cards can only use the I/O slots (Slots 1–4). Slots 5a nd 6 are reserved for the XTC cards and Slots 7 and 8 are reserved for MIC cards.

Table 4-34 EQPT for ONS 15327

Pattern	Description
SLOT-ALL	All of the NE equipment AIDs
SLOT-{1-8}	Individual equipment AID of an NE

4.4.16 FACILITY

4.4.16.1 FACILITY for ONS 15454

Facilities AIDs are used to access specific ports.

Table 4-35 FACILITY for ONS 15454

Pattern	Description
FAC-{1-4,14-17}-{1-8}	Facilities for an OC3-8 card
FAC-{1-6,12-17}-1	Facility AID for the 1 Client (CLNT) Port on a TXP card
FAC-{1-6,12-17}-ALL	All the facilities of an I/O unit or slot
FAC-{1-6,12-17}-{0-11}	Facilities for the Ethernet Front-end ports on the ML100T-12 card. Ports are numbered starting with 0 (i.e. first port is FAC-SLOT-0, second port is FAC-SLOT-1, ..., last port is FAC-SLOT-11 for ML100T-12 and first port is FAC-SLOT-0 and second port is FAC-SLOT-1 for ML1000-2)
FAC-{1-6,12-17}-{0-1}	Facilities for the Ethernet Backend Ports on the ML1000-2 card. Ports are 0-based, (i.e the first port is FAC-SLOT-0 and the second port is FAC-SLOT-1)
FAC-{1-6,12-17}-{1-12}	Facilities AID for the EC1 and DS3 cards
FAC-{1-6,12-17}-{1-14}	Facilities for the DS1 card
FAC-{1-6,12-17}-{1-4}	Facilities for the four-port OC3 card, four-port OC12 card, and G1000-4
FAC-{1-6,12-17}-{1-6}	Facilities for the DS3XM card

Table 4-35 FACILITY for ONS 15454 (continued)

Pattern	Description
FAC-{1-6,12-17}-{1}	Facility AID for the one-port OC12, and OC48AS cards
FAC-{5,6,12,13}-{1}	Facility AID for the OC48/OC192 card. The OC48/OC192 cards can only use the high speed slots (Slot 5, Slot 6, Slot 12, Slot 13).
FAC-{8,10}-{1}	Facility aid for the OSCM card. The OSCM cards can only use the XC slots (Slot-8, Slot-10)
VFAC-{1-6,12-17}-{0-1}	Facilities for the backend POS ports on the ML-series card. Port numbering is 0-based (i.e. the first POS port is VFAC-SLOT-0, the second POS port is VFAC-SLOT-1)

4.4.16.2 FACILITY for ONS 15327

Facilities AIDs are used to access specific ports.

Table 4-36 FACILITY for ONS 15327

Pattern	Description
FAC-{1-6}-ALL	All the facilities of an I/O unit or slot
FAC-{5-6}-{1-28}	Facilities AID for the DS1 on the XTC card
FAC-{5-6}-{1-3}	Facilities AID for the DS3 on the XTC card
FAC-{1-4}-{1}	Facilities AID for the OC12 and OC48 cards
FAC-{1-4}-{2}	Facilities aid for the G1000-2 card
FAC-{1-4}-{1-4}	Facilities AID for the OC3 card

4.4.17 LINE

(ONS 15454 only)

The LINE AID is used to access the Optical Transport Section (OTS) layer of optical network units.

Table 4-37 LINE Values

LINE Values	Description
LINE-{1-6,12-17}-{1-2}-ALL	All the Lines in a OPT-PRE, OCS-CSM, AD-1B, AD-4B, AD-1C, AD-2C, AD-4C units
LINE-{1-6,12-17}-{1-2}-{RX,TX}	The receive/transmit Lines in a OPT-PRE, OCS-CSM, AD-1B, AD-4B, AD-1C, AD-2C, AD-4C units
LINE-{1-6,12-17}-{1-3}-ALL	All the Lines in a OPT-BST units
LINE-{1-6,12-17}-{1-3}-{RX,TX}	The receive/transmit Lines in a OPT-BST units
LINE-{8,10}-{1}-ALL	All the Channels in an Optical Multiplexer/Demultiplexer (32Ch) units
LINE-{8,10}-{1}-{RX,TX}	The receive/transmit Channels in an Optical Multiplexer/Demultiplexer (32Ch) units

4.4.18 OSC

(ONS 15454 only)

OSC AIDs are used to access the OSC' of the NE

Table 4-38 OSC Values

OSC Values	Description
ALL	Indicates the whole OSCs of the NE
OSC-{1-9999}	Individual OSC of the NE

4.4.19 RFILE

4.4.19.1 RFILE for ONS 15454

(ONS 15454 only)

File transfer type

Table 4-39 RFILE for ONS 15454

Pattern	Description
RFILE-DB	Transferring the system database
RFILE-PKG	Transferring a software package

4.4.20 STS

4.4.20.1 STS for ONS 15454

SONET frame-level AID set

Table 4-40 STS for ONS 15454

Pattern	Description
FAC-{1-6,12-17}-{1-4}	Dynamically allocated STSs of all widths for the G1000-4 card
STS-{1-4,14-17}-{1-4}-1	STS12C AIDS for a 4-port OC12 card
STS-{1-4,14-17}-{1-4}-ALL	All the STSs for a 4-port OC12 card
STS-{1-4,14-17}-{1-4}-{1,4,7,10}	STS3C for a 4-port OC12 card
STS-{1-4,14-17}-{1-4}-{1,4,7}	STS6C AIDs for a 4-port OC12
STS-{1-4,14-17}-{1-4}-{1-3}	STS1 AID for a 4-port OC3 card
STS-{1-4,14-17}-{1-8}-1	STS3C for an 8-port OC3 card
STS-{1-4,14-17}-{1-8}-ALL	All the STSs for an 8-port OC3 card

Table 4-40 STS for ONS 15454 (continued)

Pattern	Description
STS-{1-4,14-17}-{1-8}-{1-3}	STS1 AID for an 8-port OC3 card
STS-{1-6,12-17}-1	STS1 AID for a DS1 card
STS-{1-6,12-17}-1-1	STS12C AID for a 1-port OC12 card STS48C AID for an OC48AS card
STS-{1-6,12-17}-1-ALL	All the STSs of an STS bandwidth on a single port optical card
STS-{1-6,12-17}-1-{1,13,25,37}	STS12C AIDs for an OC48AS card
STS-{1-6,12-17}-{1,4,10,13,16,19,25,28,37,40}	STS9C AID for an OC48AS card
STS-{1-6,12-17}-1-{1,4,7,10,13,16,19,22,25}	STS24C AID for an OC48AS card
STS-{1-6,12-17}-1-{1,4,7,10-46}	STS3C AID for an OC48AS card
STS-{1-6,12-17}-1-{1,4,7,10}	STS3C for a 1-port OC12 card
STS-{1-6,12-17}-1-{1,4,7,13,16,19,25,28,37,40, 43}	STS6C AID for an OC48AS card
STS-{1-6,12-17}-1-{1,4,7}	STS6C AID for an OC12 card
STS-{1-6,12-17}-1-{1,4}	STS9C AID for a 1-port OC12 card
STS-{1-6,12-17}-1-{1-12}	STS1 AID for a 1-port OC12 card
STS-{1-6,12-17}-1-{1-48}	STS1 AID for an OC48AS card
STS-{1-6,12-17}-ALL	All the STSs for an STS1 bandwidth on any electrical card
STS-{1-6,12-17}-{1-12}	STS1 AID for EC1 and DS2 cards
STS-{1-6,12-17}-{1-4}-1	STS3C AID for a 4-port OC3 card
STS-{1-6,12-17}-{1-4}-ALL	All the STSs for a 4-port OC3 card
STS-{1-6,12-17}-{1-4}-{1,4,7}	STS6C AID for a 4-port OC12 card
STS-{1-6,12-17}-{1-4}-{1,4}	STS9C AID for a 4-port OC12 card
STS-{1-6,12-17}-{1-4}-{1-12}	STS1 AID for a 4-port OC12 card
STS-{1-6,12-17}-{1-6}	STS1 AID for a DS3XM card
STS-{5,6,12,13}-1-1	STS48C AID for an OC48 card STS192 AID for an OC192 card
STS-{5,6,12,13}-1-{1,13,25,37-180}	STS12C AID for an OC192 card
STS-{5,6,12,13}-1-{1,13,25,37}	STS12C AIDs for an OC48 card
STS-{5,6,12,13}-1-{1,4,7,10,13,16,19,22,25}	STS24C AID for an OC48 card
STS-{5,6,12,13}-1-{1,4,7,10-190}	STS3C for an OC192 card
STS-{5,6,12,13}-1-{1,4,7,10-46}	STS3C AID for an OC48 card
STS-{5,6,12,13}-1-{1,4,7,13,16,19,25,28,37,40, 43}	STS6C AID for an OC48 card
STS-{5,6,12,13}-1-{1,49,97,145}	STS48C AID for an OC192 card
STS-{5,6,12,13}-1-{1-192}	STS1 AID for an OC192 card

Table 4-40 STS for ONS 15454 (continued)

Pattern	Description
STS-{5,6,12,13}-1-{1-48}	STS1 AID for an OC48 card
VFAC-{1-6,12-17}-{0-1}	Virtual facility AIDs for the ML-series cards back end POS ports. Both the ML1000-2 and ML100T-12 have two POS ports and are 0-based.

4.4.20.2 STS for ONS 15327

SONET frame-level AID set

Table 4-41 STS for ONS 15327

Pattern	Description
FAC-{1-4}-{1-2}	Dynamically allocated STSs of all widths for the G1000-2 card
STS-{1-4}-1--ALL	All the STSs of an STS bandwidth on an optical card
STS-{1-4}-{1}	STS48C AID for an OC48 card STS12C for an OC12 card
STS-{1-4}-1-{1,13,25,37}	STS12C AID for an OC48 card
STS-{1-4}-1-{1,7,13,19,...43}	STS6C AID for an OC48 card
STS-{1-4}-1-{1,7}	STS6C AID for an OC12 card
STS-{1-4}-1-{1,4,7,10,...,46}	STS3C AID for an OC48 card
STS-{1-4}-1-{1,4,7,10}	STS3C AID for an OC3 and OC12 card
STS-{1-4}-1-{1-12}	STS1 AID for an OC3 and OC12 card
STS-{1-4}-1-{1-48}	STS1 AID for an OC48 card
STS-{5-6}-ALL	All the STSs of an STS bandwidth on an XTC card
STS-{5-6}-{1}	STS1 AID for the DS1 in an XTC card
STS-{5-6}-{2-4}	STS1 AID for the DS3 in an XTC-28 card
VFAC-{1-4}-{1-2}	Dynamically allocated STSs of all widths for the back end ports of M3000-1 and M300T-8 cards.

4.4.21 SYN

4.4.21.1 SYN for ONS 15454

Synchronization AIDs

Table 4-42 SYN for ONS 15454

Pattern	Description
SYNC-NE	NE sync AID

4.4.21.2 SYN for ONS 15327

Synchronization AIDs

Table 4-43 SYN for ONS 15327

Pattern	Description
SYNC-NE	NE sync AID

4.4.22 SYN_SRC

4.4.22.1 SYN_SRC for ONS 15454

Synchronization source

Table 4-44 SYN_SRC for ONS 15454

Pattern	Description
BITS-1	Sync source is BITS-1
BITS-2	Sync source is BITS-2
FAC-{1-6,12-17}-{1-4}	Sync source is the optical card (four-port OC3 and four-port OC12) facility
FAC-{1-6,12-17}-{1}	Sync source is the optical card (one-port OC12 and OC48AS) facility
FAC-{5,6,12,13}-{1}	Sync source is the optical card (OC48,OC192) facility
INTERNAL	Set the SYN_SRC to be the system default value. The “Internal” value of the SYN_SRC is only applied for the SYNC-NE AID on the ED-SYNCN command.
NONE	Set the SYNC_SRC value to the default value for BITS-OUT. The “NONE” value of SYNC_SRC only applies to the BITS-1 and BITS-2 AID of the ED-SYNCN command.
SYNC-NE	SYNC-NE source. It is only used for BITS-OUT in line timing mode.

4.4.22.2 SYN_SRC for ONS 15327

Synchronization source

Table 4-45 SYN_SRC for ONS 15327

Pattern	Description
FAC-{1-4}-{1-4}	Sync source is the optical card (OC3) facility
FAC-{1-4}-{1}	Sync source is the optical card (OC12, OC48) facility
INTERNAL	Set the SYN_SRC to be the system default value. The “Internal” value of the SYN_SRC is only applied for the SYNC-NE AID on the ED-SYNCN command.

Table 4-45 SYN_SRC for ONS 15327 (continued)

Pattern	Description
SYNC-NE	SYNC-NE source. It is only used in the alarm report or alarm retrieve commands.
{BITS-1,BITS-2}	BITS-1 or BITS-2 of the synchronization source

4.4.23 SYNC_REF

4.4.23.1 SYNC_REF for ONS 15454

Synchronization AIDs

Table 4-46 SYNC_REF for ONS 15454

Pattern	Description
ALL	Equivalent to a combination of SYNC-ALL, BITS-1 and BITS-2. This AID is valid only for the commands RTRV-ALM-SYNCN and RTRV-COND-SYNCN
SYNC-ALL	NE, BITS1 and BITS2 sync AIDs used for the RTRV-SYNCN command only
SYNC-NE	NE sync AID
SYNC-{BITS1,BITS2}	BITS1 and BITS2 sync AIDs

4.4.23.2 SYNC_REF for ONS 15327

Synchronization AIDs

Table 4-47 SYNC_REF for ONS 15327

Pattern	Description
SYNC-ALL	NE, BITS1 and BITS2 sync AIDs used for the RTRV-SYNCN command only
SYNC-NE	NE sync AID
SYNC-{BITS1,BITS2}	BITS1 and BITS2 sync AIDs

4.4.24 SYNCSW

4.4.24.1 SYNCSW for ONS 15454

New synchronization reference that will be used

Table 4-48 SYNCSW for ONS 15454

Pattern	Description
INT	Internal clock. The "INT" value of the syncsw is only applied for the SYNC-NE AID on the OPR-SYNCSW command.
PRI	Primary timing reference
SEC	Secondary timing reference
THIRD	Third timing reference

4.4.24.2 SYNCSW for ONS 15327

New synchronization reference that will be used

Table 4-49 SYNCSW for ONS 15327

Pattern	Description
INT	Internal clock. The "INT" value of the syncsw is only applied for the SYNC-NE AID on the OPR-SYNC-SW command.
PRI	Primary timing reference
SEC	Secondary timing reference
THIRD	Third timing reference

4.4.25 TACC

(ONS 15454 only)

Test access AID which indicates the TAP number

Table 4-50 TACC for ONS 15454

Pattern	Description
{0, 1-999}	Indicates individual TAP number of the NE. The zero (0) TAP number is used in the [<TACC>] field of the ED-rr test access related commands. When [<TACC>] is zero (0), the TAP is deleted.

4.4.26 TAP

(ONS 15327 only)

Test access AID which indicates the TAP number

Table 4-51 TACC for ONS 15327

Pattern	Description
{0, 1-999}	Indicates individual TAP number of the NE. The zero (0) TAP number is used in the [<TACC>] field of the ED-rr test access related commands. When [<TACC>] is zero (0), the TAP is deleted.

4.4.27 UDC

(ONS 15454 only)

UDC AIDs for F-UDC and DCC-UDC channels on the AICI card

Table 4-52 UDC for ONS 15454

Pattern	Description
UDC-{F,DCC}-{A,B}	F-UDC and DCC-UDC AIDs for A and B channels

4.4.28 VT1_5

4.4.28.1 VT1_5 for ONS 15454

Virtual termination AIDs

Table 4-53 VT1_5 for ONS 15454

Pattern	Description
VT1-{1-4,14-17}-{1-8}-{1-3}-{1-7}-{1-4}	8-port OC3 card
VT1-{1-6,12-17}-1-{1-12}-{1-7}-{1-4}	1-port OC12 card
VT1-{1-6,12-17}-1-{1-48}-{1-7}-{1-4}	OC48AS card
VT1-{1-6,12-17}-1-{1-7}-{1-2}	DS1 card
VT1-{1-6,12-17}-{1-12}-1-{1-7}-{1-4}	EC1 card
VT1-{1-6,12-17}-{1-4}-{1-12}-{1-7}-{1-4}	4-port OC12 card
VT1-{1-6,12-17}-{1-4}-{1-3}-{1-7}-{1-4}	4-port OC3 card
VT1-{1-6,12-17}-{1-6}-{1-7}-{1-4}	DS3XM card
VT1-{5,6,12,13}-1-{1-192}-{1-7}-{1-4}	OC192 Card
VT1-{5,6,12,13}-1-{1-48}-{1-7}-{1-4}	OC48 card

4.4.28.2 VT1_5 for ONS 15327

Virtual termination AIDs

Table 4-54 VT1_5 for ONS 15327

Pattern	Description
ALL	All the VT cross-connections of the NE. This <ALL> AID is only used for the RTRV-CRS-VT1 command.
VT1-{5-6}-1-{1-7}-{1-2}	XTC-14 card VT aid set
VT1-{5-6}-1-{1-7}-{1-4	XTC-28 card VT aid set
VT1-{1-4}-1-{1-12}-{1-7}-{1-4}	OC3 and OC12 card VT AID set
VT1-{1-4}-1-{1-48}-{1-7}-{1-4}	OC48 card Vt aid set

4.5 Parameter Types

This section provides a description of all message parameter types defined for the TL1 messages used in the ONS 15454 and ONS 15327. The TL1 message descriptions frequently refer to this section.

4.5.1 ATAG Description

The ATAG is used for message sequencing. There are three streams of autonomous messages and each stream corresponds to a sequence. The sequence numbers increment by one for each autonomous message within that stream. The format of ATAG differs for each stream. The three streams are:

1. Alarmed events:

   These include REPT ALM and REPT EVT messages as well as the REPT SW autonomous message.

   ATAG Format: x.y
   where
   x – sequence number of this alarmed event. This is an integer in the range of 0–9999.
   y – sequence number of the previous alarmed event which is related to this alarmed event. This is an integer in the range of 0-9999.

   If there is no such previous related event, then y will be the same as x. For example, the first time an alarm is raised you will receive the autonomous message:

   TID-000 1998-06-20 14:30:00
   * 1346.1346 REPT ALM T1
   "FAC-1-1:MN,LOS,NSA,,,,:\"Loss Of Signal\",DS1-14"
   ;

   When this alarmed event/condition is cleared, you will receive the autonomous message:

   TID-000 1998-06-20 14:31:00
   A 1349.1346 REPT ALM T1
   "FAC-1-1:CL,LOS,NSA,,,,:\"Loss Of Signal\",DS1-14"
   ;

Note The autonomous message CANC also has an ATAG in this format even though it is not an alarmed event.

2. Database change messages:

   The REPT DBCHG message falls into this category.

   ATAG Format: x
   where:
   x – sequence number of the database change update message. This is an integer in the range of 0–9999. For example:

   TID-000 1998-06-20 14:30:00
   A 96 REPT DBCHG
   "TIME=18-01-05,DATE=1970-01-01,SOURCE=2,USERID=CISCO15,
   DBCHGSEQ=96:ENT-EQPT:SLOT-3"
   ;

Note The ATAG is the same as the DBCHGSEQ field in the REPT DBCHG output.

3. PM Reports:

   The REPT PM messages fall into this category.

   ATAG format: x
   where:
   x – sequence number of the PM report. This is an integer in the range of 0–9999. For example:

   TID-000 1998-06-20 14:30:00
   A5 REPT PM DS1
   "FAC-3-1:CVL,10,PRTL,NEND,BTH,15-MIN,05-25,14-46"
   ;

   This sequence number is global across all existing PM schedules.

4.5.2 CTAG Description

The correlation tag (CTAG) is included in each command by the user and is repeated by the NE in the response to allow the user to associate the command and response messages.

Note The valid values for a CTAG are strings of up to 6 characters comprised of identifiers (alphanumeric, beginning with a letter) or decimal numerals (a string of decimal digits with an optional non-trailing ".").

4.5.3 TID Description

The TID is the name of the NE where the command is addressed. TID is the Telcordia name for the system.

4.5.4 Parameter Notes

1. If a parameter is set to a value that is inconsistent with something already in the database, and that value is not changed to a consistent value then the command will be denied.
2. If a parameter is set to a value that is consistent with what is already in the database, but another parameter in the same command is incompatible, then the command will be denied.
3. The correct way to issue a command where parameters may be in conflict is to:
   a. First issue that command and change all relevant parameters to compatible values,
   b. Then issue the command again to change the target values.

   For example, OC-N is syncmsg=y, to change SDH to y, ED-OCN needs to be called to set syncmsg=N, then called again to set SDH=y.
4. The attribute defaults have also been presented under RTRV commands, and they can be retrieved only if the RTRV commands follow the card/entity original provision.
5. The default for an optional field of an ED command is either the provisioned default value or the last provisioned value in the previous ED command.

4.5.5 ALL_MONTYPE

Monitoring type list

Table 4-55 ALL_MONTYPE Values

ALL_MONTYPE Values	Description
AISSP	Alarm Indication Signal Seconds - Path
BBE-PM	OTN - Background Block Errors - Path Monitor Point
BBE-SM	OTN - Background Block Errors - Section Monitor Point
BBER-PM	OTN - Background Block Error Ratio - Path Monitor Point expressed as 1/10th of a percentage.
BBER-SM	OTN - Background Block Error Ratio - Section Monitor Point expressed as 1/10th of a percentage.
BIEC	FEC - Bit Errors Corrected
CGV	8B10B - Code Group Violations
CVCPP	Coding Violations - CP-Bit Path
CVL	Coding Violations - Line
CVP	Coding Violations - Path
CVS	Coding Violations - Section
CVV	Coding Violations - Section
ES-PM	OTN - Errored Seconds - Path Monitor Point
ES-SM	OTN - Errored Seconds - Section Monitor Point
ESCPP	Errored Seconds - CP- Bit Path
ESL	Errored Seconds - Line

Table 4-55 ALL_MONTYPE Values (continued)

ALL_MONTYPE Values	Description
ESP	Errored Seconds - Path
ESR	Errored Second - Ratio
ESR-PM	Errored Seconds Ratio - Path monitor Point expressed as 1/10th of a percentage
ESR-SM	Errored Seconds Ratio - Section monitor Point expressed as 1/10th of a percentage
ESS	Errored Seconds - Section
ESV	Errored Seconds - VT Path
FC-PM	OTN - Failure Count - Path Monitor Point
FC-SM	OTN - Failure Count - Section Monitor Point
FCP	Failure Count - Line
LAT-AVG	Average Laser Temperature current in 1/256 degrees Celsius
LAT-HIGH	Laser Temperature in 1/256 degrees Celsius Measured range [-40.000 C, 125.000 C]
LAT-LOW	Laser Temperature in 1/256 degrees Celsius Measured range [-40.000 C, 125.000 C]
LAT-MAX	Maximum Laser Temperature in 1/256 degrees Celsius Measured range [-40.000 C, 125.000 C]
LAT-MIN	Minimum Laser Temperature in 1/256 degrees Celsius Measured range [-40.000 C, 125.000 C]
LBCL-AVG	Average Laser Bias current in uA
LBCL-HIGH	High Laser Bias current in uA
LBCL-LOW	Low Laser Bias current in uA
LBCL-MAX	Max Laser Bias current in uA
LBCL-MIN	Minimum Laser Bias current in uA
LOSSL	Loss of Signal Seconds - Line
NPJC-PDET	PPJC-PDET:Negative Pointer Justification
NPJC-PGEN	PPJC-PGEN:Negative Pointer Justification
OBED	FEC - One Bit Errors Detected
OPR-AVG	Average Receive Power in 1/10 uW
OPR-HIGH	Receive power in 1/10 uW Measured value [-40.0 dBm,+30.0 dBm]
OPR-LOW	Receive power in 1/10 uW Measured value [-40.0 dBm,+30.0 dBm]
OPR-MAX	Maximum Receive Power in 1/10 uW
OPR-MIN	Minimum Receive Power in 1/10 uW
OPT-AVG	Average Transmit Power in 1/10 uW
OPT-HIGH	Transmit power in 1/10 uW. Measured value [-40.0 dBm,+30.0 dBm]
OPT-LOW	Transmit power in 1/10 uW. Measured value[-40.0 dBm,+30.0 dBm]
OPT-MAX	Maximum Transmit Power in 1/10 uW

Table 4-55 ALL_MONTYPE Values (continued)

ALL_MONTYPE Values	Description
OPT-MIN	Minimum Transmit Power in 1/10uW
OPWR-AVG	Optical Power - Average Interval Value in 1/10th of dBm
OPWR-MAX	Optical Power - Maximum Interval Value in 1/10th of dBm
OPWR-MIN	Optical Power - Minimum Interval Value in 1/10th of dBm
PPJC-PDET	PPJC-PDET:Positive Pointer Justification
PPJC-PGEN	PPJC-PGEN:Positive Pointer Justification
PSC	Protection Switching Count
PSC-R	Protection Switching Count - Ring
PSC-S	Protection Switching Count - Span
PSC-W	Protection Switching Count - Working
PSD	Protection Switching Duration
PSD-R	Protection Switching Duration - Ring
PSD-S	Protection Switching Duration - Span
PSD-W	Protection Switching Duration - Working
RXT-AVG	Average Receiver Temperature
RXT-HIGH	High Alarm Threshold level for Receiver Temperature
RXT-LOW	Low Alarm Threshold level for Receiver Temperature Measured range [-40.000 C,125.000 C]
RXT-MAX	Receiver Temperature Max PM value Measured range [-40.000 C, 125.000 C]
RXT-MIN	Receiver Temperature Min PM value Measured range [-40.000 C, 125.000 C]
SASCPP	Severely Errored Framing/AIS Second - CP-Bit Path
SASP	Severely Errored Framing/AIS Seconds Path
SEFS	Severely Errored Framing Seconds
SES-PM	OTN - Severely Errored Second - Path
SES-SM	OTN - Severely Errored Second - Section Monitor Point
SESCPP	Severely Errored Second - CP-Bit Path
SESL	Severely Errored Second - Line
SESP	Severely Errored Second - Path
SESR-PM	OTN - Severely Errored Second Ratio - Path Monitor Point expressed as 1/10th of a percentage
SESR-SM	OTN - Severely Errored Second Ratio - Section Monitor Point expressed as 1/10th of a percentage
SESS	Severely Errored Second - Section
SESV	Severely Errored Second - VT Path
UAS-PM	OTN - Unavailable Second - Path Monitor Point
UAS-SM	OTN - Unavailable Second - Section Monitor Point

Table 4-55 ALL_MONTYPE Values (continued)

ALL_MONTYPE Values	Description
UASCPP	Unavailable Second - CP-Bit Path
UASL	Unavailable Second - Line
UASP	Unavailable Second - Path
UASV	Unavailable Second - VT Path
UCW	FEC - Uncorrectable Words
ZBED	FEC - Zero Bit Errors Detected

4.5.6 ALL_THR

Threshold list

Table 4-56 ALL_THR Value

ALL_THR Values	Description
T-AISSP	Alarm Indication Signal Seconds - Path
T-BBE-PM	OTN TCA. Background Block Errors - Path Monitor Point
T-BBE-SM	OTN TCA. Background Block Errors - Section Monitor Point
T-BBEHP	Background Block Errors - High Order Path
T-BBEL	Background Block Errors - Line
T-BBELP	Background Block Errors - Low Order Path (VC3/VC12)
T-BBEM	Background Block Errors- Multiplex Section
T-BBEP	Background Block Errors - High Order Path
T-BBEPR	Background Block Errors
T-BBER	Background Block Errors - Regenerator Section
T-BBER-PM	Background Block Errors - Path Level OTN
T-BBER-SM	Background Block Errors - Section Level OTN
T-BBER-TCM1	Background Block Errors - Tandem1 Level OTN
T-BBER-TCM2	Background Block Errors - Tandem2 Level OTN
T-BBERS	Background Block Errors - Regenerator Section
T-BBESR	Background Block Errors
T-BBEV	Background Block Errors
T-BIEC	FEC TCA. Bit Errors Corrected
T-BYEC	FEC TCA. Byte Errors Corrected
T-CSS	Controlled Slipped Seconds
T-CVCPP	Coding Violations - CP-Bit Path
T-CVL	Coding Violations - Line
T-CVP	Coding Violations - Path
T-CVS	Coding Violations - Section
T-CVV	Coding Violations - VT Path
T-EBHP	EB - High Order Path
T-EBLP	EB Low Order Path VC3/VC12
T-EBMS	EB Multiplex Section
T-EBP	EB Line Path
T-EBRS	EB Regenerator Section
T-ES-PM	OTN TCA. Errored Seconds - Path Monitor Point
T-ES-SM	OTN TCA. Errored Seconds - Section Monitor Point
T-ESCPP	Errored Seconds - CP-Bit Path

Table 4-56 ALL_THR Value (continued)

ALL_THR Values	Description
T-ESHP	ED High Order Path VC4/VC4-nc
T-ESL	Errored Seconds - Line
T-ESLP	ES Low Order PAth VC3/VC12
T-ESMS	ES Multiplex Section
T-ESP	Errored Seconds - Path
T-ESR	ES - Regenerator Section
T-ESR-PM	ES - Regenerator Section - Path Level OTN
T-ESR-SM	ES - Regenerator Section - Section Level OTN
T-ESR-TCM1	ES - Regenerator Section - Tandem1 Level OTN
T-ESR-TCM2	ES - Regenerator Section - Tandem2 Level OTN
T-ESRS	ES Regenerator Section
T-ESS	Errored Seconds - Section
T-ESV	Errored Seconds - VT Path
T-FC-PM	OTN TCA. Failure Count - Path Monitor Point
T-FC-SM	OTN TCA. Failure Count - Section Monitor Point
T-FCHP	FC High Order Path
T-FCLP	FC Low Order Path
T-FCMS	FC Multiplex Section
T-FCP	Failure Count - Line
T-HOPWR	Optical Power - High Threshold crossed in 1/10th of dBm
T-LAT-HWT	Laser Level TCA. Laser Temperature in 1/256 degrees Celsius. Low/High Warning Threshold
T-LAT-LWT	Laser Level TCA. Laser Temperature in 1/256 degrees Celsius. Low/High Warning Threshold
T-LBCL-HWT	Laser Level TCA. Laser Bias current in uA. Low/High Warning Threshold
T-LBCL-LWT	Laser Level TCA. Laser Bias current in uA. Low/High Warning Threshold
T-LOPWR	Optical Power - Low Threshold crossed in 1/10th of dBm
T-LOSSL	Loss of Signal Seconds - Line
T-OBED	FEC TCA. One Bit Errors Detected
T-OPR-HWT	Laser Level TCA. Receive power in 1/10 uW. Low/High Warning Threshold
T-OPR-LWT	Laser Level TCA. Receive power in 1/10 uW. Low/High Warning Threshold
T-OPT-HWT	Laser Level TCA. Transmit power in 1/10 uW. Low/High Warning Threshold
T-OPT-LWT	Laser Level TCA. Transmit power in 1/10 uW. Low/High Warning Threshold
T-PJ-DET	Pointer Justification Detected
T-PJ-DIFF	Pointer Justification Diff
T-PJ-GEN	Pointer Justification Generated
T-PJNEG	PPJC-PDET:Negative Pointer Justification

Table 4-56 ALL_THR Value (continued)

ALL_THR Values	Description
T-PJNEG-GEN	PPJC-PGEN:Negative Pointer Justification
T-PJPOS	PPJC-PDET:Positive Pointer Justification
T-PJPOS-GEN	PPJC-PGEN:Positive Pointer Justification
T-PSC	Protection Switching Count
T-PSC-R	Protection Switching Count
T-PSC-S	Protection Switching Count
T-PSC-W	Protection Switching Count
T-PSD	Protection Switching Duration
T-PSD-R	Protection Switching Duration
T-PSD-S	Protection Switching Duration
T-PSD-W	Protection Switching Duration
T-RX-TEMP-MAX	Receiver Temperature Max TCA (applicable to MXP/TXP cards)
T-RXT-HWT	Receiver Temperature High Warning TCA
T-RXT-LWT	Receiver Temperature Low Warning TCA
T-SASCPP	Severely Errored Framing/AIS Second - CP-Bit Path
T-SASP	Severely Errored Framing/AIS Seconds
T-SEFS	Severely Errored Framing Seconds
T-SEFSRS	SEFRS
T-SES-PM	OTN TCA. Severely Errored Second - Path Monitor Point
T-SES-SM	OTN TCA. Severely Errored Second - Section Monitor Point
T-SESCPP	Severely Errored Second - CP-Bit Path
T-SESHP	SES High Order Path
T-SESL	Severely Errored Second - Line
T-SESLP	SES Low Order Path
T-SESMS	SES Multiplex Section
T-SESP	Severely Errored Second - Path
T-SESR-PM	SESR - Path Level OTN
T-SESR-SM	SESR - Section Level OTN
T-SESR-TCM1	SESR - Tandem1 Level OTN
T-SESR-TCM2	SESR - Tandem2 Level OTN
T-SESRS	SES Regeneration Section
T-SESS	Severely Errored Second - Section
T-SESV	Severely Errored Second - VT Path
T-UAS-PM	OTN TCA. Unavailable Second - Path Monitor Point
T-UAS-SM	OTN TCA. Unavailable Second - Path Monitor Point
T-UASCPP	Unavailable Second - CP-Bit Path

Table 4-56 ALL_THR Value (continued)

ALL_THR Values	Description
T-UASHP	UA High Order Path
T-UASL	Unavailable Second - Line
T-UASLP	UA Low Order Path
T-UASMS	UA Multiplex Section
T-UASP	Unavailable Second - Path
T-UASV	Unavailable Second - VT Path
T-UCW	FEC TCA. UnCorrectable Words
T-ZBED	FEC TCA. Zero Bit Errors Detected

4.5.7 ALM_THR

Alarm Threshold list for MXP/TXP cards.

Table 4-57 ALM_THR Values

ALS_THR Values	Description
LAT-HIGH	Laser Temperature in 1/256 degrees Celsius Measured range [-40.000 C, 125.000 C]
LAT-LOW	Laser Temperature in 1/256 degrees Celsius Measured range [-40.000 C, 125.000 C]
LBCL-HIGH	Laser Bias current in uA as 1/10% High Warning Threshold, Low Warning Threshold Measured value [0.0%, 100.0%]
LBCL-LOW	Laser Bias current in uA as 1/10% High Warning Threshold, Low Warning Threshold Measured value [0.0%, 100.0%]
OPR-HIGH	Receive power in 1/10 uW Measured value [-40.0 dBm,+30.0 dBm]
OPR-LOW	Receive power in 1/10 uW Measured value [-40.0 dBm,+30.0 dBm
OPT-HIGH	Transmit power in 1/10 uW. Measured value [-40.0 dBm,+30.0 dBm]
OPT-LOW	Transmit power in 1/10 uW. Measured value [-40.0 dBm,+30.0 dBm]
RXT-HIGH	Receiver Temperature High Alarm Threshold Measured range [-40.000 C, 125.000 C]
RXT-LOW	Receiver Temperature Low Alarm Threshold Measured range [-40.000 C, 125.000 C]
T-GAIN-HDEG	Gain not reached - High Degrade Threshold. It is in 1/10th of dB
T-GAIN-HFAIL	Gain not reached - Low Failure Threshold. It is in 1/10th of dB
T-GAIN-LDEG	Gain not reached - Low Degrade Threshold. It is in 1/10th of dB
T-GAIN-LFAIL	Gain not reached - Low Failure Threshold. It is in 1/10th of dB
T-OPWR-HDEG	Optical Power - High Degrade Threshold. It is in 1/10th of dBm
T-OPWR-HFAIL	Optical Power - High Failure Threshold. It is in 1/10th of dBm
T-OPWR-LDEG	Optical Power - Low Degrade Threshold. It is in 1/10th of dBm

Table 4-57 ALM_THR Values (continued)

ALS_THR Values	Description
T-OPWR-LFAIL	Optical Power - Low Failure Threshold. It is in 1/10th of dBm
T-VOA-HDEG	VOA Attenuation - High Degrade Threshold. It is in 1/10th of dB
T-VOA-HFAIL	VOA Attenuation - High Failure Threshold. It is in 1/10th of dB
T-VOA-LDEG	VOA Attenuation - Low Degrade Threshold. It is in 1/10th of dB
T-VOA-LFAIL	VOA Attenuation - Low Failure Threshold. It is in 1/10th of dB
XCVR-HIGH	Transceiver voltage in 1/10 mV Measure value [0.0 mV, 10000.0 mV]
XCVR-LOW	Transceiver voltage in 1/10 mV Measure value [0.0 mV, 10000.0 mV]

4.5.8 ALS_CFG

Specifies the type of check for ALS detection mode

Table 4-58 ALS_CFG Values

ALS_CFG Values	Description
ALL	The ALS is applied checking all the received signals (Line + OSC)
OSC	The ALS is applied checking only the received OSC signal
RX	The ALS is applied checking only the received Line signal

4.5.9 ALS_MODE

This type specifies the working mode for the Automatic Laser Shutdown (ALS) functionality.

Table 4-59 ALS_MODE Values

ALS_MODE Values	Description
AUTO	Automatic
DISABLED	Disabled
MAN	Manual
MAN-RESTART	Manual Restart for Test

4.5.10 ALS_RESTART

Automatic Laser Shutdown for the G1000 card

Table 4-60 ALS_RESTART Values

ALS_RESTART Values	Description
AUTO_RESTART	Automatic Laser Shutdown Automatic Restart

Table 4-60 ALS_RESTART Values

ALS_RESTART Values	Description
MAN_RESTART	Automatic Laser Shutdown Manual Restart
MAN_TEST_RESTART	Automatic Laser Shutdown Restart Test

4.5.11 AMPL_MODE

Defines the Amplifier control mode

Table 4-61 AMPL_MODE Values

AMPL_MODE Values	Description
GAIN	The Amplifier always maintains a fixed Gain
POWER	The Amplifier maintains the Output Power to a fixed value

4.5.12 AWG_STATUS

AWG status list

Table 4-62 AWG_STATUS Values

AWG_STATUS Values	Description
ON	The AWG is on
WARM-UP	The AWG is warming up

4.5.13 BITS_LineBuildOut

BITS Line buildout

Table 4-63 BITS_LineBuildOut Values

BITS_LineBuildOut Values	Description
0–133	BITS line buildout range is 0–133
134–266	BITS line buildout range is 134–266
267–399	BITS line buildout range is 267–399
400–533	BITS line buildout range is 400–533
534–655	BITS line buildout range is 534–655

4.5.14 BLSR_MODE

BLSR mode

Table 4-64 BLSR_MODE Values

BLSR_MODE Values	Description
2F	Two fiber BLSR
4F	Four fiber BLSR

4.5.15 BLSR_PTH_STATE

Indicates the BLSR path state only if the port is on the BLSR

Table 4-65 BLSR_PTH_STATE Values

BLSR_PTH_STATE Values	Description
PCAPTHACT	Indicates the BLSR ring un-switched and its PCA path is in the active state
PCAPTHSTB	Indicates the BLSR ring switched and its PCA path is in the standby state
PROTPTHACT	Indicates the BLSR ring switched and its protection path is in the active state
WKGPTHACT	Indicates the BLSR ring un-switched and its working path is in the active state
WKGPTHSTB	Indicates the BLSR ring switched and its working path is in the standby state

4.5.16 BLSR_PTH_TYPE

Indicates the BLSR path TYPE only if the port is on the BLSR

Table 4-66 BLSR_PTH_TYPE Values

BLSR_PTH_TYPE Values	Description
NON-PCA	Indicates the AID is on the working path, or the XC created protection path
PCA	Indicates the AID is on the BLSR PCA path

4.5.17 BLSR_TYPE

BLSR type of an OCN port

Table 4-67 BLSR_TYPE Values

BLSR_TYPE Values	Description
EASTPROT	Identifies that the OCN port is an east protecting port
EASTWORK	Identifies that the OCN port is an east working port
WESTPROT	Identifies that the OCN port is a west protecting port
WESTWORK	Identifies that the OCN port is a west working port

4.5.18 C2_BYTE

Indicates C2 byte Hex Code

Table 4-68 C2_BTYE Values

C2_BYTE Values	Description
0X00	Unequipped
0X01	Equipped-Non Specific payload
0X02	VT-Structured STS-1 SPE
0X03	Locked VT Mode
0X04	Asynchronous Mapping for DS3
0X12	Asynchronous Mapping for DS4NA
0X13	Mapping for ATM
0X14	Mapping for DQDB
0X15	Asynchronous Mapping for FDDI
0X16	HDLC-Over-SONET Mapping
0XE1	VT-structured STS-1 SPE with 1VTx payload defect
0XE2	VT-structured STS-1 SPE with 2VTx payload defects
0XE3	VT-structured STS-1 SPE with 3VTx payload defects
0XE4	VT-structured STS-1 SPE with 4VTx payload defects
0XE5	VT-structured STS-1 SPE with 5VTx payload defects
0XE6	VT-structured STS-1 SPE with 6VTx payload defects
0XE7	VT-structured STS-1 SPE with 7VTx payload defects
0XE8	VT-structured STS-1 SPE with 8VTx payload defects
0XE9	VT-structured STS-1 SPE with 9VTx payload defects
0XEA	VT-structured STS-1 SPE with 10VTx payload defects
0XEB	VT-structured STS-1 SPE with 11VTx payload defects
0XEC	VT-structured STS-1 SPE with 12VTx payload defects
0XED	VT-structured STS-1 SPE with 13VTx payload defects
0XEE	VT-structured STS-1 SPE with 14VTx payload defects
0XEF	VT-structured STS-1 SPE with 15VTx payload defects
0XF0	VT-structured STS-1 SPE with 16VTx payload defects
0XF1	VT-structured STS-1 SPE with 17VTx payload defects
0XF2	VT-structured STS-1 SPE with 18VTx payload defects
0XF3	VT-structured STS-1 SPE with 19VTx payload defects
0XF4	VT-structured STS-1 SPE with 20VTx payload defects
0XF5	VT-structured STS-1 SPE with 21VTx payload defects
0XF6	VT-structured STS-1 SPE with 22VTx payload defects
0XF7	VT-structured STS-1 SPE with 23VTx payload defects

Table 4-68 C2_BTYE Values (continued)

C2_BYTE Values	Description
0XF8	VT-structured STS-1 SPE with 24VTx payload defects
0XF9	VT-structured STS-1 SPE with 25VTx payload defects
0XFA	VT-structured STS-1 SPE with 26VTx payload defects
0XFB	VT-structured STS-1 SPE with 27VTx payload defects
0XFC	VT-structured STS-1 SPE with 28VTx payload defects
0XFE	O.181 Test Signal (TSS1 to TSS3) Mapping
0XFF	Reserved, however, C2 is 0XFF if AIS-L is being generated by an optical card or cross-connect downstream

4.5.19 CCT

Defines the type of cross-connect to be created

Table 4-69 CCT Values

CCT Values	Description
1WAY	A unidirectional connection from a source tributary to a destination tributary
1WAYDC	UPSR mcast drop with (1-way) continue
1WAYEN	UPSR mcast end node (1-way continue)
1WAYMON	A bidirectional connection between the two tributaries **Note** Starting with ONS 15454 R3.0 and ONS 15327 R3.3, 1WAYMON is not supported with TL1. However, it is still supported from CTC. Using CTC you can create 1WAYMON cross-connects and can be retrieved via TL1.
1WAYPCA	A unidirectional connection from a source tributary to a destination tributary on the protection path/fiber
2WAY	A bidirectional connection between the two tributaries
2WAYDC	A Bidirectional Drop and Continue connection applicable only to UPSR Traditional and Integrated Dual Ring InterConnections
2WAYPCA	A bidirectional connection between the two tributaries on the extra protection path/fiber

4.5.20 CIRCUIT_SIZE

The DWDM circuit size used on a wavelength.

Table 4-70 CIRCUIT_SIZE Values

CIRCUIT_SIZE Values	Description
10G_FEC	The circuit size is 10 Gbit/sec with FEC
10G_NO_FEC	The circuit size is 10 Gbit/sec without FEC

Table 4-70 CIRCUIT_SIZE Values (continued)

CIRCUIT_SIZE Values	Description
2G5_FEC	The circuit size is 2.5 Gbit/sec with FEC
2G5_NO_FEC	The circuit size is 2.5 Gbit/sec without FEC
MULTI_RATE	The circuit size support multi rate
NOT_SPEC	The circuit size is Equipment not specific

4.5.21 CMD_MODE

Command mode is used to force the system to execute a given command regardless of any standing conditions. Normal mode is the default behavior for all commands but the user may specify FRCD to force the system to override a state in which the command would normally be denied.

Table 4-71 CMD_MODE Values

CMD_MODE Values	Description
FRCD	Force the system to override a state in which the command would normally be denied
NORM	Execute the command normally. Do not override any conditions that may make the command fail.

4.5.22 COMM_TYPE

The out of band communications channel termination type

Table 4-72 COMM_TYPE Values

COMM_TYPE Values	Description
DCC	Section DCC type
GCC	Generic Communication Channel (OTN) Type
NONE	Disable DCC or GCC if enabled

4.5.23 COND_EFF

The affected unit's condition

Table 4-73 COND_EFF Values

COND_EFF Values	Description
CL	Standing condition cleared
SC	Standing condition raised
TC	Transient condition

4.5.24 CONDITION

The condition type of the alarm indication

Table 4-74 CONDITION Values

CONDITION Values	Description
8B10B-OOSYNC	8B10B Out Of Sync
ACOMAN	Alarm cutoff is in manual mode
AIS	External failure - Incoming - Alarm Indication Signal
AIS-L	External failure - Incoming - Alarm Indication Signal - Line
AIS-P	External failure - Incoming - Alarm Indication Signal - Path
AIS-PM	Alarm Indication Signal - Path Monitor Point
AIS-SM	Alarm Indication Signal - Section Monitor Point
AIS-V	External failure - Incoming - Alarm Indication Signal - VT layer
ALM-SUPPRESS	Alarms/Events Suppressed for this Object
APSB	External failure - Incoming - Automatic Protection Switching Channel - Byte failure
APSC	External failure - Incoming - Automatic Protection Switching Channel failure
APSC-IMP	External failure - Incoming - Automatic Protection Switching- Invalid K bytes
APSCCONNL	External failure - Incoming -Automatic Protection Switching -Connection Loss
APSCDFLTK	External failure - Incoming -Automatic Protection Switching -Default K byte
APSCINCON	External failure - Incoming -Automatic Protection Switching -Inconsistent
APSCM	External failure - Incoming - Automatic Protection Switching Channel - Protection Switching Channel Match failure
APSCNMIS	APS Channel - BLSR - Node Id Mismatch

Table 4-74 CONDITION Values (continued)

CONDITION Values	Description
APSMM	External failure - Incoming -Automatic Protection Switching Channel - Automatic Protection Switch Mode Mismatch
AS-CMD	Alarms and Events Suppressed By User Command
AS-MT	Alarms and Events Suppressed For Maintenance
AUD-LOG-LOSS	Audit Log 100 Percent Full - Oldest records will be lost
AUD-LOG-LOW	Internal hardware - Facility Termination Equipment - Automatic Laser Shutdown
AUTOLSROFF	Internal hardware - Facility Termination Equipment - Automatic Laser Shutdown
AUTORESET	Recovery action - Automatic system Reset
AUTOSW-AIS	Automatic Switch - Alarm Indication Signal
AUTOSW-LOP	Automatic Switch - Loss of Pointer
AUTOSW-PDI	Automatic Switch - Payload Defect Indication
AUTOSW-SDBER	Automatic Switch - Signal Degrade Bit Error Rate
AUTOSW-SFBER	Automatic Switch - Signal Fail Bit Error Rate
AUTOSW-UNEQ	Automatic Switch - Unequipped
AWG-DEG	AWG Temperature - Degrade
AWG-FAIL	AWG Temperature - Failure
AWG-OVERTEMP	AWG Over Temperature
BDI-PM	Backward Defect Indication - Path Monitor Point
BDI-SM	Backward Defect Indication - Section Monitor Point
BKUPMEMP	Internal hardware - Control Equipment - Primary non-volatile Backup Memory failure
BKUPMEMS	Internal hardware - Control Equipment - Secondary non-volatile Backup Memory failure
BLSR-RESYNC	Bidirectional Line Switched Ring - Tables Resynchronized
BLSR-UPDATED	BLSR Multiple Node Table Update Finished
BLSROSYNC	Bidirectional Line Switched Ring - Out of Synchronization
BPV	External failure - Incoming - Bipolar Violation
CARLOSS	External failure - Incoming - Carrier Loss on the LAN
CASETEMP-FAIL	Case High Temperature - Failure
CKTDOWN	Signaling unable to setup circuit
CKTDOWNEV	Signaled circuit going down
CLDRESTART	Recovery action - Cold Restart
COMIOXC	IO Slot To cross-connection Communication Failure
CONCAT	Control Bus Failure
CONTBUS-1	Control Bus Failure - Bus 1

Table 4-74 CONDITION Values (continued)

CONDITION Values	Description
CONTBUS-2	Control Bus Failure - Bus 2
CONTBUS-A-X	TCC/XTC card in Slot 7/Slot 5 has lost communication with the card in Slot X
CONTBUS-B-X	TCC/XTC card in Slot 11/Slot 6 has lost communication with the card in Slot X
CONTBUS_A	TCC/XTC A to shelf Slot communication failure
CONTBUS_B	TCC/XTC B to shelf Slot communication failure
CONTBUS_IO_A	Peer to Peer Slot communication failure
CONTBUS_IO_B	Peer to Peer Slot communication failure
CONTCOM	Internal hardware - Control Equipment - Control Communications equipment failure
CONTEQPT	Internal hardware - Control Equipment failure
CONTR	Internal hardware - Control Equipment - Control processor failure
COPY-IOSCFG	Copying IOS config file
CTNEQPT	Internal hardware - Interconnection Equipment failure
CTNEQPT-PBXPROT	Failure of the main payload between the protect XC/XCVT/XC10G card in Slot 10 and the reporting I/O card in Slot X
CTNEQPT-PBXWORK	Failure of the main payload bus between the active XC/XCVT/XC10G card in Slot 8 and the reporting I/O card in Slot X
CTNEQPT-PBPROT	Interconnection Equipment Failure - Protect XC Payload Bus
CTNEQPT-PBWORK	Interconnection Equipment Failure - Working XC Payload Bus
DATAFLT	Internal Error - Software Fault - Data integrity fault
DS3-MISM	DS3 Frame Format Mismatch
E-W-MISMATCH	Procedural Error - Mis-connect East/West Direction
EHIBATVG-A/B	Extreme High Voltage - Battery A or Battery B
ELWBATVG-A/B	Extreme Low Voltage - Battery A or Battery B
EOC	Embedded Operations Channel (Section DCC) failure
EOC-DOWN	Embedded Operations Channel (Section DCC) failure
EQPT	Internal hardware - Critical alarm caused by equipment failure
EQPT-FAIL	Equipment failure - Board Failure
EQPT-MAC	Equipment failure - Medium Access Control
EQPT-MISS	Replaceable Equipment/Unit is Missing
EQPT-RXLOCK	Equipment Rx Locked
EQPT-SQUELCHED	Equipment Squelched
EQPT-TXLOCK	Equipment Tx Locked
ERROR-CONFIG	Error in Startup Config
ESW	External error - Excessive Switching

Table 4-74 CONDITION Values (continued)

CONDITION Values	Description
EXCCOL	External failure - Incoming - Excess collisions on the LAN
EXERCISE-RING- FAIL	Exercise Ring Failed
EXERCISE-RING-REQ	Exercise Ring
EXERCISE-SPAN-FAIL	Exercise Span Failed
EXERCISE-SPAN-REQ	Exercise Span
EXERCISING-RING	Exercise Ring Completed
EXERCISING-SPAN	Exercise Span Completed
EXT	Failure detected External to the NE
EXTERR	External Error
EXTR-DROP	BLSR Extra Traffic Dropped
EXTRA-TRAF-PREEMPT	Extra Traffic preempted
FA	Internal hardware - Power failure - Fuse Alarm
FAC	External failure - Incoming - Facility, critical alarm caused by DS3 facility failure
FACTERM	Internal hardware - Facility Termination equipment failure
FAILTORLS	Internal hardware - Failure To Release from protection
FAILTOSW	Internal hardware - Failure To Switch to protection
FAILTOSW-HO	Failure to switch to protection - High Order Path
FAILTOSW-LO	Failure to switch to protection - Low Order Path
FAILTOSW-PATH	Failure to switch from the working path to the protection path on an UPSR
FAILTOSWR	Failure to Switch to Protection in a Ring
FAILTOSWS	Failure to Switch to Protection in a Span
FAN	Fan Tray failure
FANDEGRADE	Partial Failure of cooling fan tray
FE-AIS	Far-end DS3 node is reporting an AIS
FE-DS1-MULTLOS	Multiple inputs detect a loss on the far-end
FE-DS1-NSA	Non-service affecting failure detected from the far-end DS1
FE-DS1-SA	Service affecting failure detected from the far-end DS1
FE-DS1-SNGLLOS	One of the DS1 inputs on the far-end detects a LOS
FE-DS3-NSA	Non-service affecting failure detected from the far-end DS3
FE-DS3-SA	Service affecting failure detected from the far-end DS3
FE-EQPT-NSA	Non-service affecting equipment failure is detected from the far-end DS3
FE-EXERCISING-RING	Far End Exercise Ring
FE-EXERCISING-SPAN	Far End Exercise Span
FE-FRCDWKSWPR-RING	Working facility forced to switch to protection unit - Ring Far end

Table 4-74 CONDITION Values (continued)

CONDITION Values	Description
FE-FRCDWKSWPR-SPAN	Working facility forced to switch to protection unit - Span Far end
FE-IDLE	Far end node detects an idle DS3 signal
FE-LOCKOUTOFPR-ALL	Far end LockOut All Protection Channels of the network
FE-LOCKOUTOFPR-RING	Far End Lockout Of Protection - Ring
FE-LOCKOUTOFPR-SPAN	Far End Lockout Of Protection - Span
FE-LOCKOUTOFWK-RING	Far End Lockout Of Working - Ring
FE-LOCKOUTOFWK-SPAN	Far End Lockout Of Working - Span
FE-LOF	Far end node reports a DS3 loss of frame
FE-LOS	Far end node reports a DS3 loss of signal
FE-MANWKSWPR-RING	Far end Manual Ring Switching command is activated
FE-MANWKSWPR-SPAN	Far end Manual Span Switching command is activated
FE-SD-RING	Far end detected SD on Working channel and issued a Ring Switch
FE-SD-SPAN	Far end detected SD on Working channel and issued a Span Switch
FE-SDPRLF	Far end detected SD on Protection Channel
FE-SF-RING	Far end detected SF on Working channel and issued a Ring Switch
FE-SF-SPAN	Far end detected SF on Working channel and issued a Span Switch
FEBE	External failure - Incoming - Far End Block Error
FEC-UNC-WORD	FEC Uncorrected Word
FEPRLF	External failure - Incoming - Automatic Protection Switching Channel - Far End Protection Line Failure
FIBERTEMP-FAIL	Fiber High Temperature - Failure
FORCED-REQ	Forced switch request on facility/equipment
FORCED-REQ-RING	Forced switch request on a Ring
FORCED-REQ-SPAN	Forced switch request on a Span
FRCDWKSWBK	Recovery action - Working facility/equipment forced to switch back to working
FRCDWKSWPR	Recovery action - Working facility/equipment forced to switch to protection unit
FRCDWKSWPR-PATH	Recovery action - Working facility/equipment forced to switch to protection unit - Path
FRCWKBK-R	Working facility/equipment forced to switch back to working - Ring
FRCWKBK-S	Working facility/equipment forced to switch back to working - Span
FRCWKPR-R	Working facility/equipment forced to switch to protection unit - Ring
FRCWKPR-S	Working facility/equipment forced to switch to protection unit - Span
FRNGSYNC	Free Running Synchronization mode
FSTSYNC	Fast Start synchronization mode
FULLPASSTHR-BI	Bi-direction Full Pass Through is active

Table 4-74 CONDITION Values (continued)

CONDITION Values	Description
FULLPASSTHR-UNI	Uni-direction Full Pass Through is active
GAIN-HDEG	Gain not reached - High Degrade
GAIN-HFAIL	Gain not reached - High Failure
GAIN-LDEG	Gain not reached - Low Degrade
GAIN-LFAIL	Gain not reached - High Degrade
GCC-EOC	GCC Termination Failure
HI-LASERBIAS	Laser Bias High Threshold
HI-LASERPELTIER	Laser Peltier High Threshold
HI-LASERTEMP	Laser Temperature High Threshold
HI-RXPOWER	Receive Power High Threshold
HI-TXPOWER	Transmit Power High Threshold
HI-XCVRVOLT	Transceiver Voltage High Threshold
HITEMP	Internal hardware - Equipment failure - High temperature
HLDOVRSYNC	Holdover synchronization mode
IAE-SM	Incoming Alignment Error - Section Monitor Point
IMPROPRMVL	Procedural Error - Improper Removal
INC	Incoming failure condition
INC-ISD	Incoming failure condition - Idle Signal Path
INHMSG	ALM/EVT Messages Suppressed for object & sub-objects
INHMSG-DBCHG	DBCHG Messages Suppressed for entire shelf
INHMSG-PMREPT	PM report message inhibited for the TL1 session
INHSWPR	Inhibit switch to protect request on equipment
INHSWWKG	Inhibit switch to working request on equipment
INIT	Recovery action - Initialization initiated
INT	Internal hardware fault or failure
INTER-RING-STARTUP	Far end LockOut All Protection Channels of the network
INTERR	Error Internal to the NE Detected
INTMSGERR	One or more ALM/EVT/DBCHG messages lost
INTRUSION	Security: invalid login with user-ID
INTSFT	Internal Error - Software Fault or failure
INVMACADR	Equipment failure - Invalid MAC Address
KB_PASSTHR	K-Byte Pass Through is active
LANOVERFLOW	Traffic storm on LAN. LAN temporarily disabled
LASERBIAS-DEG	Laser BIAS - Degrade
LASERBIAS-FAIL	Laser BIAS - Failure
LASEREOL	Laser Approaching End Of Life

Table 4-74 CONDITION Values (continued)

CONDITION Values	Description
LASERTEMP-FAIL	Laser High Temperature - Failure
LCK-PM	Locked Defect - Path Monitor Point
LKOUTPR-R	Lockout of Protection - Ring
LKOUTPR-S	Lockout of Protection - Span
LKOUTWK-R	Lockout of working - Ring
LKOUTWK-S	Lockout of working - Span
LMP-HELLODOWN	LMP Hello FSM on Control Channel Down
LMP-NDFAIL	LMP Neighbor Discovery has failed
LO-LASERBIAS	Laser Bias Low Threshold
LO-LASERPELTIER	Laser Peltier Low Threshold
LO-LASERTEMP	Laser Temperature Low Threshold
LO-RXPOWER	Receive Power Low Threshold
LO-TXPOWER	Transmit Power Low Threshold
LO-XCVRVOLT	Transceiver Voltage Low Threshold
LOC	Loss of Fiber Continuity
LOCKOUT-REQ	Lockout switch request on facility/equipment
LOCKOUT-REQ-RING	Lockout switch request on a Ring
LOCKOUT-REQ-SPAN	Lockout switch request on a Span
LOCKOUTOFPR	Recovery action - Lockout of Protection
LOCKOUTOFPR-ALL	Far end LockOut All Protection Channels of the network
LOCKOUTOFPR-PATH	Recovery action - Lockout of Protection - Path
LOCKOUTOFWK	Recovery action - Lockout of working
LOF	External failure - Incoming - Loss of Frame
LOF-SM	Loss of Frame - Section Monitor Point
LOM-SM	Loss of Multi-Frame - Section Monitor Point
LOP	External failure - Incoming - Loss of Pointer
LOP-P	External failure - Incoming - Loss of Pointer - Path
LOP-V	Loss of pointer at the VT level
LOS	External failure - Incoming - Loss of Signal
LOS-ABBX	VIC loss of audio base band channel X signal
LOS-AFM	VIC loss of Audio FM signal
LOS-VBB	VIC loss of Video Base Band Signal
LOS-VIF	Video Interface Card Loss of Video IF signal
LPBK	Loopback
LPBKCRS	Cross-connect loopback

Table 4-74 CONDITION Values (continued)

CONDITION Values	Description
LPBKDS1FEAC	DS1 loopback signal is received from the far-end due to a Far-End Alarm and Control (FEAC) command
LPBKDS1FEAC-CMD	DS1 loopback command sent by the ONS 15454 to the far-end equipment
LPBKDS3FEAC	DS3 loopback signal is received from the far-end due to a Far-End Alarm and Control (FEAC) command
LPBKDS3FEAC-CMD	DS3 loopback command sent by the ONS 15454 to the far-end equipment
LPBKFACILITY	Loopback, Facility
LPBKM13	Loopback, Facility
LPBKM13-CMD	DS1 Loopback due to Far End Command
LPBKNETWORK	DS2 Loopback Command sent to Far End
LPBKTERMINAL	Loopback, Terminal
MAN	Manually caused abnormal condition
MAN-REQ	Manual Switch Request on facility/equipment
MANRESET	Recovery action - Manual system Reset
MANSWTOFIFTH	Recovery action - Manual synchronization Switch To Fifth reference
MANSWTOFOURTH	Recovery action - Manual synchronization Switch To Fourth reference
MANSWTOINT	Recovery action - Manual synchronization switch to internal clock
MANSWTOPRI	Recovery action - Manual synchronization Switch To Primary reference
MANSWTOSEC	Recovery action - Manual synchronization Switch To Second reference
MANSWTOSIXTH	Recovery action - Manual synchronization Switch To Sixth reference
MANSWTOTHIRD	Recovery action - Manual synchronization Switch To Third reference
MANUAL-REQ-RING	Manual switch request on a Ring
MANUAL-REQ-SPAN	Manual switch request on a Span
MANWKBK-R	Manual Switch of working facility/equipment to protection - Ring
MANWKBK-S	Manual Switch of working facility/equipment to protection - Span
MANWKPR-R	Manual Switch of Working facility/equipment to Protection unit -Ring
MANWKPR-S	Manual Switch of Working facility/equipment to Protection unit -Span
MANWKSWBK	Recovery action - Manual Switch of working facility/equipment to protection
MANWKSWPR	Recovery action - Manual Switch of Working facility/equipment to Protection unit
MANWKSWPR-PATH	Manual Switch of working facility/equipment to Protection - Path
MEA	Internal error - Mismatch of Equipment and Attributes

Table 4-74 CONDITION Values (continued)

CONDITION Values	Description
MEM-GONE	Software operations exceed the memory capacity of the TCC/XTC card
MEM-LOW	Data generated by software operations is close to exceeding the memory capacity of the TCC/XTC card
MFGMEM	Manufacturing Data Memory (EEPROM) Failure
NEW-ROOT	NewRoot trap in BRIDGE-MIB
NORMAL	Normal condition. This condition type is used by the NE to report the returning to normal from a previous off-normal condition
OCI-PM	Open Connectivity Indicator - Path Monitor Point
OG	External failure - Outgoing failure condition
OOF	External failure - Incoming - Out of Frame
OPWR-HDEG	Optical Power - High Degrade
OPWR-HFAIL	Optical Power - High Failure
OPWR-LDEG	Optical Power - Low Degrade
OPWR-LFAIL	Optical Power - Low Failure
PATHSEL	External failure - Incoming - Path Selector inability to switch to a valid signal
PDI	External failure - Incoming - Signal Label Mismatch Failure - Payload Defect Indication
PDI-P	External failure - Incoming - Signal Label Mismatch Failure - Payload Defect Indication - Path
PEER-MISM	Peer State Mismatch
PEER-NORESPONSE	Peer card not responding
PLM-P	External failure - Incoming - Signal Label Mismatch Failure - Payload Label Mismatch - Path
PLM-V	Content of the V5 byte in the SONET overhead is inconsistent or invalid
PLUG-IN	Internal hardware - Equipment unit plug-in
PM-TCA	Performance Monitoring - Threshold Crossing Alert
PRC-DUPID	Procedural Error - Duplicate Node ID
PRCDRERR	Procedural Error
PROGFLT	Internal Error - Software Fault - Program failure
PROTNA	Protection unit not available
PS	Occurrence of a protection switching event
PTIM	Payload Type Identifier Mismatch
PWR	Internal hardware - Power failure (detected internal to NE)
PWR-A	Internal hardware - Power failure (detected internal to NE) on slot 7
PWR-B	Internal hardware - Power failure (detected internal to NE) on slot 11

Table 4-74 CONDITION Values (continued)

CONDITION Values	Description
PWRRESTART	Recovery action - Powerfail Restart
RAI	External failure - Incoming - Remote Alarm Indication
RCVR	Internal hardware - Facility Termination equipment - Receiver failure
RCVR-MISS	Facility termination equipment detects a missing receive cable on the DS1 port or a possible mismatch of backplane equipment
RCVRY	Recovery or service protection action has been initiated
RDI-L	External failure - Outgoing - Remote Defect Indication - Line
RDI-P	External failure - Outgoing - Remote Defect Indication - Path
RFI	External failure - Incoming - Remote Failure Indication
RFI-L	External failure - Incoming - Remote Failure Indication - Line
RFI-P	External failure - Incoming - Remote Failure Indication - Path
RFI-V	Upstream failure has occurred at the VT layer
RFLOWCTL	Receive pause frames Threshold crossing alert
RING-MISMATCH	Procedural Error - Mis-connected Ring
RING-SEGMENT	Ring Is Segmented
RING-SW-EAST	Ring switch is active on the East side
RING-SW-WEST	Ring switch is active on the West side
RMON-ALARM	An RMON Alarm
RMON-RESET	RMON histories and alarms have been reset due to chipset reboot
ROVERSUB	Receive packets dropped - internal congestion Threshold crossing alert
RSVP-HELLODOWN	RSVP Hello FSM to Neighbor down
SD	Facility has passed BER Threshold for Signal Degrade
SD-L	BER threshold exceeded for Signal Degrade - Line
SD-P	BER threshold exceeded for Signal Degrade - Path
SDBER-EXCEED-HO	BER Threshold exceeded for Signal Degrade - High Order
SDBER-EXCEED-LO	BER Threshold exceeded for Signal Degrade - Low Order Path
SEF	External failure - Incoming - Severely Errored Frame
SF	Facility has passed BER threshold for Signal Failure
SF-L	BER Threshold exceeded for Signal Failure - Line
SF-P	BER Threshold exceeded for Signal Failure - Path
SFBER-EXCEED-HO	BER Threshold exceeded for Signal Failure - High Order Path
SFBER-EXCEED-LO	BER Threshold exceeded for Signal Failure - Low Order Path
SFP-MISMATCH	Pluggable Port Missing
SFP-MISSING	Pluggable Port Missing
SFP-SECURITYCODE	Pluggable Port Security Code Missing
SFTWDOWN	Recovery action - Software download in progress

Table 4-74 CONDITION Values (continued)

CONDITION Values	Description
SFTWDOWN-FAIL	Software Download Failed
SHUTTER-FAIL	Problem in Shutter - Failure
SLMF	External failure - Incoming - Signal Label Mismatch Failures - SONET
SNTP-HOST	SNTP host not alive condition
SPAN-SW-EAST	Span switch is active on the East side
SPAN-SW-WEST	Span switch is active on the West side
SQUELCH	Ring is isolated into two or more segments
SQUELCH-PATH	Squelching - Path level
SSM-DUS	Synchronization Status Messaging - Do Not Use for Synchronization
SSM-FAIL	Synchronization Status Messaging - Failed
SSM-OFF	Synchronization Status Messaging - Off
SSM-PRC	G811 Primary Reference Clock traceable
SSM-PRS	Synchronization Status Messaging - Primary reference source - Stratum 1
SSM-RES	Synchronization Status Messaging - Reserved - quality level set by user
SSM-SMC	Synchronization Status Messaging - SONET minimum clock
SSM-ST2	Synchronization Status Messaging - Stratum 2
SSM-ST3	Synchronization Status Messaging - Stratum 3
SSM-ST3E	Synchronization Status Messaging - Stratum 3E
SSM-ST4	Synchronization Status Messaging - Stratum 4
SSM-STU	Synchronization Status Messaging - Synchronized traceability unknown
SSM-TNC	Synchronization Status Messaging - Transit Node Clock traceable
SWMTXMOD	Switching Matrix Module Failure
SWTOFIFTH	Recovery action - Synchronization Switch To Fifth reference
SWTOFOURTH	Recovery action - Synchronization Switch To Fourth reference
SWTOINT	Recovery action - Synchronization Switch To Internal clock
SWTOPRI	Recovery action - Synchronization Switch To Primary reference
SWTOSEC	Recovery action - Synchronization Switch To Second refernce
SWTOSIXTH	Recovery action - Synchronization Switch To Sixth reference
SWTOTHIRD	Recovery action - Synchronization Switch To Third refernce
SYNC	External failure - Incoming - Loss of timing on synchronization link
SYNC-FREQ	Synchronization Reference Frequency Out Of Bounds
SYNCCLK	Internal hardware - Synchronization unit failure
SYNCEQPT	Internal hardware - Synchronization switching Equipment failure

Table 4-74 CONDITION Values (continued)

CONDITION Values	Description
SYNCFIFTH	External failure - Incoming - Loss of timing on fifth synchronization link
SYNCFOURTH	External failure - Incoming - Loss of timing on fourth synchronization link
SYNCOOS	External failure - Incoming - Loss of timing on all specified synchronization links
SYNCPRI	External failure - Incoming - Loss of timing on primary synchronization link
SYNCSEC	External failure - Incoming - Loss of timing on secondary synchronization link
SYNCSIXTH	External failure - Incoming - Loss of timing on sixth synchronization link
SYNCTHIRD	External failure - Incoming - Loss of timing on third synchronization link
SYSBOOT	Activation of new software
T-UIDAGE	Security: user-ID has expired
TFLOWCTL	Transmit pause frames Threshold crossing alert
TIM-P	SONET Trace Identifier message defect - Path
TOP-CHANGE	Topology Change trap in BRIDGE-MIB
TOVERSUB	Transmit packets dropped - internal congestion Threshold crossing alert
TPTFAIL	Transport Layer Failure
TRMT	Internal hardware - Facility Termination equipment - Transmit failure
TRMT-MISS	Facility termination equipment detects a missing transmit cable on the DS1 port or a possible mismatch of backplane equipment
TSI	Internal hardware - Interconnection Equipment - Time slot interchange equipment failure
TUNDERRUN	Buffer Underrun Alarm
UNAUTHCKT	Unauthorized incoming signaling request to create circuit
UNEQ-P	External failure - Incoming - Signal Label Mismatch Failure - Unequipped - Path
UNEQ-V	VT is receiving an unequipped signal
UNPLUG	Internal hardware - Equipment unit un-plug
VOA-HDEG	VOA Attenuation - High Degrade
VOA-HFAIL	VOA Attenuation - High Failure
VOA-LDEG	VOA Attenuation - Low Degrade
VOA-LFAIL	VOA Attenuation - Low Failure
WATM-TO	Internal Error - Watchdog Timer Timeout
WKGMEM	Internal hardware - Control Equipment - Working memory failure

Table 4-74 CONDITION Values (continued)

CONDITION Values	Description
WKSWBK	Recovery action - Working facility/equipment switched back to working
WKSWPR	Recovery action - Working facility/equipment switched to protection unit
WRMRESTART	Recovery action - Warm Restart
WTR	Wait To Restore
WTR-RING	Recovery action - SONET ring is in Wait To Restore state
WTR-SPAN	Recovery action - SONET span is in Wait To Restore state

4.5.25 CONT_MODE

Current state of environmental control

Table 4-75 CONT_MODE Values

CONT_MODE Values	Description
NA	Indicates Not applicable (i.e., duration is MNTRY)
OPR	Indicates that the environment control state is CLOSE
RLS	Indicates that the environment control state is OPEN

4.5.26 CONTTYPE

The Environmental control types as defined by Telcordia GR-833-CORE, Issue 2, November 1996, Appendix G.

Table 4-76 CONTTYPE Values

CONTTYPE Values	Description
AIRCOND	Air conditioning
ENGINE	Engine
FAN	Fan
GEN	Generator
HEAT	Heat
LIGHT	Light
MISC	Miscellaneous
SPKLR	Sprinkler

4.5.27 CREATION_TYPE

The Optical Link creation type.

Table 4-77 CREATION_TYPE Values

CREATION_TYPE Values	Description
AUTO	Automatically created by NE
PROV	Provisioned by user

4.5.28 CRS_TYPE

Indicates the cross-connection type

Table 4-78 CRS_TYPE Values

CRS_TYPE Values	Description
STS	Indicates all the STS cross-connections
VT	Indicates all the VT1 cross-connections

4.5.29 DATARATE

Data Rate

Table 4-79 DATARATE Values

DATARATE Values	Description
FC	Fiber Channel
GIG_E	Gigabit Ethernet
PASS_THRU	Pass thru

4.5.30 DIRECTION

Transmit and receive directions

Table 4-80 DIRECTION Values

DIRECTION Values	Description
BTH	Both transmit and receive directions
RCV	Receive direction only
TRMT	Transmit direction only

4.5.31 DIRN

Specifies the discriminating level for the requested monitored parameter

Table 4-81 DIRN Values

DIRN Values	Description
DN	Monitored parameter with values equal to or greater than the level of LEV will be reported
UP	Monitored parameter with values equal to or less than the value of LEV will be reported

4.5.32 DL_TYPE

Indicates software download type

Table 4-82 DL_TYPE Values

DL_TYPE Values	Description
ACT	Indicates to activate to a newer software load during the software download
RVRT	Indicates to revert to an older software load during software download

4.5.33 DS_LINE_CODE

DS123 Line Code

Table 4-83 DS_LINE_CODE Values

DS_LINE_CODE Values	Description
B3ZS	Bipolar with Three-Zero Substitution

4.5.34 DS_LINE_TYPE

DS123 Line type

Table 4-84 DS_LINE_TYPE Values

DS_LINE_TYPE Values	Description
C-BIT	C-BIT line type applies to DS3XM and DS3E card
M13	M23 line type applies to DS3XM and DS3E card
UNFRAMED	Line Type is unframed. The old DS3 (L3M) and DS3CR cards can only run in unframed mode.

4.5.35 DURATION

Duration

Table 4-85 DURATION Values

DURATION Values	Description
CONTS	Continuous duration
MNTRY	Momentary duration

4.5.36 E_LBO

Electrical signal line buildout

Table 4-86 E_LBO Values

E_LBO Values	Description
0-225	Electrical signal buildout range is 0-225
226-450	Electrical signal buildout range is 226-450

4.5.37 ENV_ALM

Environmental alarm types as defined by Telcordia GR-833-CORE, Issue 2, November 1996, Appendix F.

Table 4-87 ENV_ALM Values

ENV_ALM Values	Description
AIRCOMPR	Air compressor failure
AIRCOND	Air conditioning failure
AIRDRYR	Air dryer failure
BATDSCHRG	Battery discharging
BATTERY	Battery failure
CLFAN	Cooling fan failure
CPMAJOR	Centralized power major failure
CPMINOR	Centralized power minor failure
ENGINE	Engine failure
ENGOPRG	Engine operating
EXPLGS	Explosive gas
FIRDETR	Fire detector failure
FIRE	Fire
FLOOD	Flood
FUSE	Fuse failure

Table 4-87 ENV_ALM Values (continued)

ENV_ALM Values	Description
GEN	Generator failure
HIAIR	High airflow
HIHUM	High humidity
HITEMP	High temperature
HIWTR	High water
INTRUDER	Intrusion
LWBATVG	Low battery voltage
LWFUEL	Low fuel
LWHUM	Low humidity
LWPRES	Low cable pressure
LWTEMP	Low temperature
LWWTR	Low water
MISC	Miscellaneous
OPENDR	Open door
POWER	Commercial power failure
PUMP	Pump failure
PWR-48	48 Volt power supply failure
RECT	Rectifier failure
RECTHI	Rectifier high voltage
RECTLO	Rectifier low voltage
SMOKE	Smoke
TOXICGAS	Toxic gas
VENTN	Ventilation system failure

4.5.38 EQPT_TYPE

Identifies the type of equipment being provisioned into a slot

Table 4-88 EQPT_TYPE Values

EQPT_TYPE Values	Description
AD-1B	Optical Add/Drop Multiplexed (OADM) 1 Band Filter
AD-1C	Optical Add/Drop Multiplexed (OADM) 1 Channel Filter
AD-2C	Optical Add/Drop Multiplexed (OADM) 2 Channels Filter
AD-4B	Optical Add/Drop Multiplexed (OADM) 4 Bands Filter
AD-4C	Optical Add/Drop Multiplexed (OADM) 4 Channels Filter

Table 4-88 EQPT_TYPE Values (continued)

EQPT_TYPE Values	Description
AIC	The Alarm Interface Controller Card is an optional card which expands system management capabilities for the customer defined alarm I/O and orderwire functionality
AICI	The AICI card
AIP	The Alarm Indicator Panel
ALM-PWR	Alarm Power
BP	The Backplane of the NE
CRFT-TMG	Craft Timing
DCC	The Data Communications Channel
DMX-32	Optical De/Multiplexed (DMX) 32 Channels
DS1-14	A 14 port interface card supporting DS1 facilities
DS1N-14	A 14 port interface card supporting DS1 facilities
DS3-12	A 12 port interface card supporting DS3 facilities
DS3-3	A 3 port interface card supporting DS3 facilities
DS3ATM-12	A 12 port interface card supporting DS3 ATM facilities
DS3CR-12	Cost reduced DS3
DS3E-12	A 12 port interface card supporting DS3E facilities
DS3NE-12	A 12 port interface card supporting DS3E facilities
DS3N-12	A 12 port interface card supporting DS3 facilities
DS3XM-6	An interface card that converts six framed DS-3 network connections to 28x6 or 168 VT1.5s
E1000T-2	A 2 port interface card supporting 1000 Base T Ethernet facilities
E100T-12	A 12 port interface card supporting 100 Base T Ethernet facilities
E100T-4	A four port interface card supporting 100 Base T Ethernet facilities.
EC1-12	A 12 port interface card supporting EC1 facilities
FTA	The Fan Tray of the NE
FTA1	The Fan Tray 1 of the NE
FTA2	The Fan Tray 2 of the NE
G1000-4	A four port G1000 card
MIC-28-3-A	ONS 15327 MIC card A
MIC-28-3-B	ONS 15327 MIC card B
MIC-EXT	ONS 15327 MIC card
MIC-GEN	ONS 15327 MIC card
MUX-32	Optical Multiplexed (MUX) 32 Channels
MXP-2.5G-10G	10G (4 * 2.5G) Muxponder Card
OC12	An interface card that supports one or more OC-12 (622Mbs) optical facilities

Table 4-88 EQPT_TYPE Values (continued)

EQPT_TYPE Values	Description
OC12-327	ONS 15327 OC12 card
OC12-4	A four port OC12 card
OC12-IR-1	An interface card that supports one intermediate range OC-12 (622Mbs) optical facilities
OC12-LR-1	An interface card that supports one long range OC-12 (622Mbs) optical facilities
OC12-SR-1	An interface card that supports one short range OC-12 (622Mbs) optical facilities
OC192-LR-1	An interface card that supports one or more OC-192 optical facilities
OC3	An interface card that supports multiple OC-3 (155Mbs) optical facilities
OC3-327	ONS 15327 OC3 card
OC3-IR-4	An interface card that supports four intermediate range OC-3 (155Mbs) optical facilities
OC3-SR-4	An interface card that supports four short range OC-3 (155Mbs) optical facilities
OC3ATM-IR-6	An interface card that supports six intermediate range OC-3 (155Mbs) ATM optical fibers
OC3IR-STM1SH-1310-8	An OC3 card which has 8 ports over the lower speed slot of the ONS 15454 with XC10G/192
OC3POS-SR-4	An interface card that supports four short range OC-3 (155Mbs) POS optical facilities
OC48	An interface card that supports one or more OC-48 (10Gbs) optical facilities
OC48-327	ONS 15327 OC48 card
OC48-AS-1	An interface card that supports one short range OC-48 (10Gbs) optical facilities that can be provisioned in any I/O slot
OC48-ELR-1	An interface card that supports one short range OC-48 (2.5Gbs) optical facility
OC48-IR-1	An interface card that supports one intermediate range OC-48 (10Gbs) optical facility
OC48-LR-1	An interface card that supports one long range OC-48 (10Gbs) optical facility
OC48-SR-1	An interface card that supports one short range OC-48 (10Gbs) optical facilities
OPT-BST	Optical Booster Amplifier
OPT-PRE	Optical Pre-Amplifier
OSC-CSM	Optical Service Channel (OSC) with Combiner/Separator Module (SCM)
OSCM	Optical Service Channel (OSC) Module
TCC	The Timing Communication and Control card
TXP-MR-10G	10G Multirate Transponder Card
XC	A Cross-connect card

Table 4-88 EQPT_TYPE Values (continued)

EQPT_TYPE Values	Description
XC-VT	A Cross-Connect card
XC10G	A Cross-Connect card
XTC	ONS 15327 XTC card
XTC-DS1-14	ONS 15327 XTC DS1-14 card
XTC-DS1-28	ONS 15327 XTC DS1-28 card
XTC-DS1-56	ONS 15327 XTC DS1-56 card
XTC-DS3-3	ONS 15327 XTC DS3-3 card

4.5.39 EQUIP

Indicates the presence of a plug-in unit

Table 4-89 EQUIP Values

EQUIP Values	Description
EQUIP	The unit is Equipped - present
UNEQUIP	The unit is Unequipped - absent

4.5.40 EQUIPMENT_TYPE

Equipment type

Table 4-90 EQUIPMENT_TYPE Values

EQUIPMENT_TYPE Values	Description
AD-1B	Optical Add/Drop Multiplexed (OADM) 1 Band Filter
AD-1C	Optical Add/Drop Multiplexed (OADM) 1 Channel Filter
AD-2C	Optical Add/Drop Multiplexed (OADM) 2 Channels Filter
AD-4B	Optical Add/Drop Multiplexed (OADM) 4 Bands Filter
AD-4C	Optical Add/Drop Multiplexed (OADM) 4 Channels Filter
AIC	AIC card
AICI	AICI card
DS1	DS1 card
DS1N	DS1N card
DS3	DS3 card
DS3E	DS3E card
DS3I	DS3I Card
DS3IN	DS3IN Card
DS3N	DS3N card

Table 4-90 EQUIPMENT_TYPE Values (continued)

EQUIPMENT_TYPE Values	Description
DS3NE	DS3NE card
DS3XM	DS3XM card
E1000T	E1000T card
E100T	E100T card
EC1	EC1 card
G1000-2	A two port G1000 card (ONS 15327)
G1000-4	A four port G1000 card (ONS 15454)
MIC	ONS 15327 MIC card
MIC-EXT	ONS 15327 XC-EXT card
ML1000-2	2-Port GigE card
ML100T-12	12-Port FSTE card
MUX-32	Optical Multiplexed (MUX) 32 Channels
MXP-2.5G-10G	10G (4 * 2.5G) Muxponder Card
OC3	OC3 card
OC12	OC12 card
OC12-4	A four port OC12 card
OC48	OC48 card
OC192	OC192 card
OPT-BST	Optical Booster Amplifier
OPT-PRE	Optical Pre-Amplifier
OSC-CSM	Optical Service Channel (OSC) with Combiner/Separator Module (SCM)
OSCM	Optical Service Channel (OSC) Module
TCC	TCC card
TXP-MR-10G	10G Multirate Transponder Card
XC	XC card
XC10G	XC10G card
XCVT	XCVT card
XTC	ONS 15327 XTC card

4.5.41 ETHER_DUPLEX

Duplex mode

Table 4-91 ETHER_DUPLEX Values

ETHER_DUPLEX Values	Description
AUTO	Auto mode
FULL	Full mode
HALF	Half mode

4.5.42 ETHER_SPEED

Ethernet speed

Table 4-92 ETHER_SPEED Values

ETHER_SPEED Values	Description
100_MBPS	100 Mbps
10_GBPS	10 Gbps
10_MBPS	10 Mbps
1_GBPS	1 Gbps
AUTO	Auto

4.5.43 EXP

Indicates whether the user's password is about to expire.

Table 4-93 EXP Values

EXP Values	Description
NO	The password is not about to expire.
YES	The password is about to expire.

4.5.44 EXT_RING

Indicates if the ring supports the extended K1/K2/K3 protocol

Table 4-94 EXT_RING Values

EXT_RING Values	Description
N	Indicates the Ring does not support the extended K1/K2/K3 protocol
Y	Indicates the Ring does support the extended K1/K2/K3 protocol

4.5.45 FIBER_TYPE

The type of the system (fiber) connected to a port.

Table 4-95 FIBER_TYPE Values

FIBER_TYPE Values	Description
SMF-28	SMF-28 system type

4.5.46 FLOW

Indicates the type of flow control that has been negotiated for an Ethernet port

Table 4-96 FLOW Values

FLOW Values	Description
ASYMMETRIC	Asymmetric flow control
ASYMMETRIC_LOCAL	Asymmetric local flow control
NONE	No flow control
SYMMETRIC	Symmetric flow control

4.5.47 FRAME_FORMAT

The frame format for a T1 port

Table 4-97 FRAME_FORMAT Values

FRAME_FORMAT Values	Description
D4	Frame format is D4
ESF	Frame format is ESF
UNFRAMED	Frame format is unframed

4.5.48 GCCRATE

The data rate of the GCC traffic

Table 4-98 GCCRATE Values

GCCRATE Values	Description
192K	192 Kbps
576K	576 Kbps

4.5.49 HEATER_STATUS

Heater status list.

Table 4-99 HEATER_STATUS Values

HEATER_STATUS Values	Description
OFF	The heater is off
ON	The heater is on

4.5.50 INH_MODE

Indicates whether the function is inhibited

Table 4-100 INH_MODE Values

INH_MODE Values	Description
ALW	Function is allowed
INH	Function is inhibited

4.5.51 LASER_STATUS

Defines the laser status

Table 4-101 LASER_STATUS Values

LASER_STATUS Values	Description
APR	The Laser is switched on but is working Automatic Power Reduction
OFF	The Laser is switched off
ON	The Laser is switched on

4.5.52 LINE_BUILDOUT

Line buildout

Table 4-102 LINE_BUILDOUT Values

LINE_BUILDOUT Values	Description
0-131	Line buildout range is 0-131
132-262	Line buildout range is 132-262
263-393	Line buildout range is 263-393
394-524	Line buildout range is 394-524
525-655	Line buildout range is 525-655

4.5.53 LINE_CODE

Line code

Table 4-103 LINE_CODE Values

LINE_CODE Values	Description
AMI	Line code value is AMI
B8ZS	Line code value is B8ZS (Bipolar with Three-Zero Substitution)

4.5.54 LOCATION

Identifies the location where the action is to take place

Table 4-104 LOCATION Values

LOCATION Values	Description
FEND	Action occurs on the Far End of the facility
NEND	Action occurs on the Near End of the facility

4.5.55 LPBK_TYPE

Indicates the type of loopback that is to be operated or released

Table 4-105 LPBK_TYPE Values

LPBK_TYPE Values	Description
CRS	A path level loopback which is established at the cross-connect matrix level (the XC card). An STS level cross-connect loopback causes an AIS-P to be sent on the outgoing direction of transmission
FACILITY	A type of loopback that connects the incoming received signal immediately following the optical-to-electrical conversion (after descrambling) to the associated transmitter in the return direction
TERMINAL	A loopback that connects the signal that is about to be transmitted (after scrambling but before the electrical-to-optical conversion) is connected to the associated, incoming receiver

4.5.56 MFS_TYPE

Indicates the maximum frame size used by an Ethernet card

Table 4-106 MFS_TYPE Values

MFS_TYPE Values	Description
1548	Normal frame size
JUMBO	Jumbo frame size

4.5.57 MOD2

Line/Path Modifier

Table 4-107 MOD2 Values

MOD2 Values	Description
CLNT	Client facility for MXP/TXP cards
DS1	DS1 line of a DS3XM card
EC1	EC1 facility
G1000	G1000 Facility
OC3	OC3 facility
OC12	OC12 facility
OC48	OC48 facility
OC192	OC192 facility
OCH	Optical channel
OMS	Optical Multiplex Section
OTS	Optical Transport Section
STS1	STS1 path
STS3C	STS3C path
STS6C	STS6C path
STS9C	STS9C path
STS12C	STS12C path
STS48C	STS48C path
STS192C	STS192C path
T1	T1/DS1 facility/line
T3	T3/DS3 facility/line
VT1	VT1_5 path

4.5.58 MOD2_IO

Facility/Line Modifier

Table 4-108 MOD2_IO Values

MOD2_IO Values	Description
CLNT	Client facility for MXP/TXP cards
DS1	DS1 line of a DS3XM card
EC1	EC1 facility
G1000	G1000 facility
OC3	OC3 facility

Table 4-108 MOD2_IO Values (continued)

MOD2_IO Values	Description
OC12	OC12 facility
OC48	OC48 facility
OC192	OC192 facility
OCH	Optical channel facility for MXP/TXP cards
OMS	Optical multiplexing section
OTS	Optical Transport Section
T1	T1/DS1 facility
T3	T3/DS3 facility

4.5.59 MOD2ALM

Alarm type for certain generic TL1 commands

Table 4-109 MOD2ALM Values

MOD2ALM Values	Description
CLNT	Client facility for MXP/TXP cards
DS1	DS1 alarm
E100	E100 alarm
E1000	E1000 alarm
EC1	EC1 alarm
FSTE	Fast Ethernet Port alarm
G1000	G1000 alarm
GIGE	GIG Ethernet Port alarm
OC3	OC3 alarm
OC12	OC12 alarm
OC48	OC48 alarm
OC192	OC192 alarm
OCH	Optical channel
OMS	Optical Multiplex Section
OTS	Optical Transport Section
POS	POS port alarm
STS1	STS alarm
STS3C	STS alarm
STS6C	STS alarm
STS9C	STS alarm
STS12C	STS alarm

Table 4-109 MOD2ALM Values (continued)

MOD2ALM Values	Description
STS48C	STS alarm
STS192C	STS alarm
T1	T1 alarm
T3	T3 alarm
UDCDCC	UDCDCC Alarm
UDCF	UCDF Alarm
VT1	VT1 alarm

4.5.60 MOD2B

Alarm type for certain generic TL1 commands

Table 4-110 MOD2B Values

MOD2B Values	Description
BITS	BITS alarm
CLNT	Client facility for MXP/TXP cards
COM	Common alarm
DS1	DS1 alarm
E100	E100 alarm
E1000	E1000 alarm
EC1	EC1 alarm
ENV	ENV alarm
EQPT	EQPT alarm
FSTE	FSTE alarm
G1000	G1000 alarm
GIGE	GIGE alarm
MIC	MIC alarm (ONS 15327)
MIC-EXT	MIC-EXT Alarm (ONS 15327)
OC3	OC3 alarm
OC12	OC12 alarm
OC48	OC48 alarm
OC192	OC192 alarm
OCH	Optical channel
OMS	Optical Multiplex Section
OTS	Optical Transport Section
POS	POS alarm

Table 4-110 MOD2B Values (continued)

MOD2B Values	Description
STS1	STS alarm
STS3C	STS alarm
STS6C	STS alarm
STS9C	STS alarm
STS12C	STS alarm
STS24C	STS alarm
STS48C	STS alarm
STS192C	STS Alarm
SYNCN	SYNCN alarm
T1	T1 alarm
T3	T3 alarm
TCC	TCC alarm
UCP	UCP Alarm
VT1	VT alarm
XTC	ONS 15327 XTC Alarm

4.5.61 MOD2O

MXP/TXP facility types

Table 4-111 MOD2O Values

MOD2O Values	Description
OCH	Optical Channel
OMS	Optical Multiplexer Section
OTS	Optical Trace Section

4.5.62 MOD_PATH

STS/VT Path Modifier

Table 4-112 MOD_PATH Values

MOD_PATH Values	Description
STS1	STS1 path
STS3C	STS3C path
STS6C	STS6C path
STS9C	STS9C path
STS12C	STS12C path

Table 4-112 MOD_PATH Values (continued)

MOD_PATH Values	Description
STS24C	STS 24C path
STS48C	STS48C path
STS192	STS192C path
VT1	VT1_5 path

4.5.63 MOD_PORT

Move from MOD2_IO without DS1

Table 4-113 MOD_PORT Values

MOD_PORT Values	Description
EC1	EC1 port
G1000	G1000 port
OC3	OC3 port
OC12	OC12 port
OC48	OC48 port
OC192	OC192 port
T1	T1/DS1 port
T3	T3/DS3 port

4.5.64 MOD_TACC

Test Access Modifier

Table 4-114 MOD_TACC Values

MOD_TACC Values	Description
DS1	DS1 line of a DS3XM card
STS1	STS1 path
STS3C	STS3C path
STS6C	STS6C path
STS9C	STS9C path
STS12C	STS12C path
STS24C	STS24C path
STS48C	STS48C path
STS192C	STS192C path
T1	T1/DS1 facility/line

Table 4-114 MOD_TACC Values (continued)

MOD_TACC Values	Description
T3	T3/DS3 facility/line
VT1	VT1_5 path

4.5.65 MODULE_OP

Module operation mode

Table 4-115 MOD_OP Values

MODULE_OP Values	Description
CLR	Clear switch operation mode
LOCKDX	Lock duplex switch operation mode
LOCKPRT	Lock switch to protection operation mode
LOCKWKG	Lock switch to working operation mode
RST	Reset operation mode
SWITCHDX	Switch duplex operation mode
SWITCHPRT	Switch to protection operation mode
SWITCHWKG	Switch to working operation mode
UNLOCKDX	Unlock duplex switch operation mode
UNLOCKPRT	Unlock switch to protection operation mode
UNLOCKWKG	Unlock switch to working operation mode
UPGRADE	Upgrade operation mode

4.5.66 MSGTYPE

Type of trace message

Table 4-116 MSGTYPE Values

MSGTYPE Values	Description
EXPTRC	Expected incoming Path trace message
INCTRC	Incoming Path trace message
TRC	Outgoing Path trace message

4.5.67 MUX_TYPE

BLSR Extension Byte

Table 4-117 MUX_TYPE Values

MUX_TYPE Values	Description
E2	E2 Byte (orderwire)
F1	F1 Byte (user)
K3	K3 Byte
Z2	Z2 Byte

4.5.68 NOTIF_CODE

The 2-character Notification Code associated with an autonomous message

Table 4-118 NOTIF_CODE Values

NOTIF_CODE Values	Description
CL	The condition causing the alarm has Cleared
CR	A Critical alarm
MJ	A Major alarm
MN	A Minor alarm
NA	The condition is Not Alarmed
NR	The alarm is not reported

4.5.69 OCN_BLSR

Modifier used to differentiate the various levels of OC-N in BLSR

Table 4-119 OCN_BLSR Values

OCN_BLSR Values	Description
OC12	Optical Carrier level-12 (662Mbs)
OC48	Optical Carrier level-48 (2.4Gbs)
OC192	Optical Carrier level-192 (10Gbs)

4.5.70 OCN_MONTYPE

OCN monitor type

Table 4-120 OCN_MONTYPE Values

OCN_MONTYPE Values	Description
CVL	Coding Violation - Line
ESL	Errored Second - Line
PJNEG	PPJC-PDET:Negative Pointer Justification
PJPOS	PPJC-PFEN:Negative Pointer Justification
PSC	Protection Switching Count
PSD	Protection Switching Duration
SEFS	Severely Errored Framing Seconds
UASL	Unavailable Second -Line

4.5.71 OCN_TYPE

Modifier used to differentiate the various levels of OC-N in the ENT/ED/DLT/RTRV commands

Table 4-121 OCN_TYPE Values

OCN_TYPE Values	Description
OC3	Optical Carrier level-3 (155Mbs)
OC12	Optical Carrier level-12 (622Mbs)
OC48	Optical Carrier level-48 (2.4Gbs)
OC192	Optical Carrier level-192 (10Gbs)

4.5.72 ON_OFF

Disable or Enable an attribute

Table 4-122 ON_OFF Values

ON_OFF Values	Description
N	Disable the attribute
Y	Enable the attribute

4.5.73 OPTICAL_BAND

Defines the Optical Band

Table 4-123 OPTICAL_BAND Values

OPTICAL_BAND Values	Description
1530.33-1532.68	Band 1
1534.25-1536.61	Band 2
1538.19-1540.56	Band 3
1542.14-1544.53	Band 4
1546.12-1548.51	Band 5
1550.12-1552.52	Band 6
1554.13-1556.55	Band 7
1558.17-1560.61	Band 8
UNKNOWN	The band is not yet configured/retrieved from unit

4.5.74 OPTICAL_LINK_TYPE

The type of the Optical Link between two optical facilities

Table 4-124 OPTICAL_LINK_TYPE Values

OPTICAL_LINK_TYPE Values	Description
ADD-DROP	Link between two points that result in an add/drop connection from a Drop point to an Add point
HITLESS	Link between two OMS points that result in a hitless connection from a Drop point to an Add point of a consecutive Band/Channel Filter
OTS	Link between two OTS points

4.5.75 OPTICAL_MODE

The facility optical mode

Table 4-125 OPTICAL_MODE Values

OPTICAL_MODE Values	Description
SDH	The SDH optical mode the European format
SONET	The SONET optical mode the American format

4.5.76 OPTICAL_PORT_TYPE

Qualifies the optical port of a card

Table 4-126 OPTICAL_PORT_TYPE Values

OPTICAL_PORT_TYPE Values	Description
ADD	The signal is added to the port
DROP	The signal is dropped from the port
IN	The signal has entered the card
IN-EXP	Express channel that continues the signal from the previous card
OUT	The signal exit from the card
OUT-EXP	Express channel that continues the signal to the next card

4.5.77 OPTICAL_WLEN

The Optical Wavelength

Table 4-127 OPTICAL_WLEN Values

OPTICAL_WLEN Values	Description
1530.33	Wavelength 1
1531.12	Wavelength 2
1531.90	Wavelength 3
1532.68	Wavelength 4
1534.25	Wavelength 5
1535.04	Wavelength 6
1535.82	Wavelength 7
1536.61	Wavelength 8
1538.19	Wavelength 9
1538.98	Wavelength 10
1539.77	Wavelength 11
1540.56	Wavelength 12
1542.14	Wavelength 13
1542.94	Wavelength 14
1543.73	Wavelength 15
1544.53	Wavelength 16
1546.12	Wavelength 17
1546.92	Wavelength 18
1547.72	Wavelength 19

Table 4-127 OPTICAL_WLEN Values (continued)

OPTICAL_WLEN Values	Description
1548.51	Wavelength 20
1550.12	Wavelength 21
1550.92	Wavelength 22
1551.72	Wavelength 23
1552.52	Wavelength 24
1554.13	Wavelength 25
1554.94	Wavelength 26
1555.75	Wavelength 27
1556.55	Wavelength 28
1558.17	Wavelength 29
1558.98	Wavelength 30
1559.79	Wavelength 31
1560.61	Wavelength 32
USE-TWL1	Use Tunable Wavelength 1

4.5.78 OPTICS

The type of Gigabyte Ethernet optics being used

Table 4-128 OPTICS Values

OPTICS Values	Description
1000_BASE_LX	1000 Base LX
1000_BASE_SX	1000 Base SX
1000_BASE_ZX	1000 Base ZX
COPPER	Copper
CWDM	CWDM
DWDM	DWDM
IR	Intermediate Reach
LR	Long Reach
SR	Short Reach
UNKNOWN	Unknown Optical Type
UNPLUGGED	Unplugged
VLR	VLR

4.5.79 PAYLOAD

Identifies payload type

Table 4-129 PAYLOAD Values

PAYLOAD Values	Description
10GE	10GigE Payload Mode
SDH	SDH Payload Mode
SONET	SONET Payload Mode

4.5.80 PM_MODE

Identifies the type of PM parameters. Only P type is supported.

Table 4-130 PM_MODE Values

PM_MODE Values	Description
I	Transport Intermediate Node PM parameters
L	Transport Line PM parameters
NONE	No PM parameters are being stored for the entity
P	Transport Path PM parameters
S	Transport Section PM parameters
SEG	Transport Path Segment PM parameters (e.g., ISDN BRA)

4.5.81 PM_STATE

Directs the named PM mode type - path (P) state

Table 4-131 PM_STATE Values

PM_STATE Values	Description
OFF	Disable the mode
ON	Enable the mode

4.5.82 PRIVILEGE

Security level

Table 4-132 PRIVILEGE Values

PRIVILEGE Values	Description
MAINT	Maintenance security level
PROV	Provisioning security level

Table 4-132 PRIVILEGE Values (continued)

PRIVILEGE Values	Description
RTRV	Retrieve security level
SUPER	Superuser security level

4.5.83 PRODUCT_TYPE

Product (NE) type

Table 4-133 PRODUCT_TYPE Values

PRODUCT_TYPE Values	Description
15327	Cisco ONS 15327 NE
15454	Cisco ONS 15454 NE
UNKNOWN	Unknown product type

4.5.84 PROTECTION_GROUP

Protection group type

Table 4-134 PROTECTION_GROUP Values

PROTECTION_GROUP Values	Description
1-1	1 to 1 protection group
1-N	1 to N protection group

4.5.85 PROTTYPE

Protection type for DWDM Client facilities

Table 4-135 PROTTYPE Values

PROTTYPE Values	Description
Y-CABLE	Y Cable Protection for the Client Ports on MXP/TXP cards

4.5.86 PST

Primary State. This parameter indicates the current overall service condition of an entity.

Table 4-136 PST Values

PST Values	Description
IS	In-service
OOS	Out-of-Service

4.5.87 RDIRN_MODE

This type specifies the Optical Ring directionality

Table 4-137 RDIRN_MODE Values

RDIRN_MODE Values	Description
E-W	The direction of the signal is from east to west (or clockwise)
W-E	The direction of the signal is from west to east (or counterclockwise)

4.5.88 REVERTIVE_TIME

Revertive time

Table 4-138 REVERTIVE_TIME Values

REVERTIVE_TIME Values	Description
0.5 – 12.0	Revertive time is 0.5 to 12.0 minutes

4.5.89 SD_BER

The threshold for declaring Signal Degrade on a facility or path

Table 4-139 SD_BER Values

SD_BER Values	Description
1E-5–1E-9	SDBER is the 1E-5–1E-9

4.5.90 SDCC_MODE

Enables or disables the Section Data Communications Channel (SDCC) for the specified facility

Table 4-140 SDCC_MODE Values

SDCC_MODE Values	Description
N	Section Data Communications Channel is disabled for this facility
Y	Section Data Communications Channel is enabled for this facility

4.5.91 SERV_EFF

Indicates the effect of the alarm on service

Table 4-141 SERV_EFF Values

SERV_EFF Values	Description
NSA	The condition is Non-Service Affecting
SA	The condition is Service Affecting

4.5.92 SF_BER

The threshold for declaring Signal Failure on a facility or path

Table 4-142 SF_BER Values

SF_BER Values	Description
1E-3–1E-5	SFBER is the 1E-3–1E-5

4.5.93 SIDE

The role the unit is playing in the protection group

Table 4-143 SIDE Values

SIDE Values	Description
PROT	The entity is the protection unit in the protection group
WORK	The entity is a working unit in the protection group

4.5.94 SST

Secondary State. This parameter provides additional information pertaining to PST and PSTQ. Values for this state included here are a subset of the list in the GR document.

Table 4-144 SST Values

SST Values	Description
AINS	Out of service, auto in service
MT	Out of service, maintenance mode

4.5.95 STATUS

The status of the unit in the protection pair, either Active or Standby.

Table 4-145 STATUS Values

STATUS Values	Description
ACT	The entity is the active unit on the shelf
NA	Status is unavailable
STBY	The entity is the standby unit on the shelf

4.5.96 STM_TYPE

The Synchronous Transport Mode of the NE

Table 4-146 STM_TYPE Values

STM_TYPE Values	Description
SDH	The NE is operating in Synchronous Digital Hierarchy mode
SONET	The NE is operating in Synchronous Optical Network mode

4.5.97 STS_MONTYPE

STS Monitor Type

Table 4-147 STS_MONTYPE Values

STS_MONTYPE Values	Description
CVP	Coding Violation - P
ESP	Errored Second - Path
SESP	Severely Errored Second - Path
UASP	Unavailable Second - Path

4.5.98 STS_PATH

Modifier for some of the STS commands. This table does not include STS for the RTRV-CRS command, because STS is not a standard designator.

Table 4-148 STS_PATH Values

STS_PATH Values	Description
STS1	Synchronous Transport Signal level-1 (51 Mbs)
STS3C	Synchronous Transport Signal level-3 Concatenated (155 Mbs)
STS6C	Synchronous Transport Signal level-6 Concatenated (310 Mbs)
STS9C	Synchronous Transport Signal level-9 Concatenated (465 Mbs)
STS12C	Synchronous Transport Signal level-12 Concatenated (622 Mbs)
STS24C	Synchronous Transport Signal level-24 Concatenated (1240 Mbs)
STS48C	Synchronous Transport Signal level-48 Concatenated (2488 Mbs)
STS192C	Synchronous Transport Signal level-192 (9952 Mbs)

4.5.99 SW

The type of switch to be initiated

Table 4-149 SW Values

SW Values	Description
APS-CLEAR	APS-CLEAR switch state. It is a read only switch state, and is not allowed in the OPR-PROTNSW-xxx commands.
CLEAR	CLEAR switch state. This switch state is not allowed in the OPR-PROTNSW-xxx commands.
EXERCISE	EXERCISE switch state. This switch state is not allowed in the OPR-PROTNSW-XXX commands.
FRCD	Force a switch unless another FRCD or LOCKOUT is in effect.

Table 4-149 SW Values (continued)

SW Values	Description
LOCKOUT	Locks the facility out of switching. The system cannot switch to the protect facility to carry service.
MAN	Requests a manual switch of the facility

4.5.100 SWITCH_TYPE

BLSR Switch Type

Table 4-150 SWITCH_TYPE Values

SW_TYPE Values	Description
FRCDWKSWBK	Working unit forced to switch back to working
FRCDWKSWPR	Working unit forced to switch to the protection unit
LOCKOUTOFPR	Lockout of protection
LOCKOUTOFWK	Lockout of working
MANWKSWBK	Manual switch of working unit back to working
MANWKSWPR	Manual switch of working unit back to the protection unit
RING	BLSR ring switch type
SPAN	BLSR span switch type

4.5.101 SYNC_CLOCK_REF_QUALITY_LEVEL

Clock Source Quality Level

Table 4-151 SYNC_CLOCK_REF_QUALITY_LEVEL Values

SYNC_CLOCK_REF_ QUALITY_LEVEL Values	Description
DUS	Don’t Use for Synchronization
PRS	Primary Reference Source, Stratum 1 Traceable
RES	Reserved for network synchronization use
SMC	SONET Minimum Clock Traceable
ST2	Stratum 2 Traceable
ST3	Stratum 3 Traceable
ST3E	Stratum 3E Traceable (2nd generation only)
ST4	Stratum 4 Traceable
STU	Synchronized, Traceability Unknown
TNC	Transit Node Clock (2nd generation only)

4.5.102 SYNC_GENERATION

Synchronization status message set generation

Table 4-152 SYNC_GENERATION Values

SYNC_GENERATION Values	Description
GEN1	First generation SSM set
GEN2	Second generation SSM set

4.5.103 SYNC_QUALITY_LEVEL

Reserved for network synchronization quality level

Table 4-153 SYNC_QUALITY_LEVEL Values

SYNC_QUALITY_LEVEL Values	Description for Generation-1
ABOVE-PRS	Better than Primary Reference Source. Valid setting for Generation-1 and Generation-2 SSM set
ABOVE-SMC	Between SMC and ST3. Valid setting for Generation-1 and Generation-2 SSM set
ABOVE-ST2	Between ST2 and STU. Valid setting for Generation-1 and Generation-2 SSM set
ABOVE-ST3	For Generation-1 SSM set, between ST3 and ST2. For Generation-2 SSM set, between ST3 and ST3E
ABOVE-ST3E	Between ST3E and TNC. Valid setting only for Generation-2 SSM set
ABOVE-ST4	Between ST4 and ST3. Valid setting for Generation-1 and Generation-2 SSM set
ABOVE-STU	Between STU and PRS. Valid setting for Generation-1 and Generation-2 SSM set
ABOVE-TNC	Between TNC and ST2. Valid setting only for Generation-2 SSM set
ABOVE-SMC	Between SMC and ST3
BELOW-ST4	Below ST4 but still usable. Valid setting for Generation-1 and Generation-2 SSM set
SAME-AS-DUS	Disable the RES message by equating it to DUS. Valid setting for Generation-1 and Generation-2 SSM set

4.5.104 SYNC_GENERATION

Synchronization status message set generation

Table 4-154 SYNC_GENERATION Values

SYNC_GENERATION Values	Description
GEN1	First generation SSM set
GEN2	Second generation SSM set

4.5.105 SYS_TYPE

The type of the system representing the fiber and the span length that connects two nodes.

Table 4-155 SYS_TYPE Values

SYS_TYPE	Description
SMF-28-LR	SMF-28 system type, long reach
SMF-28-MR	SMF-28 system type, medium reach
SMF-28-SR	SMF-28 system type, short reach

4.5.106 T1_MONTYPE

T1 monitor type

Table 4-156 T1_MONTYPE Values

T1_MONTYPE Values	Description
CVL	Coding Violation - Line
CVP	Coding Violation - Path
ESL	Errored Second - Line
SASP	Severely Errored Framing/AIS Seconds
SESL	Severely Errored Second - Line
SESP	Severely Errored Second - Path
UASP	Unavailable Second - Path

4.5.107 T3_MONTYPE

T3 monitor type

Table 4-157 T3_MONTYPE Values

T3_MONTYPE Values	Description
CVL	Coding Violation - Line
ESL	Errored Second - Line
SESL	Severely Errored Second - Line

4.5.108 TACC_MODE

Test access mode

Table 4-158 TACC_MODE Values

TACC_MODE Values	Description
LOOPE	Indicates to split both the A and B paths, connect the line incoming from E direction to the line outgoing in the E direction, and connect this looped configuration to the FAD. The line outgoing in the F direction shall have a QRS connected, and the line incoming from the F direction shall be terminated by the nominal characteristic impedance of the line.
LOOPF	Indicates to split both the A and B paths, connect the line incoming from F direction to the line outgoing in the F direction, and connect this looped configuration to the FAD. The line outgoing in the E direction shall have a QRS connected, and the line incoming from the E direction shall be terminated by the nominal characteristic impedance of the line.
MONE	Indicates that a monitor connection is to be provided from the FAD to the A transmission path of the accessed circuit.
MONEF	Indicates that a monitor connection is to be provided from the FAD1 to a DFAD, or the odd pair of a FAP, to the A transmission path and from FAD2 of the same DFAD, or the even pair of a FAP, to the B transmission path of the accessed circuit.
MONF	Indicates that a monitor connection is to be provided from the FAD to the B transmission path of the accessed circuit.
SPLTA	Indicates that a connection is to be provided from both the E and F sides of the A transmission path of the circuit under test to the FAD and split the A transmission path.
SPLTB	Indicates that a connection is to be provided from both the E and F sides of the B transmission path of the circuit under test to the FAD and split the B transmission path.
SPLTE	Indicates to split both the A and B paths and connect the E side of the accessed circuit to the FAD. The line outgoing in the F direction shall have a QRS connected, and the line incoming from the F direction shall have a QRS connected, and the line incoming from the E direction shall be terminated by the nominal characteristic impedance of the line.

Table 4-158 TACC_MODE Values (continued)

TACC_MODE Values	Description
SPLTEF	Indicates to split both the A and B paths, and connect the E side of the accessed circuit to FAD1 and the F side to FAD2.
SPLTF	Indicates to split both the A and B paths, and connect the F side of the accessed circuit to the FAD. The line outgoing in the E direction shall have a QRS connected, and the line incoming in the E direction shall have a QRS connected, and the line incoming from the E direction shall be terminated by the nominal characteristic impedance of the line.

4.5.109 TERM_MODE

Terminating mode of the card

Table 4-159 TERM_MODE Values

TERM_MODE Values	Description
LINE	Line Terminating Mode
SEC	Section Terminating Mode
TRANS	Transparent Mode

4.5.110 TIMING_MODE

Timing mode for the current node

Table 4-160 TIMING_MODE Values

TIMING_MODE Values	Description
EXTERNAL	The node derives its clock from the BITS input
LINE	The node derives its clock from the SONET lines
MIXED	The node derives its clock from the mixed timing mode

4.5.111 TMPER

Performance parameter

Table 4-161 TMPER Values

TMPER Values	Description
15-MIN	Performance Parameter Accumulation Interval Length - Every 15 Minutes
1-DAY	Performance Parameter Accumulation Interval Length - Every 24 Hours

4.5.112 TRANS_MODE

G1000 Transponder Mode

Table 4-162 TRANS_MODE Values

TRANS_MODE Values	Description
BI	Bidirectional
NONE	Not in Transponder Mode
UNI	Unidirectional

4.5.113 TRCFORMAT

Indicates the trace format

Table 4-163 TRCFORMAT Values

TRCFORMAT Values	Description
1-BYTE	1 Byte Trace Message
16-BYTE	16-Byte Trace Message
64-BYTE	64-Byte Trace Message

4.5.114 TRCLEVEL

Indicates the trace mode options

Table 4-164 TRCLEVEL Values

TRCLEVEL Values	Description
J0-SEC	Trace at the SONET Section level
PATH	Trace at the path monitor level (OTUk)
SEC	Trace at the section monitor level

4.5.115 TRCMODE

Path Trace Mode

Table 4-165 TRCMODE Values

TRCMODE Values	Description
AUTO	Use the previously received path trace string as the expected string (not applicable to MXP/TXP cards)
AUTO-NO-AIS	Use the previously received path trace string as the expected string and do not turn on AIS and RDI if TIMP detected

Table 4-165 TRCMODE Values (continued)

TRCMODE Values	Description
MAN	Use the provisioned expected string as the expected string
MAN-NO-AIS	Use the provisioned expected string as the expected string and do not turn on AIS and RDI if TIMP detected
OFF	Turn off path trace capability. Nothing will be reported

4.5.116 TX_RSLT

Indicates the file transferred result

Table 4-166 TX_RSLT Values

TX_RSLT Values	Description
FAILURE	Indicates a failed result
SUCCESS	Indicates a successful result

4.5.117 TX_STATUS

Indicates the file transferred status

Table 4-167 TX_STATUS Values

TX_STATUS Values	Description
COMPLD	Indicates the file transmission is completed
IP	Indicates the file transmission is in process
START	Indicates the file transmission is started

4.5.118 TX_TYPE

Specifies the type and direction of the file transferred

Table 4-168 TX_TYPE Values

TX_TYPE Values	Description
RFBU	Indicates Remote File Backup
RFR	Indicates Remote File Restore
SWDL	Indicates Software Download

4.5.119 UCP_ADM_STATE

UCP Administrative States

Table 4-169 UCP_ADM_STATE Values

UCP_ADM_STATE Values	Description
DOWN	Indicates the UCP administrative state is down
UP	Indicates the UCP administrative state is up

4.5.120 UCP_CC_TUN_MD

UCP IP Tunneling mode. Default is DISABLED.

Table 4-170 UCP_CC_TUN_MD Values

UCP_CC_TUN_MD Values	Description
DISABLED	DISABLED UCP tunneling mode
GRE	GRE UCP tunneling mode
IP-IN-IP	IP-IN-IP UCP tunneling mode

4.5.121 UCP_CKT_STATE

UCP Operation States of Circuits

Table 4-171 UCP_CKT_STATE Values

UCP_CKT_STATE Values	Description
CLEARING	UCP circuit is in the clearing state
CLOSED	UCP circuit is in the closed state
FAILED	UCP circuit is in the failed state
LISTENING	UCP circuit is in the listening state. This state is applicable only at termination.
OPEN	UCP circuit is opened
OPENING	UCP circuit is opening
PENDING	UCP circuit is in the open-pending state
RETRY	UCP circuit is in retry state. This state is applicable only at source
WAIT	UCP circuit is in wait-cc state. This state is applicable only at source

4.5.122 UCP_CRC_MODE

UCP CRC mode for this control channel, it is applicable to IPCCs of the SDCC type only.

Table 4-172 UCP_CRC_MODE Values

UNI_BI Values	Description
16-BIT	Indicates a 16-bit CRC mode
32-BIT	Indicates a 32-bit CRC mode

4.5.123 UCP_IPCC_TYPE

UCP Types

Table 4-173 UCP_IPCC_TYPE Values

UCP_IPCC_TYPE Values	Description
ROUTED	Indicates the Optical User Network Interface–Client
SDCC	Indicates the Optical User Network Interface–Network

4.5.124 UCP_TNA_TYPE

Types of TNA (transport network administered address)

Table 4-174 UCP_TNA_TYPE Values

UCP_TNA_TYPE Values	Description
IPV4	Indicates IPV4 TNA type
IPV6	Indicates IPV6 TNA type
NSAP	Indicates NSAP TNA type

4.5.125 UNI_BI

Unidirectional and Bidirectional switch operations

Table 4-175 UNI_BI Values

UNI_BI Values	Description
BI	Bidirectional protection switching
UNI	Unidirectional protection switching

4.5.126 UP_DOWN

Up/Down

Table 4-176 UP_DOWN Values

UP_DOWN Values	Description
DOWN	Down
UP	Up

4.5.127 VALIDITY

Response validity

Table 4-177 VALIDITY Values

VALIDITY Values	Description
COMPL	Complete Response
PRTL	Partial Response

4.5.128 VOA_CNTR_MODE

Defines the VOA control mode

Table 4-178 VOA_CNTR_MODE Values

VOA_CNTR_MODE Values	Description
ATTN	VOA has a fixed attenuation
POWER	VOA controls the attenuation to obtain a fixed output power

4.5.129 VT1_5_MONTYPE

VT1_5 Monitor Type

Table 4-179 VT1_5_MONTYPE Values

VT1_5_MONTYPE Values	Description
CVV	Coding Violation - VT Path
ESV	Errored Seconds - VT Path
SESV	Severely Errored Seconds - VT Path
UASV	Unavailable Second - VT Path

4.5.130 WDM

Facility Types for MXP/TXP cards

Table 4-180 WDM Values

WDM Values	Description
CLNT	Client Facility
OCH	Optical Channel (DWDM) Facility

4.5.131 WLEN_MODE

The Wavelength configuration mode of a single node/direction

Table 4-181 WLEN_MODE Values

WLEN_MODE Values	Description
ADD	The wavelength is added at this node
DROP	The wavelength is dropped from this node
EXP	The wavelength is expressed in this node

Ring Provisioning

This chapter provides information and sample procedures for setting up STS or VT circuits over existing unidirectional path switched ring (UPSR) and bidirectional line switch ring (BLSR) configurations using TL1, including:

- UPSR topology
- UPSR cross-connections
- Ring-to-ring interconnection
- 1-way drop and continue

Note Because the ONS 15454/ONS 15327 implements logical UPSR, there are no defined east and west ports. Instead, the east STS path for one circuit can exit a different port than the east STS path of another circuit, even though the west STS paths for both circuits may share the same port.

5.1 UPSR Topology

No special configuration of the physical UPSR topology is required other than connecting the fibers to the desired ports on the desired nodes. The east and west paths must exit a node at different ports (to ensure link diversity), but there are no other physical topology restrictions

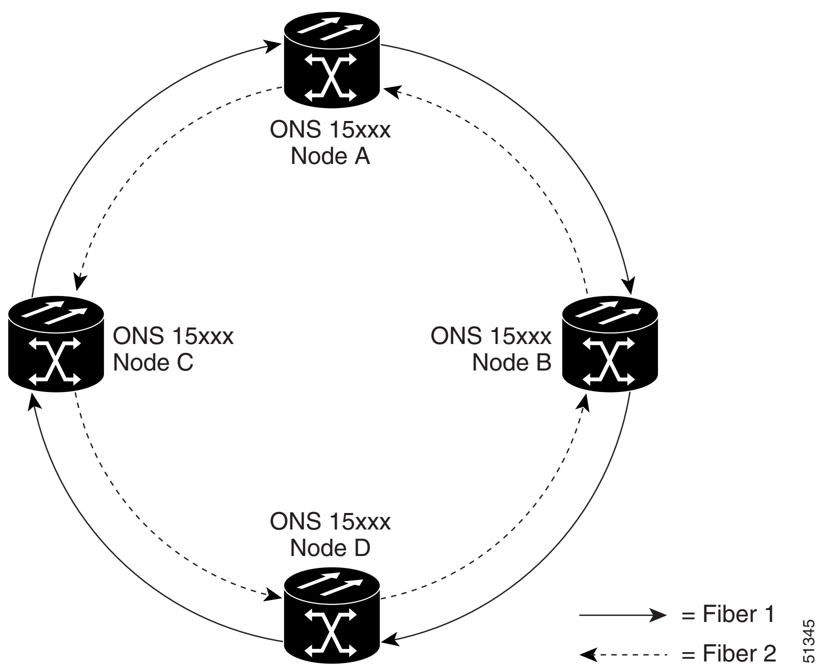
ONS 15xxx networks give you the option to set up path-protected mesh networks (PPMNs). PPMNs extend the protection scheme of a UPSR from the basic ring configuration to the meshed architecture of several interconnected rings. For more information about PPMN refer to the *Cisco ONS 15454 Procedure Guide* or the *Cisco ONS 15327 User Documentation*.

5.2 UPSR Cross-Connections

To create a UPSR cross-connection using TL1, you only need to designate whether it is a 1-way or 2-way cross-connect, but the access identifier (AID) must be more explicit. For example, to create a 1-way UPSR circuit over the network with nodes A, B, C, and D and segments A-B, B-D, A-C, C-D as shown in Figure 5-1, enter the following commands (Node A is the source node and Node D is the destination node):

ENT-CRS-STS1:A:FROM,TO1&TO2:CTAG1::1WAY;
ENT-CRS-STS1:B:FROM,TO:CTAG2::1WAY;
ENT-CRS-STS1:C:FROM,TO:CTAG3::1WAY;
ENT-CRS-STS1:D:FROM1&FROM2,TO:CTAG4::1WAY;

Figure 5-1 Network configured with a 1-way UPSR circuit

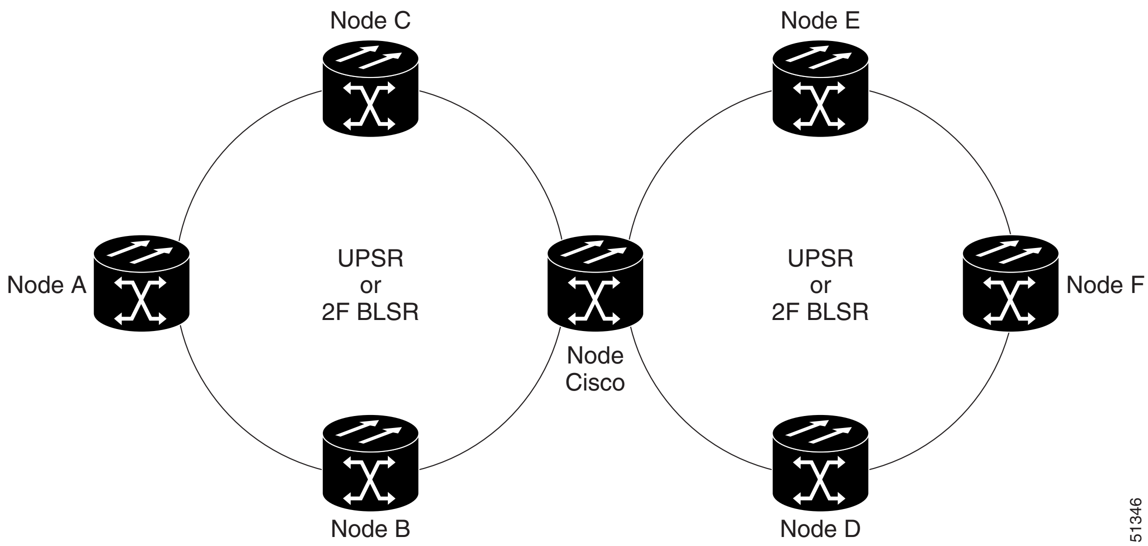


5.3 Ring-to-Ring Interconnection

In the following examples, the form “5/1/1” represents “Slot 5, Port 1, STS 1.” For VTs add the normal VT Group and VT ID extensions. These examples also assume that the slots/ports have been auto-provisioned (via a plug-in event) and that the ports involved have been placed into the in service state using a port configuration command, for example, ED-OCN.

For the examples in this section, both rings traverse the same node; therefore, only a single cross-connection is required to create the ring-to-ring connection. Use the network map shown in Figure 5-2 with the node named “Cisco” in the nexus.

Figure 5-2 Network map with Cisco node showing ring-to-ring interconnection



5.3.1 Sample UPSR to UPSR Connection

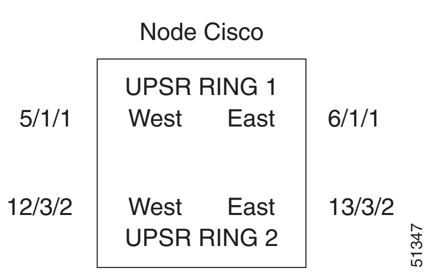
Ring 1 = UPSR

Ring 2 = UPSR

This example, illustrated in Figure 5-3, uses a OC-3-4 to feed Ring 2. Ring 1 can have any OC-N trunk card, but the trunk card is most likely a single-port OC-48 or OC-12.

Note STS 12/3/2 maps to STS-12-8 (((3-1)*3) +2).
The STS calculation formula is: (((Port # -1)*Number of STS per port)+STS#).

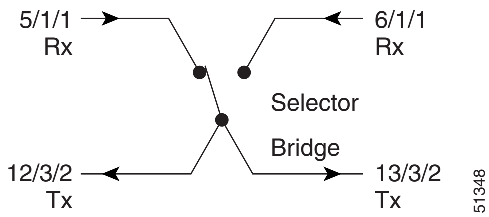
Figure 5-3 UPSR to UPSR connection specifications through the Cisco node



Use the ENT-CRS-STS1:CISCO:**STS-5-1&STS-6-1,STS-12-8&STS-13-8**:CTAG1::2WAY; input format.

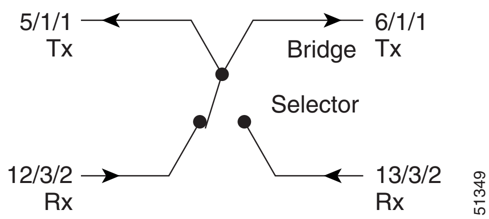
This command creates a selector between 5/1/1 and 6/1/1 which is bridged to Ring 2 (12/3/2 and 13/3/2), as shown in Figure 5-4.

Figure 5-4 Selector between 5/1/1 and 6/1/1



The command also creates a selector between 12/3/2 and 13/3/2 to a bridge to Ring 1 (5/1/1 and 6/1/1), as shown in Figure 5-5.

Figure 5-5 Selector between 12/3/2 and 13/3/2



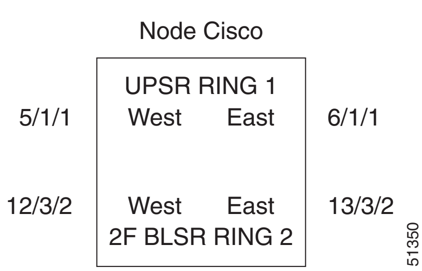
5.3.2 Sample UPSR to Two-Fiber BLSR Connection

Ring 1 = UPSR

Ring 2 = Two-fiber BLSR

This example, illustrated in Figure 5-6, uses a UPSR end-point with a drop on a two-fiber BLSR and the west span of the two-fiber BLSR (Ring 2) for the active path of the circuit. The example also uses multiport addressing for Ring 2 and is based on a multiport OC12-4 card (this is only important for computing the STS AID for multiport cards) where 13/3/2 = STS-13-26 and where 26 = (((3-1)*12) +2).

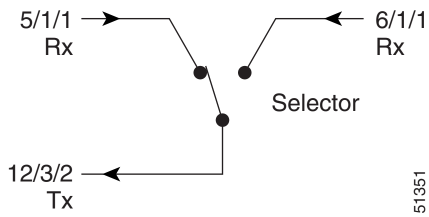
Figure 5-6 UPSR to two-fiber BLSR



Use the ENT-CRS-STS1:CISCO:**STS-5-1&STS-6-1,STS12-26**:CTAG2::2WAY; input format.

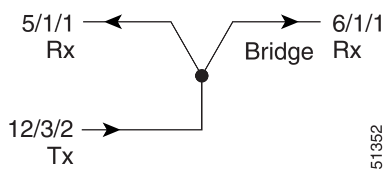
This command creates a selector between 5/1/1 and 6/1/1 which connects to 12/3/2 on Ring 2, as shown in Figure 5-7.

Figure 5-7 Selector between 5/1/1 and 6/1/1



The command also creates a bridge from 12/3/2 to Ring 1 (5/1/1 and 6/1/1), as shown in Figure 5-8.

Figure 5-8 Bridge from 12/3/2 to Ring 1



In this configuration a two-fiber BLSR switch can automatically reconnect the selector output to the protection path on the east port (12/3/2 assuming OC-12) if necessary.

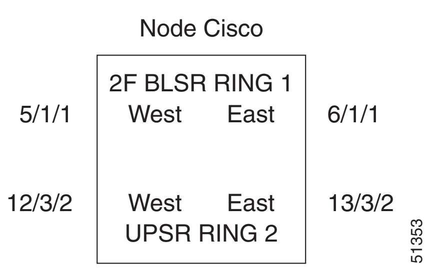
5.3.3 Sample Two-Fiber BLSR to UPSR Connection

Ring 1 = Two-fiber BLSR

Ring 2 = UPSR

This example, illustrated in Figure 5-9, uses a UPSR end-point with a drop on a two-fiber BLSR and uses the east span of the two-fiber BLSR (Ring 1) for the active path of the circuit. For STS addressing, the UPSR is an OC-3 (e.g. STS-13-8).

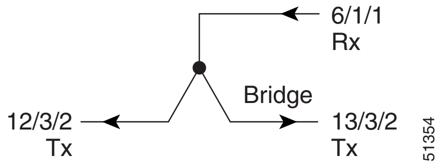
Figure 5-9 Two-fiber BLSR to UPSR



Use the ENT-CRS-STS1:CISCO:**STS-6-1,STS-12-8&STS-13-8**:CTAG3::2WAY; input format.

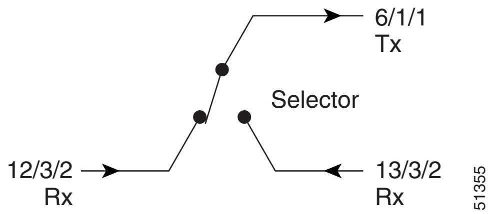
This command creates a bridge from 6/1/1 to Ring 2 (12/3/2 and 13/3/2), as shown in Figure 5-10.

Figure 5-10 Bridge from 6/1/1 to Ring 2



The command also creates a selector between 12/3/2 and 13/3/2 to Ring 1 (6/1/1) as shown in Figure 5-11.

Figure 5-11 Selector between 12/3/2 and 13/3/2 to Ring 1



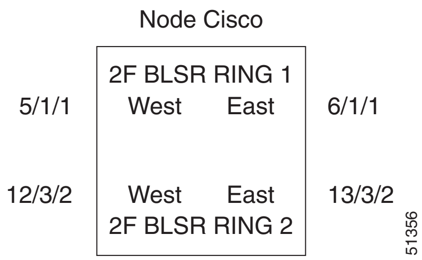
5.3.4 Sample Two-Fiber BLSR to Two-Fiber BLSR Connection

Ring 1 = Two-fiber BLSR

Ring 2 = Two-fiber BLSR

All protection for a two-fiber BLSR interconnecting to a two-fiber BLSR is performed at the line level. You can make the connection with a 2-way cross-connect from an STS on the working side of the two-fiber BLSR span of Ring 1 to an STS on the working side of a two-fiber BLSR span on Ring 2. The connections can be east to east, east to west, west to east, and west to west. This example, illustrated in Figure 5-12, uses Ring 1 west to Ring 2 east and assumes a OC-12-4 in Slots 12 and 13 for subtending to a two-fiber BLSR (Ring 2).

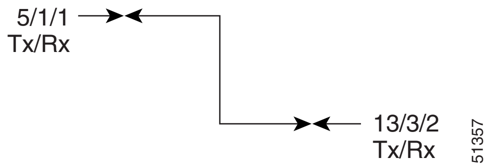
Figure 5-12 Two-fiber BLSR to two-fiber BLSR



Use the ENT-CRS-STS1:CISCO:**STS-5-1,STS-13-26**:CTAG4::2WAY; input format.

This command creates a 2-way connection from 5/1/1 to 13/3/2 as shown in Figure 5-13.

Figure 5-13 2-way connection from 5/1/1 to 13/3/2



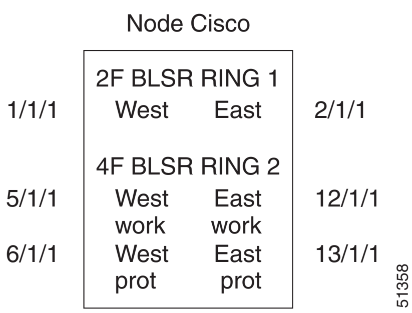
5.3.5 Sample Two-Fiber BLSR to Four-Fiber BLSR Connection (ONS 15454)

Ring 1 = Two-fiber BLSR

Ring 2 = Four-fiber BLSR

All protection for a two-fiber BLSR interconnecting to a four-fiber BLSR is performed at the line level. You can make the connection with a simple 2-way cross-connect from the appropriate side, east or west, of the two-fiber BLSR to the working fiber of the appropriate side, east or west, of the four-fiber BLSR, as shown in Figure 5-14.

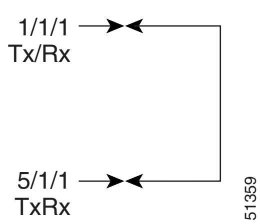
Figure 5-14 Two-fiber BLSR to four-fiber BLSR



Use the ENT-CRS-STS1:CISCO:**STS-1-1,STS-5-1**:CTAG5::2WAY; input format.

This command creates a 2-way connection from 1/1/1 to 5/1/1, as shown in Figure 5-15.

Figure 5-15 2-way connection from 1/1/1 to 5/1/1



In the event of a failure, the software will automatically switch the traffic to the appropriate line and path.

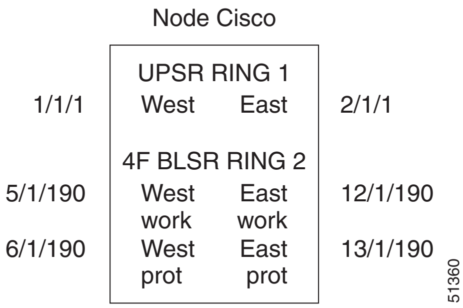
5.3.6 Sample UPSR to Four-Fiber BLSR Connection (ONS 15454)

Ring 1 = UPSR

Ring 2 = Four-fiber BLSR

This example uses the west span of the four-fiber BLSR (Ring 2) for the active path of the circuit. The example also assumes that the four-fiber BLSR travels over OC-192 spans, as shown in Figure 5-16.

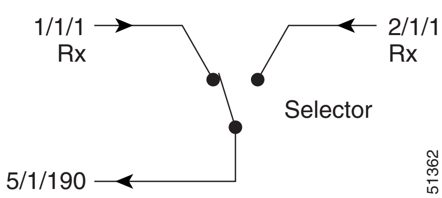
Figure 5-16 UPSR to four-fiber BLSR



Use the ENT-CRS-STS1:CISCO:**STS-1-1&STS-2-1&STS-5-190**:CTAG6::2WAY; input format.

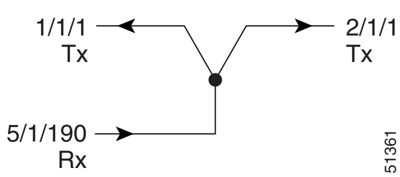
This command creates a selector between 1/1/1 and 2/1/1 to Ring 2 (5/1/190), as shown in Figure 5-17.

Figure 5-17 Selector between 1/1/1 and 2/1/1 to Ring 2 (5/1/190)



The command also creates a bridge from 5/1/190 to Ring 1 (1/1/1 and 2/1/1), as shown in Figure 5-18.

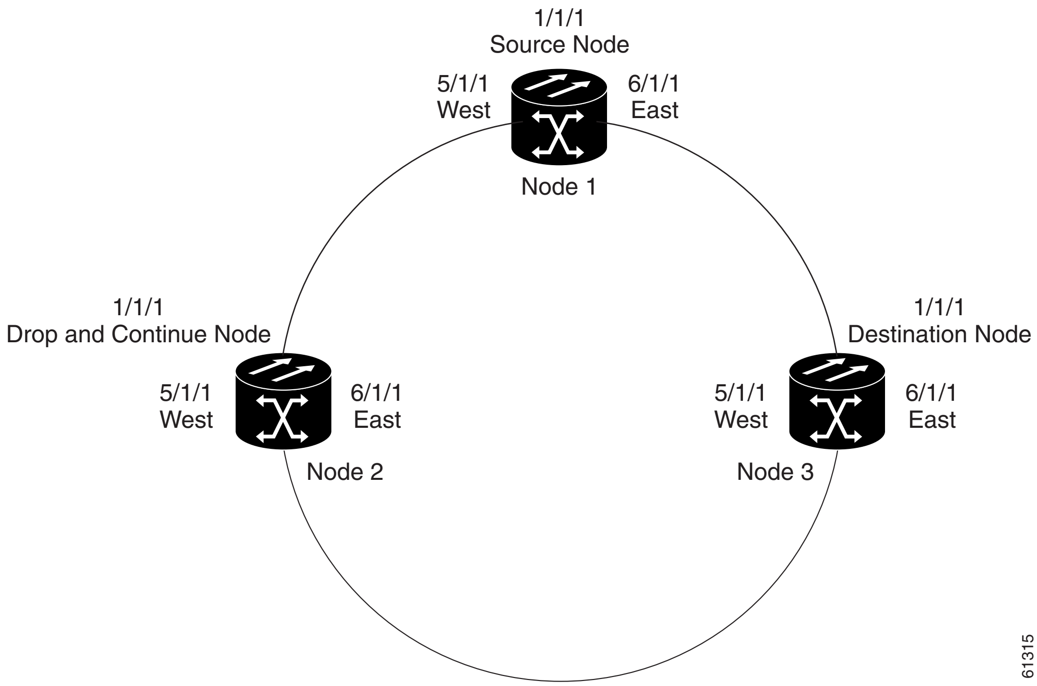
Figure 5-18 Bridge from 5/1/190 to Ring 1 (1/1/1 and 2/1/1)



5.4 1-Way Drop and Continue

The following examples show how to create a 1-way drop and continue cross-connect. The examples use three nodes (Node 1, Node 2, and Node 3) in a ring configuration. Node 1 is the source node, Node 2 has the drop and continue, and Node 3 is the destination.

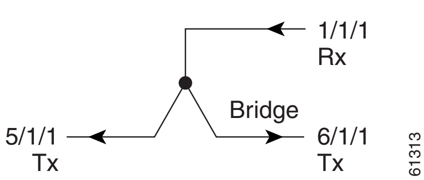
Figure 5-19 1-way drop and continue



5.4.1 Sample Node 1 Configuration (Source Node)

Issue the ENT-CRS-STSn::STS-1-1,STS-5-1&STS-6-1:CTAG::1WAY; command on this Node 1.

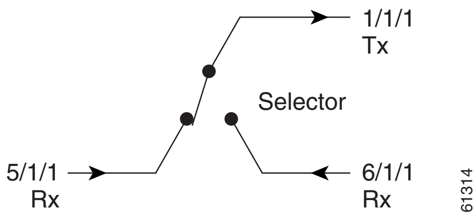
Figure 5-20 Bridge from 1/1/1 to 5/1/1 and 6/1/1



5.4.2 Sample Node 2 Configuration (Drop and Continue Node)

Issue the ENT-CRS-STSn::STS-5-1&STS-6-1,STS-1-1:CTAG::1WAYDC; on this Node 2.

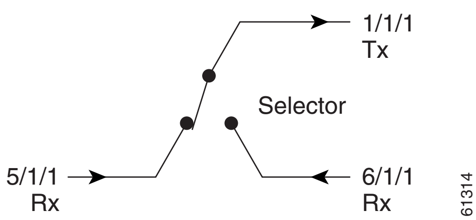
Figure 5-21 Selector between 5/1/1 and 6/1/1 to 1/1/1



5.4.3 Sample Node 3 Configuration (Destination Node)

Issue the ENT-CRS-STSn::STS-5-1&STS-6-1,STS-1-1:CTAG::1WAY; on this Node 3.

Figure 5-22 Selector between 5/1/1 and 6/1/1 to 1/1/1



TL1 Performance Monitoring

Performance information is continuously monitored and stored in individual performance monitoring (PM) registers and can be retrieved upon request or when a preset threshold is exceeded. For more detailed information on performance monitoring, refer to the *Cisco ONS 15454 Reference Guide* and the *Cisco ONS 15327 Reference Guide*.

This chapter provides TL1 performance monitoring information for the Cisco ONS 15454 and the Cisco ONS 15327, including:

- Performance monitoring by card
- PM parameters by line type
- Scheduled PM report provisioning

6.1 Performance Monitoring by Card

Table 6-1 TXP_MR_10G (Transponder) and MXP_2.5G_10G (Muxponder) Card PMs

SONET Layer Far-End (FE)[1]	SONET Layer Near-End (NE)[1]	OTN Layer (NE and FE)[2]	Optics (NE)[1]	FEC (NE)[2]
CVL	CVS	ES-PM	OPT-AVG	BIEC
ESL	CVL	ES-SM	OPT-MAX	BYEC
SESL	SESS	ESR-PM	OPT-MIN	ZBED
UASL	SESL	ESR-SM	OPR-AVG	OBED
FCL	SEFS	SES-PM	OPR-MAX	UCW
	UASS	SES-SM	OPR-MIN	
	UASL	UAS-PM	RXT-AVG[2]	
	FCL	UAS-SM	RXT-MAX[2]	
		BBE-PM	RXT-MIN[2]	
		BBE-SM	LBCL-AVG	
		BBER-PM	LBCL-MAX	
		BBER-SM	LBCL-MIN	
		FC-PM	LAT-AVG	
		FC-SM	LAT-MAX	
			LAT-MIN	

1. Applicable to OCH and CLNT facilities
2. Applicable to OCH facility

Table 6-2 EC1 Card PMs

Section (NE)	Line (NE)	STS Path (NE)	Line (FE)	STS Path (FE)
CVS ESS SESS SEFS	CVL ESL SESL UASL FCL	CVP ESP SESP UASP FCP	CVL ESL SESL UASL FCL	CVP ESP SESP UASP FCP

Table 6-3 DS1(N) Card PMs

Line (NE)	Rx Path (NE)	Tx Path (NE)	VT Path (NE)	STS Path (NE)	V (FE)	STS Path (FE)
CVL ESL SESL LOSSL	AISSP CVP ESP SASP SESP UASP	AISSP CVP ESP SASP SESP UASP	CVV ESV SESV UASV	CVP ESP SESP UASP FCP	CVV ESV SESV UASV	CVP ESP SESP UASP FCP

Table 6-4 DS3(N) Card PMs

Line (NE)	STS Path (NE)	STS Path (FE)
CVL ESL SESL LOSSL	CVP ESP SESP UASP FCP	CVP ESP SESP UASP FCP

Table 6-5 DS3(N)-3E Card PMs

Line (NE)	Path (NE)	STS Path (NE)	Path (FE)[1]	STS Path (FE)
CVL ESL SESL LOSSL	AISSP CVP ESP SASP SESP UASP CVCPP ESCPP SESCPP UASCPP	CVP ESP SESP UASP FCP	CVCPP ESCPP SASCPP SESCPP UASCPP	CVP ESP SESP UASP FCP

1. The C-Bit PMs (PMs that end in “CPP”) are applicable only if line format is C-Bit.

Table 6-6 DS3XM-6 Card PMs

DS3 Line (NE)	DS3 Path (NE)[1]	DS1 Path (NE)	VT Path (NE)	STS Path (NE)	DS3 Path (FE)[1]	VT Path (FE)	STS Path (FE)
CVL ESL SESL LOSSL	AISSP CVP ESP SASP SESP UASP ESCPP SESCPP UASCPP	AISSP ESP SASP SESP UASP	CVV ES-V SES-V UAS-V	CVP ESP SESP UASP FCP	CVCPP ESCPP SASCPP SESCPP UASCPP	CVV ESV SESV UASV	CVP ESP SESP UASP FCP

1. The C-Bit PMs (PMs that end in “CPP”) are applicable only if line format is C-Bit.

Table 6-7 OC3 Card PMs

Section (NE)	Line (NE)	STS Path (NE)	Line (FE)	STS Path (FE)[1]
CVS ESS SESS SEFS	CVL ESL SESL UASL FCL PSC (1+1) PSD (1+1) PPJC-PDET NPJC-PDET PPJC-PGEN NPJC-PGEN	CVP ESP SESP UASP FCP	CVL ESL SESL UASL FCL	CVP ESP SESP UASP FCP

1. The STS Path (FE) PMs are valid only for the OC3-4 card on ONS 15454.

Table 6-8 OC12, OC48, OC192 Card PMs

Section (NE)	Line (NE)	STS Path (NE)	Line (FE)
CVS ESS SESS SEFS	CVL ESL SESL UASL FCL PPJC-PDET NPJC-PDET PPJC-PGEN NPJC-PGEN PSC (1+1, 2F BLSR) PSD (1+1, 2F BLSR) PSC-W (4F BLSR) PSD-W (4F BLSR) PSC-S (4F BLSR) PSD-S (4F BLSR) PSC-R (4F BLSR) PSD-R (4F BLSR)	CVP ESP SESP UASP FCP	CVL ESL SESL UASL FCL

6.2 PM Parameters by Line Type

Table 6-9 PM Parameters by Line Type

Parameter	OC-N	T1	T3	STS	VT1.5
CVL	Y	Y	Y		
CVP		Y	Y	Y	
CVS	Y				
CVV					Y
ESL	Y	Y	Y		
ESP		Y	Y	Y	
ESS	Y				
ESV					Y
FCP				Y	
FCL	Y				
PJNEG	Y				
PJPOS	Y				
PSC	Y				
PSD	Y				
SASP		Y	Y		
SEFS	Y				
SESL	Y	Y	Y		
SESP		Y	Y	Y	
SESS	Y				
SESV					Y
UASL	Y				
UASP		Y	Y	Y	
UASV					Y
AISSP		Y	Y		
CVCPP			Y		
ESCPP			Y		
LOSSL			Y		
SASCPP			Y		
SESCPP			Y		
UASCPP			Y		

6.3 Scheduled PM Report

Scheduled performance monitoring (PM) report is a feature that extends the capability of PM reporting for the ONS 15454 and the ONS 15327. With scheduled PM report the system automatically and periodically generates the PM report of any specified facility or cross-connection.

Note The current maximum number of schedules allowed to be created for an NE is 1000. If this number of schedules has been created for the NE, an error message "Reach Limits Of MAX Schedules Allowed. Can Not Add More" will be returned if trying to create more schedules on the NE.

Note Identical schedules for an NE is not allowed. Two schedules are considered identical if they have the same AID, MOD2 type, performance monitor type, performance monitor level, location, direction and time period.

Note An error message "Duplicate Schedule" is returned if you create a schedule which is a duplicate of an existing schedule. However, if the existing schedule expires (with the parameter <NUMINVL> equal to zero when retrieved by the RTRV-PMSCHED command which means no more performance monitoring report to be sent), then the new schedule with the identical parameter will replace the existing schedule.

Note When you create a PM schedule, the minimum report interval should not be less than five minutes.

See each command description for command formats and syntax:

- SCHED-PMREPT-<MOD2> on page 3-257
- ALW-PMREPT-ALL on page 3-20
- RTRV-PMSCHED-<MOD2> on page 3-225
- RTRV-PMSCHED-ALL on page 3-226
- INH-PMREPT-ALL on page 3-102
- REPT PM <MOD2> on page 3-140

6.3.1 Create a PM Schedule and Receive an Autonomous PM Report

1. Issue the SCHED-PMREPT-<MOD2> command to create a PM schedule.
2. Issue the ALW-PMREPT-ALL command to allow the current TL1 session to be able to receive the autonomous PM report.

6.3.2 Manage PM Schedules

1. Create a PM schedule by issuing the SCHED-PMREPT-<MOD2> command.
2. Delete a PM schedule by issuing the SCHED-PMREPT-<MOD2> command with the <NUMREPT> parameter equal to zero.

> **Note** The PM schedules created on a facility or a cross-connect will be automatically deleted if the card or the cross-connect are unprovisioned.

3. Retrieve all the PM schedules created on the node by issuing the RTRV-PMSCHED-ALL command. Retrieve a particular MOD2 type of PM schedule by issuing the RTRV-PMSCHED-<MOD2> command.

> **Note** The system will not automatically delete the schedules that are expired (for example, a schedule is created to report PM 10 times. After 10 PM reports are sent, the schedule is expired). The expired schedule can be identified by its <NUMINVL> field (equal to zero) in the response of RTRV-PMSCHED.

6.3.3 Enable or Disable a TL1 Session to Receive Autonomous PM Reports

1. Enable a TL1 session to receive a scheduled PM report by issuing the ALW-PMREPT-ALL command.

> **Note** By default, a TL1 session is disabled to receive PM reports. The ALW-PMREPT-ALL command enables a TL1 user to receive all the scheduled PM reports from the system, regardless of whether or not the schedule is created by this TL1 user or by any other TL1 user.

2. Disable a TL1 session to receive any scheduled PM report by issuing the INH-PMREPT-ALL command.

CHAPTER 7

TL1 Alarms and Errors

This chapter provides TL1 alarm and error information supported by the Cisco ONS 15454 and Cisco ONS 15327, including:

- Alarms
- Errors
- Echo

Each alarm includes a description and severity. Errors are listed by error type and include error message. For a list of TL1 conditions, see Table 4-74 on page 4-47.

7.1 Alarms

Refer to "Alarm Troubleshooting" in the *Cisco ONS 15454 Troubleshooting Guide* or the *Cisco ONS 15327 Troubleshooting Guide* for complete alarm definitions, trouble notifications, and fault recovery procedures. The alarms are listed alphabetically by alarmable object:

For a sample of each TL1 alarm that can be generated by the ONS 15454, refer to the file 15454_r40_tl1_alarms.txt on the Cisco ONS 15454 Software CD in the subdirectory \Tl1. For a sample of each TL1 alarm that can be generated by the ONS 15327, refer to the file 15327_r40_tl1_alarms.txt on the Cisco ONS 15327 Software CD in the subdirectory \Tl1. These files can be used to test an operations support system's ability to receive alarms which the ONS 15454/ONS 15327 can raise.

7.1.1 AEP

Alarm expansion panel

Table 7-1 AEP

AEP Alarm	Severity (Active)	Description
EQPT	CR/SA	An Equipment Failure alarm indicates that a hardware failure has occurred on the reporting card.
MFGMEM	CR/SA	The manufacturing data memory failure alarm means that the ONS 15454/15327 cannot access the data on the erasable programmable read-only memory (EPROM).

7.1.2 AIP

Auxiliary interface protection module

Table 7-2 AIP

AIP Alarm	Severity (Active)	Description
INVMACADR	MJ/NSA	The ONS 15454/15327 media access control layer address (MAC address) is invalid.
MEA	CR/SA	If the Mismatch of Equipment Attributes alarm is reported against the AIP, the fuse in the AIP board blew or is missing. The MEA alarm also occurs when an old AIP board with a 2-Amp fuse is installed in a newer 10 Gbps-compatible or ANSI shelf assembly (15454-SA-ANSI).
MFGMEM	CR/SA	The manufacturing data memory failure alarm means that the ONS 15454/15327 cannot access the data on the erasable programmable read-only memory (EPROM).

7.1.3 BITS

Building integration timing supply (BITS) incoming references (BITS-1, BITS-2)

Table 7-3 BITS

BITS Alarm	Severity (Active)	Description
LOF	MJ/SA	A port on the TCC/MIC BITS input detects a loss of frame (LOF) on the incoming BITS timing reference signal.
LOS	MJ/SA	The TCC/MIC card has a loss of signal (LOS) condition from the BITS timing source.
SSM-FAIL	MN/NSA	Synchronization status messaging failed.

7.1.4 BP

The backplane

Table 7-4 BP

BP Alarm	Severity (Active)	Description
MEA	CR/SA	The Mismatch of Equipment and Attributes (MEA) alarm for the backplane means that the revision of the backplane is incompatible with XC10G equipment.
MFGMEM	CR/SA	The Manufacturing Data Memory Failure (MFGMEM) alarm means that the ONS 15454/15327 cannot access the data on the erasable programmable read-only memory (EPROM).

7.1.5 CC

Control channel

Table 7-5 CC

CC Alarm	Severity (Active)	Description
CKTDOWN	CR/SA	The Unified Control Plane (UCP) Circuit Down alarm applies to logical circuits created within the UCP between devices.
LMP-HELLODOWN	MN/NSA	The Link Management Protocol (LMP) Hello Down alarm means that Hello protocol, which monitors unified control plane (UCP) control channel status, is not available for link management.
LMP-NDFAIL	MN/NSA	The LMP Neighbor Detection Fail alarm means that neighbor detection within the UCP has failed.

7.1.6 CKT

UCP circuit

Table 7-6 CKT

CKT Alarm	Severity (Active)	Description
CKTDOWN	CR/SA	The Unified Control Plane (UCP) Circuit Down alarm applies to logical circuits created within the UCP between devices and It occurs when the there is signaling failure across a UCP interface..

7.1.7 DS1

A DS1 line on a DS1 or DS3XM card

Table 7-7 DS1

DS1 Alarm	Severity (Active)	Description
LOF	MJ/SA	The receiving ONS 15454/15327 has lost frame delineation in the incoming data.
LOS	MJ/SA	A loss of signal (LOS) at the card for either a DS-3 port or a DS-1 port.
RCVR-MISS	MJ/SA	The facility termination equipment detects an incorrect amount of impedance on its backplane connector.
TRMT	MJ/SA	There is a transmit failure on the DS1-14 card due to an internal hardware failure.
TRMT-MISS	MJ/SA	The facility termination equipment detects an incorrect amount of impedance on its backplane connector.

7.1.8 DS3

A DS3 line on a DS3 or DS3XM card

Table 7-8 DS3

DS3 Alarm	Severity (Active)	Description
LOF	CR/SA	The receiving ONS 1545415327 has lost frame delineation in the incoming data.
LOS	CR/SA	This LOS for either a DS-3 port or a DS1-14 port occurs when the port on the card is in service but no signal is being received.

7.1.9 DWDM Client

The port (such as OC-12 or OC-48) where the client signal is plugged in

Table 7-9 DWDM Client

DWDM Client Alarm	Severity (Active)	Description
AUTOLSROFF	CR/SA	The Auto Laser Shutdown alarm occurs when the OC-192 card temperature exceeds 194° F (90 ° C).
CARLOSS (ML-Series)	MJ/SA	The Ethernet port has lost its link and is not receiving a valid signal.
EOC	MJ/NSA	The SONET Data Communications Channel (DCC) Termination Failure alarm occurs when the ONS 15454 loses its data communications channel.
HI-LASERBIAS	MN/NSA	The Equipment High Transmit Laser Bias Current alarm is raised against the TXP and MXP card laser performance. The alarm indicates that the card laser has reached the maximum laser bias tolerance.
HI-LASERTEMP	MN/NSA	The Equipment High Laser Optical Transceiver Temperature alarm applies to the TXP and MXP cards. This alarm occurs when the internally measured transceiver temperature exceeds the card default level.
HI-RXPOWER	MN/NSA	The Equipment High Receive Power alarm is an indicator for TXP card and MXP card received optical signal power. This alarm occurs when the measured optical power of the received signal exceeds the threshold.
HI-TXPOWER	MN/NSA	The Equipment High Transmit Power alarm is an indicator for TXP card and MXP card transmitted optical signal power. This alarm occurs when the measured optical power of the transmitted signal exceeds the threshold.
LOF (OC-N)	CR/SA	The LOF alarm occurs when a port on the reporting OC-N card has an LOF condition. LOF indicates that the receiving ONS 15454 has lost frame delineation in the incoming data.
LO-LASERBIAS	MN/NSA	The Equipment Low Transmit Laser Bias Current alarm is raised against the TXP and MXP card laser performance. The alarm indicates that the card laser has reached the minimum laser bias tolerance.
LO-LASERTEMP	MN/NSA	The Equipment Low Laser Optical Transceiver Temperature alarm applies to the TXP and MXP cards. This alarm occurs when the internally measured transceiver temperature falls under the card default level.
LO-RXPOWER	MN/NSA	The Equipment Low Receive Power alarm is an indicator for TXP card and MXP card received optical signal power. This alarm occurs when the measured optical power of the received signal falls under the threshold.
LOS (OC-N)	CR/SA	An OC-N LOS alarm occurs when a SONET receiver detects an all-zero pattern for 10 microseconds or longer.

Table 7-9 DWDM Client (continued)

DWDM Client Alarm	Severity (Active)	Description
LO-TXPOWER	MN/NSA	The Equipment Low Transmit Power alarm is an indicator for TXP card and MXP card transmitted optical signal power. This alarm occurs when the measured optical power of the transmitted signal falls under the threshold.
PORT-CODE-MISM	MJ/MSA	The Pluggable Port Security Code Mismatch alarm refers to ML-series Ethernet cards, MXP and TXP cards and occurs when the SFP connector that is plugged into the card is not supported by Cisco.
PORT-COMM-FAIL	MJ/SA	The Port Communication Failure alarm applies to TXP and MXP card SFPs and occurs when the card cannot communicate with the SFP.
PORT-MISMATCH	MJ/NSA	The Pluggable Port Mismatch alarm applies to ML-series Ethernet card small form pluggable (SFP) connectors. The alarm indicates that the provisioned payload for the connector does not match the SFP configuration.
PORT-MISSING	MJ/NSA	The Pluggable Port Missing alarm applies to ML-series Ethernet card small form pluggable (SFP) connectors. The alarm indicates that the connector is not plugged into the card port.
SQUELCHED	MJ/SA	The DWDM Client Signal Squelched alarm is raised by an MXP or TXP card when G.709 monitoring is enabled and the card is operating in transparent mode.
SSM-FAIL	MN/NSA	The SSM Failed alarm occurs when the synchronization status messaging received by the ONS 15454 fails.
TIM-P	CR/SA MN/NSA	CR/SA for STSTERM MN/NSA for STSMON The TIM Path alarm occurs when the expected path trace string does not match the received path trace string. Path Trace Mode must be set to manual or auto for the TIM-P alarm to occur.

7.1.10 DWDM Trunk

The main span of the link; from the card point of view, it is the port operating in the 100-GHz spacing frequency grid

Table 7-10 DWDM Trunk

DWDM Trunk Alarm	Severity (Active)	Description
AUTOLSROFF	CR/SA	The Auto Laser Shutdown alarm occurs when the OC-192 card temperature exceeds 194° F (90° C).
CARLOSS (ML-Series)	MJ/SA	The Ethernet port has lost its link and is not receiving a valid signal.

Table 7-10 DWDM Trunk (continued)

DWDM Trunk Alarm	Severity (Active)	Description
DSP-COMM-FAIL	MJ/SA	The DSP Communication Failure alarm indicates that there is a communications failure between an MXP or TXP card microprocessor and the on-board DSP chip that controls the trunk (DWDM) port.
DSP-FAIL	MJ/SA	The DSP Failure alarm indicates that a DSP-COMM-FAIL has persisted for an extended period on an MXP or TXP card and that the card is faulty.
EOC	MJ/NSA	The SONET Data Communications Channel (DCC) Termination Failure alarm occurs when the ONS 15454 loses its data communications channel.
GCC-EOC	MJ/NSA	The GCC Embedded Operation Channel Failure alarm applies to the OTN communication channel for TXP and MXP cards. It is raised when the channel cannot operate.
HI-LASERBIAS	MN/NSA	The Equipment High Transmit Laser Bias Current alarm is raised against the TXP and MXP card laser performance. The alarm indicates that the card laser has reached the maximum laser bias tolerance.
HI-LASERTEMP	MN/NSA	The Equipment High Laser Optical Transceiver Temperature alarm applies to the TXP and MXP cards. This alarm occurs when the internally measured transceiver temperature exceeds the card default level.
HI-RXPOWER	MN/NSA	The Equipment High Receive Power alarm is an indicator for TXP card and MXP card received optical signal power. This alarm occurs when the measured optical power of the received signal exceeds the threshold.
HI-RXTEMP	MN/NSA	The Equipment High Receive temperature alarm refers to the temperature of the receiver port on the TXP and MXP cards.
HI-TXPOWER	MN/NSA	The Equipment High Transmit Power alarm is an indicator for TXP card and MXP card transmitted optical signal power. This alarm occurs when the measured optical power of the transmitted signal exceeds the threshold.
LOF (OC-N)	CR/SA	The receiving ONS 15454/15327 has lost frame delineation in the incoming data.
LO-LASERBIAS	MN/NSA	The Equipment Low Transmit Laser Bias Current alarm is raised against the TXP and MXP card laser performance. The alarm indicates that the card laser has reached the minimum laser bias tolerance.
LO-LASERTEMP	MN/NSA	The Equipment Low Laser Optical Transceiver Temperature alarm applies to the TXP and MXP cards. This alarm occurs when the internally measured transceiver temperature falls under the card default level.
LOM	MN/NSA	The Loss of Multiframe alarm applies to MXP and TXP cards when the MFAS overhead field is errored for more than five frames and persists for more than three milliseconds.

Table 7-10 DWDM Trunk (continued)

DWDM Trunk Alarm	Severity (Active)	Description
LO-RXPOWER	MN/NSA	The Equipment Low Receive Power alarm is an indicator for TXP card and MXP card received optical signal power. This alarm occurs when the measured optical power of the received signal falls under the threshold.
LOS (OC-N)	CR/SA	An OC-N LOS alarm occurs when a SONET receiver detects an all-zero pattern for 10 microseconds or longer.
LO-TXPOWER	MN/NSA	The Equipment Low Transmit Power alarm is an indicator for TXP card and MXP card transmitted optical signal power. This alarm occurs when the measured optical power of the transmitted signal falls under the threshold.
OTUK-IAE	MJ/SA	The OTUK Incoming Alignment Error (IAE) alarm applies to TXP cards and MXP cards when G.709 monitoring is enabled for the cards. OTUK-IAE refers to a single bit that allows the input port to notify the output port that the incoming signal has an alignment error.
OTUK-LOF	CR/SA	The OTUK LOF alarm applies to TXP cards and MXP cards when G.709 monitoring is enabled for the cards. The alarm indicates that the card has lost frame delineation on the input data. Loss of frame occurs when the optical transport unit overhead frame alignment (FAS) area is errored for more than five frames and that the error persists more than three milliseconds.
OTUK-TIM	MN/NSA	The OTUK TIM alarm applies to TXP cards and MXP cards when G.709 monitoring is enabled and section trace mode is set to manual. The alarm indicates that the expected TT1 string does not match the received TTI string in the optical transport unit overhead of the digital wrapper.
PTIM	MN/NSA	The Payload TIM alarm applies to TXP cards and MXP cards when G.709 is enabled for the cards.
SECURITYCODE	MJ/NSA	The Pluggable Port Security Code Mismatch alarm refers to the ML-series Ethernet cards. I means that the SFP connector plugged into the ML-series Ethernet card is not supported by Cisco.
SQUELCHED	MJ/SA	The DWDM Client Signal Squelched alarm is raised by an MXP or TXP card when G.709 monitoring is enabled and the card is operating in transparent mode.
SSM-FAIL	MN/NSA	The SSM Failed alarm occurs when the synchronization status messaging received by the ONS 15454 fails.

Table 7-10 DWDM Trunk (continued)

DWDM Trunk Alarm	Severity (Active)	Description
TIM-P	CR/SA MN/NSA	CR/SA for STSTERM MN/NSA for STSMON The TIM Path alarm occurs when the expected path trace string does not match the received path trace string. Path Trace Mode must be set to manual or auto for the TIM-P alarm to occur.
WVL-MISMATCH	MJ/SA	The Equipment Wavelength Mismatch alarm applies to the TXP and MXP cards. It occurs when you provision the card in CTC with a wavelength that the card does not support.

7.1.11 ECN

An EC1 line on an EC1 card

Table 7-11 ECN

ECN Alarm	Severity (Active)	Description
LOF (EC1-12)	CR/SA	The receiving ONS 15454 has lost frame delineation in the incoming data.
LOS (EC1-12)	CR/SA	A port on the reporting EC-1 card has a loss of signal condition. A SONET receiver detects an all-zero pattern for 10 microseconds or longer.

7.1.12 ENV

An environmental alarm port on an AIC card (ONS 15454) or MIC card (ONS 15327)

Table 7-12 ENV

ENV Alarm	Severity (Active)	Description
EXT	MN/NSA	A Failure Detected External to the NE alarm occurs because an environmental alarm is present, for example, a door is open or flooding has occurred.

7.1.13 EQPT

A card in any of the card slots. This object is used for alarms that refer to the card itself and all other objects on the card including ports, lines, STS and VT.

Table 7-13 EQPT

EQPT Alarm	Severity (Active)	Description
AUTORESET	MN/NSA	The Automatic System Reset alarm occurs when you change an IP address or perform any other operation that causes an automatic card-level reboot.
BKUPMEMP	CR/NSA	A problem with the TCC/XTC card's flash memory.
CARLOSS	MJ/SA	A Carrier Loss on the LAN Equipment alarm occurs when the ONS 15454 and the workstation hosting CTC do not have a TCP/IP connection.
COMIOXC	CR/SA	The I/O Slot To Cross-Connect (XCON) Communication Failure alarm is caused by the cross-connect card. It occurs when there is a communication failure for a particular I/O slot.
CONTBUS-A	MJ/NSA	The TCC/XTC card in Slot 7/Slot 5 has lost communication with a traffic card.
CONTBUS-A-18	MJ/NSA	The main processor on the TCC/XTC card in Slot 7/Slot 5 has lost communication with the coprocessor on the second TCC/XTC card in Slot 11/Slot 6.
CONTBUS-B	MJ/NSA	The TCC/XTC card in Slot 11/Slot 6 has lost communication with a traffic card.
CONTBUS-B-18	MJ/NSA	The main processor on the TCC/XTC card in Slot 11/Slot 6 has lost communication with the coprocessor on the TCC/XTC card in Slot 7/Slot 5.
CTNEQPT-PBPROT	CR/SA	A failure of the main payload between the protect cross-connect (XC/XCVT/XC10G) card in Slot 10, or the protect XTC card, and the reporting traffic card.
CTNEQPT-PBWORK	CR/SA	A failure of the main payload bus between the active cross-connect (XC/XCVT/XC10G) card in Slot 8, or the active XTC card, and the reporting traffic card.
ERROR-CONFIG	MN/NSA	The Error in Startup Configuration alarm applies to the ML-series Ethernet cards. These cards process startup configuration files line by line. If one or more lines cannot be executed, the error causes the ERROR-CONFIG alarm.
EQPT	CR/SA	A hardware failure occurred on the reporting card.
EXCCOL	MN/NSA	There are too many collisions are occurring between data packets on the network management LAN, and communications between the ONS 15454/15327 and CTC may be affected.
HITEMP	CR/SA MN/NSA	CR/SA for NE. MN/NSA for EQPT. The High Temperature alarm occurs when the temperature of the ONS 15454 is above 122° F (50° C).

Table 7-13 EQPT (continued)

EQPT Alarm	Severity (Active)	Description
IMPROPRMVL	CR/SA	A card was physically removed from its slot before the card was deleted from CTC.
MEA	CR/SA	The MEA alarm for equipment is reported against a card slot when the physical card inserted into a slot does not match the card type that is provisioned for that slot in CTC.
MEM-GONE	MJ/NSA	Data generated by software operations exceeds the memory capacity of the TCC/XTC card.
MEM-LOW	MN/NSA	Data generated by software operations is close to exceeding the memory capacity of the TCC/XTC card.
NO-CONFIG	MN/NSA	The No Startup Configuration alarm applies to ML-series Ethernet cards and occurs when you pre-provision a high-speed slot for the card without inserting the card first, or when you insert a card without pre-provisioning.
PEER-NORESPONSE	MJ/NSA	The switch agent raises a Peer Card Not Responding alarm if either traffic card in a protection group does not receive a response to the peer status request message
PROTNA	MN/NSA	The Protection Unit Not Available is raised by an out-of-service protection when a TCC/XTC or cross-connect card or port that is provisioned as part of a protection group is not available.
PWR-REDUN	MN/NSA	The Redundant Power Capability Lost alarm applies to cards (such as the TCC2 and newer optical cards) that have two built-in fuses. The alarm indicates that one of the fuses has blown, and must be serviced.
SFTWDOWN	MN/NSA	A Software Download in progress alarm occurs when the TCC/XTC is downloading or transferring software.
SWMTXMOD	CR/SA	The Switching Matrix Module Failure alarm occurs on the cross-connect card or a traffic card. If the alarm reports against a traffic card, it means that the logic component on the cross-connect card is out of frame (OOF) with the logic component on the reporting traffic card.

7.1.14 ETHER

Ethernet, such as for straight-through (CAT 5) LAN cables.

Table 7-14 ETHER

ETHER Alarm	Severity (Active)	Description
CARLOSS (E-Series)	MJ/SA	A Carrier Loss on the LAN E-Series Ethernet Card alarm is the data equivalent of an LOS (OC-N). The Ethernet card has lost its link and is not receiving a valid signal.
CARLOSS (G-Series)	MJ/SA	A Carrier Loss on the LAN G-Series Ethernet Card alarm is the data equivalent of an LOS (OC-N). The Ethernet card has lost its link and is not receiving a valid signal.

7.1.15 EXTSYNCH

BITS outgoing references (SYNC-BITS1, SYNC-BITS2)

Table 7-15 EXTSYNCH

EXTSYNCH Alarm	Severity (Active)	Description
SYNCPRI	MN/NSA	A loss of the primary timing source (reference 1).
SYNCSEC	MN/NSA	A loss of the secondary timing source (reference 2).
SYNCTHIRD	MN/NSA	A loss of the third timing source (reference 3).

7.1.16 FAN

Fan-tray assembly

Table 7-16 FAN

FAN Alarm	Severity (Active)	Description
EQPT-MISS	CR/SA	Indicates the replaceable fan-tray assembly unit is missing or not fully inserted.
FAN	CR/SA	A problem with the fan-tray assembly.
FANDEGRADE	MJ/NSA	The Partial Fan Failure alarm is raised if fan speed for one of the fans in the fan-tray assembly falls below 500 RPM when read by a tachometry counter.

Table 7-16 FAN (continued)

FAN Alarm	Severity (Active)	Description
MEA	CR/SA	The MEA alarm is reported against the fan tray when a newer fan-tray assembly (15454-FTA3) with a 5 Amp fuse is used with an older shelf assembly or when an older fan tray with a 2 Amp fuse is used with a newer 10 Gbps compatible or ANSI shelf assembly (15454-SA-ANSI) that contains cards introduced in Release 3.1 or later.
MFGMEM	CR/SA	The manufacturing data memory failure alarm occurs if the ONS 15454 cannot access the data in the erasable programmable read-only memory (EEPROM).

7.1.17 FUDC

SONET F1 byte user data channel

Table 7-17 FUDC

FUDC Alarm	Severity (Active)	Description
LOS	CR/SA	An OC-N LOS alarm occurs when a SONET receiver detects an all-zero pattern for 10 microseconds or longer. An LOS means the upstream transmitter has failed.

7.1.18 HDGE (G1000)

High Density Gigabit Ethernet. Applies to G1000-4 cards.

Table 7-18 HDGE (G1000)

NE Alarm	Severity (Active)	Description
CARLOSS	MJ/SA	A carrier loss on the LAN G-series card is the data equivalent of an LOS (OC-N) alarm. The Ethernet card has lost its link and is not receiving a valid signal.
TPTFAIL	MJ/SA	Indicates a break in the end-to-end Ethernet link integrity feature of the G1000-4 cards. This alarm indicates a far-end condition and not a problem with the port reporting TPTFAIL.

7.1.19 ML1000

ML-series Ehternet cards

Table 7-19 ML1000

ML1000 Alarm	Severity (Active)	Description
CARLOSS	MJ/SA	The Ethernet port has lost its link and is not receiving a valid signal.
TPTFAIL	MJ/SA	The TPT Layer Failure alarm for the ML-series Ethernet cards indicates a break in the end-to-end POS link integrity feature of the ML-series POS cards.

7.1.20 MSUDC

SONET multiplex section user data channel

Table 7-20 MSUDC

MSUDC Alarm	Severity (Active)	Description
LOS	CR/SA	An OC-N LOS alarm occurs when a SONET receiver detects an all-zero pattern for 10 microseconds or longer. An LOS means the upstream transmitter has failed.

7.1.21 NBR

UCP neighbor

Table 7-21 NBR

NBR Alarm	Severity (Active)	Description
RSVP-HELLODOWN	MN/NSA	The Resource Reservation Protocol (RSVP) Hello Down alarm means that Hello protocol, which monitors UCP control channel status, is not available for reserving resources.

7.1.22 NE

The entire network element

Table 7-22 NE

NE Alarm	Severity (Active)	Description
DATAFLT	MN/NSA	The TCC/XTC exceeds its flash memory.
DBOSYNC	MJ/NSA	The standby TCC/XTC “To be Active” database does not synchronize with the “Active” database on the active TCC/XTC.
EHIBATVG-A	MN/NSA	The voltage level on battery lead A exceeds -56.7 Vdc. (ONS 15454)
EHIBATVG-B	MN/NSA	The voltage level on battery lead B exceeds -56.7 Vdc. (ONS 15454)
ELWBATVG-A	MN/NSA	The voltage on battery feed A is extremely low or has been lost, and power redundancy is no longer guaranteed. (ONS 15454)
ELWBATVG-B	MN/NSA	The voltage on battery feed B is extremely low or has been lost, and power redundancy is no longer guaranteed. (ONS 15454)
HITEMP	CR/SA MN/NSA	CR/SA for NE MN/NSA for EQPT The temperature of the ONS 15454/ONS 15327 is above 122° F (50° C).
PRC-DUPID	MJ/SA	Two identical node IDs exist in the same ring.
PWR-A	MJ/SA	This alarm applies to the NE shelf. It occurs when there is no power supplied to the main power connector. (ONS 15454)
PWR-B	MJ/SA	This alarm applies to the NE rack. It occurs when there is no power supplied to the backup power connector. (ONS 15454)
SNTP-HOST	MN/NSA	The SNTP (Simple Network Timing Protocol) Host Failure alarm indicates that an ONS node serving as an IP proxy for the other ONS nodes in the ring is not forwarding SNTP information to the other ONS nodes in the network.
SYSBOOT	MJ/SA	New software is booting on the TCC/XTC card.

7.1.23 NERING

Represents the ring status of the NE

Table 7-23 NERING

NERING Alarm	Severity (Active)	Description
BLSROSYNC	MJ/SA	The BLSR Out Of Sync alarm occurs when a node on a working ring loses its DCC connection because all transmit and receive fiber is removed, and you attempt to add or delete a circuit.
PRC-DUPID	MJ/SA	The Procedural Error Duplicate Node ID alarm indicates that two identical node IDs exist in the same ring.
RING-MISMATCH	MJ/SA	A Procedural Error Mismatch Ring alarm occurs when the ring ID of the ONS node that is reporting the alarm does not match the ring ID of another ONS node in the BLSR.

7.1.24 NESYNCH

Represents the timing status of the NE

Table 7-24 NESYNCH

NESYNCH Alarm	Severity (Active)	Description
FRNGSYNC	MJ/SA	The reporting ONS node is in free run synchronization mode.
FSTSYNC	MN/NSA	A Fast Start Synchronization alarm occurs when the ONS node is choosing a new timing reference.
HLDOVRSYNC	MJ/SA	A loss of primary/secondary timing reference.
SYNCPRI	MN/NSA	A loss of the primary timing source (reference 1).
SYNCSEC	MN/NSA	A loss of the secondary timing source (reference 2).
SYNCTHIRD	MN/NSA	A loss of the third timing source (reference 3).

7.1.25 OCN

An OCN line on an OCN card

Table 7-25 OCN

OCN Alarm	Severity (Active)	Description
APSB	MN/NSA	The line terminating equipment detects protection switching byte failure in the incoming automatic protection switching (APS) signal.
APSCDFLTK	MN/NSA	A BLSR is not properly configured.

Table 7-25 OCN (continued)

OCN Alarm	Severity (Active)	Description
APSC-IMP	MN/NSA	Invalid K bytes.
APSCINCON	MN/SA	The SONET overhead contains K1/K2 APS bytes that notify receiving equipment, such as the ONS 15454/ONS 15327, to switch the SONET signal from a working to a protect path.
APSCM	MJ/SA	The ONS 15454/ONS 15327 expects a working channel but receives a protection channel.
APSCNMIS	MJ/SA	The source node ID contained in the K2 byte of the APS channel being received is not present in the ring map.
APSMM	MN/NSA	There is a mismatch of the protection switching schemes at the two ends of the span.
AUTOLSROFF	CR/SA	The OC-192 card temperature exceeds 194° F (90 ° C). (ONS 15454)
EOC	MJ/NSA	The ONS 15454/ONS 15327 has lost its data communications channel (DCC).
E-W-MISMATCH	MJ/SA	Nodes in a ring have an east slot/port misconnected to another east slot/port or a west slot/port misconnected to another west slot/port.
EXTRA-TRAF-PREEMPT	MN/NSA	An Extra Traffic Preempted alarm occurs on OC-N cards in two-fiber and four-fiber BLSRs because low-priority traffic directed to the protect system has been preempted by a working system protection switch.
FEPRLF	MN/NSA	an APS switching channel SF occurs on the protect card coming into the node.
LASEREOL	MN/NSA	The Laser Approaching End of Life alarm applies to TXP and MXP cards and occurs when the laser in the card will need to be replaced.
LOF	CR/SA	A port on the reporting OC-N card has an LOF condition.
LOS	CR/SA	A SONET receiver detects an all-zero pattern for 10 microseconds or longer.
SSM-FAIL	MN/NSA	Synchronization status messaging received by the ONS 15454/ONS 15327 fails.

7.1.26 STSMON

STS alarm detection at the monitor point (upstream from the cross-connect)

Table 7-26 STSMON

STSMON Alarm	Severity (Active)	Description
LOP-P	CR/SA	A loss of pointer (LOP) condition at the path level.
PLM-P	CR/SA	A signal label mismatch failure (SLMF).
TIM-P	MN/SA	The expected path trace string does not match the received path trace string.
UNEQ-P	CR/SA	The path does not have a valid sender.

7.1.27 STSTERM

STS alarm detection at termination (downstream from the cross-connect)

Table 7-27 STSTERM

STSTERM Alarm	Severity (Active)	Description
LOP-P	CR/SA	A loss of pointer (LOP) condition at the path level.
PLM-P	CR/SA	A signal label mismatch failure (SLMF).
TIM-P	MN/SA	The expected path trace string does not match the received path trace string. Path trace mode can be set to auto or manual for this alarm to occur.
UNEQ-P	CR/SA	The path does not have a valid sender.

7.1.28 VT-MON

VT1 alarm detection at the monitor point (upstream from the cross-connect)

Table 7-28 VT-MON

VT-MON Alarm	Severity (Active)	Description
AUTOSW-LOP	MN/SA	Automatic UPSR protection switchingoccurred because of an LOP alarm.
AUTOSW-UNEQ	MN/SA	Automatic UPSR protection switching occurred because of an UNEQ alarm.
LOP-V	MJ/SA	A loss of pointer at the VT level.
UNEQ-V	MJ/SA	The node is receiving SONET path overhead with bits 5, 6 and 7 of the V5 overhead byte all set to zeroes.

7.1.29 VT-TERM

VT1 alarm detection at termination (downstream from cross-connect)

Table 7-29 VT-TERM

VT-TERM Alarm	Severity (Active)	Description
LOP-V	MJ/SA	A loss of pointer at the VT level.
PLM-V	MN/SA	The content of the V5 byte in the SONET overhead is inconsistent or invalid.
UNEQ-V	MJ/SA	The node is receiving SONET path overhead with bits 5, 6 and 7 of the V5 overhead byte all set to zeroes.

7.2 Errors

Errors may be generated by any command or command response message. You can find errors listed by error code in Table 7-30 on page 7-20. The format of an error message is as follows:

```
   SID DATE TIME
M CTAG DENY
   <ERRCDE>
    /* <ERRMSG> */
;
```

7.2.1 Errors Listed by Error Code

Table 7-30 Errors listed by Error Code

Error Code	Error Message
ENEQ	Control Not Provisioned
	Environmental Control Interface Not Found
	Equipment Not Found
	Equipment Not Present
	Equipment Not Provisioned
	Internal Communication Error
	Sensor Interface Not Found
IBEX	Invalid AID Block. Extra Datablock
	Invalid Payload Block. Extra Datablock
ICNV	Cannot Set DCC When G709 Is Enabled
	Equipment Does Not Match Request
	Equipment In Use
	Invalid Command
	Operation Not Supported By This Card
	Performance Monitoring Type Not Supported
IDMS	Loopback Type Missing
	Missing Internal Data
IDNC	Invalid Data
	Invalid PST Value
	Invalid SST Value

Table 7-30 Errors listed by Error Code (continued)

Error Code	Error Message
IDNC (continued)	Primary Source Cannot Be INTERNAL When Secondary Source Is Not INTERNAL
	Primary Source Cannot Be INTERNAL When Third Source Is Not INTERNAL
	Secondary Source Cannot Be INTERNAL When Third Source Is Not INTERNAL
IDNV	2F-BLSR Architecture Does Not Permit Manual/Forced Span Switching
	AUTO Trace Mode Not Allowed
	At least an XC10G XC card is needed for this equipment type
	Cannot Change Protection Type
	Command Not Valid On Protect Card
	DCC Not Supported In Transparent Term Mode
	Equipment Does Not Support Payload Type
	Equipment Does Not Support Regeneration Group
	Facility Loopback Not Supported
	Frame Format Contains Invalid Data
	Frame Format Not Supported On Equipment
	GCC Not Supported On CLNT Port
	Incompatible Equipment Type
	Incompatible Equipment Type For Protection
	Incompatible Protect Slot For Protection
	Interval Out Of Range
	Invalid AID For PCA Cross-Connection
	Invalid Data For 2F-BLSR
	Invalid Drop Path
	Invalid Equipment Type
	Invalid Ethernet Frame Size
	Invalid Holdoff Timer Value
	Invalid Log Name
	Invalid MONLEV Value
	Invalid MONTYPE Value
	Invalid Mac Address
	Invalid PM Interval
	Invalid Peer Id
	Invalid Protid
	Invalid Reference
	Invalid Report Interval

Table 7-30 Errors listed by Error Code (continued)

Error Code	Error Message
IDNV (continued)	Invalid Start Time
	Invalid Switch Type For BLSR
	Invalid TAP Number
	Invalid Time Offset
	Invalid Trace Level
	J0 Section Trace Not Supported In Transparent Term Mode
	Keyword All Not Allowed
	Line Code Not Supported
	Multiple AIDs Not Allowed
	Multiple Protection Group Card Slot Identifiers Not Allowed
	Multiple References Not Allowed
	Null Userid Or Range In Userid List Not Allowed
	Number Of Reports Is Negative
	Parameter Not Supported By Payload Type
	Parameter Not Supported On Client DWDM Port
	Payload Type Does Not Support DCC
	Protect Card Does Not Support Protection Type
	Protect Slot Not Provisioned
	Protection Group Card Slot Identifier Field Required
	Protection Group Does Not Exist
	Protection Group Name Exceeds Maximum Length
	Ring Lockout BLSR Switching Is Not Supported
	Switch Type Is Not Allowed On 1+1
	Term Mode Does Not Support Synchronization/Timing Parameters
	Threshold Value Out Of Range
	Trace Level Not Supported By Client Port
	Trace Level Required
	Trace Not Supported In Transparent Term Mode
	Transponder Does Not Support Synchronization/Timing Parameters
	VOA Out Of Range
IDRG	Difference Value Range Error
	Invalid PJMON Value
	Invalid Threshold Value

Table 7-30 Errors listed by Error Code (continued)

Error Code	Error Message
IIAC	AID Does Not Match with Requested BLSR Path Type
	ALL, Ranging and Grouping Are Not Supported
	CCT=1WAY Not Allowed When G1000 Or ML Series Ports Are Used
	Cannot Make Changes To Protect Card
	Cross-Connection Cannot Overlap PCA Boundary
	Equipment Can Not Be Provisioned On Low Speed Slot
	Equipment Does Not Match Request
	Expected Trace Not Supported On This Card Type
	Expected Trace String Exceeds Maximum Length (62)
	Incoming Trace Not Supported On This Card Type
	Incorrect Card Type
	Input, Invalid Access
	Invalid AID
	Invalid DS1 AID
	Invalid G1000 Facility Port
	Invalid Month Or Day
	Invalid NodeId
	Invalid Operation On Drop AID
	Invalid PJMON Value
	Invalid Protect AID
	Invalid Protect AID Or Working AID
	Invalid Reference
	Invalid RingId
	Invalid Source/Destination AID Count For Cross-Connection Type
	Invalid TAP
	Invalid Time
	Invalid Year
	J1 Trace Not Supported On This Card
	List AID Not Allowed For ALL AID
	List Or All AID Not Supported
	Multiple AIDs Not Supported
	Multiple Destination AID Exceeds Limit
	Multiple Destinations Not Supported By Cross-Connection
	Multiple Source AID Exceeds Limit
	Multiple TAP AIDs Not Supported
	Not Allowed On 1+1 Protect Line

Table 7-30 Errors listed by Error Code (continued)

Error Code	Error Message
IIAC (continued)	Not Allowed On BLSR Protect Line
	Optional AIDs Are Not Supported
	RingId Does Not Match with AID Number
	Trace Mode Not Supported On This Card Type
	Trace Not Supported On This Card Type
	Trace String Exceeds Maximum Length (62)
	UPSR Cross-Connections Not Allowed When G1000 Or ML-Series Ports Are Used
IICM	Input, Invalid MOD1
	Input, Invalid VERB
IICT	Invalid Correlation Tag
IIDT	2F-BLSR Does Not Support SRVRTV/SRVTM/EASTPROT/WESTPROT Parameters
	Cannot Activate To Older Software
	Cannot Add And Remove Drops Together
	Cannot Revert From R2 To R1
	Cannot Revert To Newer Software
	Command Already In Progress
	DEST Incompatible With RFR Type
	DEST Incompatible With SWDL Type
	DEST Required For RFBU Type
	Duplicate BLSR Working/Protect Facilities
	Duplicate Performance Monitoring Schedule
	File Name Missing in FTP URL
	Flash Manager Not Active
	Hostname Missing In FTP URL
	IOS Config File Too Big
	Invalid BLSR Mode
	Invalid BLSR Protect Facility
	Invalid BLSR Working Facility
	Invalid Data Parameter
	Invalid Port In FTP URL
	Invalid Revertive Time
	Invalid Software Switch Type
	Invalid State Value
	Mandatory FTP URL Not Provided
	Maximum Performance Monitoring Schedule Limit Reached

Table 7-30 Errors listed by Error Code (continued)

Error Code	Error Message
IIDT (continued)	Memory Out Of Range
	Missing/Invalid Destination
	Missing/Invalid Source
	Non-IP Hostname In FTP URL
	Null Outputs In FTP URL Parsing
	Only NORM CMD_MODE Is Supported
	Only OOS PST Is Supported
	Only Port 21 Is Supported
	Only SWDL Is Supported For The xfertype Argument
	Password Missing In FTP URL
	Performance Monitoring Schedule Does Not Exist
	Port Missing In FTP URL
	SRC Incompatible With RFBU Type
	SRC Required For RFR Type
	SRC Required For SWDL Type
	SWDL Incompatible With RFILE-PKG Aid
	Software Activate/Revert Failed
	Software Not Available For Switch
	Unknown Error Processing FTP URL.
	Username Missing In FTP URL
	ftp:// Missing In FTP URL
IIFM	Invalid AID Block. Invalid Data Format.
	Invalid Payload Block. Invalid Data Format.
IISP	Input, Garbage
IITA	Input, Invalid Target Identifier
INUP	General Block Unsupported
IPEX	Invalid Payload Block. Extra Parameters.
	Invalid Payload Block. Extra Parameters.
IPMS	Invalid AID Block. Missing Mandatory Field.
	Invalid Payload Block. Missing Mandatory Field.
IPNC	Cannot Change Existing Protection Type
	Description Cannot Have More Than 64 Characters
	Invalid Flow Control Value
	Invalid Maximum Frame Size
	Invalid Parameter
	Parameters Are Not Consistent

Table 7-30 Errors listed by Error Code (continued)

Error Code	Error Message
IPNC (continued)	Parameters Not Compatible
IPNV	Cannot Set Expected Path Trace For Source Path
	Cannot Set Expected Path Trace In Auto Mode
	Cannot Set Outgoing Path Trace For Drop Path
	Cross-Connection Does Not Have UPSR Path Selector
	Exercise Is Not Allowed On Protected Facility
	Far End Performance Monitoring Values Not Supported
	Holdoff Timer Not Supported For Non-DRI Cross-Connections
	INT Not Valid For BITS-OUT
	Internal-Ip Lookup Failed
	Internal-Network Nodes Lookup Failed
	Invalid Clock Source
	Invalid Default Router Address
	Invalid IIOP Port number
	Invalid IP Address
	Invalid IP Configuration Parameter
	Invalid IP Mask
	Invalid Parameter
	Invalid Payload Block. Empty Parameter.
	Invalid SNTP Host Address
	Invalid Switch Command For Synchronization
	Invalid Switch Type
	New Source Must Be Specified
	Node Name Exceeds Maximum Length (62)
	PM Not Supported
	Primary Reference Incompatible With Timing Mode
	Protection Type Does Not Support Reversion Mode
	Reference Type Not Supported
	SPNWTR Parameter Not Supported
	Secondary Reference Incompatible With Timing Mode
	Synchronization Source Already Defined For The Slot
	TMGREF Parameter Not Supported
	Third Reference Incompatible With Timing Mode
	Time Period Not Applicable
	Timing Mode Not Compatible

Table 7-30 Errors listed by Error Code (continued)

Error Code	Error Message
PICC	AID Required Invalid User Access Privilege Value Invalid User Identifier - Must Conform To TL1 Rules Invalid User Password - Must Conform To TL1 Rules New Password Same As Old Password Unknown CORBA Exception (Internal Error) Unknown User User Access Privilege Required User Already Exists User Identifier Exceeds Maximum Length Allowed User Not Authorized User Password Required
PIMA	Memory Out Of Range
PIUC	Cannot Delete The Logged In User User Currently Logged Into Another Session User Is Not Superuser User Not Allowed To Change User Access Privilege User Not Allowed To Change User Password User Not Allowed To Lock/Unlock Self
RALB	Requested DCC In Use
RRNG	Invalid Slot Number Invalid Slot Number For Sdh Electrical Cards
RTBY	Connection In Service TAP Already In Use TAP Number In Use
RTEN	Cannot Access VT Cannot Change Access Mode Cannot Set Access Mode Invalid Access Mode Invalid STS TAP Number Invalid TAP AID Invalid TAP Mode Invalid TAP Number Invalid VT TAP Number Requested TAP Does Not Exist TAP Not Found

Table 7-30 Errors listed by Error Code (continued)

Error Code	Error Message
SAAL	Already Allowed
SAAS	Equipment Already Provisioned
SADC	TAP Not Connected
SADS	Loopback Applied On Cross-connection
SAIN	Already Inhibited
SAIS	Port Already In Service
SAMS	Already In Clear Maintenance State Already In Force Maintenance State Already In Lockout Maintenance State Already In Manual Maintenance State
SAOP	Control Already Operated Control Already Released Control Operated In Mntry
SAOS	Port Already In OOS-AINS Port Already In OOS-MT Port Already Out Of Service
SCAT	STS Is Already Connected Test Access Busy VT Is Already Connected
SDBE	AID Parser Failed Cannot Access Conditions Cannot Access Controls Cannot Access Date/Time Cannot Access Defaults Description Cannot Access Environmental Settings Cannot Access Equipment Cannot Access Facility Cannot Access IP Configuration Cannot Access Interface Cannot Access Node ID Cannot Access Object Cannot Access Orderwire Cannot Access Protection Group Cannot Access Protection State Cannot Access SNTP Host Cannot Access STS

Table 7-30 Errors listed by Error Code (continued)

Error Code	Error Message
SDBE (continued)	Cannot Access Software Version
	Cannot Access Synchronization Configuration
	Cannot Access Timezone
	Cannot Access Trace Information
	Cannot Access VT
	Cannot Access VT Performance Monitoring Parameters
	Cannot Create 1+1 Protection Group
	Cannot Edit STS
	Cannot Get Line Information
	Cannot Get Synchronization Configuration
	Cannot Set Date
	Cannot Set Date When Using SNTP
	Cannot Set IP Configuration
	Cannot Set Node Name
	Cannot Set Pointer Justification Monitoring Parameter (PJMON)
	Cannot Set SNTP Host Configuration
	Cannot Set Timezone
	Cannot Switch To E2 Byte With Express Orderwire IS
	Card Type Not Supported
	Delete Protection Group Failed
	Equipment Not Found
	Facility Does Not Exist
	Facility Does Not Match Request
	Facility Does Not Support Mac Address
	Facility Is Not Provisioned
	File Transfer In Progress
	IOS Config Update In Progress
	Incompatible Parameter Values
	Incorrect Facility Type
	Interface Does Not Support Loopback Type
	Internal Access Failed
	Internal Database Error
	Invalid DCC
	Invalid Performance Monitoring Mode
	Invalid Protection Group
	Invalid Time Period

Table 7-30 Errors listed by Error Code (continued)

Error Code	Error Message
SDBE (continued)	Location Value Invalid
	Loopback Is Invalid
	Loopback Port In Service
	Mac Address Not Supported By Payload
	Object Not Provisioned
	Operation Not Supported On EC1 Interface
	STS Not Provisioned
	Synchronization Configuration Not Available
	Synchronization Status Messaging(SSM) Not Supported On EC1 Interface
	Synchronization Status Messaging(SSM) Not Supported On SDH
	Used Frame Format Does Not Support Synchronization Status Messaging(SSM)
	VT Not Provisioned
SDLD	Duplex Unit Locked
SDNA	Active TCC Not Ready
	Standby TCC Not Ready
SNCC	Replace This Message When A SNCC message is needed
SNCN	Cannot Switch To Inferior Reference Source
	Clock Source Failed
	Command Not Implemented
	Cross-Connection Type Not Supported In TL1
	Invalid Clock Source
	Requested Direction Not Supported
	STS Rate Changing Not Supported
SNNS	Reference Not From Optical Card
SNPR	Cannot Get Role Of Port
SNVS	Already Switched To Internal Reference Source
	BLSR East Operation Already Set
	BLSR West Operation Already Set
	Cannot Operate Loopback In Current Cross-connection State
	Cannot Operate Loopback In Current State
	Facility Not Part Of BLSR
	Invalid AINS Soak Time
	Invalid Admin State
	Invalid BLSR Element
	Invalid Clock Source

Table 7-30 Errors listed by Error Code (continued)

Error Code	Error Message
SNVS (continued)	Invalid Equipment State Loopback Already In Progress Loopback Not In Progress No Switch In Progress Protection Group Does Not Exist Protection Unit Active Working Unit Already Active Working Unit Already Standby
SOSE	Unrecognized Message Type
SPFA	Cannot Get Current Card Status Protection Unit Failed Or Missing
SPLD	Cannot Create 1+1 Protection Group Cannot Delete Equipment Equipment In Use FTP Task Is Busy Facility Is Busy Protection Unit Locked
SRAC	Invalid Connection Type
SRCN	Already In Requested Mode Requested Condition Already Exists
SROF	1+1 Protection Group Not Found ALS Mode Does Not Allow Laser Restart Active Flash Not Ready All DCCs In Use BLSR In Use BLSR Protect STS Path List Is Empty Can Not Get IOS Config Source Origin Cannot Access 1+1 Line Cannot Access 1+1 Protected Line Cannot Access 2 Fiber BLSR Cannot Access 4 Fiber BLSR East Protection Cannot Access 4 Fiber BLSR West Protection Cannot Access 4F BLSR Cannot Access Alarm Log Cannot Access BLSR Cannot Access BLSR 2 Wire Line

Table 7-30 Errors listed by Error Code (continued)

Error Code	Error Message
SROF (continued)	Cannot Access Cross-Connection
	Cannot Access DCC
	Cannot Access Facility
	Cannot Access Performance Monitoring Statistics
	Cannot Access Protected Equipment
	Cannot Access Protection Group Information
	Cannot Access Protection Group Name
	Cannot Access Protection Group Reversion Information
	Cannot Access STS
	Cannot Access TAP
	Cannot Access Unprotected Line
	Cannot Access Unprotected Line
	Cannot Access VT
	Cannot Change Ethernet IP With DHCP Provisioned
	Cannot Change Ethernet IP With OSPF Provisioned
	Cannot Change XTC Protection Group
	Cannot Create Cross-Connection Between Incompatible Interfaces
	Cannot Create Protection Group
	Cannot Create TAP
	Cannot Create TAP On Last VT
	Cannot Create Ycable Protection
	Cannot Delete Cross-Connection
	Cannot Delete Last Drop
	Cannot Delete Protection Group
	Cannot Disable DWRAP With FEC Enabled
	Cannot Disable DWRAP With GCC Enabled
	Cannot Edit Ethernet IP
	Cannot Edit STS
	Cannot Enable FEC When G.709 Is Disabled
	Cannot Enable FEC With DWRAP Disabled
	Cannot Perform ACO
	Cannot Provision Equipment
	Cannot Provision Protection Equipment
	Cannot Set Bidirectional Protection Group
	Cannot Set DCC When Digital Wrapper Is Enabled
	Cannot Set GCC When DWRAP Is Disabled

Table 7-30 Errors listed by Error Code (continued)

Error Code	Error Message
SROF (continued)	Cannot Set NodeId
	Cannot Set Payload Type
	Cannot Set Protection Group Name
	Cannot Set Protection Group Revertive Behavior
	Cannot Set RingId
	Cannot Set Span Revertive Mode Unless 4-Fiber Ring
	Cannot Set Span Revertive Time In Non-revertive Mode
	Cannot Set Span Revertive Time Unless 4-Fiber Ring
	Cannot Set Termination Mode
	Cannot Set Wave Length
	Cannot Switch For Specified Connection Type
	Cannot Switch For Specified Path
	Cannot Update Synchronization Reference List
	Command Not Supported
	Cross-Connection Creation Failed
	Cross-Connection Does Not Exist
	DCC Does Not Exist
	DCC Not In Use
	DWRAP Not Enabled
	Database Is Busy
	Element Not Found
	Equipment Does Not Match Request
	Equipment Does Not Support Cross-connection Loopback
	Ethernet IP And Default Router IP Subnets Are Different
	Expected Trace Size Exceeds Trace Format Limit
	Facility Does Not Support Laser Restart
	Facility Not Protected
	Facility Not Provisioned
	Flash Is Busy
	Generation1 Does Not Support Given Quality Of RES
	Get IOR Failed
	Host Not In IP Address Format
	Insufficient Path Width For Cross-Connection
	Insufficient Path Width For Test Access
	Internal Exercise Failure
	Internal Facility Type Failure

Table 7-30 Errors listed by Error Code (continued)

Error Code	Error Message
SROF (continued)	Invalid ALS Recovery Interval
	Invalid ALS Recovery Pulse Width
	Invalid Control Type (CONTTYPE) For AID
	Invalid Cross-Connection Path
	Invalid Cross-Connection Type For Drops
	Invalid Drop Path
	Invalid FTP Username/Password
	Invalid Loopback Provision
	Invalid Operation For Connection Type
	Invalid Operation For Specified Path
	Invalid Path
	Invalid Protection Group
	Invalid Protection Switch Operation
	Invalid State When Loopback Present
	Invalid Subnet Mask
	Invalid Synchronization Source
	Invalid UPSR Path
	J0 Section Trace Level Not Supported By 10GE Payload Type
	Laser Was Not Shutdown.Cannot Restart Laser
	Loopback Not Allowed On Drop Path
	Loopback Type Does Not Match
	MIC Cards Cannot Be Reset
	Maximum User Limit Reached
	No Start-Up IOS Config
	Operate Alarm Cutoff Failed
	Operation Not Supported
	Parameter Not Supported When DWRAP Is Enabled
	Path Already In Use
	Path Specified Is Not Valid
	Path Used For Test Access
	Peer Equipment Attributes Do Not Match
	Peer Equipment Type Does Not Match
	Peer Payload Type Does Not Match
	Peer Termination Mode Does Not Match
	Pool Does Not Exist
	Protect Port Active

Table 7-30 Errors listed by Error Code (continued)

Error Code	Error Message
SROF (continued)	Protection Switching Failed
	Protection Type Mismatch
	Provisioning Rules Failed
	Regeneration Group Already Exist
	Regeneration Group Does Not Exist
	Requested Operation Failed
	Ring Reversion Failed
	SDBER Out Of Range
	SFBER Out Of Range
	STS Does Not Exist
	STS Does Not Have TAP
	STS Path Width Does Not Match
	STS Path Width Does Not Match
	Section Termination Mode Not Supported
	Software Activation Failed
	Software Download Failed
	Software Error
	Software Error
	Software Revertion Failed
	Span Reversion Failed
	Specified Operation Is Not Valid
	Standby Flash Not Ready
	Synchronization/Timing Parameters Not Supported With DWRAP Enabled
	TTI Trace Not Allowed With G709 Disabled
	Test Access Active
	Trace Format Not Supported By J0 Section Trace
	Trace Format Not Supported By TTI Section Trace
	Trace Message Size Exceeds Trace Format Limit
	Trace Mode Incompatible With Termination Mode
	Trace Mode Not Supported
	Trace Not Supported By 10GE Payload Type
	Unprovisioning Rules Failed
	Unsupported BLSR STS Path Operation
	Unsupported Command Type
	Unsupported Element Type
	VT Does Not Exist

Table 7-30 Errors listed by Error Code (continued)

Error Code	Error Message
SROF (continued)	VT Does Not Have TAP Wavelength Value Not Supported Working/Peer Card In Use XC Card Does Not Support VT Cross-Connection XC Card Not Present Y-Cable Protection Does Not Exist
SRQN	BLSR Creation Failed BLSR Deletion Failed BLSR Does Not Exist BLSR Editing Failed Cannot Edit SENDDUS On Protect Port Cannot Edit SYNCMSG On Protect Port DCC Not Allowed In SDH Mode DCC Not Allowed On Protect Port Data Access Request Failed Invalid Mode For Current Configuration Invalid Request Protect Card Does Not Support Electrical Protection Protect Card Does Not Support Protection Type SDH Not Allowed SDH Not Allowed On Protect Port SDH Not Allowed With DCC SDH Not Allowed With SENDDUS SDH Not Allowed With SYNCMSG SENDDUS Not Allowed With SDH Mode SYNCMSG Not Allowed With SDH Mode Sync Status Messaging(SSM) Not Allowed With SDH Mode
SSRD	Manual Switch Cannot Override Forced Switch Switch Request Denied
SSRE	Memory Resources Exceeded
SWFA	Working Unit Failed Or Missing
SWLD	Working Unit Locked

7.3 Echo

In order to improve telnet functionality for automated systems, the echo function has been turned off since ONS 15454 Release 3.0. This change is transparent to users running standard UNIX-compliant telnet clients; however, PC users may need to change their client setup to enable "local echo." This is normally accomplished by a pull-down menu or a preference attribute.

To test the local echo on your PC client, use the RTRV-HDR command. If you receive a response but no data, set local echo ON. Cisco recommends that you close any windows containing sensitive information after exiting a TL1 session.

Numerics

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