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Nortel Networks

OPTera Metro 3500 Multiservice Platform

TL1 Reference—Part 1 of 4

Standard Release 12.0 Issue 1 November 2003

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About this document

ATTENTION

This document is presented in four parts. Each part has its own table of contents, which contains topics found in that part only. Part 2 continues sequential chapter numbering from Part 1. Part 3 continues sequential chapter numbering from Part 2. Part 4 continues sequential chapter numbering from Part 3.

You are reading Part 1 of Nortel Networks OPTera Metro 3500 Multiservice Platform *TL1 Reference,* 323-1059-190.

Part 1 covers the introduction of TL1 and TL1 detailed command descriptions.

Part 2 and 3 cover further TL1 detailed command descriptions.

Part 4 covers further TL1 detailed command descriptions, automatic reports, and error codes and messages.

Supported software

This document supports the software release for Nortel Networks OPTera Metro 3500 Multiservice Platform Release 12.0.

Supported hardware

This document supports the OPTera Metro 3500 shelf.

Hardware naming conventions

The following naming conventions are used throughout this document to identify the OPTera Metro Multiservice Platform hardware:

- the extended shelf processor (SPx) is referred to as the shelf processor
- the extended network processor (NPx) is referred to as the network processor

Audience

The following members of your company are the intended audience of this Nortel Networks technical publication (NTP):

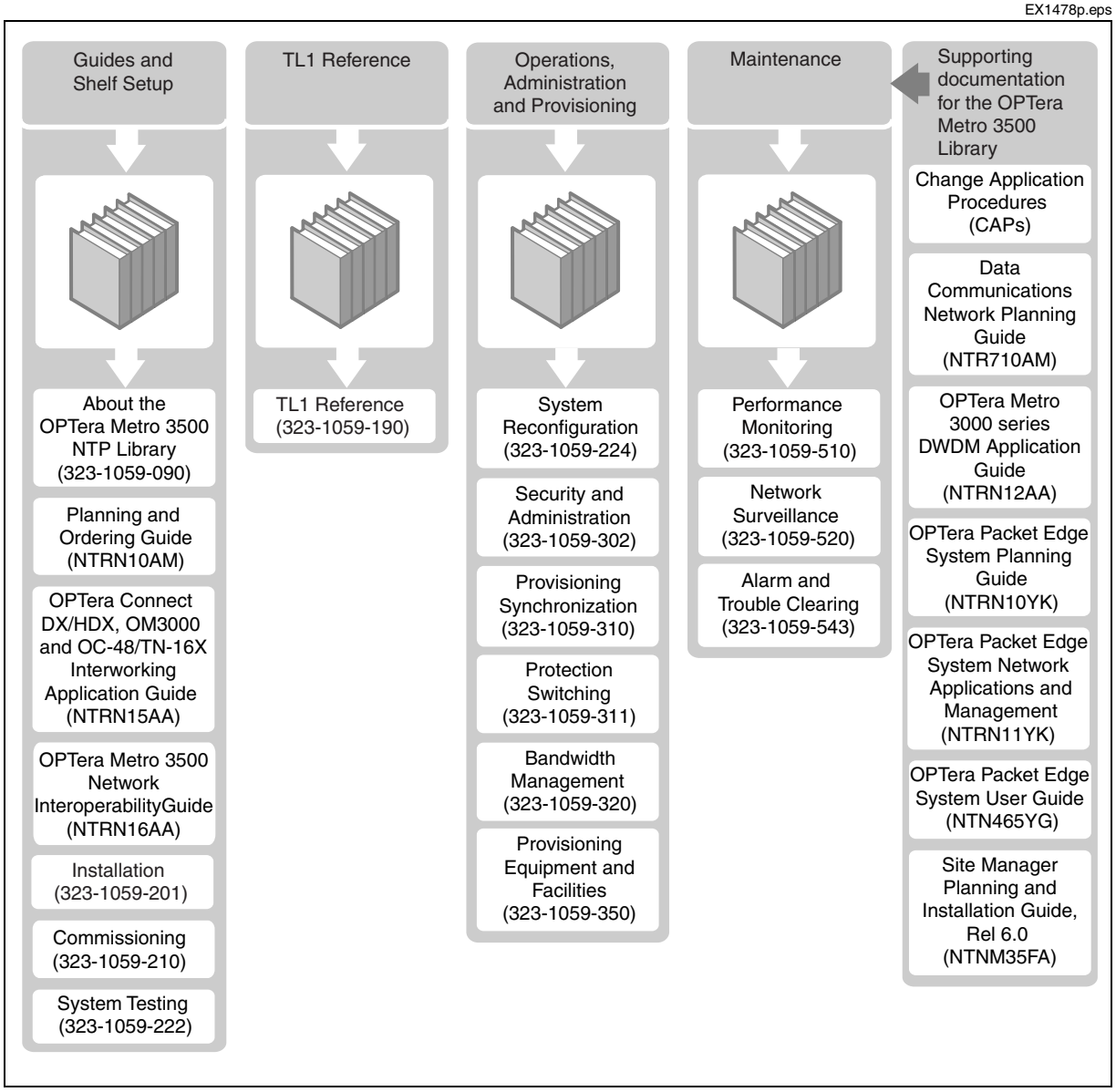
- planners
- provisioners
- network administrators
- transmission standards engineers

Standards

The Telecommunications Industry Association (TIA) and the Electronics Industries Alliance (EIA) accepted RS-232 as a standard in 1997 and renumbered this standard as TIA/EIA-232. In this document, RS-232 is used to reflect current labels on the hardware and in the software for the OPTera Metro 3500 Multiservice Platform.

OPTera Metro 3500 NTP library

EX1478p.eps



Technical support and information

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

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

Introducing TL1

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

TL1 is a common language protocol for messages exchanged between network elements and network processors in an OPTera Metro 3500 Multiservice Platform series network. TL1 is the primary user interface to the network element and network processor, and is used to operate, administer, maintain, and provision the network.

The TL1 implementation on the network element and network processor allows the user to perform the following functions:

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

Standards compliance The TL1 interface complies with the Bellcore standard TR-TSY-439, Operations Technology Generic Requirements (OTGR):

- Section 12.3, TR-TSY-833, Issue 3: Network Maintenance - Network Element and Transport Surveillance Messages
- Section 12.2, TR-NWT-199, Issue 2: Operations Application Messages and Memory Administration Messages, Specifications of Memory Administration at the OS/NE Interface
- Section 12.5, TR-NWT-835, Issue 2: Operations Application Messages - Network Element (NE) Security Parameter Administration Messages

TL1 user interface on the network element

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

On the shelf, the TL1 user interface is obtained by connecting a VT100 or other ANSI, standard terminal to a DB-9, RS-232, DTE, craft access port, or to the DB-25, RS-232, DCE, craft access port on the shelf processor circuit pack.

All network elements in the system can be accessed from any other network element in the system.

TL1 user interface on the network processor

The TL1 interface on the network processor allows the retrieval of all TL1 alarms and events from the network elements in the network processor span of control. The TL1 interface also allows provisioning of network processor facilities, X.25 parameters, an IP address and up to three manual area addresses.

The network processor requires one of the following connections:

- backplane connection from the co-located shelf processor to the network processor through OSI/Ethernet (10base T). You can access the network processor using a VT100 compatible terminal connected to any network element in the system. You do not have to log in to the local network element to log in to the network processor
- Site Manager to network processor through TCP/IP over Ethernet (10base T)
- Preside Applications Platform or Preside Multiservice Managed Object Agent to network processor through TCP/IP over Ethernet (10base T)
- an operations support system (OSS) to network processor through the X.25 port
- a straight Ethernet connection through the central office LAN (COLAN)

TL1 command interface

TL1 prompt

The TL1 prompt is indicated by a less than sign (**<**) on the left side of the screen. The prompt appears in response to the semi-colon (**;**) from the terminal keyboard. TL1 commands are executed from the TL1 prompt.

> ***Note:*** TL1 uses a semi-colon (**;**), not a carriage return, as a line terminator. The semi-colon is shown at the end of all TL1 commands in this guide.

User authentication

You can log in to a network processor or network element using remote authentication, challenge-response authentication, or local authentication. The methods available depend on the state of centralized security administration (CSA) and on the provisioned alternate method, as follows:

- If CSA is enabled, you can log in using remote authentication or challenge-response authentication.
- If CSA is disabled or is enabled but unavailable, you can log in using local authentication or challenge-response authentication if local authentication is provisioned as the alternate method. If challenge-response is provisioned as the alternate method, only challenge-response is available (local accounts are disabled). By default, challenge-response authentication is the alternate method when CSA is enabled and local authentication is the alternate method when CSA is disabled.

To log in using remote or local authentication, you must have a valid user identifier (UID) and password identifier (PID).

To log in using challenge-response authentication, enter the UID to partially log in to the network processor or network element. Then, use the RTRV-CHALLENGE and ENTER-CHALLENGE-RESPONSE commands to complete the login. See RTRV-CHALLENGE on page 2-66 and ENT-CHALLENGE-RESPONSE on page 2-38.

Refer to the *Planning and Ordering Guide* (NTRN10AM) for more information on authentication modes. Refer to Chapter 2 for the TL1 commands used to set CSA attributes, UIDs, and PIDs.

User identifier

The UID is a unique non-confidential name to identify each authorized system user. UIDs are between 1 and 10 alphanumeric characters. It is essential to have a UID to activate a user login session.

Password identifier

The PID is a confidential code to qualify the authorized system user to access the account specified by a UID. It is essential to use the PID for local or remote authentication or to change the current PID.

PIDs must meet the following:

- The PID must be between 8 and 10 characters.
- The PID can include alphabetical characters, numbers, and the following symbols:

  ! “ # $ % ` ( ) * + - . / < = > @ [ ] ^ _ ' { | } ~
- The PID must contain at least one alphanumeric character and one non-alphanumeric character (such as one of the above symbols or a number).
- The PID cannot contain any of the following characters: semicolon (;), colon (:), ampersand (&), comma (,), spaces (deleted as entered), control characters, and question mark (?).
- The PID cannot contain the associated user identifier (UID).
- You cannot use any of your previous five passwords or any words that are in the list of unusable passwords. The list of unusable passwords is set with the ENT-SECU-BADPID command and can be retrieved with the RTRV-SECU-BADPID command.
- A double quote (“) entered in the PID must be preceded by a backslash (\). The backslash is considered as a character in the length of the password.
- Carriage returns (<Enter>) are ignored.

Security access level

When logging in to a network element or a network processor, an account name and password are used. Each account is created by the user of a master account. During account creation a security access level is assigned from 1 through 5 on the network element or the network processor. This number is called the user privilege code (UPC). The UPC security levels offer access to a range of task execution capabilities as follows:

- Surveillance - level 5, allows surveillance of all network elements in the network processor span of control. A user account with a level 5 UPC is valid only under the following circumstances:
  - — a login to the network processor from Preside Applications Platform or Preside Multiservice Managed Object Agent
  - — a login to the network processor if the network processor is the gateway to the network

  Note 1: A user account with a level 5 UPC can only be used to log into a network processor using a local connection.

  Note 2: Starting with Release 12, up to three Level 5 users can log into and have access to the same network processor at the same time if the UIDs are different. Each of these Level 5 users can access and manage all 16 network elements within the span of control of this network processor.

Note 3: Autonomous messages will not be displayed to the level 5 user, who logs in from the TL1 interface, until you issue the ALW-MSG-ALL command.

- Administration - level 4, allows complete access to all commands and processes, except for automatic surveillance of all network elements in the network processor span of control; level 4 can be assigned to more than one account so that several users have full privilege access to a network element
- Provisioning - level 3, allows access to provisioning, testing, editing, and retrieving commands
- Control - level 2, permits access to operate, release, and retrieve commands but not provisioning
- Retrieve - level 1, allows retrieve and report related commands to be executed; because of its limitations, level 1 is suitable as a login ID for a monitoring process

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

Target identifier and source identifier

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

If a TID is not entered in the TL1 command, the local TID is substituted. You must enter a TID to send the command to a remote network element or remote network processor. TIDs must be between 1 and 20 alphanumeric characters and are assigned using the SET-SID command. The first character must be a letter. The remaining characters can be any combination of letters, numbers, or dashes (-). Enclose the TID in double quotes (“) to include any combination of lower case or special characters. The string, enclosed by the double quotes, cannot include the following characters: backslash (\), space, and double quotes (“).

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

Some TL1 commands accept a TID value of ALL. When you enter the value of ALL, the command is forwarded to each SP or network processor to which you are logged into, through the access port to which the command was sent.

Multiple sessions

You can use the ACT-USER command to log in to 20 network elements at a time. For more information on multiple sessions, see ACT-USER on page 2-4.

TL1 message notation

The following notation is used to define the syntax of the TL1 messages.

Symbol	Meaning
<cr>	ASCII carriage return
<lf>	ASCII line feed
^	ASCII space
<ctrl>	ASCII control key
+	Symbol used in response block syntax
;	Semicolon command or message terminator, used instead of Return to execute commands

Access identifier

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

Correlation tag

The TL1 interface requires a sequential command identifier to be used with every command input. The identifier is called a correlation tag (CTAG). If a CTAG is not entered as part of the command, the command will be rejected.

The CTAG is returned with all response messages including confirmation, failed and syntax error messages, and retrieved reports. A CTAG is not returned with a scheduled report.

> ***Note:*** An automatically generated message has an automatic tag (ATAG) instead of a CTAG. The ATAG is a unique numeric string generated by the system.

The CTAG correlates the command to the result of the command. The format of the CTAG is alphanumeric and can be up to six characters in length. The CTAG can be used to reflect its purpose, for example, JOB28, TAG33.

Command structure

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

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

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

Parameter value grouping

TL1 allows the values of some parameters to be grouped. This technique saves time because you enter a single command with multiple values for a particular parameter rather than multiple commands in which the parameter has a single value. The general format for parameter value grouping is <Parameter value 1> &<Parameter value 2> up to a maximum of 33 parameter values in a command. For example:

VERB-MODIFIER:tid:aid:ctag::<Parameter value 1>&<Parameter value 2> ...&<Parameter value 33>;

Note: The command length cannot exceed 234 characters.

Mandatory punctuation

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

All punctuation shown in the command descriptions must be used or the command will fail to execute.

TL1 command acknowledgment

Whenever a TL1 command is entered, the system responds with the letters IP for in progress and the CTAG entered. Until the command either completes successfully or fails, the TL1 prompt does not return. Since no other command can be executed until the prompt returns, the same CTAG can be used in every subsequent command.

TL1 message overview

This section describes the TL1 message types, the common elements present in all TL1 messages, and the responses to TL1 non-autonomous requests. TL1 autonomous messages are also referred to as automatic output (see the RTRV-AO command).

TL1 message types

There are two types of TL1 messages: autonomous and non-autonomous. Each consists of a header and a message block.

Autonomous messages are generated by a network element as a result of activity on the network element (such as alarms, non-alarmed events, protection switch activity, and performance monitoring threshold alerts). These messages are generated automatically. Alarms, events and PM threshold

crossing alerts are broadcast to all user sessions active on the SID. Up to 10 user sessions can be active at one time. No information request is required to receive autonomous messages.

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

TL1 command response header

A response is identified by a two-line header that indicates the origin of the message, time and date, and whether the command successfully executed. The second line always begins with the letter M to indicate it is a response message.

Normal response syntax

```
<cr> <lf> <lf>
^^^<sid>^<date>^<time> <cr> <lf>
M^^<ctag>^COMPLD <cr> <lf>
(;|>)
```

Response block

All retrieve commands return a response block <rspblk> in the third line as follows:

```
<cr> <lf> <lf>
^^^<sid>^<date>^<time> <cr> <lf>
M^^<ctag>^COMPLD <cr> <lf>
<rspblk>
(;|>)
```

The response block contains command-specific details retrieved. The maximum size of the response block is 32 lines. Any response longer than 32 lines is divided into multiple responses.

The RTRV-PM commands (except RTRV-PM-ABORT) support a continuation message mechanism. If no PM data is available within 2 minutes, a continuation message is sent to the TL1 session. The continuation message indicates that additional time is required for reporting PM data. The termination character in the last line of the response indicates whether or not complete data has been reported. The continuation message is sent at regular intervals (1 minute and 40 second intervals), until PM data is available.

Table 1-1 describes the termination characters for the RTRV-PM response.

Table 1-1
Termination characters supported in the RTRV-PM response message

Termination character	Description
semi-colon (;)	Indicates the termination of the response. All PM data has been reported and the process is complete.
greater than (>)	If the current response does not include PM data (in a response block), then the termination character indicates that the current response is a continuation message. PM data will be reported in subsequent response messages. If the current response includes PM data, the termination character indicates that this response contains partial data. Additional PM data will be reported in subsequent response messages.

Error responses

If a TL1 command is unsuccessful, a DENY response with a TL1 error is returned. The response includes an error code. The error codes are reported along with a description of the situation under which the problem occurred. The error response follows the syntax:

```
<cr> <lf> <lf>
^^^<sid>^<date>^<time> <cr> <lf>
M^^<ctag>^DENY <cr> <lf>
^^^<errcde> <cr> <lf>
^^^/*error text*/ <cr> <lf>
;
```

Refer to Chapter 26, "Error codes and messages".

Autonomous messages format

The network element reports all alarms and events autonomously to all sessions logged in through the TL1 interface. The alarm reports are generated by events or faults in facilities or equipment, environmental faults, or performance monitored threshold crossings.

Autonomous reports display a header similar to that of command response headers. The second line begins with either the letter A indicating that it reports an autonomous event, or an alarm code indicating the severity of the alarm. The second element of the second line is always a numeric autonomous tag followed by a report label:

```
<cr> <lf> <lf>
^^^<sid>^<date>^<time> <cr> <lf>
A|<almcde>^^|^<atag>^REPT^MODIFIER^MODIFIER <cr> <lf>
<rspblk>
;
```

The report label (REPT^MODIFIER^MODIFIER) indicates if a facility, common (COM), environmental (ENV), equipment (EQPT) or shelf (FAC, CONFIG, EX) alarm or event has been generated.

The response block (rspblk) is the response to either a command, scheduled report, or fault. It contains several elements to identify the specific nature of the problem. The names and significance of each is specific to the type of report.

Editing features

The OPTera Metro 3500 Multiservice Platform supports the following editing features:

- <ctrl>+a, recalls the last command line to the current line
- <ctrl>+u, deletes the current command line
- backspace
- arrow keys are not supported
- if the TID is left blank, the TL1 command interpreter fills in the empty space with the default TID

TL1 script file

Starting with Release 11, users can create a script file that contains a series of TL1 commands to be exectued on a target shelf processor or network processor. This script file allows users to execute several, frequently used TL1 commands once. This approach is more efficient than having a user enter each command one at a time.

Users must create this script file at a remote location (such as a Unix workstation) with a text editor tool. This file must be in ASCII format and must have the filename “tl1scrpt.scr”. In order to have several TL1 script files, you must store each script file in a separate directory.

Each command in this script file must contain the precise parameters required to successfully execute the command. Each command must also be listed on a new line, separated by carriage returns. There is no limit to the number of TL1 commands that can be included in this script file. The following is an example of syntax contained in a TL1 script file:

```
ent-fac:ottawa:ilan1:234;
ent-fac:ottawa:ilan2:235;
clr-alm-secu:ottawa::j345;
```

TL1 allows users to load a TL1 script file to the network processor and then commit the TL1 script file to the target shelf processor or network processor. By committing the TL1 script file, the user is executing the commands in the TL1 script file to the target shelf processor or network processor.

Note 1: Only commands that complete an action (such as making connections) can be included in the TL1 script file. Retrieve commands cannot be included in this script file.

Note 2: Do not include the ACT-USER command in the TL1 script file. When this script file is committed, the network processor automatically logs in to the target shelf processor.

Note 3: It is not recommended to include commands in the TL1 script file that require password identification.

For information on how to load the TL1 script file, refer to LOAD-TL1SCRPT-NE on page 2-44. For information on how to commit the TL1 script file to a target shelf processor or network processor, refer to CMMT-TL1SCRPT-NE on page 2-24. For information on how to cancel the lodaing or committing of the TL1 script file, refer to CANC-TL1SCRPT-NE on page 2-11.

Online syntax help

The TL1 interface has a built-in help system. When typing TL1 commands you can enter an incomplete command terminated with a question mark (**?**) at the point where syntax help is needed. The interface responds with syntax choices for that command element. The rule applies throughout the command, from first letter onward. For example entering **A?;** displays a list of all commands beginning with A.

When you log in to a network element, the following message appears indicating some of the online help functions:

```
Version 11.0: Welcome to NORTEL's OPTera Metro 3500 MSP.

/*
* Starting Interactive TL1 Command Mode.
* Type ? for help while constructing TL1 commands.
* Type .? for specific parameter/keyword help.
*/
```

For example, entering

```
< RST?
```

returns the following list:

```
/*
* Applicable Command(s):
*
* RST-BANNER
* RST-EC1
* RST-EQPT
* RST-ETH
```

```
* RST-FC
* RST-OC12
* RST-OC192
* RST-OC3
* RST-OC48
* RST-PROV
* RST-T1
* RST-T3
*/
```

The help function can be called at any point in the syntax and the response is always context sensitive. For example, entering

```
< RST-OC?
```

returns the following:

```
/*
* Applicable Command(s):
*
* RST-OC12
* RST-OC192
* RST-OC3
* RST-OC48
*/
```

To get the whole command syntax structure enter

```
< RST-OC12?
```

and the following results:

```
/*
* RST-OC12 (Switch OC-12 Facility In Service)

************************************************************
*
* Command Syntax:
*
*   RST-OC12:[tid]:aid:ctag;
*
* Minimum required UPC:     3
* TID = "ALL" supported?   NO
*
* Parameters:
*
* AID - OC-12 Line Facility To Act Upon
*/
```

Entering a question mark in a specific field such as the TID

```
< RST-OC12:?
```

results in a field-specific response as follows:

```
/*
* RST-OC12 (Switch OC-12 Facility In Service)
************************************************************
*
* Command Syntax:
*
* RST-OC12:[tid]:aid:ctag;
*
* TID (Target Identifier)
* Optional
*
------------------------------------------------------------
* <String>  System Identifier (SID) of targeted NE
* ex. BUILDING6A, BAYVIEW_CAMPUS, "Harrisburg West"
*/
```

The following example illustrates that a question mark can be entered in any field, such as the AID below

```
< RST-OC12::?
```

and the response is always context specific:

```
/*
* RST-OC12 (Switch OC-12 Facility In Service)
************************************************************
*
* Command Syntax:
*
* RST-OC12:[tid]:aid:ctag;
*
* AID Details:
*
* AID (OC-12 Line Facility To Act Upon)
* Mandatory
*
------------------------------------------------------------
* OC12-Slot        Slot = 3..12
*/
```

The TL1 online help function prompts you to enter correct length and content values for all fields in every command and gives examples. The interface specifies if a field should be left null.

Entering a question mark in a field with multiple components returns an explanation of all the components. For example, entering

```
< ENT-SECU-USER::ADMIN:CTAG123::?
```

results in the following:

```
/*
*       ENT-SECU-USER (Provision New User Account)
* Command Syntax:
*     ENT-SECU-USER:[TID]:newuid:ctag::newpid,newpid,upc:
      TMOUTA=Domain [,TMOUT=Domain] [,PAGESTAT=Domain]
      [,PAGE=Domain] [,ACCRSTAT=Domain] [,ACCR=Domain]
      [, PCND=Domain] [,MINW=Domain] [,USERTYPE=Domain];
*
* Parameter Details:
*
*      NEWPID      (New Password Identifier)
*                   Mandatory
-------------------------------------------------------------
*     <String>      8-10 password characters
*
*      NEWPID      (New Password Identifier)
*                   Mandatory
-------------------------------------------------------------
*     <String>      Re-entered NEWPID for confirmation

*        Hit any key to continue
*        UPC (User Privilege Code)
*                   Mandatory
-------------------------------------------------------------
*          1 Retrieve Privileges
*          2 Control Privileges
*          3 Provisioning Privileges
*          4 Administration Privileges
*          5 Span of Control Surveillance
*/
```

However entering period+question mark (**.?**) as follows:

```
< ENT-SECU-USER::ADMIN:CTAG123::.?
```

results in the following:

```
/*
*       ENT-SECU-USER (Provision New User Account)
* Command Syntax:
*      ENT-SECU-USER:[TID]:newuid:ctag::newpid,newpid,upc:
       TMOUTA=Domain [,TMOUT=Domain] [,PAGESTAT=Domain]
       [,PAGE=Domain] [,ACCRSTAT=Domain] [,ACCR=Domain]
       [, PCND=Domain] [,MINW=Domain] [,USERTYPE=Domain];
*
* Parameter Details:
*
*       NEWPID       (New Password Identifier)
*                     Mandatory
-------------------------------------------------------------
*      <String>       8-10 password characters
*/
```

The response detail is limited to only the first comma delimited parameter (PID) being treated by online help. Any comma delimited parameter can be isolated by the online help system by using period+question mark (**.?**).

Help can be used in the middle of a command parameter as well, to list all commands of a certain type. For example, entering

```
< ED-S?
```

returns the following:

```
/*
* Applicable Command(s):
*
* ED-SECU-PID
* ED-SECU-USER
* ED-SITE-DSM
* ED-STS1
* ED-STS12C
* ED-STS24C
* ED-STS3C
* ED-SYS
*/
```

Security and administration detailed command descriptions

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

Most commands in this chapter are supported on the network element and the network processor.

The following table lists all the commands in this chapter.

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ACT-USER

Use the Activate User command to log in to a network processor or network element. You can log in using remote authentication, challenge-response authentication, or local authentication.

To log in using remote or local authentication, you must have a valid user identifier (UID) and password identifier (PID).

To log in using challenge-response authentication, enter the UID to partially log in to the network processor or network element. Then, use the RTRV-CHALLENGE and ENTER-CHALLENGE-RESPONSE commands to complete the login. See RTRV-CHALLENGE on page 2-66 and ENT-CHALLENGE-RESPONSE on page 2-38.

Up to 100 unique accounts can be created for one network element but only 10 TL1 user sessions using these accounts can be active at one time on one network element. Up to 100 accounts can be created for the network processor as well, but only 34 TL1 user sessions can be active at one time on one network processor.

To log out, see the CANC-USER command on page 2-12.

You can use ACT-USER to log in to a maximum of 20 network elements at one time. To maintain multiple logins all network elements must be interconnected. Once you have activated sessions to a number of network elements, most TL1 commands can be addressed to all the network elements simultaneously.

> ***Note:*** A maximum of two users can log in locally to the same network element.

Once you are connected to a network processor, you can log in to a maximum of 20 network processors or network elements, if the nodes are interconnected. Only one account with a level 5 UPC can be active at a time on the network element.

Starting with Release 12, up to three Level 5 users can log into and have access to the same network processor at the same time if the UIDs are different. Each of these Level 5 users can access and manage all 16 network elements within the span of control of this network processor.

If your password has expired when you log in to a network element with a UPC level of 3 or lower, you only have access to the ED-SECU-PID command. If your password accreditation time has expired when you try to log in to the network element, this command returns a DENY response. Note that, if you log in to a network element with a UPC level of 4 or 5, you are given a warning a specified number of days before your password expires. Password expiry and

accreditation times are set using the SET-ATTR-SECUDFLT command and retrieved with the RTRV-SECU-DFLT command. See SET-ATTR-SECUDFLT on page 2-110 and RTRV-SECU-DFLT on page 2-80.

Security level

Level 1

Input syntax

```
ACT-USER:[TID]:UID:CTAG::[PID]:[DOMAIN=Domain];
```

Table 2-1
Syntax definition

Field	Purpose
TID	Target identifier
UID	User identifier
CTAG	Correlation tag
PID	Password identifier
DOMAIN	Authentication mode

Table 2-2
Parameter definition

Parameter	Possible values	Definition
DOMAIN	REMOTE	Use remote, challenge-response, or local authentication to log in to the network processor or network element. If centralized security administration (CSA) is enabled, you can use remote authentication or challenge-response authentication. If CSA is disabled or is enabled but unavailable, you can use local authentication or challenge-response authentication if local authentication is provisioned as the alternate method. If challenge-response is provisioned as the alternate method, only challenge-response is available (local accounts are disabled). See SET-ATTR-CSA on page 2-106 to set the CSA state and SET-REMAUTH-ALTERNATE on page 2-116 to set the alternate method.
	CHALLENGE	
	LOCAL	

Example input

Log in to network element NEWYORK using the account ADMIN:

```
ACT-USER:NEWYORK:ADMIN:IL123::SESAME;
```

Note: The password does not appear on screen.

ALW-SECU-CID

The Allow Security Channel Identifier command is used to unlock all channels on the specified network processor that are in a locked out state. Channels are locked out when the maximum number of invalid login attempts is exceeded.

Security level

Level 4

Input syntax

```
ALW-SECU-CID:TID:[AID]:CTAG;
```

Note: ALL is a valid target identifier (TID).

Table 2-3
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. This command only supports an AID of ALL.
CTAG	Correlation tag

Example input

Unlock all channels on network processor NEWYORK:

```
ALW-SECU-CID:NEWYORK:ALL:IL123;
```

ALW-SECU-USER

The Allow Security User command is used to enable a disabled user account on the network element or network processor. This command is necessary, for example, if password accreditation was turned on using the SET-ATTR-SECUDFLT command and the user failed to changed their password before the specified accreditation time.

After an account is enabled, the user is given a warning a specified number of days before their password expires. The warning time is set with the SET-ATTR-SECUDFLT command.

Security level

Level 4

Input syntax

```
ALW-SECU-USER:[TID]::CTAG::UID;
```

Note: ALL is a valid target identifier (TID).

Table 2-4
Syntax definition

Field	Purpose
TID	Target identifier
CTAG	Correlation tag
UID	User identifier. Grouping is allowed.

Example input

To enable the account of user EMILY on network element OTTAWA:

```
ALW-SECU-USER:OTTAWA::CTAG98::EMILY;
```

CANC-PROV

The Cancel Provisioning command is used to cancel a SAV-PROV or RST-PROV command in progress on the network element or network processor. In addition it

- cleans-up any backup files left in an invalid state by the SAV-PROV, or RST-PROV
- disconnects any file transfer connections left behind by the SAV-PROV or RST-PROV
- clears any in progress alarms raised by the SAV-PROV, or RST-PROV
- cancels the failure state that may exist

Security level

Level 3

Input syntax

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

Table 2-5
Syntax definitions

Field	Purpose
TID	Target identifier
CTAG	Correlation tag

Example input

Cancel a SAV-PROV command executed on shelf processor OTTAWA:

```
CANC-PROV:OTTAWA::CTAG99;
```

CANC-PROV-SOC

The Cancel Provisioning Span of Control (CANC-PROV-SOC) command is used to cancel a SAV-PROV-SOC or CHK-PROV-SOC command in progress on the network processor. In addition it cleans-up any backup files left in an invalid state by the SAV-PROV-SOC command.

Security level

Level 3

Input syntax

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

Table 2-6
Syntax definition

Field	Purpose
TID	Target identifier
CTAG	Correlation tag

Example input

Cancel a SAV-PROV-SOC command executed on network processor OTTAWA:

```
CANC-PROV-SOC:OTTAWA::CTAG99;
```

CANC-PROV-SP

The Cancel Provisioning command is used to cancel a SAV-PROV-SP or RST-PROV-SP command in progress on the shelf processor.

In addition, this command

- cleans-up any backup files left in an invalid state by the SAV-PROV-SP or RST-PROV-SP command
- disconnects any file transfer connections left behind by the SAV-PROV-SP or RST-PROV-SP command
- clears any in progress alarms raised by the SAV-PROV-SP or RST-PROV-SP command
- clears any exclusion locks left by the SAV-PROV-SP or RST-PROV-SP command

Security level

Level 3

Input syntax

```
CANC-PROV-SP:[TID]::CTAG:::[TRGTID=Domain];
```

Table 2-7
Syntax definition

Field	Purpose
TID	Target identifier
CTAG	Correlation tag
TRGTID	Target ID

Example input

Cancel a SAV-PROV-SP command executed on shelf processor OTTAWA:

```
CANC-PROV-SP:OTTAWA::CTAG99;
```

CANC-TL1SCRPT-NE

The Cancel TL1 Script Network Element command is used to cancel the download of the TL1 script file to the network processor.

In addition, this command

- clears alarms related to the LOAD-TL1-SCRPT-NE command
- deletes the TL1 script file from the NP
- clears any exclusion locks left by the LOAD-TL1-SCRPT-NE command

Note: The CANC-TL1SCRPT-NE command cannot be used to cancel a CMMT-TL1SCRPT-NE command.

Security level

Level 3

Input syntax

```
CANC-TL1SCRPT-NE:[TID]::CTAG;
```

Table 2-8
Syntax definition

Field	Purpose
TID	Target identifier
CTAG	Correlation tag

Example input

Cancel the download of the TL1 script file to the network processor OTTAWA:

```
CANC-TL1SCRPT-NE:OTTAWA::CTAG99;
```

CANC-USER

The Cancel User command is used to log out of an active session with the network element or network processor.

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

> ***Note:*** The UID must be used to log out any account. If a user remains logged in to an account on the local network element and another user wants to log the user out but does not know the UID of the first user, the only way to log out the account is to disconnect the appropriate cable (RS-232, LAN, or X.25) from the craft access port, or turn off the power to the VT100 terminal.

Security level

Level 1

Input syntax

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

> ***Note:*** ALL is a valid target identifier (TID).

Table 2-9
Syntax definition

Field	Purpose
TID	Target identifier
UID	User identifier
CTAG	Correlation tag

Example input

Log out SYSOP from the network element WASHINGTON:

```
CANC-USER:WASHINGTON:SYSOP:TN777;
```

CHK-PROV

The Check Provisioning command is used to do pre-checks on the shelf processor or network processor for which the provisioning data is to be saved or restored. These checks include whether

- the given destination is reachable (if the DESTTYPE and DESTADDR options are included). If the file transfer connection cannot be made or if the destination is involved in a duplicate SID, the check fails.

  Note: the system is in one of the following preventative states
  - upgrade in progress
  - load mismatch
  - inservice rollover in progress (shelf processor only)
  - disk is full (network processor only)
  - duplicate source identifier (SID)
  - database save and restore in progress
  - database save and restore has failed

  If the system is in a preventative state the check fails.

- any alarms are raised on the shelf processor or network processor (if the CHKALM option is omitted or given the value Y). If any alarms are raised on the shelf processor or network processor the check fails.

The CHK-PROV command, although optional, should always be sent before sending a SAV-PROV or a RST-PROV to a shelf processor or network processor.

Note: Only one save and restore command can occur at a time, with the exception of CANC-PROV.

Security level

Level 3

Input syntax

```
CHK-PROV:[TID]::CTAG:::[DESTTYPE=Domain][,DESTADDR=Domain]
[,CHKALM=Domain];
```

Table 2-10
Syntax definition

Field	Purpose
TID	Target identifier
CTAG	Correlation tag

Table 2-10 (continued)
Syntax definition

Field	Purpose
DESTTYPE	Source of the Restore — TID, IP, or locally attached PC
DESTADDR	Destination address Address of the Destination type (TID or IP) which is the destination of the Save or source of the Restore. For a DESTTYPE of PC, omit DESTADDR.
CHKALM	Check active alarms

Table 2-11
Parameter descriptions

Parameter	Possible values	Description
DESTTYPE	TID	Target Identifier
	IP	Internet Protocol
	PC	Locally attached PC
DESTADDR	TID address	Name of the network element, network processor, or OPC
	IP address	A network element or network processor identifier in the format x.x.x.x (where x = a number from 1-255)
CHKALM	Y (default)	A CHK-PROV is not allowed if there is an alarm present on the network processor or shelf processor card receiving the command
	N	A CHK-PROV is allowed whether or not there is an alarm present on the network processor or shelf processor card receiving the command. If the CHK-PROV command is sent with the CHKALM=N and some preventative states exist, the command will fail.

Example input

Check network processor MONTREAL prior to saving its provisioning data to a UNIX workstation:

```
CHK-PROV:MONTREAL::CTAG98:::DESTTYPE=IP,DESTADDR=47.124.9.88,
CHKALM=Y;
```

or

```
CHK-PROV:MONTREAL::CTAG98:::DESTTYPE=TID,DESTADDR=OPCOTTAWA,
CHKALM=Y;
```

CHK-PROV-SOC

The Check Provisioning Span of Control (CHK-PROV-SOC) command is used to do pre-checks on the network processor to ensure that it can save the provisioning data from all of the shelf processors in its span of control (SOC) to a given destination. These checks include whether

- the given destination is reachable (if the DESTTYPE and DESTADDR options are included). The given destination can be a remote location with a TID or IP address. If the file transfer connection cannot be made or if the destination is involved in a duplicate SID, the check fails.
- the system is in one of the following preventative states
  - upgrade in progress
  - load mismatch
  - inservice rollover in progress (shelf processor only)
  - disk is full (network processor only)
  - duplicate source identifier (SID)
  - database save and restore in progress
  - database save and restore has failed

  If the system is in a preventative state the check fails.
- any alarms are raised on the shelf processor or network processor (if the CHKALM option is omitted or given the value Y). If any alarms are raised on the shelf processor or network processor the check fails.

The CHK-PROV-SOC command, although optional, should always be sent before sending a SAV-PROV-SOC to a shelf processor or network processor.

Note 1: Only one save and restore command can occur at a time, with the exception of CANC-PROV.

Note 2: If the given destination is a remote location, the CHK-PROV-SOC command cannot check if there is sufficient disk space at the remote location to download the provisioning data.

Security level

Level 3

Input syntax

```
CHK-PROV-SOC:[TID]::CTAG::["USERID"][,"PASSWRD"]:
[,DESTTYPE=Domain],[DESTADDR=Domain][,DIR="Domain"]
[,CHKALM=Domain];
```

Table 2-12
Syntax definition

Field	Purpose
TID	Target identifier
CTAG	Correlation tag
USERID	User ID (see Note)
PASSWRD	User's password (see Note)
DESTTYPE	Destination type (TID or IP)
DESTADDR	Destination address. Address of the Destination type (TID or IP) which is the destination of the Save or source of the Restore.
DIR	Directory in which the backed-up provisioning data is stored (see Note)
CHKALM	Check alarm status
Note: Do not specify a user ID, password or directory if the remote location is an Operations Controller.	

Table 2-13
Parameter descriptions

Parameter	Possible values	Description
DESTTYPE	TID	Target Identifier
	IP	Internet Protocol
DESTADDR	TID address	Name of remote location
	IP address	A remote location identifier in the format x.x.x.x (where x = a number from 1-255)
CHKALM	Y (default)	A CHK-PROV-SOC is not allowed if there is an alarm present on the network processor or shelf processor card receiving the command
	N	A CHK-PROV-SOC is allowed whether or not there is an alarm present on the network processor or shelf processor card receiving the command. If the CHK-PROV-SOC command is sent with the CHKALM=N and some preventative states exist, the command will fail.

Example input

Check network processor MONTREAL prior to saving its provisioning data to a remote UNIX workstation:

```
CHK-PROV-SOC:MONTREAL::CTAG98::"jim","password":DESTTYPE=IP,
DESTADDR=47.202.198.105,DIR="/home/saverest",CHKALM=Y;
```

Check network processor MONTREAL prior to saving its provisioning data to to the Operations Controller of network element TORONTO:

```
CHK-PROV-SOC:MONTREAL::CTAG98:::DESTTYPE=TID,DESTADDR=TORONTO,
CHKALM=Y;
```

CHK-PROV-SP

The Check Provisioning Shelf Processor command is used to determine whether there are preventative states on the shelf processor for which the provisioning data is to be saved (with the SAV-PROV-SP command) or restored (with RST-PROV-SP command). These preventative states include

- upgrade in progress
- in-service rollover on the SP
- reconfiguration or BLSR configuration in progress
- provisioning of data in progress
- FPGA download in progress
- transmit data recovery failed
- SP version mismatch
- loads mismatch
- database corruption
- load install
- disk full
- shelf ID mismatch
- duplicate SID on the SP or NP
- database save and restore in progress
- exclusion lock on the save and restore directory
- remote destination is not reachable with the given user name and password from the NP if the destination information is provided

If the system is in one of these preventative states, the check fails.

The CHK-PROV-SP command, although optional, should always be sent before sending a SAV-PROV-SP command to a shelf processor.

> ***Note:*** If the given destination is a remote location, the CHK-PROV-SOC command cannot check if there is sufficient disk space at the remote location to download the provisioning data.

Security level

Level 3

Input syntax

```
CHK-PROV-SP:[TID]::CTAG::["USERID"][,"PASSWRD"]
[,DESTTYPE=Domain],[DESTADDR=Domain][,DIR=Domain]
[,CHKALM=Domain];
```

Table 2-14
Syntax definition

Field	Purpose
TID	Target identifier
CTAG	Correlation tag
USERID	User ID (see Note)
PASSWRD	User's password (see Note)
DESTTYPE	Destination type (TID or IP)
DESTADDR	Destination address Address of the Destination type (TID or IP) which is the destination of the Save or source of the Restore.
DIR	Directory in which the backed-up provisioning data is stored (see Note)
CHKALM	Check alarm status
Note: Do not specify a user ID, password or directory if the remote location is an Operations Controller.	

Table 2-15
Parameter descriptions

Parameter	Possible values	Description
DESTTYPE	TID	Target Identifier
	IP	Internet Protocol
DESTADDR	TID address	Name of remote location
	IP address	A remote location identifier in the format x.x.x.x (where x = a number from 1-255)
CHKALM	Y (default)	A CHK-PROV-SP is not allowed if there is an alarm present on the shelf processor card receiving the command
	N	A CHK-PROV-SP is allowed whether or not there is an alarm present on the shelf processor card receiving the command. If the CHK-PROV-SP command is sent with the CHKALM=N and some preventative states exist, the command will fail.

Example input

Check shelf processor MONTREAL prior to saving its provisioning data to a remote Unix workstation:

```
CHK-PROV-SP:MONTREAL::CTAG98::"jim","password":DESTTYPE=IP,
DESTADDR=47.202.198.105,DIR="/home/saverest",CHKALM=Y;
```

or

Check shelf processor MONTREAL prior to saving its provisioning data to the Operations Controller of network element TORONTO:

```
CHK-PROV-SP:MONTREAL::CTAG98:::DESTTYPE=TID,DESTADDR=TORONTO,
CHKALM=Y;
```

CLR-ALM-SECU

The Clear Alarm Security command is used to clear all security alarms on the specified network element or network processor.

Security level

Level 4

Input syntax

```
CLR-ALM-SECU:[TID]::CTAG;
```

Note: ALL is a valid target identifier (TID).

Table 2-16
Syntax definition

Field	Purpose
TID	Target identifier
CTAG	Correlation tag

Example input

Clear all security alarms on network element OTTAWA:

```
CLR-ALM-SECU:OTTAWA::CTAG93;
```

CMMT-PROV

The Commit Provisioning (CMMT-PROV) command is used to commit the files which have been restored to a shelf processor or network processor by the RST-PROV command.

The CMMT-PROV command checks to see if there are any outstanding reasons not to commit the data at this time. If there are no reasons, it will commit the data and cause a special reset. It will also clear the Database Restore in Progress alarm.

Security level

Level 3

Input syntax

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

Table 2-17
Syntax definition

Field	Purpose
TID	Target identifier
CTAG	Correlation tag

Example input

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

```
CMMT-PROV:OTTAWA::CTAG93;
```

CMMT-PROV-SP

The Commit Provisioning SP command is used to commit the files which have been restored from a remote location with a TID or IP address to a shelf processor by the RST-PROV-SP command. The CMMT-PROV-SP command checks to see if there are any outstanding reasons not to commit the data at this time. If there are no reasons, this command will commit the data.

This command is completed on the designated shelf processor after an autonomous save and restore restart is performed. This restart consists of a warm restart of the shelf processor and the tributary circuit packs.

Security level

Level 3

Input syntax

```
CMMT-PROV-SP:[TID]::CTAG:::[TRGTID=Domain];
```

Table 2-18
Syntax definition

Field	Purpose
TID	Target identifier
CTAG	Correlation tag

Example input

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

```
CMMT-PROV-SP:MONTREAL::CTAG93;
```

CMMT-TL1SCRPT-NE

The Commit TL1 Script Network Element command is used to apply the TL1 commands contained in the TL1 script file (stored on the NP) to a designated network element.

This command is not successful if one of the following occurs:

- any command in the TL1 script file does not complete successfully
- a timeout period elapses before an event or alarm is generated, indicating that the save command is completed

If this command is not successful, a TL1 Script file Load Failed alarm becomes active. To clear this alarm (and cancel this operation), you must run the CANC-TL1SCRPT-NE command.

Security level

Level 3

Input syntax

```
CMMT-TL1SCRPT-NE:[TID]::CTAG;
```

Table 2-19
Syntax definition

Field	Purpose
TID	Target identifier
CTAG	Correlation tag

Example input

Commit the TL1 commands in the TL1 script file to network element OTTAWA:

```
CMMT-TL1SCRPT-NE:OTTAWA::CTAG93;
```

DLT-BANNER

The Delete Banner command is used to delete the current login banner warning text and restore the default login banner warning text for a network element or NP. The login banner warning text is displayed when you log in to a TL1 session on a network element or NP.

Security level

Level 4

Input syntax

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

Table 2-20
Syntax definition

Field	Purpose
TID	Target identifier
CTAG	Correlation tag

Example input

Delete the login banner warning text for network element OTTAWA:

```
DLT-BANNER:OTTAWA::CTAG93;
```

DLT-PROV

The Delete Provisioning (DLT-PROV) command is used to delete shelf processor backups that reside on the network processor.

For each shelf processor backup directory that is deleted from the network processor, a TL1 message stating that the backup has been deleted is displayed.

Security level

Level 3

Input syntax

```
DLT-PROV:[TID]::CTAG::[DLTALL]:[DLTBKUP=Domain];
```

Table 2-21
Syntax definition

Field	Purpose
TID	Target identifier
CTAG	Correlation tag
DLTALL	Deletes all shelf processor backups on a network processor
DLTBKUP	Specifies the TID of a shelf processor whose backup is to be deleted from a network processor

Table 2-22
Parameter descriptions

Parameter	Possible values	Description
DLTALL	DLT_ALL_BACKUPS	Delete all shelf processor backups on the network processor
DLTBKUP	TID of shelf processor	Name of the shelf processor whose backup is to be deleted from the network processor

Example input

Delete the provisioning data on network processor MONTREAL that was backed-up from shelf processor OTTAWA:

```
DLT-PROV:MONTREAL::CTAG:::DLTBKUP=OTTAWA;
```

The response displayed is as follows:

```
MONTREAL 98-07-30 04:03:35
M  A COMPLD

   Deleting SP Backups from NP

Backup for OTTAWA deleted
```

Response block syntax

The response display is as follows:

```
<SID><DATE><TIME>
Deleting SP Backups from NP

Backup for <TID> deleted
```

If no SP backups are deleted, the response display is as follows:

```
<SID><DATE><TIME>
Deleting SP Backups from NP

No Backups deleted
```

Table 2-23
Response parameter descriptions

Parameter	Description
SID	Source identifier of the network processor storing the shelf processor data
DATE, TIME	Date and time of shelf processor deletion
TID	Target identifier of each shelf processor deleted

DLT-SECU-ACCESS

The Delete Security Access command is used to delete network elements from the allow or deny access control list of a specified network element or network processor.

Security level

Level 4

Input syntax

```
DLT-SECU-ACCESS:[TID]::CTAG::SID,[ACCESS];
```

Table 2-24
Syntax definition

Field	Purpose
TID	Target identifier
CTAG	Correlation tag
SID	Source identifier of the network element to delete. Grouping is allowed.
ACCESS	Delete network elements from the allow list or from the deny list

Table 2-25
Parameter descriptions

Parameter	Possible values	Description
ACCESS	ALLOW	Delete network elements from the allow list
	DENY (default)	Delete network elements from the deny list

Example input

Delete network element OTTAWA from the allow list of network element MONTREAL:

```
DLT-SECU-ACCESS:MONTREAL::CTAG1::OTTAWA,ALLOW;
```

DLT-SECU-BADPID

The Delete Security Bad Password command is used to remove previously entered words from the list of unusable passwords on the specified network element or network processor.

Security level

Level 4

Input syntax

```
DLT-SECU-BADPID:[TID]::CTAG::BADPID;
```

Note: ALL is a valid target identifier (TID).

Table 2-26
Syntax definition

Field	Purpose
TID	Target identifier
CTAG	Correlation tag
BADPID	Word to remove. Grouping is allowed.

Table 2-27
Parameter descriptions

Parameter	Possible values	Description
BADPID	A string between eight and ten alphanumeric characters.	Word to remove from the list of unusable passwords.
	ALL	Remove all previously entered words from the list of unusable passwords

Example input

Remove the word EXPRESS951 from the list of unusable passwords for all network elements in the span of control where you are logged in:

```
DLT-SECU-BADPID:ALL::CTAG12::EXPRESS951;
```

DLT-SECU-USER

The Delete Security User command is used to delete a user account on the network element or the network processor.

To change the UPC, see ED-SECU-USER.

Users with ADMIN privilege cannot delete their own UID. This ensures that at least one UID with ADMIN privilege always exists. If a user attempts to delete their UID, the error response /*Privilege, Illegal User Identity*/ is displayed.

Security level

Level 4

Input syntax

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

Note: ALL is a valid target identifier (TID).

Table 2-28
Syntax definition

Field	Purpose
TID	Target identifier
UID	User identifier
CTAG	Correlation tag

Example input

Delete the user account USER03 from network element NEWYORK:

```
DLT-SECU-USER:NEWYORK:USER03:CTAG12;
```

ED-DAT

The Edit Date command instructs the network element or network processor to change its system date and time clock to the value specified.

The date and time are set up on the network element as part of commissioning, and on the network processor when the network processor is initially provisioned. The date and time must be reset after a system power-up.

> ***Note:*** The date and time on the network processor synchronizes to that of the selected shelf processor.

Security level

Level 4

Input syntax

```
ED-DAT:[TID]::CTAG::[date],[time];
```

> ***Note:*** ALL is a valid target identifier (TID).

Table 2-29
Syntax definition

Field	Purpose
TID	Target identifier
CTAG	Correlation tag
DATE	Current date. A null value for DATE leaves the date unchanged.
TIME	Current time. A null value for TIME leaves the time unchanged.

Table 2-30
Parameter descriptions

Parameter	Format	Description
DATE	YY-MM-DD	YY is the last two digits of the year ranging from 00 to 99, MM is the month of the year ranging from 01 to 12, and DD is the day of the month ranging from 01 to 31.
TIME	HH-MM-SS	HH is the hour ranging from 00 to 23, MM is the minute ranging from 00 to 59, and SS is the second ranging from 00 to 59.

Example input

Set the date and time on the network element to April 15, 1995, 9:30 a.m.:

```
ED-DAT:NEWYORK::CTAG12::95-04-15,09-30-00;
```

ED-SECU-PID

The Edit Security Password Identifier command is used by users to edit their own account's password on the network element or the network processor. This command cannot be used to edit the password of another user.

Note: Password identifiers (PIDs) must meet the guidelines listed under "Password identifier" on page 1-3.

Security level

Level 1

Input syntax

```
ED-SECU-PID:[TID]:UID:CTAG::OldPID,NewPID,NewPID;
```

Note 1: ALL is a valid target identifier (TID).

Note 2: Passwords do not appear on screen.

Note 3: Passwords must be entered twice for confirmation.

Table 2-31
Syntax definition

Field	Purpose
TID	Target identifier
UID	User identifier
CTAG	Correlation tag
OldPID	Old user password identifier
NewPID	New user password identifier

Example input

Change the password for user FORD on the network element NEWYORK from PREFECT to PENGUINE:

```
ED-SECU-PID:NEWYORK:FORD:CTAG12::PREFECT,PENGUINE,PENGUINE;
```

ED-SECU-USER

The Edit Security User command is used to edit the security parameters associated with a user account on the network element or the network processor. Enter only the data parameters you want to change. The remaining attributes are not altered.

The user identifier (UID) can be 1 to 10 alphanumeric characters. Parameter grouping of UIDs is not possible.

Users with ADMIN privilege (level 4) cannot change their own UPC to a level below 4. This is to ensure that at least one UID with ADMIN privilege always exists. The last account in the network element with level 4 privilege cannot be deleted.

Security level

Level 4

Input syntax

```
ED-SECU-USER:[TID]:UID:CTAG::[NEWUID],[NEWPID],[NEWPID],[UPC]:
[TMOUTA=Domain][,TMOUT=Domain][,PAGESTAT=Domain][,PAGE=Domain]
[,ACCRSTAT=Domain][,ACCR=Domain][,PCND=Domain]
[,MINW=Domain][,USERTYPE=Domain];
```

Note 1: ALL is a valid target identifier (TID).

Note 2: Passwords do not appear on screen.

Note 3: Passwords must be entered twice for confirmation.

Table 2-32
Syntax definition

Field	Purpose
TID	Target identifier
UID	User identifier
CTAG	Correlation tag
NewUID	New user identifier
NewPID	New user password identifier
UPC	User privilege code
TMOUTA	Automatic timeout flag. The user is automatically logged off from the network element if no valid TL1 command is sent within the specified TMOUT interval.
TMOUT	Timeout interval in minutes. A decimal number from 1 to 99. The default is 30 minutes.

Table 2-32 (continued)
Syntax definition

Field	Purpose
PAGESTAT	Password aging status
PAGE	Password aging time
ACCRSTAT	Password accreditation status
ACCR	Password accreditation time
PCND	Early warning time
MINW	Minimum waiting time
USERTYPE	User account type

Table 2-33
Parameter descriptions

Parameter	Possible values	Description
TMOUTA	Y	Timeout enabled. If TMOUTA is enabled and the TMOUT interval is not specified, the default is 30 minutes.
	N	Timeout disabled. The user will never be automatically logged off. TMOUT is irrelevant (set to 0 minutes).
TMOUT	1 to 99	Timeout interval in minutes (default is 30).
PAGESTAT	OFF (default)	Turn off password aging.
	ON	Turn on password aging.
PAGE	0 to 999	Password aging time in days (default is 45).
ACCRSTAT	OFF (default)	Turn off password accreditation.
	ON	Turn on password accreditation.
ACCR	0 to 30	Password accreditation time in days. The amount of time a user has to change a password that was assigned to the user account. The default is 0, which means that a password must be changed the day it is assigned to the user account.
PCND	0 to 14	Early warning time in days (default is 14). The number of days before a password expires that the user is given a warning when logging into the network element.

Table 2-33 (continued)
Parameter descriptions

Parameter	Possible values	Description
MINW	0 to 999	The minimum number of days that a user must wait before changing a password (default is 0). ***Note:*** This parameter applies even when password aging or password accreditation is turned off. However, this parameter does not apply when the password has been assigned and password accreditation is turned on.
USERTYPE	0 1	Local Network
Note: You can create a temporary account by setting PAGESTAT=ON, ACCTSTAT=OFF, PAGE=X, and MINW=X+1.		

Example input

Change UID of ADMIN on network element NEWYORK to ADMIN2:

```
ED-SECU-USER:NEWYORK:ADMIN:CTAG12::ADMIN2;
```

Change UID and PID of UID ADMIN on network element NEWYORK to ADMIN2 and NTADMIN2 respectively:

```
ED-SECU-USER:NEWYORK:ADMIN:CTAG12::ADMIN2,NTADMIN2,
NTADMIN2:TMOUTA=N;
```

Change UID and PID of UID ADMIN on network element NEWYORK to ADMIN2 and NTADMIN2 respectively, with a UPC level change from 4 to 3, a timeout interval of 60 minutes, an aging time of 60 days, an accreditation period of 20 days, and an early warning time of 7 days:

```
ED-SECU-USER:NEWYORK:ADMIN:CTAG12::ADMIN2,NTADMIN2,NTADMIN2,
3:TMOUTA=Y,TMOUT=60,PAGESTAT=ON,PAGE=60,ACCRSTAT=ON,ACCR=20,
PCND=7;
```

ED-TOD-MODE

The Edit Time of Day Mode command is used to activate or deactivate the time of day (TOD) feature. This command is also used to configure the polling time and set the threshold values for the TOD feature.

Threshold values are checked against the NP time in the event of the SP and against the external NTP server with respect to the NP.

The polling times will vary between the minimum and maximum polling intervals.

Security level

Level 3

Input syntax (for NP)

```
ED-TOD-MODE:[TID]::CTAG:::SYNC=domain[,MINPOLL=Domain]
[,MAXPOLL=Domain][,THRESHOLD=Domain];
```

Input syntax (for SP)

```
ED-TOD-MODE:[TID]::CTAG:::SYNC=domain [,THRESHOLD=Domain];
```

Table 2-34
Syntax definition

Field	Purpose
TID	Target identifier
CTAG	Correlation tag
SYNC	TOD synchronization switch (on, off)
MINPOLL	Minimum polling interval
MAXPOLL	Maximum polling interval
THRESHOLD	Threshold offset value

Table 2-35
Parameter descriptions

Parameter	Possible values	Description
SYNC	Active	Turns TOD synchronization on
	Inactive (default)	Turns TOD synchronization off

Table 2-35 (continued)
Parameter descriptions

Parameter	Possible values	Description
MINPOLL	2^N where N is 1, 2, 3 ...16 Default is 2	Minimum polling interval in seconds based on 2^N.
MAXPOLL	2^N where N is 1, 2, 3 ...16 Default is 9	Maximum polling interval in seconds based on 2^N.
THRESHOLD	1 to 1800 in increments of 1 for NP Default is 600 2 to 8 in increments of 1 for SP Default is 5	Time of day offset threshold in seconds

Example input

Set TOD parameters on a NP.

```
ED-TOD-MODE:NPFGX505::78:::SYNC=ACTIVE,MINPOLL=15,MAXPOLL=16,
THRESHOLD=8;
```

Set TOD parameters on a SP.

```
ED-TOD-MODE:SPFGX505::79:::SYNC=ACTIVE,THRESHOLD=4;
```

ENT-CHALLENGE-RESPONSE

Use the Enter Challenge Response command to enter the response to a retrieved challenge. If the response is correct, you are logged in to the network processor or shelf processor with the appropriate user privilege code (UPC) for this login session.

Security level

Level 1

Input syntax

```
ENT-CHALLENGE-RESPONSE:[TID]::CTAG::RESPONSE;
```

Table 2-36
Syntax definition

Field	Purpose
TID	Target identifier
CTAG	Correlation tag
RESPONSE	Response

Table 2-37
Parameter descriptions

Parameter	Possible values	Description
RESPONSE	Any valid response	Response to the retrieved challenge. If the response includes lowercase characters, enclose the response in double quotes (“).

Example input

Enter the response to log in to network processor NEWYORK:

```
ENT-CHALLENGE-RESPONSE:NEWYORK::CTAG23::1FR5DVB6;
```

ENT-SECU-ACCESS

The Enter Security Access command is used to add network elements to the allow or deny access control list of the specified network element or network processor.

Security level

Level 4

Input syntax

```
ENT-SECU-ACCESS:[TID]::CTAG::SID,[ACCESS];
```

Table 2-38
Syntax definition

Field	Purpose
TID	Target identifier
CTAG	Correlation tag
SID	Source identifier of the network element to add. Grouping is allowed.
ACCESS	Add network elements to the allow list or to the deny list

Table 2-39
Parameter descriptions

Parameter	Possible values	Description
ACCESS	ALLOW	Add network elements to the allow list
	DENY (default)	Add network elements to the deny list

Example input

Add network element OTTAWA to the allow list of network element MONTREAL:

```
ENT-SECU-ACCESS:MONTREAL::CTAG1::OTTAWA,ALLOW;
```

ENT-SECU-BADPID

The Enter Security Bad Password command is used to add words to a list of unusable passwords on the network element or network processor. You can add up to 50 words to the list. If you try to add more than 50, an error code is returned. Duplicate words are not added.

Words to add to a list of unusable passwords might be locally used names and acronyms.

Security level

Level 4

Input syntax

```
ENT-SECU-BADPID:[TID]::CTAG::BADPID[&BADPID2]..[&BADPID3];
```

Note 1: ALL is a valid target identifier (TID).

Note 2: The length of the command, including the syntax, cannot exceed 234 characters. If you require more characters to enter all the unusable passwords, issue the command again.

Table 2-40
Syntax definition

Field	Purpose
TID	Target identifier
CTAG	Correlation tag
BADPID	Word to add to the list of unusable passwords. A string between eight and ten alphanumeric characters. Grouping is allowed.

Example input

Add the words NORTEL951 and EXPRESS951 to the list of unusable passwords on network element OTTAWA:

```
ENT-SECU-BADPID:OTTAWA::CTAG98::NORTEL951&EXPRESS951;
```

ENT-SECU-USER

The Enter Security User command is used to create a new user account on a network element or network processor and enter the security parameters associated with the account. The network element or network processor is specified by the TID.

Note: Password identifiers (PIDs) must meet the guidelines listed under "Password identifier" on page 1-3.

A maximum of 100 UIDs can be added to the password file. If you try to create UID 101, the error message /*Status, List Exceeds Maximum*/ is displayed.

Security level

Level 4

Input syntax

```
ENT-SECU-USER:[TID]:NEWUID:CTAG::NEWPID,NEWPID,UPC:
TMOUTA=Domain[,TMOUT=Domain][PAGESTAT=Domain][,PAGE=Domain]
[,ACCRSTAT=Domain][,ACCR=Domain][,PCND=Domain]
[,MINW=Domain][,USERTYPE=Domain];
```

Note 1: ALL is a valid target identifier (TID).

Note 2: Passwords do not appear on screen.

Note 3: Passwords must be entered twice for confirmation.

Table 2-41
Syntax definition

Field	Purpose
TID	Target identifier
NEWUID	User identifier
CTAG	Correlation tag
NEWPID	Password identifier
UPC	User privilege code
TMOUTA	Automatic timeout flag. The user is automatically logged off from the network element if no valid TL1 command is sent within the specified TMOUT interval.
TMOUT	Timeout interval in minutes. A decimal number from 1 to 99. The default is 30 minutes.
PAGESTAT	Password aging status
PAGE	Password aging time

Table 2-41
Syntax definition

Field	Purpose
ACCRSTAT	Password accreditation status
ACCR	Password accreditation time
PCND	Early warning time
MINW	Minimum waiting time
USERTYPE	User account type

Table 2-42
Parameter descriptions

Parameter	Possible values	Description
TMOUTA	Y	Timeout enabled. If TMOUTA is enabled and the TMOUT interval is not specified, the default is 30 minutes.
	N	Timeout disabled. The user will never be automatically logged off. TMOUT is irrelevant (set to 0 minutes).
TMOUT	1 to 99	Timeout interval in minutes (default is 30).
PAGESTAT	OFF (default)	Turn off password aging.
	ON	Turn on password aging.
PAGE	0 to 999	Password aging time in days (default is 45).
ACCRSTAT	OFF (default)	Turn off password accreditation.
	ON	Turn on password accreditation.
ACCR	0 to 30	Password accreditation time in days. The amount of time a user has to change a password that was assigned to the user account. The default is 0, which means that a password must be changed the day it is assigned to the user.
PCND	0 to 14	Early warning time in days (default is 14). The number of days before a password expires that the user is given a warning when logging into the network element.

Table 2-42 (continued)
Parameter descriptions

Parameter	Possible values	Description
MINW	0 to 999	The minimum number of days that a user must wait before changing a password (default is 0). ***Note:*** This parameter applies even when password aging or password accreditation is turned off. However, this parameter does not apply when the password has been assigned and password accreditation is turned on.
USERTYPE	0 1	Local Network
Note: You can create a temporary account by setting PAGESTAT=ON, ACCTSTAT=OFF, PAGE=X, and MINW=X+1.		

Example input

Create an account on network element Seattle, with user name CAM, password VWXYZ123, security privilege level 3, and timeout disabled:

```
ENT-SECU-USER:SEATTLE:CAM:CTAG12::VWXYZ123,VWXYZ123,3:
TMOUTA=N;
```

Create an account on network element Seattle, with user name CAM, password VWXYZ123, security privilege level 3, timeout set to 60 minutes, an aging time of 30 days, an accreditation period of 20 days, and an early warning time of 7 days:

```
ENT-SECU-USER:SEATTLE:CAM:CTAG12::VWXYZ123,VWXYZ123,3:
TMOUTA=Y,TMOUT=60,PAGESTAT=ON,PAGE=30,ACCRSTAT=ON,ACCR=20,
PCND=7;
```

LOAD-TL1SCRPT-NE

The Load TL1 Script Network Element command is used to download a TL1 script file from a remote destination with a TID or IP address, and then temporarily store it on the NP.

While this command is running, a TL1 Script file Load in Progress alarm becomes active. This alarm remains active until you run the CMMT-TL1SCRPT-NE command (to commit the TL1 commands in this file to the target network element), or the CANC-TL1SCRPT-NE command (to cancel this operation).

This command is not successful if one of the following occurs

- there is an unsuccessful download of the TL1 script file from the remote location
- the file validation fails

If this command is not successful, a TL1 Script file Load Failed alarm becomes active. To clear this alarm (and cancel this operation), you must run the CANC-TL1SCRPT-NE command.

Security level

Level 3

Input syntax

```
LOAD-TL1SCRPT-NE:[TID]::CTAG:::[,DESTTYPE=Domain]
[,DESTADDR=Domain][,DIR=Domain][,CHKALM=Domain]
[,CHKTID=Domain];
```

Table 2-43
Syntax definition

Field	Purpose
TID	Target identifier
CTAG	Correlation tag
DESTTYPE	Source of the TL1 script file — TID or IP
DESTADDR	Address of the DESTTYPE (TID or IP) which is the source of the TL1 script file

Table 2-43
Syntax definition

Field	Purpose
DIR	Directory in which the TL1 script file is stored.
CHKALM	Check alarm status
CHKTID	Check TID Specifies whether the operation does or does not compare the TID from which the TL1 script file was saved with the TID of the network processor to which the TL1 script file is being stored.

Table 2-44
Parameter descriptions

Parameter	Possible values	Description
DESTTYPE	TID	A remote Restore will be executed using ALFTAM or FTAM protocol to transfer files from the TID given in the DESTADDR parameter to a shelf processor or network processor.
	IP	A remote Restore will be enacted using FTP to transfer files from the IP address given in the DESTADDR parameter to the network processor.
DESTADDR	TID address	Name of the remote location with the TL1 script file consisting of an identifier of 7 to 20 alphanumeric characters. The first character is alphabetic.
	IP address	The address of the remote location with the TL1 script file consisting of an identifier in the format x.x.x.x (where x=a number 0-255).
DIR	Directory name	A string of characters that specifies the unique directory name in which the TL1 script file is located. When storing the TL1 script file on the network processor, the name of the directory in which the TL1 script file is located must be specified in the command or the command fails. (That is, there is no default directory name.) The directory name is a string of 1 to 60 characters.

Table 2-44 (continued)
Parameter descriptions

Parameter	Possible values	Description
CHKTID	Y (default)	Perform TID check
	N	Do not check the TID To store the TL1 script file of a network processor to a network processor with a different TID, set CHKTID to N.
CHKALM	Y (default)	The LOAD-TL1SCRPT-NE command is not allowed if there is an alarm present on the network processor.
	N	The LOAD-TL1SCRPT-NE command is allowed if there is an alarm present on the network processor receiving the command except if it is in one of the following states: upgrade in progress; load mismatch; IS rollover in progress; duplicate SID; database save and restore in progress.

Example input

Load the TL1 script file from a remote Unix station to network processor OTTAWA:

```
LOAD-TL1SCRPT-NE::CTAG96:::DESTTYPE=IP,DESTADDR=47.100.3.54,
DIR="/home/sam/saverest",CHKALM=Y,CHKTID=N;
```

OPR-TOD-SYNC

The Operate Time of Day Synchronization command can be used to force the the SP to request the time from the current NP time of day (TOD) server.

The Operate Time of Day Synchronization command can also be used on the NP to force a the NP to attempt to reference it's internal clock to one of its provisioned external time servers.

Security level

Level 3

Input syntax

```
OPR-TOD-SYNC:TID::CTAG;
```

Table 2-45
Syntax definition

Field	Purpose
TID	Target identifier
CTAG	Correlation tag

Example input

```
Operate a time of day synchronization on the New York network
element, NP.

OPR-TOD-SYNC:NEWYORK::CTAG12;
```

RST-BANNER

The Reset Banner command is used to replace the current login banner warning text with the login banner text saved to a backup file on a network element or NP. The login banner warning text is displayed when you log in to a TL1 session on a network element or NP.

If there is no login banner warning text saved to a backup file and you execute this command, the login banner warning text does not change.

Security level

Level 4

Input syntax

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

Table 2-46
Syntax definition

Field	Purpose
TID	Target identifier
CTAG	Correlation tag

Example input

Replace the login banner warning text for network element OTTAWA with the login banner text saved to a backup file on this network element:

```
RST-BANNER:OTTAWA::CTAG93;
```

RST-PROV

The Restore Provisioning command is used to restore

- provisioning data (including that backed-up from circuit packs) to a shelf processor from a locally attached PC. This function can only be executed by a user through Site Manager.
- provisioning data (including that backed-up from circuit packs) to a shelf processor from a network processor
- provisioning data (including that backed-up from a shelf processor) to a network processor from a UNIX workstation or an Operations Controller (OPC)

The RST-PROV command

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

The RST-PROV command is supported on the network element and network processor.

Note: The RST-PROV command is not allowed if there is an alarm present on the network processor or shelf processor circuit pack receiving the command when it is in one of the following states: upgrade in progress; load mismatch; IS rollover in progress; duplicate SID; database save and restore in progress.

Security level

Level 3

Input syntax

```
RST-PROV:[TID]::CTAG::[USERID],[PASSWD]:DESTTYPE=Domain
[,DESTADDR=Domain][,DIR=Domain][,CHKTID=Domain]
[,CHKALM=Domain];
```

Table 2-47
Syntax definition

Field	Purpose
TID	Target identifier
CTAG	Correlation tag
USERID	User login name
PASSWD	User login password
DESTTYPE	Source of the Restore — TID, IP, or locally attached PC
DESTADDR	Address of the DESTTYPE (TID or IP) which is the source of the Restore For a DESTTYPE of PC, omit DESTADDR
DIR	Directory in which the backed-up provisioning data is stored.
CHKTID	Check TID Specifies whether the operation does or does not compare the TID from which the backup was saved with the TID of the shelf processor or network processor to which the backup is being restored.
CHKALM	Check alarm status

Table 2-48
Parameter descriptions

Parameter	Possible values	Description
UID	1 to 10 alphanumeric characters	A unique, non-confidential identifier used to identify each authorized system user.
PASSWD	8 to 10 alphanumeric characters	A confidential code name used to activate a user login session.
DESTTYPE	TID	A remote Restore will be executed using ALFTAM or FTAM protocol to transfer files from the TID given in the DESTADDR parameter to a shelf processor or network processor.
	IP	A remote Restore will be enacted using FTP to transfer files from the IP address given in the DESTADDR parameter to the network processor.
	PC	A local restore will be executed between a shelf processor and a locally attached PC.

Table 2-48 (continued)
Parameter descriptions

Parameter	Possible values	Description
DESTADDR	TID address	Name of the Restore source (a network element or network processor) consisting of an identifier of 7 to 20 alphanumeric characters. The first character is alphabetic.
DESTADDR (continued)	IP address	The address of the Restore source (a network element or network processor) consisting of an identifier in the format x.x.x.x (where x=a number 0-255).
DIR	Directory name	A string of characters that specifies the unique directory name in which the backup is stored. If a directory name parameter is not specified in the command, when restoring provisioning data from a network processor to a shelf processor that is in its span of control, the shelf processor uses its TID to derive a default directory name. ***Note:*** The shelf processors only derive a default directory name if they are in the span of control of the destination network processor. When restoring network processor provisioning data from an external repository, the name of the directory in which the data is stored must be specified in the command or the command fails. (That is, there is no default directory name.) The directory name is a string of 1 to 60 characters.
CHKTID	Y (default)	Perform TID check
	N	Do not check the TID (Note)
CHKALM	Y (default)	The RST-PROV is not allowed if there is an alarm present on the network processor or shelf processor circuit pack.
	N	The RST-PROV is allowed if there is an alarm present on the network processor or shelf processor card receiving the command except if it is in one of the following states: upgrade in progress; load mismatch; IS rollover in progress; duplicate SID; database save and restore in progress.
Note: To restore the provisioning data of an shelf processor to a shelf processor with a different TID or the provisioning data of a network processor to a network processor with a different TID, set CHKTID to N.		

Example input

Restore provisioning data stored on network processor MONTREAL to its original shelf processor in OTTAWA:

```
RST-PROV:OTTAWA::CTAG96:::DESTTYPE=TID,DESTADDR=MONTREAL,
DIR="/saverest/NE01",CHKTID=N;
```

Restore provisioning data stored on a UNIX workstation to its original network processor MONTREAL:

```
RST-PROV:MONTREAL::CTAG96::"abc123","Sam4test":DESTTYPE=IP,
DESTADDR=47.100.3.54,DIR="/home/sam/saverest",CHKTID=N;
```

Restore provisioning data stored on directory /xyz/ from the OPC TORONTO to its original network processor OTTAWA:

```
RST-PROV:OTTAWA::CTAG96::"userid",Passwd01":DESTTYPE=TID,
DESTADDR=TORONTO,DIR="/xyz",CHKTID=N;
```

Restore provisioning data stored on directory /xyz/ from the OC-192 OPC of network element BOSTON to its original network processor NEWYORK:

```
RST-PROV:NEWYORK::CTAG96::"userid",Passwd01":DESTTYPE=IP,
DESTADDR=47.100.3.54,DIR="/xyz",CHKTID=N;
```

RST-PROV-SP

The Restore Provisioning SP command is used to restore provisioning data from a remote location with a TID or IP address to a designated SP within an NP span of control.

The RST-PROV-SP command

- does some basic checks on the integrity of the restored data
- compares the software release listed in the backup data with the current software release running on the network element (NE). If they are not the same, the restoration fails.

If CHKTID=Y or CHKTID is omitted, the RST-PROV-SP command compares the TID of the network element to which provisioning data is being restored with the stored TID. If they are not the same, the restoration fails.

Security level

Level 3

Input syntax

```
RST-PROV:[TID]::CTAG::[USERID],[PASSWD]:[TRGTID=Domain]
[,DESTTYPE=Domain][,DESTADDR=Domain][,DIR=Domain][,CHKTID=Doma
in][,CHKALM=Domain];
```

Table 2-49
Syntax definition

Field	Purpose
TID	Target identifier
CTAG	Correlation tag
USERID	User login name
PASSWD	User login password
TRGTID	Target ID
DESTTYPE	Source of the Restore — TID or IP
DESTADDR	Address of the DESTTYPE (TID or IP) which is the source of the Restore
DIR	Directory in which the backed-up provisioning data is stored.
CHKTID	Check TID Specifies whether the operation does or does not compare the TID from which the backup was saved with the TID of the shelf processor to which the backup is being restored.
CHKALM	Check alarm status

Table 2-50
Parameter descriptions

Parameter	Possible values	Description
USER ID	1 to 10 alphanumeric characters	A unique, non-confidential identifier used to identify each authorized system user.
PASSWD	8 to 10 alphanumeric characters	A confidential code name used to activate a user login session.
DESTTYPE	TID	A remote Restore will be executed using ALFTAM or FTAM protocol to transfer files from the TID given in the DESTADDR parameter to a shelf processor or network processor.
	IP	A remote Restore will be enacted using FTP to transfer files from the IP address given in the DESTADDR parameter to the network processor.
DESTADDR	TID address	Name of the Restore source (a remote location) consisting of an identifier of 7 to 20 alphanumeric characters. The first character is alphabetic.
	IP address	The address of the Restore source (a remote location) consisting of an identifier in the format x.x.x.x (where x=a number 0-255).
DIR	Directory name	A string of characters that specifies the unique directory name in which the backup is stored. When restoring shelf processor provisioning data from a remote location, the name of the directory in which the data is stored must be specified in the command or the command fails. (That is, there is no default directory name.) The directory name is a string of 1 to 60 characters.

Table 2-50 (continued)
Parameter descriptions

Parameter	Possible values	Description
CHKTID	Y (default)	Perform TID check
	N	Do not check the TID To restore the provisioning data of a shelf processor to a shelf processor with a different TID, set CHKTID to N.
CHKALM	Y (default)	The RST-PROV-SP is not allowed if there is an alarm present on the shelf processor circuit pack.
	N	The RST-PROV-SP is allowed if there is an alarm present on the shelf processor circuit pack receiving the command except if it is in one of the following states: upgrade in progress; load mismatch; IS rollover in progress; duplicate SID; database save and restore in progress.

Example input

Restore provisioning data stored on a remote location to its original shelf processor MONTREAL:

```
RST-PROV-SP:MONTREAL::CTAG96::”abc123”,”Sam4test”:DESTTYPE=IP,
DESTADDR=47.100.3.54,DIR=”/home/sam/saverest”,CHKTID=N,
CHKALM=Y;
```

RTRV-ACTIVE-USER

Use the Retrieve Active User command to list all users logged in to a network element or network processor.

Security level

Level 3

Input syntax

```
RTRV-ACTIVE-USER:[TID]::CTAG:::[EXINFO=Domain];
```

Note: ALL is a valid target identifier (TID).

Table 2-51
Syntax definition

Field	Purpose
TID	Target identifier
CTAG	Correlation tag
EXINFO	Information tag

Table 2-52
Parameter descriptions

Parameter	Possible values	Description
EXINFO	N (default)	Display the user identifier, user privilege code, and source identifier in the response.
	Y	Display the user identifier, user privilege code, source identifier, timeout value, and authentication type in the response, and indicate which user entered the command.

Example input

Retrieve all active users logged in to network element NEWYORK:

```
RTRV-ACTIVE-USER:NEWYORK::CTAG23;
```

Response block syntax when EXINFO = N

```
<SID><DATE><TIME>
<UID>:,<UPC>::<SID>
```

Response block syntax when EXINFO = Y

```
<SID><DATE><TIME>
<UID>:,<UPC>:<TMOUT=Domain>,<USERTYPE=Domain>,
<ACTIVE=Domain>:<SID>
```

Table 2-53
Response parameter descriptions

Parameter	Possible values	Description
SID	Any valid source identifier	Source identifier of the network element or network processor.
DATE	YY-MM-DD	Date of retrieval. YY is the last two digits of the year (from 00 to 99), MM is the month of the year (from 01 to 12), DD is the day of the month (from 01 to 31).
TIME	HH-MM-SS	Time of retrieval. HH is the hour (from 00 to 23), MM is the minute (from 00 to 59), SS is the second (from 00 to 59).
UID	1 to 10 alphanumeric characters	User identifier.
UPC	1 to 5	User privilege code.
TMOUT	1 to 99	Timeout value (in minutes). A value of 0 indicates an infinite timeout.
USERTYPE	LOCAL NETWORK RADIUS CHALRES	Type of authentication used to log in to the network element or network processor: • LOCAL indicates local authentication and a local account type (as provisioned in the password file with the ED-SECU-USER or ENT-SECU-USER command) • NETWORK indicates local authentication and a network account type (as provisioned in the password file with the ED-SECU-USER or ENT-SECU-USER command) • RADIUS indicates remote authentication • CHALRES indicates challenge/response authentication
ACTIVE	Y or N	Indicates which user (Y) entered the command.
SID	Any valid source identifier	Source identifier of the network element or network processor to which the user is connected. Use this parameter to distinguish between a local session and a remote session.

RTRV-ATTR-CSA

Use the Retrieve Attributes CSA command to retrieve the centralized security administration (CSA) attributes for a network processor or shelf processor.

Security level

Level 4

Input syntax

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

Table 2-54
Syntax definition

Field	Purpose
TID	Target identifier
CTAG	Correlation tag

Example input

Retrieve the CSA attributes for network processor NEWYORK:

```
RTRV-ATTR-CSA:NEWYORK::CTAG23;
```

Response block syntax for a shelf processor

```
<SID><DATE><TIME>
<AUTHSTATE=Domain>
<PRIMARY=Domain>
<SECONDARY=Domain>
```

Response block syntax for a network processor

```
<SID><DATE><TIME>
<AUTHSTATE=Domain>
```

Table 2-55
Response parameter descriptions

Parameter	Possible values	Description
SID	Any valid source identifier	Source identifier of the network processor or shelf processor.
DATE	YY-MM-DD	Date of retrieval. YY is the last two digits of the year (from 00 to 99), MM is the month of the year (from 01 to 12), DD is the day of the month (from 01 to 31).
TIME	HH-MM-SS	Time of retrieval. HH is the hour (from 00 to 23), MM is the minute (from 00 to 59), SS is the second (from 00 to 59).

Table 2-55 (continued)
Response parameter descriptions

Parameter	Possible values	Description
AUTHSTATE	ENABLE or DISABLE	State of remote authentication.
PRIMARY	Any valid target identifier	Target identifier of the network processor used as the primary security gateway for the shelf processor.
SECONDARY	Any valid target identifier	Target identifier of the network processor used as the secondary security gateway for the shelf processor.

RTRV-ATTR-REMAUTH

Use the Retrieve Attributes Remote Authentication command to retrieve settings for the primary or secondary RADIUS server of a network processor.

Security level

Level 4

Input syntax

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

Table 2-56
Syntax definition

Field	Purpose
TID	Target identifier
CTAG	Correlation tag
SERVER	Primary or secondary RADIUS server

Table 2-57
Parameter descriptions

Parameter	Possible values	Description
SERVER	PRIMARY or SECONDARY	Retrieve settings for the primary or secondary RADIUS server.

Example input

Retrieve settings for the primary RADIUS server of network processor NEWYORK:

```
RTRV-ATTR-REMAUTH:NEWYORK::CTAG23::PRIMARY;
```

Response block syntax

```
<SID><DATE><TIME>
<STATE=Domain>
<RADIUS=Domain>
<PORT=Domain>
<TO=Domain>
```

Table 2-58
Response parameter descriptions

Parameter	Possible values	Description
SID	Any valid source identifier	Source identifier of the network processor.
DATE	YY-MM-DD	Date of retrieval. YY is the last two digits of the year (from 00 to 99), MM is the month of the year (from 01 to 12), DD is the day of the month (from 01 to 31).
TIME	HH-MM-SS	Time of retrieval. HH is the hour (from 00 to 23), MM is the minute (from 00 to 59), SS is the second (from 00 to 59).
STATE	ENABLE or DISABLE	RADIUS state.
RADIUS	n.n.n.n where n is an integer between 0 and 255	IP address of the RADIUS server.
PORT	any integer between 0 and 65535	UDP port number of the RADIUS server.
TO	any integer between 1 and 120	Timeout value (in seconds) for communication between the network processor and RADIUS server.

RTRV-AUDIT-SECULOG

The Retrieve Audit Security Log command is used to retrieve security logs.

Security level

Level 4

Input syntax

```
RTRV-AUDIT-SECULOG:[TID]::CTAG::[NUMLOGS]:[PORTTYPE=Domain]
[,UID=Domain][,LOGEVENT=Domain][,LOGNAME=Domain];
```

Note: ALL is a valid target identifier (TID).

Table 2-59
Syntax definition

Field	Purpose
TID	Target identifier
CTAG	Correlation tag
NUMLOG	Number of logs to retrieve
PORTTYPE	User session or access port type
UID	User identifier
LOGEVENT	Command that has been logged
LOGNAME	Category of the log stored

Table 2-60
Parameter descriptions

Parameter	Possible values	Description
NUMLOG	ALL (default value)	Retrieve all logs
	1 to 600	Retrieve the specified number of logs
PORTTYPE	SHELF	Input/output serial port
	FPLT	Shelf processor serial port
	RLOGIN	Remote login application server
	TELNET	TCP/IP Telnet application server
	FTP	TCP/IP FTP application server
	TP4	Transport layer OSI connection
	OS17	Seven layer OSI connection
	X25	X.25 access port
	PTTEL	TCP/IP Passthrough Telnet application server
	ALL (default value)	All access ports on the shelf
UID	ALL (default value)	All user identifiers
	String between 1 and 10 alphanumeric characters	Specified user identifier
LOGEVENT	ALL	All TL1 commands
	Any TL1 command	Specified TL1 command
LOGNAME	ALL	All log names
	SECU400	User login/logout
	SECU401	Unauthorized command attempted
	SECU406	Valid command usage log
	SECU407	Active session timeout
	SECU408	Intrusion attempt
	SECU410	Customer managed network successful access
	SECU412	Customer managed network denied access

Example input
Retrieve ten security logs with active session timeouts from network element SEATTLE:

```
RTRV-AUDIT-SECULOG:SEATTLE::CTAG12::10:LOGNAME=SECU407;
```

Response block syntax

```
<SID><DATE><TIME>
<DATE>,<TIME>:<LOGNAME=Domain>,<LOGEVENT=Domain>,
<UID=Domain>,<PORTTYPE=Domain>,<PORTADDR=Domain>,
<STATUS=Domain>
```

Table 2-61
Response parameter descriptions

Parameter	Possible values	Description
SID		Source identifier of the network element or network processor.
DATE	YY-MM-DD	Date of list retrieval. YY is the last two digits of the year from 00 to 99, MM is the month of the year from 01 to 12, and DD is the day of the month from 01 to 31.
TIME	HH-MM-SS	Time of list retrieval. HH is the hour from 00 to 23, MM is the minute from 00 to 59, and SS is the second from 00 to 59.
DATE,TIME		Date and time of the event
LOGNAME	ALL SECU400 SECU401 SECU406 SECU407 SECU408 SECU410 SECU412	All log names User login/logout Unauthorized command attempted Valid command usage log Active session timeout Intrusion attempt Customer managed network successful access Customer managed network denied access
LOGEVENT	TL1 command	TL1 commands logged
UID		User identifier
PORTTYPE	SHELF FPLT RLOGIN TELNET FTP TP4 OS17 X25 PTTEL ALL	Input/output serial port Shelf processor serial port Remote login application server TCP/IP Telnet application server TCP/IP FTP application server Transport layer OSI connection Seven layer OSI connection X.25 access port TCP/IP Passthrough Telnet application server All access ports on the shelf
PORTADDR		Originating address for an IP, NSAP, or X.25 port
STATUS	COMPLD DENY PRTL	Command executed Command denied Command partially executed

RTRV-BANNER

The Retrieve Banner command is used to retrieve the latest version of the login banner warning text of a specific network element or NP. This can be the default login banner warning text or login banner warning text modified by a user. The login banner warning text is displayed when you log in to a TL1 session on a network element or NP.

Security level

Level 1

Input syntax

```
RTRV-BANNER:[TID]::CTAG:::[FORMATTED=Domain]
[,BANNERTYPE=Domain];
```

Table 2-62
Syntax definition

Field	Purpose
TID	Target identifier
CTAG	Correlation tag
FORMATTED	View of login banner text
BANNERTYPE	Type of login banner text to be retrieved

Table 2-63
Parameter descriptions

Parameter	Possible values	Description
FORMATTED	Y	Display the login banner text formatted with characters around it
	N	Display the login banner text with line numbers
BANNERTYPE	WARNING	Login banner modified by a user
	FIXED	Default login banner
	BACKUP	Login banner saved to a file
	COMBINE	Combined view of the default login banner and the login banner modified by a user
Note: BANNERTYPE can only be used if the FORMATTED parameter is set to Y.		

Example input

Retrieve the login banner text for network element OTTAWA with the login banner text saved to file on this network element:

```
RTRV-BANNER:OTTAWA::CTAG93:::FORMATTED=Y,BANNERTYPE=COMBINE;
```

RTRV-CHALLENGE

Use the Retrieve Challenge command to retrieve the challenge used for challenge-response authentication on a network processor or shelf processor. After you retrieve the challenge, use the ENT-CHALLENGE-RESPONSE command to enter the response for the challenge. See ENT-CHALLENGE-RESPONSE on page 2-38.

Security level

Level 1

Input syntax for an SP

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

Table 2-64
Syntax definition

Field	Purpose
TID	Target identifier
CTAG	Correlation tag

Example input

Retrieve the current challenge for challenge-response authentication on network processor NEWYORK:

```
RTRV-CHALLENGE:NEWYORK::CTAG23;
```

Response block syntax

```
<SID><DATE><TIME>
<CHALLENGE>
```

Table 2-65
Response parameter descriptions

Parameter	Possible values	Description
SID	Any valid source identifier	Source identifier of the network processor or shelf processor.
DATE	YY-MM-DD	Date of retrieval. YY is the last two digits of the year (from 00 to 99), MM is the month of the year (from 01 to 12), DD is the day of the month (from 01 to 31).
TIME	HH-MM-SS	Time of retrieval. HH is the hour (from 00 to 23), MM is the minute (from 00 to 59), SS is the second (from 00 to 59).
CHALLENGE	Any valid challenge	Challenge used for challenge-response authentication.

RTRV-CLLI

Use the Retrieve CLLI command to retrieve the common language location identifier (CLLI) of the network element.

Security level

Level 1

Input syntax

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

Table 2-66
Syntax definition

Field	Purpose
TID	Target identifier
CTAG	Correlation tag

Response block syntax for a CLLI not enclosed in quotes

```
<SID><DATE><TIME>
"<CLLI>"
```

Response block syntax for a CLLI enclosed in quotes

```
<SID><DATE><TIME>
"</"CLLI/">"
```

Table 2-67
Response parameter descriptions

Parameter	Description
SID	Source identifier of the network element.
DATE	Date of retrieval, in the format YY-MM-DD. YY is the last two digits of the year (from 00 to 99), MM is the month of the year (from 01 to 12), and DD is the day of the month (from 01 to 31).
TIME	Time of retrieval, in the format HH-MM-SS. HH is the hour (from 00 to 23), MM is the minute (from 00 to 59), and SS is the second (from 00 to 59).
CLLI	Common language location identifier.

RTRV-HDR

The Retrieve Header command requests that a network element or network processor reply with a normal response indicating COMPLD. The information of interest in the reply is the reply itself, namely the source identifier, the date, and the time.

This command can be used to determine how many login sessions to remote network elements or network processors are currently active, or to confirm that a network element or network processor is responding.

As part of a surveillance protocol the RTRV-HDR command can also be used to keep login sessions active by preventing timeout from occurring.

Security level

Level 1

Input syntax

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

Note: ALL is a valid target identifier (TID).

Table 2-68
Syntax definition

Field	Purpose
TID	Target identifier
CTAG	Correlation tag

Example input

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

```
RTRV-HDR:SEATTLE::CTAG12;
```

Response block syntax

```
<SID><DATE><TIME>
```

Table 2-69
Response parameter descriptions

Parameter	Description
SID	Source identifier of the network element or network processor
DATE,TIME	Date and time of list retrieval

RTRV-HELP

The Retrieve HELP command is used to retrieve TL1 command help from a network element (local or remote) or network processor. The RTRV-HELP command is used to retrieve help on shelf processor specific commands when the user is on a network processor or on network processor specific commands when the user is on a shelf processor. The response indicates if there are no applicable commands matching the command for which help is requested.

Security level

Level 1

Input syntax

```
RTRV-HELP:[TID]::CTAG::[partial_cmd];
```

Table 2-70
Syntax definition

Field	Purpose
TID	Target identifier, the network element or network processor to which the command is directed
CTAG	Correlation tag, an alphanumeric identifier to correlate the command and response messages
partial_cmd	Partial command is optional. Partial_cmd is a string of characters which is a subset of an actual command to be retrieved. Partial_cmd can also be a complete command, in which case the input format for the command is returned.

Example input

Retrieve all the TL-1 commands supported on TID BOSTON:

```
RTRV-HELP:BOSTON::CTAG12;
```

Retrieve all the ENT commands supported on TID BOSTON:

```
RTRV-HELP:BOSTON::CTAG13::ENT;
```

Retrieve the input format for the ENT-T1 command on TID BOSTON:

```
RTRV-HELP:BOSTON::CTAG14::ENT-T1;
```

Response block syntax for TL1 commands supported

```
<SID><DATE><TIME>
Applicable Command (s):
<TL1>
```

Table 2-71
Response parameter descriptions

Parameter	Possible values	Description
SID		Source identifier of the network element or network processor.
DATE	YY-MM-DD	Date of list retrieval. YY is the last two digits of the year ranging from 00 to 99, MM is the month of the year ranging from 01 to 12, and DD is the day of the month ranging from 01 to 31.
TIME	HH-MM-SS	Time of list retrieval. HH is the hour ranging from 00 to 23, MM is the minute ranging from 00 to 59, and SS is the second ranging from 00 to 59.
TL1	String of Characters None	Specific TL1 command (s) applicable with the partial command. No applicable command found.

Response block syntax for input format request

```
<SID><DATE><TIME>
<TL1 command>
Command Syntax:
<TL1 input syntax>
Minimum required UPC: <UPC=Domain>
TID=”ALL” supported? <ALL=Domain>
Parameters:
<PARAMETERS>              <Description>
```

Table 2-72
Response parameter descriptions

Parameter	Possible values	Description
SID		Source identifier of the network element or network processor.
DATE	YY-MM-DD	Date of list retrieval. YY is the last two digits of the year ranging from 00 to 99, MM is the month of the year ranging from 01 to 12, and DD is the day of the month ranging from 01 to 31.
TIME	HH-MM-SS	Time of list retrieval. HH is the hour ranging from 00 to 23, MM is the minute ranging from 00 to 59, and SS is the second ranging from 00 to 59.

Table 2-72 (continued)
Response parameter descriptions

Parameter	Possible values	Description
TL1 command	String of Characters None	The complete TL1 command requested. No applicable command found.
TL1 input syntax	String of Characters None	The TL1 input format for the complete TL1 command requested. No applicable command found.
UPC	1 to 5	The minimum user privilege code (UPC) required.
ALL	YES NO	ALL is a valid target identifier (TID). ALL is not a valid target identifier (TID).
PARAMETERS	String of Characters	A short description of the parameters associated with the command syntax.

RTRV-PROV-LST

The Retrieve Provisioning List (RTRV-PROV-LST) command is sent to a network processor to retrieve a list of the stored shelf processor backups. The display will include a list of the shelf processor target identifiers (TID), their associated directory names and the timestamp for each backup.

Security level

Level 1

Input syntax

```
RTRV-PROV-LST:[TID]::CTAG;
```

Table 2-73
Syntax definition

Field	Purpose
TID	Target identifier of the network processor
CTAG	Correlation tag

Example input

Retrieve a list of the shelf processor backups saved on network processor MONTREAL:

```
RTRV-PROV-LST:MONTREAL::CTAG95;
```

The information that will be displayed as a result of this command is as follows:

```
      MONTREAL 98-07-30 03:39:25
M A COMPLD
                    SP Provisioning Database Backups
OTTAWA /saverest/NE01                    1998-07-16 10:31:20
NEWYORK /saverest/NE02                   1998-06-18 09:33:17
WATERLOO /saverest/NE03                  1998-06-03 14:55:21
```

Response block syntax

```
<SID><DATE><TIME>
SP Provisioning Database Backups
<TID><DIR><TIMESTAMP>
```

Table 2-74
Response parameter descriptions

Parameter	Description
SID	Source identifier of the network processor storing the shelf processor data
DATE,TIME	Date and time of list retrieval
TID	Target identifier of each shelf processor backed-up on the network processor
DIR	Directory name of each shelf processor backed-up on the network processor
TIMESTAMP	Date and time of backup

RTRV-REMAUTH-ALTERNATE

Use the Retrieve Remote Authentication Alternate command to retrieve the authentication method used for a network processor or shelf processor when remote authentication is disabled or is enabled but unavailable.

Security level

Level 4

Input syntax for an SP

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

Table 2-75
Syntax definition

Field	Purpose
TID	Target identifier
CTAG	Correlation tag

Example input

Retrieve the alternate authentication method for network processor NEWYORK:

```
RTRV-REMAUTH-ALTERNATE:NEWYORK::CTAG23;
```

Response block syntax

```
<SID><DATE><TIME>
<ALTERNATE=Domain>
```

Table 2-76
Response parameter descriptions

Parameter	Possible values	Description
SID	Any valid source identifier	Source identifier of the network processor or shelf processor.
DATE	YY-MM-DD	Date of retrieval. YY is the last two digits of the year (from 00 to 99), MM is the month of the year (from 01 to 12), DD is the day of the month (from 01 to 31).
TIME	HH-MM-SS	Time of retrieval. HH is the hour (from 00 to 23), MM is the minute (from 00 to 59), SS is the second (from 00 to 59).
ALTERNATE	CHALLENGE or LOCAL	Alternate authentication method: challenge-response or local.

RTRV-SECU-ACCESS

The Retrieve Security Access command is used to retrieve the access control list of the specified network element or network processor.

Security level

Level 4

Input syntax

```
RTRV-SECU-ACCESS:[TID]::CTAG;
```

Note: ALL is a valid target identifier (TID).

Table 2-77
Syntax definition

Field	Purpose
TID	Target identifier
CTAG	Correlation tag

Example input

Retrieve the access control list of the network processor MONTREAL:

```
RTRV-SECU-ACCESS:MONTREAL::CTAG95;
```

Response block syntax

```
<SID><DATE><TIME>
:<SID2>,<ACCESS>
```

Table 2-78
Response parameter descriptions

Parameter	Possible values	Description
SID		Source identifier of the network element in the access control list
DATE	YY-MM-DD	Date of list retrieval. YY is the last two digits of the year (from 00 to 99), MM is the month of the year (from 01 to 12), and DD is the day of the month (from 01 to 31).
TIME	HH-MM-SS	Time of list retrieval. HH is the hour (from 00 to 23), MM is the minute (from 00 to 59), and SS is the second (from 00 to 59).
SID2	1 to 20 alphanumeric characters string or ALL	The shelf name of the allowed or denied node or all nodes
ACCESS	ALLOW DENY	The network element is in the allow list The network element is in the deny list

RTRV-SECU-ACSSTAT

The Retrieve Security Access State command is used to retrieve the state of the customer managed network feature (on or off) on the specified network element or network processor.

Security level

Level 4

Input syntax

```
RTRV-SECU-ACSSTAT:[TID]::CTAG;
```

Table 2-79
Syntax definition

Field	Purpose
TID	Target identifier
CTAG	Correlation tag

Example input

Retrieve the access control list of the network processor OTTAWA:

```
RTRV-SECU-ACSSTAT:OTTAWA::CTAG95;
```

Response block syntax

```
<SID><DATE><TIME>
<ACSSTAT>
```

Table 2-80
Response parameter descriptions

Parameter	Possible values	Description
SID		Source identifier of the network element in the access control list
DATE	YY-MM-DD	Date of list retrieval. YY is the last two digits of the year ranging from 00 to 99, MM is the month of the year ranging from 01 to 12, and DD is the day of the month ranging from 01 to 31.
TIME	HH-MM-SS	Time of list retrieval. HH is the hour ranging from 00 to 23, MM is the minute ranging from 00 to 59, and SS is the second ranging from 00 to 59.
ACSSTAT	ON	The customer managed network feature is enabled.
	OFF	The customer managed network feature is disabled.

RTRV-SECU-BADPID

The Retrieve Security Bad Password command is used to retrieve a list of unusable passwords on the network element or network processor. Unusable passwords are set using the ENT-SECU-BADPID command and can be removed using the DLT-SECU-BADPID command.

Security level

Level 1

Input syntax

```
RTRV-SECU-BADPID:[TID]::CTAG;
```

Note: ALL is a valid target identifier (TID).

Table 2-81
Syntax definition

Field	Purpose
TID	Target identifier
CTAG	Correlation tag

Example input

Retrieve a list of unusable passwords on network element OTTAWA:

```
RTRV-SECU-BADPID:OTTAWA::CTAG98;
```

Response block syntax

```
<SID><DATE><TIME>
<BADPID>
```

Table 2-82
Response parameter descriptions

Parameter	Possible values	Description
SID		Source identifier of the network element in the access control list
DATE	YY-MM-DD	Date of list retrieval. YY is the last two digits of the year from 00 to 99, MM is the month of the year from 01 to 12, and DD is the day of the month from 01 to 31.
TIME	HH-MM-SS	Time of list retrieval. HH is the hour from 00 to 23, MM is the minute from 00 to 59, and SS is the second from 00 to 59.
BADPID	Alphanumeric string between eight and ten characters.	A list of unusable passwords on the network element or network processor. If empty, there are no unusable passwords.

RTRV-SECU-CID

The Retrieve Security Channel Identifier command is used to retrieve the lockout status of the two RS-232 ports on the shelf processor and any remote ports (including those on the network processor) that are locked out.

Security level

Level 4

Input syntax

```
RTRV-SECU-CID:[TID]:[AID]:CTAG;
```

Note: ALL is a valid target identifier (TID).

Table 2-83
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. This command only supports an AID of ALL.
CTAG	Correlation tag

Example input

Retrieve the lockout status of the two RS-232 ports on the shelf processor of network element OTTAWA:

```
RTRV-SECU-CID:OTTAWA::CTAG98;
```

Response block syntax

```
<SID><DATE><TIME>
<PORTTYPE=Domain>[,PORTADDR]:<PORTSTAT=Domain>
```

Table 2-84
Response parameter descriptions

Parameter	Possible values	Description
SID		Source identifier of the network element in the access control list
DATE	YY-MM-DD	Date of list retrieval. YY is the last two digits of the year ranging from 00 to 99, MM is the month of the year ranging from 01 to 12, and DD is the day of the month ranging from 01 to 31.
TIME	HH-MM-SS	Time of list retrieval. HH is the hour ranging from 00 to 23, MM is the minute ranging from 00 to 59, and SS is the second ranging from 00 to 59.

Table 2-84 (continued)
Response parameter descriptions

Parameter	Possible values	Description
PORTTYPE	NIL	None of the access ports on the shelf
	SHELF	Shelf processor
	FPLT	Faceplate serial port
	RLOGIN	Remote login application server
	TELNET	TCP/IP Telnet application server
	PTTEL	TCP/IP Passthrough Telnet application server
	TP4	Transport layer OSI connection
	OSI7	Seven layer OSI connection
	FTP	TCP/IP FTP application server
	X25	X.25 port
PORTADDR		Physical address of the port (if applicable)
PORTSTAT	ALW	Specified port is not in a locked out state
	INH	Specified port is in a locked out state

Note: Starting in Release 12, the shelf processor TID is shown as the originating address of the two RS-232 ports.

RTRV-SECU-DFLT

The Retrieve Security Default command is used to retrieve the security attributes of the specified network element or network processor. Security attributes are set with the SET-ATTR-SECUDFLT command.

Security level

Level 4

Input syntax

```
RTRV-SECU-DFLT:[TID]::CTAG;
```

Note: ALL is a valid target identifier (TID).

Table 2-85
Syntax definition

Field	Purpose
TID	Target identifier
CTAG	Correlation tag

Example input

Retrieve the security attributes on network element OTTAWA:

```
RTRV-SECU-CID:OTTAWA::CTAG98;
```

Response block syntax

```
<SID><DATE><TIME>
<MXINV=Domain><DURAL=Domain><PAGESTAT=Domain><ACCRSTAT=Domain>
<PAGE=Domain><ACCR=Domain><PCND=Domain><MINW=Domain>
```

Table 2-86
Response parameter descriptions

Parameter	Possible values	Description
SID		Source identifier of the network element in the access control list
DATE	YY-MM-DD	Date of list retrieval. YY is the last two digits of the year ranging from 00 to 99, MM is the month of the year ranging from 01 to 12, and DD is the day of the month ranging from 01 to 31.
TIME	HH-MM-SS	Time of list retrieval. HH is the hour ranging from 00 to 23, MM is the minute ranging from 00 to 59, and SS is the second ranging from 00 to 59.
MXINV	2 to 9	Maximum number of invalid login attempts

Table 2-86 (continued)
Response parameter descriptions

Parameter	Possible values	Description
DURAL	0 to 999	Duration of lockout in seconds
PAGESTAT	ON OFF	Password aging is enabled Password aging is disabled
ACCRSTAT	ON OFF	Password accreditation is enabled Password accreditation is disabled
PAGE	0 to 999	Password aging time in days
ACCR	0 to 30	Password accreditation time in days
PCND	0 to 14	Early warning time in days
MINW	0 to 999	Minimum password aging time in days

RTRV-SECU-UPC

The Retrieve Security command is used to retrieve your own user privilege code (UPC) on the specified network element or network processor. You must have level 4 privilege to retrieve the UPC of another user.

Security level

Level 1 (to retrieve your own user privilege code)
Level 4 (to retrieve another user's user privilege code)

Input syntax

```
RTRV-SECU-UPC:[TID]:UID:CTAG;
```

Note: ALL is a valid target identifier (TID).

Table 2-87
Syntax definition

Field	Purpose
TID	Target identifier
UID	User identifier
CTAG	Correlation tag

Example input

Retrieve security level for account ADMIN:

```
RTRV-SECU-UPC:WASHINGTON:ADMIN:COOL99;
```

Response block syntax

```
<SID><DATE><TIME>
<UID>:,<UPC>
```

Table 2-88
Response parameter descriptions

Parameter	Possible values	Description
SID		Source identifier of the network element or network processor.
DATE	YY-MM-DD	Date of list retrieval. YY is the last two digits of the year from 00 to 99, MM is the month of the year from 01 to 12, and DD is the day of the month from 01 to 31.

Table 2-88 (continued)
Response parameter descriptions

Parameter	Possible values	Description
TIME	HH-MM-SS	Time of list retrieval. HH is the hour from 00 to 23, MM is the minute from 00 to 59, and SS is the second from 00 to 59.
UID	1 to 10 alphanumeric characters	User identifier
UPC	1 to 5	User privilege code

RTRV-SECU-USER

The Retrieve Security User command is used to retrieve the security parameters associated with a user account on the network element or network processor.

Note: For security purposes the UPC to execute this command is Level 4 since it provides a list of all accounts and access levels.

Security level

Level 4

Input syntax

```
RTRV-SECU-USER:[TID]:UID:CTAG;
```

Note: ALL is a valid target identifier (TID).

Table 2-89
Syntax definition

Field	Purpose
TID	Target identifier
UID	User identifier
CTAG	Correlation tag

Example input

Retrieve security parameters for account USER1:

```
RTRV-SECU-USER:SEATTLE:USER1:CTAG23;
```

Retrieve security parameters for all accounts on network element WASHINGTON:

```
RTRV-SECU-USER:WASHINGTON:ALL:CTAG12;
```

Retrieve security parameters for all active login sessions in the span of control where you are logged in:

```
RTRV-SECU-USER:ALL:ALL:CTAG12;
```

Response block syntax

```
<SID><DATE><TIME>
<UID>:,<UPC>:<ACTIVE=Domain>,<TMOUTA=Domain>,<TMOUT=Domain>,
<PAGESTAT=Domain>,<PAGE=Domain>,<ACCRSTAT=Domain>,
<ACCR=Domain>,<PCND=Domain>,<MINW=Domain>,<PWDSTATUS=Domain>
```

Table 2-90
Response parameter descriptions

Parameter	Possible values	Description
SID		Source identifier of the network element or network processor.
DATE	YY-MM-DD	Date of list retrieval. YY is the last two digits of the year ranging from 00 to 99, MM is the month of the year ranging from 01 to 12, and DD is the day of the month ranging from 01 to 31.
TIME	HH-MM-SS	Time of list retrieval. HH is the hour ranging from 00 to 23, MM is the minute ranging from 00 to 59, and SS is the second ranging from 00 to 59.
UID	1 to 10 alphanumeric characters	User identifier
UPC	1 to 5	User privilege code
ACTIVE	Y N	User is logged in User is not logged in
TMOUTA	Y N	Timeout enabled Timeout disabled
TMOUT	1 to 99	Timeout interval in minutes
PAGESTAT	ON OFF	Password aging is enabled Password aging is disabled
PAGE	0 to 999	Password aging time in days
ACCRSTAT	ON OFF	Password accreditation is enabled Password accreditation is disabled
ACCR	0 to 30	Password accreditation time in days
PCND	0 to 14	Early warning time in days
MINW	0 to 999	Minimum password aging time in days
PWDSTATUS	ASSIGNED VALID EXPIRED_AP EXPIRED_EP	A new user account is created or the password is changed by the system administrator. Password provided by the user. Expired password that was previously in a valid state. Expired password that was previously in a assigned state.

RTRV-TMZONE

Use the Retrieve Time Zone command to retrieve the system set time zone, time zone offset and daylight savings time parameters.

Security level

Level 1

Input syntax

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

Note: ALL is a valid target identifier (TID).

Table 2-91
Syntax definition

Field	Purpose
TID	Target identifier
CTAG	Correlation tag

Example input

Retrieve the set time zone for network element SEATTLE:

```
RTRV-TMZONE:SEATTLE::CTAG23;
```

Response block syntax

```
<SID><DATE><TIME>
<TMZONE>,<TMZOFFSET=Domain>,<DLSAV=Domain>,<DLOFFSET=Domain>,
<AUTOSET=Domain>,<SDATE=Domain>,<STIME=Domain>,<EDATE=Domain>
<ETIME=Domain>
```

Table 2-92
Response parameter descriptions

Parameter	Possible values	Description
SID		Source identifier of the network element or network processor.
DATE	YY-MM-DD	Date of list retrieval. YY is the last two digits of the year ranging from 00 to 99, MM is the month of the year ranging from 01 to 12, and DD is the day of the month ranging from 01 to 31.
TIME	HH-MM-SS	Time of list retrieval. HH is the hour ranging from 00 to 23, MM is the minute ranging from 00 to 59, and SS is the second ranging from 00 to 59.

Table 2-92 (continued)
Response parameter descriptions

Parameter	Possible values	Description
TMZONE	HST10	Hawaiian Standard Time
	AST10ADT	Aleutian Standard Time, Aleutian Daylight Time
	YST9	Yukon Standard Time
	YST9YDT	Yukon Standard Time, Yukon Daylight Time
	PST8	Pacific Standard Time
	PST8PDT	Pacific Standard Time, Pacific Daylight Time
	MST7	Mountain Standard Time
	MST7MDT	Mountain Standard Time, Mountain Daylight Time
	CST6CDT	Central Standard Time, Central Daylight Time
	CST6	Central Standard Time
	EST5	Eastern Standard Time
	EST5CDT	Eastern Standard Time, Central Daylight Time
	EST5EDT	Eastern Standard Time, Eastern Daylight Time
	AST4	Atlantic Standard Time
	AST4ADT	Atlantic Standard Time, Atlantic Daylight Time
	NST330NDT	Newfoundland Standard Time, Newfoundland Daylight Time
	GMT0	Greenwich Mean Time
	GMT0BST	Greenwich Mean Time, British Summer Time
	WET0WETDST	Western European Time, West. Eur. Daylight Time
	PWT0PST	Portuguese Winter Time, Portuguese Summer Time
	MET1	Middle European Time
	MET1METDST	Middle European Time, Middle European Daylight Time
	MET2	Middle European Time
	SAST2SADT	South Africa Standard Time, South Africa Daylight Time
	EET3	Eastern European Time

Table 2-92 (continued)
Response parameter descriptions

Parameter	Possible values	Description
TMZONE	WAT4	Western Asian Time
	WAT5	Western Asian Time
	MAT6	Middle Asian time
	MAT7	Middle Asian Time
	WST800	Australian Western Standard Time
	KST9	Korean Standard Time
	JST9	Japan Standard Time
	CST930	Australian Central Standard Time
	CST930CDT	Australian Central Standard Time, Australian Central Daylight time
	EST10	Australian Eastern Standard Time
	EST10EDT	Australian Eastern Standard Time, Australian Eastern Daylight Time
	NZST12NZDT	New Zealand Standard Time, New Zealand Daylight Time
	SAT3	Argentina Standard Time
TMZOFFSET	0 to 1440 (minutes)	The difference between the elements real time clock and the reference time of day synchronization source. An offset of 1 to 720 minutes is a positive offset (time is added time to the clock). An offset of 721 to 1440 minutes is a negative offset, (time is removed from the clock). See Timezone offset times on page 2-124 for the offset applied to the element based on the number of minutes (and hours) set for this parameter.
DLSAV	Y or N	Yes (Y) indicates daylight savings time is used. No (N) indicates daylight savings time is not used.
DLOFFSET	0 to 120 (minutes)	The time change (in minutes) between the network elements real time clock and daylight savings time.
AUTOSET	Y or N	Yes (Y) indicates that the next day light savings period is automatically calculated. No (N) indicates that the next daylight savings period is not automatically calculated.

Table 2-92 (continued)
Response parameter descriptions

Parameter	Possible values	Description
SDATE	DD&W&MM DD=1 to 7 or 1 to 31 W=0 to 5 MM=01 to 12	The start date when daylight savings time takes effect. Where: — DD is the day of the week (1 is Sunday, 2 is Monday, 3 is Tuesday, 4 is Wednesday, 5 is Thursday, 6 is Friday, 7 is Saturday), or the exact date in a given month (1 to 31). — W is the week in the month, or 0 if an exact date in a given month is used. — MM is the month. See Note.
STIME	HH-MM-SS HH=00 to 24 MM=00 to 60 SS=00 to 60	The start time of daylight savings time. Where: — HH is the hour. — MM is minutes. — SS is seconds.
EDATE	DD&W&MM DD=1 to 7 or 1 to 31 W=0 to 5 MM=01 to 12	The end date when daylight savings time ends. — DD is the day of the week (1 is Sunday, 2 is Monday, 3 is Tuesday, 4 is Wednesday, 5 is Thursday, 6 is Friday, 7 is Saturday), or the exact date in a given month (1 to 31). — W is the week in the month, or 0 if an exact date in a given month is used. — MM is the month. See Note.
ETIME	HH-MM-SS HH=00 to 24 MM=00 to 60 SS=00 to 60	The end time of daylight savings time. Where: — HH is the hour. — MM is minutes. — SS is seconds.
Note: There are two ways to set the start and end dates for daylight savings time. You can select an exact date in a given month (for example, January 31 would have an SDATE or EDATE value of 31&0&01). You can also select a particular day of a particular week in a given month (for example, the second Sunday in April would have an SDATE or EDATE value of 01&2&04).		

RTRV-TOD-MODE

Use the RTRV-TOD-MODE command to retrieve the time of day parameters on the NP and SP.

Security level

Level 3

Input syntax

```
RTRV-TOD-MODE:[TID]::CTAG;
```

Table 2-93
Syntax definition

Field	Purpose
TID	Target identifier
CTAG	Correlation tag

Example input

Retrieve the time of day parameters for network element NEWYORK:

```
RTRV-TOD-MODE:NEWYORK::CTAG23;
```

Response block syntax (NP)

```
<SID><DATE><TIME>
<SYNC=Domain>,<MINPOLL=Domain>,<MAXPOLL=Domain>,
<THRESHOLD=Domain>
```

Response block syntax (SP)

```
<SID><DATE><TIME>
<SYNC=Domain>,<THRESHOLD=Domain>
```

Table 2-94
Response parameter descriptions

Parameter	Possible values	Description
SID		Source identifier of the network element or network processor.
DATE	YY-MM-DD	Date of list retrieval. YY is the last two digits of the year ranging from 00 to 99, MM is the month of the year ranging from 01 to 12, and DD is the day of the month ranging from 01 to 31.
TIME	HH-MM-SS	Time of list retrieval. HH is the hour ranging from 00 to 23, MM is the minute ranging from 00 to 59, and SS is the second ranging from 00 to 59.
SYNC	Active	Time of day synchronization is on
	Inactive	Time of day synchronization is off
MINPOLL	2 to 65536 seconds	Minimum polling interval in seconds.
MAXPOLL	2 to 65536 seconds	Maximum polling interval in seconds.
THRESHOLD	1 to 1800 in increments of 1 for NP (default is 600) 2 to 8 in increments of 1 for SP (default is 5)	Time of day offset threshold allowed in seconds.

RTRV-TOD-SER

Use the RTRV-TOD-SER command on the client NP to report the time of day (TOD), the server information and status, polling periods, and detected timing offsets.

Use the RTRV-TOD-SER command on the SP to report the status and NP servers provisioned for the specified SP.

Security level

Level 3

Input syntax

```
RTRV-TOD-SER:[TID]::CTAG;
```

Table 2-95
Syntax definition

Field	Purpose
TID	Target identifier
CTAG	Correlation tag

Example input

Retrieve the time of day status for network element NEWYORK:

```
RTRV-TOD-SER:NEWYORK::CTAG23;
```

Response block syntax (NP)

```
<SID><DATE><TIME>
<TOD>
<SERADDRESS1>=<Domain>,<STATUS>,<SERTYPE=Domain>
<SERADDRESS2>=<Domain>,<STATUS>,<SERTYPE=Domain>
<SERADDRESS3>=<Domain>,<STATUS>,<SERTYPE=Domain>
<SERADDRESS4>=<Domain>,<STATUS>,<SERTYPE=Domain>
<SERADDRESS5>=<Domain>,<STATUS>,<SERTYPE=Domain>
<LAST SYNC=Domain>
<NEXT SYNC=Domain>
<DETECTED OFFSET=Domain>
<CURRENT POLLING INTERVAL=Domain>,
```

Response block syntax (SP)

```
<SID><DATE><TIME>
<NP1=Domain>,<STATUS>,<NP2=Domain>,<STATUS>
```

Table 2-96
Response parameter descriptions

Parameter	Possible values	Description
SID		Source identifier of the network element or network processor.
DATE	YY-MM-DD	Date of list retrieval. YY is the last two digits of the year ranging from 00 to 99, MM is the month of the year ranging from 01 to 12, and DD is the day of the month ranging from 01 to 31.
TIME	HH-MM-SS	Time of list retrieval. HH is the hour ranging from 00 to 23, MM is the minute ranging from 00 to 59, and SS is the second ranging from 00 to 59.
TOD	YYYY,MM,DD, hh,mm,ss.msec	Current time of day.
SERADDRESS#	IP address	IP address of NTP server. Up to 5 are supported.
STATUS for NP	IS-IDLE IS-ACTIVE UNKNOWN NOT-IN-SYNC STRATUM-TOO-HIGH DISPERSION-TOO-LARGE	The status of the timing reference: IS-IDLE, Server has not responded but is kept as a backup. IS-ACTIVE, Synchronizing to this server. UNKNOWN, Server status is unknown or not reachable. NOT-IN-SYNC, The server is out of synchronization and can not be used. STRATUM-TOO-HIGH, The servers stratum is to high. DISPERSION-TOO-LARGE, The network latency to this server is too large. Time adjustment is not completed.
SERTYPE#	IP	Indicates that server type has an IP address.

Table 2-96 (continued)
Response parameter descriptions

Parameter	Possible values	Description
LAST SYNC	YYYY-MM-DD hh:mm:ss	Date and time of last time of day synchronization. YYYY is the year, MM is the month, DD is the day of the month, hh is the hour, mm is the minutes and ss is seconds.
NEXT SYNC	YYYY-MM-DD hh:mm:ss	Date and time of next time of day synchronization. YYYY is the year, MM is the month, DD is the day of the month, hh is the hour, mm is the minutes and ss is seconds.
DETECTED OFFSET	(+) or (-) h,m,s	Difference between the timing reference source time and the NP time from last poll. Displayed in hour, minutes and seconds.
CURRENT POLLING INTERVAL	h,m,s	Time interval when timing reference source is checked displayed in hour, minutes and seconds.
NP#	TID of NP. max 20 alphanumeric characters	TID of NP that is acting as the timing source for the SP.
STATUS for SP	UNKNOWN NOT-IN-SYNC NOT-ACTIVE NOT-READY NO-NTP IN-SYNC	The status of the timing reference: UNKNOWN, The NP server is not reachable. NOT-IN-SYNC, The NP is out of synchronization and can not be used. NOT-ACTIVE, The NP does not have the time of day synchronization feature set to active. NOT-READY, The NP is not ready. NO-NTP, The NP does not have a server provisioned or the server is unknown. IN-SYNC, The NP is in synchronization.

SAV-BANNER

The Save Banner command is used to save modified login baner warning text to a backup file on a specific network element or NP. The login banner warning text is displayed when log in to a TL1 session on a network element or NP.

You can only execute this command if the login banner warning text has been modified by a user. If the current login banner warning text is the default login banner warning text, this command will not execute.

Security level

Level 4

Input syntax

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

Table 2-97
Syntax definition

Field	Purpose
TID	Target identifier
CTAG	Correlation tag

Example input

Save the modified login banner text for network element OTTAWA to a file on this network element:

```
SAV-BANNER:OTTAWA::CTAG93;
```

SAV-PROV

The Save Provisioning command is used to save:

- provisioning data (including that backed-up from circuit packs) from a shelf processor to a disk on a locally attached PC. This function can only be executed by a user through Site Manager.
- provisioning data (including that backed-up from circuit packs) from a shelf processor to a network processor
- provisioning data (including that backed-up from shelf processors) from a network processor to a PC or UNIX workstation or an Operations Controller (OPC)

Prior to executing a SAV-PROV, it is recommended that a CHK-PROV command be executed.

The SAV-PROV command is supported on the network element and network processor.

> ***Note:*** Before you save shelf processor data, make sure you save provisioning changes on all Packet Edge circuit packs in the shelf. Unsaved changes on a Packet Edge circuit pack are lost and a provisioning data lost trap is sent (if enabled) when you restore shelf processor data.

Security level

Level 3

Input syntax for a network element

```
SAV-PROV:[TID]::CTAG:::DESTTYPE=Domain
[,DESTADDR=Domain][,DIR=Domain][,CHKALM=Domain];
```

Input syntax for a network processor

```
SAV-PROV:[TID]::CTAG::[USERID][,PASSWD]:DESTTYPE=Domain
[,DESTADDR=Domain][,DIR=Domain][,CHKALM=Domain];
```

Table 2-98
Syntax definition

Field	Purpose
TID	Target identifier
CTAG	Correlation tag
USERID	User identifier of destination, if required. An alphanumeric string between 1 and 12 characters in length. ***Note:*** This parameter only applies to the network processor.
PASSWD	Password identifier of destination, if required. An alphanumeric string between 1 and 32 characters in length. ***Note 1:*** This parameter only applies to the network processor. ***Note 2:*** To maintain case sensitivity when the password includes lowercase characters, you must enclose the password in double quotes (“). The double quotes are not included in the length of the password. When you enclose the password in double quotes, you cannot include a backslash (\), space, or double quote as part of the password. ***Note 3:*** The password does not appear on screen.
DESTTYPE	Destination type Destination of the Save — TID, IP, or locally attached PC.
DESTADDR	Destination address Address of the Destination type (TID or IP) which is the destination of the Save. For a DESTTYPE of PC, omit DESTADDR
DIR	Directory used to store provisioning data backup.
CHKALM	Check alarm status.

Table 2-99
Parameter descriptions

Parameter	Possible values	Description
DESTTYPE	TID	A remote Save will be enacted using ALFTAM or FTAM protocol to transfer files to the TID given in the DESTADDR parameter.
	IP	A remote Save will be enacted using FTP to transfer files to the IP address given in the DESTADDR parameter.
	PC	A local Save will be executed between a shelf processor and a locally attached PC.
DESTADDR	TID address	The address of the destination of the SAVE (when saving shelf processor data to a network processor or saving network processor data to an OPC) consisting of an identifier of 7 to 20 alphanumeric characters
	IP address	The address of the destination of the SAVE (when saving network processor data to a UNIX workstation) consisting of an identifier in the format x.x.x.x (where x=a number 1-255).
DIR	Directory name	A string of characters that specifies the unique directory name in which the backup is stored. When backing-up shelf processor provisioning data to an network processor, the directory name parameter is omitted. The shelf processor uses its TID to derive a default directory name. When backing-up network processor provisioning data to an external repository, the name for the directory must be specified in the command or the command will fail. (That is, there is no default directory name.) The directory name is a string of 1 to 60 characters.
CHKALM	Y (default)	The SAV-PROV is not allowed if there is an alarm present on the network processor or shelf processor circuit pack receiving the command.
	N	The SAV-PROV is allowed if there is an alarm present on the network processor or shelf processor card receiving the command except if it is in one of the following states: upgrade in progress; load mismatch; IS rollover in progress; duplicate SID; database save and restore in progress.

Example input

Save the provisioning data from the network processor MONTREAL to the Operations Controller of network element TORONTO:

```
SAV-PROV:MONTREAL::CTAG97:::DESTTYPE=TID,DESTADDR=TORONTO,
CHKALM=Y;
```

Save the provisioning data from the shelf processor OTTAWA to the network processor TORONTO:

```
SAV-PROV:OTTAWA::CTAG97:::DESTTYPE=TID,DESTADDR=TORONTO;
```

Save the provisioning data from the network processor OTTAWA to the locally attached PC:

```
SAV-PROV:OTTAWA::CTAG97:::DESTTYPE=PC;
```

SAV-PROV-SOC

The Save Provisioning Span of Control command is used to save provisioning data (including that backed-up from circuit packs) from each shelf processor in the network processor span of control (SOC) and store it in a remote location with a TID or IP address.

Prior to executing a SAV-PROV-SOC, it is recommended that a CHK-PROV-SOC command be executed.

> ***Note:*** Before you save shelf processor data, make sure you save provisioning changes on all Packet Edge circuit packs in the shelf. Unsaved changes on a Packet Edge circuit pack are lost and a provisioning data lost trap is sent (if enabled) when you restore shelf processor data.

Security level

Level 3

Input syntax

```
SAV-PROV-SOC:[TID]::CTAG::["USERID"][,"PASSWRD"]:
[DESTTYPE=Domain][,DESTADDR=Domain][,DIR="Domain"]
[,CHKALM=Domain];
```

Table 2-100
Syntax definition

Field	Purpose
TID	Target identifier
CTAG	Correlation tag
USERID	User ID (see Note)
PASSWRD	User's password (see Note)
DESTTYPE	Destination type (TID or IP)
DESTADDR	Destination address Address of the Destination type (TID or IP) which is the destination of the Save or source of the Restore.
DIR	Directory in which the backed-up provisioning data is stored (see Note)
CHKALM	Check alarm status
Note: Do not specify a user ID, password or directory if the remote location is an Operations Controller.	

Table 2-101
Parameter descriptions

Parameter	Possible values	Description
DESTTYPE	TID	Target Identifier
	IP	Internet Protocol
DESTADDR	TID address	Name of remote location
	IP address	A remote location identifier in the format x.x.x.x (where x = a number from 1-255)
CHKALM	Y (default)	The SAV-PROV-SOC is not allowed if there is an alarm present on the network processor or shelf processor circuit pack receiving the command.
	N	The SAV-PROV-SOC is allowed if there is an alarm present on the network processor or shelf processor card receiving the command except if it is in one of the following states: upgrade in progress; load mismatch; IS rollover in progress; duplicate SID; database save and restore in progress.

Example input

Save the provisioning data on the network processor MONTREAL to a remote UNIX workstation:

```
SAV-PROV-SOC:MONTREAL::CTAG98::"jim","password":DESTTYPE=IP,
DESTADDR=47.202.198.105,DIR="/home/saverest",CHKALM=Y;
```

or

Save the provisioning data on the network processor MONTREAL to the Operations Controller of network element TORONTO:

```
SAV-PROV-SOC:MONTREAL::CTAG98:::DESTTYPE=TID,DESTADDR=TORONTO,
CHKALM=Y;
```

SAV-PROV-SP

The Save Provisioning Shelf Processor command is used to save the data of a single SP in an NP's span of control and store it in a remote location with a TID or IP address.

Prior to executing a SAV-PROV-SP command, it is recommended that a CHK-PROV-SP command be executed.

> ***Note:*** Before you save shelf processor data, make sure you save provisioning changes on all Packet Edge circuit packs in the shelf. Unsaved changes on a Packet Edge circuit pack are lost and a provisioning data lost trap is sent (if enabled) when you restore shelf processor data.

Security level

Level 3

Input syntax

```
SAV-PROV-SP:[TID]::CTAG::["USERID"][,"PASSWRD"]:
[,DESTADDR=Domain][,DIR=Domain][,CHKALM=Domain];
```

Table 2-102
Syntax definition

Field	Purpose
TID	Target identifier
CTAG	Correlation tag
USERID	User ID (see Note)
PASSWRD	User's password (see Note)
DESTTYPE	Destination type (TID or IP)
DESTADDR	Destination address Address of the Destination type (TID or IP) which is the destination of the Save or source of the Restore.
DIR	Directory in which backed-up provisioning data is stored (see Note)
CHKALM	Check alarm status
Note: Do not specify a user ID, password or directory if the remote location is an Operations Controller.	

Table 2-103
Parameter descriptions

Parameter	Possible values	Description
DESTTYPE	TID	Target Identifier
	IP	Internet Protocol
DESTADDR	TID address	Name of remote location
	IP address	A remote location identifier in the format x.x.x.x (where x = a number from 1-255)
CHKALM	Y (default)	The SAV-PROV-SP is not allowed if there is an alarm present on the shelf processor circuit pack receiving the command.
	N	The SAV-PROV-SP is allowed if there is an alarm present on the shelf processor circuit pack receiving the command except if it is in one of the following states: upgrade in progress; load mismatch; IS rollover in progress; duplicate SID; database save and restore in progress.

Example input

Save the provisioning data on the shelf processor MONTREAL to a remote UNIX workstation:

```
SAV-PROV-SP:MONTREAL::CTAG98::"jim","password":DESTTYPE=IP,
DESTADDR=47.202.198.105,DIR="/home/saverest",CHKALM=Y;
```

or

Save the provisioning data on the shelf processor MONTREAL to the Operations Controller of network element TORONTO:

```
SAV-PROV-SP:MONTREAL::CTAG98:::DESTTYPE=TID,DESTADDR=TORONTO,
CHKALM=Y;
```

SEND-IMSG

Use the Send Instant Message command to send text messages to users logged in to other network elements.

Both you and the user you want to communicate with must be logged in to the same network element. This allows you to send messages to and receive messages from this user through this network element.

Security level

Level 1

Input syntax for a shelf processor

```
SEND-IMSG:[TID]::CTAG::[Text message];
```

Table 2-104
Syntax definition

Field	Purpose
TID	Target identifier
CTAG	Correlation tag
Text message	A message of up to 124 characters

Example input

Send a message to network element OTTAWA that you are performing maintenance on network element TORONTO:

```
SEND-IMSG:NEWYORK::CTAG23::"I am performing maintenance on NE
TORONTO. Please do not log in to this NE";
```

SET-ATTR-CSA

Use the Set Attributes CSA command to provision centralized security administration (CSA) attributes for a network processor or shelf processor.

For a network processor, you can enable or disable remote authentication. For a shelf processor, you can enable or disable remote authentication and set the primary and secondary security gateways.

> ***Note:*** The network processor acts as its own primary security gateway and does not have a secondary security gateway.

Security level

Level 4

Input syntax for a shelf processor

```
SET-ATTR-CSA:[TID]::CTAG:::[AUTHSTATE=Domain][,PRIMARY=Domain]
[,SECONDARY=Domain];
```

Input syntax for a network processor

```
SET-ATTR-CSA:[TID]::CTAG:::[AUTHSTATE=Domain];
```

Table 2-105
Syntax definition

Field	Purpose
TID	Target identifier
CTAG	Correlation tag
AUTHSTATE	Authentication state
PRIMARY	Primary gateway for a shelf processor
SECONDARY	Secondary gateway for a shelf processor

Table 2-106
Parameter descriptions

Parameter	Possible values	Description
AUTHSTATE	ENABLE or DISABLE	Enable or disable remote authentication. Disabled by default.
PRIMARY	Any valid target identifier	Target identifier of the network processor to use as the primary security gateway for the shelf processor. The shelf processor must be in the span of control of the network processor.
SECONDARY	Any valid target identifier	Target identifier of the network processor to use as the secondary security gateway for the shelf processor. The shelf processor must be in the span of control of the network processor.
Note: After you enable or disable remote authentication, you must use the OPR-TOD-SYNC command to resynchronize the time of day. See OPR-TOD-SYNC on page 2-47.		

SET-ATTR-REMAUTH

Use the Set Attributes Remote Authentication command to provision the primary or secondary RADIUS server for a network processor. You can

- enable or disable the RADIUS server
- set the shared secret for the RADIUS server
- specify the IP address and UDP port number of the RADIUS server
- specify a timeout value for communication between the RADIUS server and the network processor

Security level

Level 4

Input syntax

```
SET-ATTR-REMAUTH:[TID]::CTAG::SERVER[,PID,PID]:
[STATE=DOMAIN][,RADIUS=DOMAIN][,PORT=DOMAIN]
[,TO=DOMAIN];
```

Table 2-107
Syntax definition

Field	Purpose
TID	Target identifier
CTAG	Correlation tag
SERVER	Primary or secondary server
PID	Shared secret
STATE	RADIUS state
RADIUS	IP address of RADIUS server
PORT	UDP port of RADIUS server
TO	Timeout value

Table 2-108
Parameter descriptions

Parameter	Possible values	Description
SERVER	PRIMARY or SECONDARY	Set the primary or secondary RADIUS server.
PID	An alphanumeric string between 8 and 20 characters	The shared secret for the RADIUS server. ***Note 1:*** To maintain case sensitivity when the secret includes lowercase characters, enclose the string in double quotes (“). ***Note 2:*** The shared secret does not appear on screen.
STATE	ENABLE or DISABLE	Enable or disable the RADIUS server. Disabled by default.
RADIUS	n.n.n.n where n is an integer between 0 and 255	IP address of the RADIUS server. Default is 0.0.0.0.
PORT	any integer between 0 and 65535	UDP port number of the RADIUS server. Default is 1812.
TO	any integer between 1 and 120	Timeout value (in seconds) for communication between the network processor and RADIUS server. Default is 15 seconds. ***Note 1:*** There can be a small delay from the time the system detects a timeout to the time the message displays on screen. Therefore, the timeout message might not appear precisely at the provisioned timeout value. ***Note 2:*** Timeouts between the network processor and RADIUS server do not count as intrusion attempts.

Example input
Enable the primary RADIUS server of network processor NEWYORK, set the shared secret to NYPRIRADIUS, set the IP address to 47.134.142.222, and set the timeout value to 120 seconds (use the default UDP port):

```
SET-ATTR-REMAUTH:NEWYORK::CTAG23::PRIMARY,NYPRIRADIUS,
NYPRIRADIUS:STATE=ENABLE,RADIUS=47.134.142.222,TO=120;
```

SET-ATTR-SECUDFLT

The Set Attributes Security Default command is used to set the following security attributes on the specified network element or network processor:

- Status of password aging (on or off)
- Password aging time. The amount of time a user has to change their password.
- Status of password accreditation (on or off)
- Password accreditation time. The amount of time a user has to change a password that was assigned to the user account.
- Early warning time. The number of days before a password expires that a user is given a warning.
- Minimum waiting time. The minimum amount of time a user must wait before they can change their password.
- Maximum number of invalid login attempts
- Duration of lockout

Security level

Level 4

Input syntax

```
SET-ATTR-SECUDFLT:[TID]::CTAG:::[PAGESTAT=Domain]
[,PAGE=Domain][,ACCRSTAT=Domain][,ACCR=Domain][,PCND=Domain]
[,MINW=Domain][,MXINV=Domain][,DURAL=Domain];
```

Note: ALL is a valid target identifier (TID).

Table 2-109
Syntax definition

Field	Purpose
TID	Target identifier
CTAG	Correlation tag
PAGESTAT	Password aging status
PAGE	Password aging time
ACCRSTAT	Password accreditation status
ACCR	Password accreditation time
PCND	Early warning time

Table 2-109 (continued)
Syntax definition

Field	Purpose
MINW	Minimum waiting time
MXINV	Maximum number of invalid login attempts
DURAL	Duration of lockout

Table 2-110
Parameter descriptions

Parameter	Possible values	Description
PAGESTAT	OFF (default)	Turn off password aging.
	ON	Turn on password aging. The default password aging time is 45 days.
PAGE	0 to 999	Password aging time in days.
ACCRSTAT	OFF (default)	Turn off password accreditation.
	ON	Turn on password accreditation. The default password accreditation time is 0 days, which means that passwords must be changed the day they are assigned to the user.
ACCR	0 to 30	Password accreditation time in days. The amount of time a user has to change a password that was assigned to the user account.
PCND	0 to 14	Early warning time in days (default is 14). The number of days before a password expires that the user is given a warning when logging into the network element.
MINW	0 to 999	The minimum number of days that a user must wait before changing a password (default is 0). ***Note:*** This parameter applies even when password aging or password accreditation is turned off. However, this parameter does not apply when the password has been assigned and password accreditation is turned on.
MXINV	2 to 9	Maximum number of invalid login attempts
DURAL	0 to 999	Duration of lockout in seconds. A value of 0 disables intrusion attempt handling.

Example input

Enable password aging on network element OTTAWA with an aging time of 65 days, accreditation period of 20 days, and early warning time of 7 days:

```
SET-ATTR-SECUDFLT:OTTAWA::CTAG1:::PAGESTAT=ON,PAGE=65,
ACCRSTAT=ON,ACCR=20,PCND=7;
```

SET-BANNER

The Set Banner command is used to edit the text of the login banner for a specific network element or NP. This command is used to modify individual lines of text in the login banner.

Security level

Level 4

Input syntax

```
SET-BANNER:[TID]::CTAG::LINENUM,"LINETEXT";
```

Table 2-111
Syntax definition

Field	Purpose
TID	Target identifier
CTAG	Correlation tag
LINENUM	Line number
LINETEXT	Line text

Table 2-112
Parameter descriptions

Parameter	Possible values	Description
LINENUM	1 to 18	Line number that corresponds to a specific line of text in the login banner
BANNERTYPE	Between 1 and 63 characters, with the following exceptions: " /* < > ; \ /	Modified text to appear for the specified line number

Example input

Edit line 1 of the login banner text for network element OTTAWA:

```
SET-BANNER:OTTAWA::CTAG93::LINENUM=1,"Warning!"
```

SET-CHALLENGE-SECRET

Use the Set Challenge Secret command to set the shared secret for challenge-response authentication on a network processor or shelf processor.

Security level

Level 4

Input syntax

```
SET-CHALLENGE-SECRET:[TID]::CTAG::OLDPID,NEWPID,NEWPID;
```

Table 2-113
Syntax definition

Field	Purpose
TID	Target identifier
CTAG	Correlation tag
OLDPID	Current secret
NEWPID	Shared secret

Table 2-114
Parameter descriptions

Parameter	Possible values	Description
OLDPID	An alphanumeric string between 8 and 20 characters	Current shared secret. The default shared secret is nortelnetworks.
NEWPID	An alphanumeric string between 8 and 20 characters	New shared secret.
Note 1: To maintain case sensitivity when the secret includes lowercase characters, enclose the string in double quotes (“). ***Note 2:*** The shared secret does not appear on screen.		

SET-CLLI

Use the Set CLLI command to set the common language location identifier (CLLI) for the network element. The CLLI is an 11-character alphanumeric code in the form AAAABBCCDDD where

- AAAA is the geographical or place code
- BB is the geopolitical or state/country code
- CC is the network site code
- DDD is the network entity code

The CLLI uniquely represents the geographic location of the network element.

Security level

Level 3

Input syntax

```
SET-CLLI:[TID]::CTAG::CLLI;
```

Table 2-115
Syntax definition

Field	Purpose
TID	Target identifier
CTAG	Correlation tag
CLLI	Common language location identifier

Table 2-116
Parameter definition

Parameter	Possible values	Description
CLLI	An 11-character alphanumeric string	Common language location identifier. To maintain case sensitivity when the CLLI includes lowercase characters, enclose the string in double quotes (“). The double quotes are not included in the length of the string. The string cannot include special characters but can include spaces. Spaces are included in the length of the string.

SET-REMAUTH-ALTERNATE

Use the Set Remote Authentication Alternate command to specify the authentication method to use for a network processor or shelf processor when remote authentication is disabled or is enabled but unavailable. You can set the alternate method to local authentication or challenge-response authentication. If you specify challenge-response authentication, local accounts are disabled.

Security level

Level 4

Input syntax for an SP

```
SET-REMAUTH-ALTERNATE:[TID]::CTAG::ALTERNATE;
```

Table 2-117
Syntax definition

Field	Purpose
TID	Target identifier
CTAG	Correlation tag

Table 2-118
Parameter descriptions

Parameter	Possible values	Description
ALTERNATE	CHALLENGE or LOCAL	Alternate authentication method. If centralized security administration (CSA) is enabled, challenge-response authentication is the default alternate method. If CSA is disabled, local authentication is the default alternate method.

Example input

Set the alternate authentication method for network processor NEWYORK to challenge-response:

```
SET-REMAUTH-ALTERNATE:NEWYORK::CTAG23::CHALLENGE;
```

SET-SECU-ACSSTAT

The Set Security Access State command is used to enable or disable the customer managed network feature on the specified network element or network processor.

Security level

Level 4

Input syntax

```
SET-SECU-ACSSTAT:[TID]::CTAG::ACSSTAT;
```

Note: ALL is a valid target identifier (TID).

Table 2-119
Syntax definition

Field	Purpose
TID	Target identifier
CTAG	Correlation tag
ACSSTAT	Enable or disable the customer managed network feature

Table 2-120
Parameter descriptions

Parameter	Possible values	Description
ACSSTAT	ON	Enable the customer managed network feature
	OFF	Disable the customer managed network feature

Example input

Set the access status to enable the customer managed network feature on network element OTTAWA:

```
SET-SECU-ACSSTAT:OTTAWA::CTAG1::ON;
```

SET-SID

The Set System Identifier command instructs the network element or network processor to change its system identification (SID) code to a given value. Changing the SID can result in a mismatch of the SID value in the response headers with TID value in commands received before the change.

The SET-SID command is inhibited if there is more than one user active (logged in) on the network element. There must not be a TBOS connection to the shelf.

> ***Note:*** A response of /*Status, Requested Command Inhibited*/ indicates that other users are logged into the NE. The other users must log off before you can execute the SET-SID command.

If a TID is not entered in the TL1 command, the local TID is substituted. You must enter a TID to send the command to a remote network element or remote NP. TIDs must be between 1 and 20 alphanumeric characters and are assigned using the SET-SID command. The first character must be a letter (lowercase letters are changed to uppercase letters). The remaining characters can be any combination of letters, numbers, or dashes (-).

Enclose the TID in double quotes (“) to include any combination of lower case or special characters. The string, enclosed by the double quotes, cannot include the following characters: backslash (\), space, and double quotes (“).

> ***Note 1:*** All network elements are preset with a default SID of OM3X00MSP. If the network element is connected to another network element, the two network elements must have different names. Therefore as a general rule the default name should always be changed as part of the provisioning process.
>
> ***Note 2:*** The network processor is preset with a default SID of OM3X00MSPNP. If there is more than one network processor in the network, then the two network processors must have different names. Therefore as a general rule the default name should always be changed as part of the provisioning process.

To change the SID, the network element must first be removed from the network processor’s span of control (using the RMV-SOC command), then renamed (SET-SID), and then re-added to the network processor span of control (ADD-SOC).

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

If the SID is changed, the new name is not recognized by the TBOS display mapper. To re-assign the network element to the correct TBOS display number, use the SET-TBOS command.

> ***Note:*** After a shelf processor or network processor restart, the Duplicate SID alarm is masked for 20 minutes.

When the SET-SID command is complete, the local session continues unchecked. However, the remote association is dropped and the message /*Status, Remote Session Dropped*/ is displayed at the remote network element. To re-establish the association, issue the ACT-USER command to the network element using the new TID.

> ***Note:*** The timestamp for the /*Status, Remote Session Dropped*/ message generated at the remote network element displays the time at the local network element.

Security level

Level 3

Input syntax

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

Table 2-121
Syntax definition

Field	Purpose
TID	Target identifier
CTAG	Correlation tags
SID	Set source identifier, the new SID allocated to the NE specified by the TID.

Example input

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

```
SET-SID:NEWYORK::MA999::BOSTON2;
```

SET-TMZONE

Use the Set Time Zone command to set the system set time zone, time zone offset and daylight savings time parameters.

> ***Note:*** Time zone offset and daylight savings time parameters are time of day synchronization parameters.

Security level

Level 3

Input syntax

```
SET-TMZONE:TID::CTAG::TMZONE:TMZOFFSET=Domain,DLSAV=Domain,
DLOFFSET=Domain,AUTOSET=Domain,SDATE=Domain,STIME=Domain,
EDATE=Domain,ETIME=Domain;
```

Table 2-122
Parameter descriptions

Parameter	Possible values	Description
TMZONE	HST10	Hawaiian Standard Time
	AST10ADT	Aleutian Standard Time, Aleutian Daylight Time
	YST9	Yukon Standard Time
	YST9YDT	Yukon Standard Time, Yukon Daylight Time
	PST8	Pacific Standard Time
	PST8PDT	Pacific Standard Time, Pacific Daylight Time
	MST7	Mountain Standard Time
	MST7MDT	Mountain Standard Time, Mountain Daylight Time
	CST6CDT	Central Standard Time, Central Daylight Time
	CST6	Central Standard Time
	EST5	Eastern Standard Time
	EST5CDT	Eastern Standard Time, Central Daylight Time
	EST5EDT	Eastern Standard Time, Eastern Daylight Time
	AST4	Atlantic Standard Time
	AST4ADT	Atlantic Standard Time, Atlantic Daylight Time
	NST330NDT	Newfoundland Standard Time, Newfoundland Daylight Time
	GMT0	Greenwich Mean Time

Table 2-122 (continued)
Parameter descriptions

Parameter	Possible values	Description
TMZONE	GMT0BST	Greenwich Mean Time, British Summer Time
	WET0WETDST	Western European Time, West. European Daylight Time
	PWT0PST	Portuguese Winter Time, Portuguese Summer Time
	MET1	Middle European Time
	MET1METDST	Middle European Time, Middle European Daylight Time
	MET2	Middle European Time
	SAST2SADT	South Africa Standard Time, South Africa Daylight Time
	EET3	Eastern European Time
	WAT4	Western Asian Time
	WAT5	Western Asian Time
	MAT6	Middle Asian time
	MAT7	Middle Asian Time
	WST800	Australian Western Standard Time
	KST9	Korean Standard Time
	JST9	Japan Standard Time
	CST930	Australian Central Standard Time
	CST930CDT	Australian Central Standard Time, Australian Central Daylight time
	EST10	Australian Eastern Standard Time
	EST10EDT	Australian Eastern Standard Time, Australian Eastern Daylight Time
	NZST12NZDT	New Zealand Standard Time, New Zealand Daylight Time
	SAT3	Argentina Standard Time

Table 2-122 (continued)
Parameter descriptions

Parameter	Possible values	Description
TMZOFFSET	0 to 1440 (minutes)	The difference between the elements real time clock and the reference time of day synchronization source. An offset of 1 to 720 minutes is a positive offset (time is added time to the clock). An offset of 721 to 1440 minutes is a negative offset, (time is removed from the clock). See Timezone offset times on page 2-124 for the offset applied to the element based on the number of minutes (and hours) set for this parameter.
DLSAV	Y or N	Yes (Y) indicates daylight savings time is used. No (N) indicates daylight savings time is not used.
DLOFFSET	0 to 120 (minutes)	The time change (in minutes) between the network elements real time clock and daylight savings time.
AUTOSET	Y or N	Yes (Y) indicates that the next day light savings period is automatically calculated. No (N) indicates that the next daylight savings period is not automatically calculated.
SDATE	DD&W&MM DD=1 to 7 or 1 to 31 W=0 to 5 MM=01 to 12	The start date when daylight savings time takes effect. — DD is the day of the week (1 is Sunday, 2 is Monday, 3 is Tuesday, 4 is Wednesday, 5 is Thursday, 6 is Friday, 7 is Saturday), or the exact date in a given month (1 to 31). — W is the week in the month, or 0 if an exact date in a given month is used. — MM is the month. See Note.
STIME	HH-MM-SS HH=00 to 24 MM=00 to 60 SS=00 to 60	The start time of daylight savings time. — HH is the hour. — MM is minutes. — SS is seconds.

Table 2-122 (continued)
Parameter descriptions

Parameter	Possible values	Description
EDATE	DD&W&MM DD=1 to 7 or 1 to 31 W=0 to 5 MM=01 to 12	The end date when daylight savings time ends. — DD is the day of the week (1 is Sunday, 2 is Monday, 3 is Tuesday, 4 is Wednesday, 5 is Thursday, 6 is Friday, 7 is Saturday), or the exact date in a given month (1 to 31). — W is the week in the month, or 0 if an exact date in a given month is used. — MM is the month. See Note.
ETIME	HH-MM-SS HH=00 to 24 MM=00 to 60 SS=00 to 60	The end time of daylight savings time. — HH is the hour. — MM is minutes. — SS is seconds.
Note: There are two ways to set the start and end dates for daylight savings time. You can select an exact date in a given month (for example, January 31 would have an SDATE or EDATE value of 31&0&01). You can also select a particular day of a particular week in a given month (for example, the second Sunday in April would have an SDATE or EDATE value of 01&2&04).		

Example input
This example shows the parameters for time zone, time zone offset, and daylight savings time all set.

```
SET-TMZONE:NPFGX506::33::AST10ADT:TMZOFFSET=120,DLSAV=Y,DLOFFS
ET=60,AUTOSET=Y,SDATE=07&1&11,STIME=00-00-00,EDATE=05&2&04,
ETIME=00-00-00;
```

Timezone offset times

TMZOFFSET (minutes)	positive offset (hours)	TMZOFFSET (minutes)	negative offset (hours)
0	0	0	0
60	+ 1	780	- 11
120	+ 2	840	- 10
180	+ 3	900	- 9
240	+ 4	960	- 8
300	+ 5	1020	- 7
360	+ 6	1080	- 6
420	+ 7	1140	- 5
480	+ 8	1200	- 4
540	+ 9	1260	- 3
600	+ 10	1320	- 2
660	+ 11	1380	- 1
720	+ 12	1440	0

SET-TOD-SER

The Set Time of Day Server command is used to provision the timing source for the NP or SP for time of day synchronization.

This command can be used to provision the server type as IP or TID. Use IP when the timing source is a network timing protocol (NTP) server. Use TID when the timing source is from a VTX.

> ***Note:*** For Release 11.0 and 11.1, only IP addresses are supported. Therefore the SERTYPE parameter must be set to IP.

Security level

Level 3

Input syntax (for NP)

```
SET-TOD-SER:[TID]::CTAG:::[SERADDRESS1=Domain,SERTYPE1=Domain]
[,SERADDRESS2=Domain,SERTYPE2=Domain]
[,SERADDRESS3=Domain,SERTYPE3=Domain]
[,SERADDRESS4=Domain,SERTYPE4=Domain]
[,SERADDRESS5=Domain,SERTYPE5=Domain];
```

Input syntax (for SP)

```
SET-TOD-SER:[TID]::CTAG:::[NP1=Domain][,NP2=Domain];
```

Table 2-123
Syntax definition

Field	Purpose
TID	Target identifier
CTAG	Correlation tag
SERADDRESS#	Server Address
SERTYPE#	Timing source type

Table 2-124
Parameter descriptions

Parameter	Possible values	Description
SERADDRESS	When SERTYPE =TID, max 20 alphanumeric characters	TID of timing source when timing source is from VTX
	When SERTYPE = IP, x.x.x.x 0<=x<=255	IP address of NTP server
SERTYPE	TID ***Note:*** Not supported in release 11.1 or 11.0.	Identifies that the timing source is from the VTX
	IP	Identifies that the timing source is from a NTP server
NP#	TID of NP. max 20 alphanumeric characters ***Note:*** SP must be within the span of control of the NP.	TID of NP.

Example input

Set a TOD timing sources on an NP.

```
SET-TOD-SER:NPFGX505::CTAG:::SERADDRESS1=47.129.27.100,SERTYPE
1=IP;
```

Set TOD timing source parameter on an SP.

```
SET-TOD-SER:SPFGX505::98:::,NP2=npfgx505;
```

VALD-PROV

The purpose of the Validate Provisioning command is to check whether the restored data that currently resides in the temporary save and restore directory on a network element or network processor, but which has not yet been committed by the CMMT-PROV command, is valid. Data in a temporary Save and Restore directory may become invalid when there is a long delay between a RST-PROV and a CMMT-PROV command.

Security level

Level 3

Input syntax

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

Table 2-125
Syntax definition

Field	Purpose
TID	Target identifier
CTAG	Correlation tag

Example input

The response blocks contain <STRING> which contains information relating to a backup being restored. This information will differ between shelf processors and network processors.

An SP example.

Validate the provisioning data currently in the Save and Restore directory of shelf processor OTTAWA:

```
VALD-PROV:OTTAWA::CTAG94;
```

The information that will be displayed as a result of this command is as follows:

```
      OTTAWA 98-01-03 02:07:28
M A COMPLD
                  Information on Backup being Restored
```

Note: Backup saved from: OTTAWA
Prov Data available for slot 07: OC12
Prov Data available for slot 08: OC12
Prov Data available for slot 13: VTX
Prov Data available for slot 14: VTX
Prov Data available for slot 15: SP
Prov Data available for slot 16: NP

Note: "Backup saved from: " specifies the SP from which the data was originally backed-up. If the data was restored to a different SP, the TID in the VALD-PROV command will differ from the TID in "Backup saved from:".

An NP example.

Validate the provisioning data currently in the save and restore directory of network processor MONTREAL:

```
VALD-PROV:MONTREAL::CTAG94;

The information that will be displayed as a result of this
command is as follows:

      MONTREAL 96-01-03 02:07:39
M A COMPLD
      Information on Backup being Restored

Backup saved from: MONTREAL
Backup included for: ALLADIN29 1998-05-12 13:05:23
Backup included for: ALADDIN06 1998-06-22 07:55:03
Backup included for: ALADDIN11 1998-06-09 22:22:11
```

Note: "Backup saved from: " specifies the NP from which the data was originally backed-up. If the data was restored to a different NP the TID in the VALD-PROV command will differ from the TID in "Backup saved from:".

Response block syntax

```
<SID><DATE><TIME>
Restored Data Information
<STRING>
```

System detailed command descriptions

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

- setting or retrieving the network element type
- retrieving routing table
- retrieving software version

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

Command	Page
ED-NETYPE	3-2
RTRV-NETYPE (SP host)	3-3
RTRV-NETYPE (network processor host)	3-5
RTRV-RTG-TBL	3-7
RTRV-SW-VER	3-10

ED-NETYPE

Use the Edit Network Element Type command to update the network element to support add/drop multiplexer capabilities for ring configurations. See RTRV-NETYPE (SP host) for more details.

Security level

Level 3

Input syntax

```
ED-NETYPE:[TID]::CTAG:::NETYPE=Domain;
```

Table 3-1
Syntax definition

Field	Purpose
TID	Target identifier
CTAG	Correlation tag
NETYPE	Type of network element supported

Table 3-2
Parameter descriptions

Parameter	Possible values	Description
NETYPE	TERMINAL	Not supported
	ADM	Used when a shelf processor is replaced with a extended shelf processor. The network element can be set to add/drop multiplexer (ADM) functionality for ring configurations.

Example input

Set add/drop multiplexer capabilities for the network element NEWYORK:

```
ED-NETYPE:NEWYORK::CTAG42:::NETYPE=ADM;
```

RTRV-NETYPE (SP host)

When your current session is hosted by a shelf processor, use the Retrieve Network Element Type command to retrieve the current network element type setting for a network element. This command also returns additional data such as the shelf vendor, software release, and model.

Security level

Level 1

Input syntax

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

Note: ALL is a valid target identifier (TID).

Table 3-3
Syntax definition

Field	Purpose
TID	Target identifier
CTAG	Correlation tag

Example input

For the NEWYORK network element, retrieve the network element type:

```
RTRV-NETYPE:NEWYORK::CTAG99;
```

Response block syntax

```
<SID><DATE><TIME>
<Vendor>,<Model>,<NETYPE>,<Rel>
```

Table 3-4
Response parameter descriptions

Parameter	Possible values	Description
SID		Source identifier of the network element or network processor.
DATE	YY-MM-DD	Date of list retrieval. YY is the last two digits of the year ranging from 00 to 99, MM is the month of the year ranging from 01 to 12, and DD is the day of the month ranging from 01 to 31.
TIME	HH-MM-SS	Time of list retrieval. HH is the hour ranging from 00 to 23, MM is the minute ranging from 00 to 59, and SS is the second ranging from 00 to 59.

Table 3-4 (continued)
Response parameter descriptions

Parameter	Possible values	Description
Vendor	NORTEL	
Model	OPTera Metro 3300 MSP OPTera Metro 3400 MSP OPTera Metro 3500 MSP	3300 shelf 3400 shelf 3500 shelf
NETYPE	ADM	UPSR ADM is supported.
Rel		Software release name

RTRV-NETYPE (network processor host)

When your current session is hosted by a network processor, use the Retrieve Network Element Type command to retrieve the shelf vendor, model, host processor type, and software release.

Security level

Level 1

Input syntax

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

Note: ALL is a valid target identifier (TID).

Table 3-5
Syntax definition

Field	Purpose
TID	Target identifier
CTAG	Correlation tag

Example input

For the NEWYORK network element, retrieve the network element type:

```
RTRV-NETYPE:NEWYORK::CTAG99;
```

Response block syntax

```
<SID><DATE><TIME>
<Vendor>,<Model>,<NETYPE>,<Rel>
```

Table 3-6
Response parameter descriptions

Parameter	Possible values	Description
SID		Source identifier of the network element or network processor.
DATE	YY-MM-DD	Date of list retrieval. YY is the last two digits of the year from 00 to 99, MM is the month of the year from 01 to 12, and DD is the day of the month from 01 to 31.
TIME	HH-MM-SS	Time of list retrieval. HH is the hour from 00 to 23, MM is the minute from 00 to 59, and SS is the second from 00 to 59.
Vendor	NORTEL	

Table 3-6 (continued)
Response parameter descriptions

Parameter	Possible values	Description
Model	OPTera Metro 3000 MSP Series NP	
NETYPE	GCF	Gateway control function: indicates the session you are in is hosted by a network processor
Rel		Software release name

RTRV-RTG-TBL

The Retrieve Routing Table command returns a report with a standard header and a display array listing all the network entities on the network. This command applies to a network element or network processor.

The report display lists the network element source identifier (SID), the open systems interconnect (OSI) system identifier, and OSI cost value.

The RTRV-RTG-TBL command has been enhanced so that TARP (TID address resolution protocol) is used to resolve any unknown TIDs. Use of the TARP option on the RTRV-RTG-TBL could take 15 minutes or more.

The routing table is automatically constructed at each network element based on the intermediate system to intermediate system (IS-IS) routing protocol PDU exchange, from the OSI standard ISO-10589.

Links between network elements are assigned a COST value according to their type. The COST column displays the COST sum of the shortest route between the local network element and the network element identified in each row of the display. The COST of a route is the sum of the COSTs of each link traversed. The local network element always has a COST value of 0 (zero).

If the network element is connected to an OC-48 backbone, the other network elements on the network are also listed.

OPC and OC-48 will also display a SID in the NE NAME column, though the length of the SID can vary from that of OPTera Metro 3000 SIDs.

> ***Note:*** If a different target identifier (TID) is used then the list of network elements will vary in order and different COST values will be displayed. For example the COST value for the first row (local TID used) will always be zero.

Security level

Level 1

Input syntax

```
RTRV-RTG-TBL:[TID]::CTAG::[TARP];
```

> ***Note:*** ALL is a valid target identifier (TID)

Table 3-7
Syntax definition

Field	Purpose
TID	Target identifier
CTAG	Correlation tag
TARP	TID address resolution protocol. ***Note:*** The TARP command resolves any unknown TIDs. Use of the TARP option could take 15 minutes or more.

Example input
Retrieve routing table from a network element MIAMI:

```
RTRV-RTG-TBL:MIAMI::A1A;
```

Response block syntax

```
<SID><DATE><TIME>
"NE NAME            SYSTEM-ID              COST"
-------------------------------------------------
"NE NAME            SYSTEM ID              COST"
```

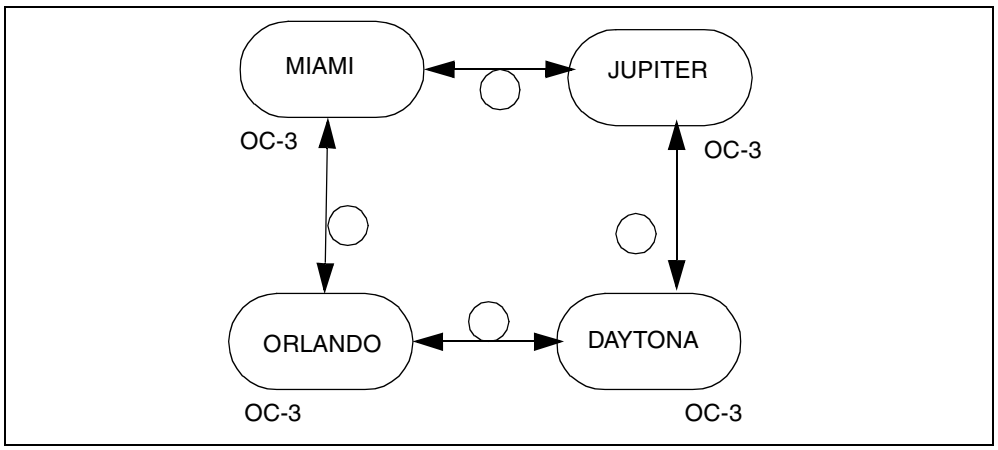
Table 3-8
Response parameter descriptions

Parameter	Possible values	Description
SID		Source identifier of the network element or network processor.
DATE	YY-MM-DD	Date of list retrieval. YY is the last two digits of the year ranging from 00 to 99, MM is the month of the year ranging from 01 to 12, and DD is the day of the month ranging from 01 to 31.
TIME	HH-MM-SS	Time of list retrieval. HH is the hour ranging from 00 to 23, MM is the minute ranging from 00 to 59, and SS is the second ranging from 00 to 59.
NE NAME	20 character alphanumeric string	Source identifier (SID) of the network element
SYSTEM-ID	6 octet, hexadecimal	Universally administered IEEE address (world-wide unique address)
COST	numeric value of 0 or greater	The shortest path COST value in SDCC links with a weighted value of six for each Ethernet link.

Example normal response

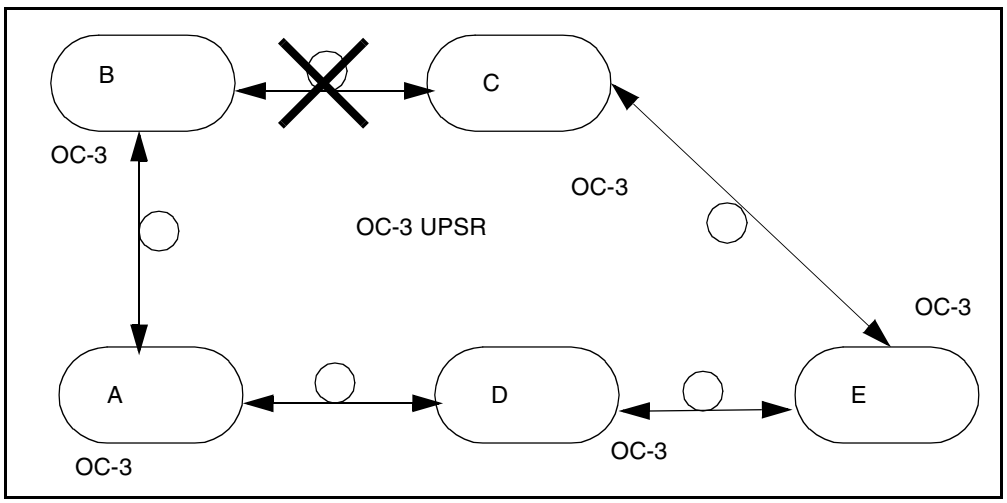
The example shows the response to the RTRV-RTG-TBL command when executed from a network element, with a TID of MIAMI, on a network resembling the following illustration.

```
"MIAMI 95-04-30    16:59:00
"CTAG COMPLD
"NE NAME             SYSTEM-ID             COST"
-----------------------------------------------
"MIAMI               00-00-75-D0-00-1       0"
"JUPITER             00-00-75-D0-00-1       6"
"ORLANDO             00-00-75-D0-00-1       6"
"DAYTONA             00-00-75-D0-00-1      12"
```



Fault location

The RTRV-RTG-TBL command can be used to locate network faults. For example, if the link between “B” and “C” is broken in the following illustration then from “A”, the COST value of “C” will rise from 12 to 18.



RTRV-SW-VER

Use the Retrieve Software Version command to retrieve the version of the software running. This command applies to a network element or network processor.

Security level

Level 1

Input syntax

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

Note: ALL is a valid target identifier (TID).

Table 3-9
Syntax definition

Field	Purpose
TID	Target identifier
CTAG	Correlation tag
AID	Access identifier

Table 3-10
AID descriptions

Parameter	Command-specific values	Purpose
	ALL	Retrieve all applicable versions
Slot AID	Slot#	Retrieve the software version of the equipment in the specified slot where Slot # = 2 to 14
Shelf AID	SHELF	Retrieve the software version of the network element shelf
SP AID	SP	Retrieve the software version of the shelf processor
DSM AID	%HLINK-OC3-hslot#-hport#	Retrieve the software version of the DSM slot where hslot # = 3 to 10 hport # = 1 to 4

Example input

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

```
RTRV-SW-VER:SEATTLE::CTAG99;
```

Response block syntax

```
<SID><DATE><TIME>
"<AID>:<Rel>"
```

Table 3-11
Response parameter descriptions

Parameter	Possible values	Description
SID		Source identifier of the network element or network processor.
DATE	YY-MM-DD	Date of list retrieval. YY is the last two digits of the year ranging from 00 to 99, MM is the month of the year ranging from 01 to 12, and DD is the day of the month ranging from 01 to 31.
TIME	HH-MM-SS	Time of list retrieval. HH is the hour ranging from 00 to 23, MM is the minute ranging from 00 to 59, and SS is the second ranging from 00 to 59.
AID	SHELF	Network element shelf
	SP	Shelf processor
	SP-slot#	Shelf processor circuit pack where slot# =15
	DS1-slot#	DS1 circuit pack where slot# = 3 to 10
	DS3-slot#	DS3 circuit pack where slot# = 3 to 10
	DS3V-slot#	DS3VTx12 circuit pack where slot# = 3 to 10
	OC3-slot#	OC-3 circuit pack where slot# = 3 to 10
	OC12-slot#	OC-12 or OC-12x4 STS circuit pack where slot# = 3 to 12 for OC-12 slot# = 3 to 10 for OC-12x4 STS
	OC48-slot#	OC-48 or OC-48 STS circuit pack where slot# = 11 or 12 for OC-48 slot# = 3 to 12 for OC-48 STS
	OC192-slot#	OC-192 circuit pack where slot# = 11 or 12
	EC1-slot#	EC-1 circuit pack where slot# = 3 to 10

Table 3-11 (continued)
Response parameter descriptions

Parameter	Possible values	Description
AID	IPT100-slot#	4x100BT equipment where slot# = 3 to 10
	1GE-slot#	2xGigE equipment where slot# = 3, 5, 7, 9
	100FX-slot#	4x100FX equipment where slot# = 3 to 10
	CLX-slot#	VTX or STX-192 circuit pack where slot# =13 or 14
	100BTFOS-slot#	2x100BT-P2P circuit pack where slot# = 3 to 10
	1GFOS-slot#	2xGigE/FC-P2P circuit pack where slot# = 3 to 10
DSM AID	%HLINK-OC3-hslot#-hport#	DSM where hslot # = 3 to 10 hport # = 1 to 4
Rel		Software release name

Synchronization detailed command descriptions

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

The following table lists all the commands in this chapter.

Command	Page
OPR-BITSOUTSW	4-2
OPR-SYNCSW	4-3
RTRV-BITS-IN	4-4
RTRV-BITS-OUT	4-6
RTRV-SYNCSTIN	4-9
RTRV-TMG-MODE	4-11
RTRV-TMREFIN	4-12
SET-BITS-IN	4-15
SET-BITS-OUT	4-16
SET-SYNCSTIN	4-18
SET-TMG-MODE	4-20
SET-TMREFIN	4-21

OPR-BITSOUTSW

The Operate BITS Out Switch command is used to perform manual synchronization switching between the primary and secondary timing references at a BITS output. The switch completes only if the quality of the two references is the same. The network element always chooses the best quality timing reference for its synchronization reference.

Use the RTRV-BITS-OUT command to retrieve the current timing reference settings. Use the SET-BITS-OUT command to assign the primary and secondary timing references.

User synchronization switches initiated using this command remain active until another BITS Out switch is activated or they are overridden by a synchronization reference failure.

Security level

Level 2

Input syntax

```
OPR-BITSOUTSW:[TID]:AID:CTAG;
```

Table 4-1
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. BITS output ot act on.
CTAG	Correlation tag

Table 4-2
AID descriptions

AID type	Command-specific values	Purpose
BITS output	BITSOUT-<bits>	Identify the BITSOUT to switch where bits= A or B

Example input

Switch BITSOUT-A from the currently active timing source to the other timing source:

```
OPR-BITSOUTSW:NEWYORK:BITSOUT-A:CTAG23;
```

OPR-SYNCSW

The Operate Synchronization Switch command instructs the network element to switch synchronization timing reference signals from primary to secondary, or vice versa. The switch completes only if the quality of the two references are the same. The network element always chooses the best quality timing reference for its synchronization reference. Use the RTRV-TMREFIN command to retrieve timing references.

Use the SET-SYNCSTIN command to set the synchronization status of the incoming synchronization signal.

User synchronization switches initiated using this command remain active until another synchronization switch is activated or they are overridden by a synchronization reference failure.

Primary and secondary timing references are assigned using the SET-TMREFIN command.

Security level

Level 2

Input syntax

```
OPR-SYNCSW:[TID]::CTAG;
```

Table 4-3
Syntax definition

Field	Purpose
TID	Target identifier
CTAG	Correlation tag

Example input

Switch synchronization from the currently active timing source to the other timing source:

```
OPR-SYNCSW:NEWYORK::CTAG23;
```

RTRV-BITS-IN

The Retrieve BITS Input command is used to retrieve the setting of the signal format and linecode parameters for the BITS input BITSIN-A and BITSIN-B.

Security level

Level 1

Input syntax

```
RTRV-BITS-IN:[TID]:AID:CTAG;
```

Table 4-4
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. BITS input to act on.
CTAG	Correlation tag

Table 4-5
AID descriptions

AID type	Command-specific values	Purpose
BITS input	BITSIN-<bits>	Identify the BITS input where bits= A or B

Example input

Retrieve the signal format and linecode settings for BITSIN-A:

```
RTRV-BITS-IN:NEWYORK:BITSIN-A:CTAG43;
```

Response block syntax

```
<SID><DATE><TIME>
<SIGFMT=Domain>
<FMT=Domain>
<LINECDE=Domain>
```

Table 4-6
Response parameter descriptions

Parameter	Possible values	Description
SID		Source identifier of the network element.
DATE	YY-MM-DD	Date of list retrieval. YY is the last two digits of the year ranging from 00 to 99, MM is the month of the year ranging from 01 to 12, and DD is the day of the month ranging from 01 to 31.
TIME	HH-MM-SS	Time of list retrieval. HH is the hour ranging from 00 to 23, MM is the minute ranging from 00 to 59, and SS is the second ranging from 00 to 59.
SIGFMT	DS1(default) CC	DS1 signal format Composite clock
FMT	SF(default) ESF	Superframe format Extended superframe format
LINCDE	AMI (default) B8ZS	Alternate mark inversion, both directions Bipolar with 8-zero substitution, both directions

RTRV-BITS-OUT

The Retrieve BITS Output command is used to retrieve the setting of the primary and secondary timing references, the signal format, and the equalization for the BITS output BITSOUT-A and BITSOUT-B.

Security level

Level 1

Input syntax

```
RTRV-BITS-OUT:[TID]:AID:CTAG;
```

Note: ALL is a valid target identifier (TID).

Table 4-7
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. BITS output to act on.
CTAG	Correlation tag

Table 4-8
AID descriptions

AID type	Command-specific values	Purpose
BITS output	BITSOUT-<bits>	Identify the BITS output to retrieve where bits= A or B

Example input

Retrieve the parameter settings for BITSOUT-A:

```
RTRV-BITS-OUT:NEWYORK:BITSOUT-A:CTAG43;
```

Response block syntax

```
<SID><DATE><TIME>
<PRI=Domain>: <SEC=Domain> <FMT=Domain> <EQLZ=Domain>
<THRESHOLD=Domain>
```

Table 4-9
Response parameter descriptions

Parameter	Possible values	Description
SID		Source identifier of the network element.
DATE	YY-MM-DD	Date of list retrieval. YY is the last two digits of the year ranging from 00 to 99, MM is the month of the year ranging from 01 to 12, and DD is the day of the month ranging from 01 to 31.
TIME	HH-MM-SS	Time of list retrieval. HH is the hour ranging from 00 to 23, MM is the minute ranging from 00 to 59, and SS is the second ranging from 00 to 59.
PRI or SEC	Primary or secondary timing reference:	
	OC3-slot#-port#	OC-3 where slot# = 3 to 10 port# = 1 to 4
	OC12-slot#-port#	OC-12 or OC-12x4 STS where slot# = 3 to 12 for OC-12 slot# = 3 to 10 for OC-12x4 STS port# = 1 for OC-12 port# = 1 to 4 for OC-12x4 STS
	OC48-slot#	OC-48 or OC-48 STS where slot# = 11 or 12 for OC-48 slot# = 3 to 12 for OC-48 STS
	OC192-slot#	OC-192 where slot# = 11 or 12
	EC1-slot#-port#	EC-1 where slot# = 3, 5, 7, 9 port# = 1 to 12
	DS1-slot#-port#	DS1 where slot# = 4 to 10 port# = 1 to 12
	BITSIN-<bits>	bits = A or B
	NONE	Deprovision timing reference

Table 4-9 (continued)
Response parameter descriptions

Parameter	Possible values	Description
FMT	 SF (default) ESF	Frame format: Superframe format Extended superframe format
EQLZ	 1 (default) 2 3	Equalization: Short (0 to 266 ft.) Medium (266 to 533 ft.) Long (533 to 655 ft.)
THRESHOLD	 STU ST1 ST2 ST3 ST4 SMC NONE	Timing source Stratum level Normal-Traceability Unknown Stratum 1 Traceable Stratum 2 Traceable Stratum 3 Traceable Stratum 4Traceable Sonet minimum clock traceable None

RTRV-SYNCSTIN

The Retrieve Synchronization Status Input command is used to find out the synchronization status provisioned by the user using the SET-SYNCSTIN command.

Security level

Level 1

Input syntax

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

Note: ALL is a valid target identifier (TID).

Table 4-10
Syntax definition

Field	Purpose
TID	Target identifier
CTAG	Correlation tag

Example input

Retrieve the current synchronization status at network element Seattle:

```
RTRV-SYNCSTIN:SEATTLE::CTAG23;
```

Response block syntax

```
<SID><DATE><TIME>
^^^"AID:<sync message status>"
```

Table 4-11
Response parameter descriptions

Parameter	Possible values	Description
SID		Source identifier of the network element.
DATE	YY-MM-DD	Date of list retrieval. YY is the last two digits of the year ranging from 00 to 99, MM is the month of the year ranging from 01 to 12, and DD is the day of the month ranging from 01 to 31.
TIME	HH-MM-SS	Time of list retrieval. HH is the hour ranging from 00 to 23, MM is the minute ranging from 00 to 59, and SS is the second ranging from 00 to 59.

Table 4-11 (continued)
Response parameter descriptions

Parameter	Possible values	Description
AID	Timing reference:	
	OC3-slot#-port#	OC-3 where slot# = 3 to 10 port# = 1 to 4
	OC12-slot#-port#	OC-12 or OC-12x4 STS where slot# = 3 to 12 for OC-12 slot# = 3 to 10 for OC-12x4 STS port# = 1 for OC-12 port# = 1 to 4 for OC-12x4 STS
	OC48-slot#	OC-48 or OC-48 STS where slot# = 11 or 12 for OC-48 slot# = 3 to 12 for OC-48 STS
	OC192-slot#	OC-192 where slot# = 11 or 12
	EC1-slot#-port#	EC-1 where slot# = 3, 5, 7, 9 port# = 1 to 12
	DS1-slot#-port#	DS1 where slot# = 4 to 10 port# = 1 to 12
	BITSIN-<bits>	bits = A or B
	NONE	Deprovision timing reference
SYNC_STATUS	ST1 STU ST2 ST3 SMC ST4 RES DUS NONE	Stratum 1 traceable Normal-Traceability Unknown Stratum 2 traceable Stratum 3 traceable Traceable SONET minimum clock Stratum 4 traceable Reserved for Network Synchronization Use Do not use for synchronization None

RTRV-TMG-MODE

The Retrieve System Timing Mode command is used to query the system timing mode for a network element. There are three possible modes: free-running internal (INT), line (LINE), or external (EXT).

Note: This command will never generate an error response; a default value for the system always exists.

Security level

Level 1

Input syntax

```
RTRV-TMG-MODE:[TID]::CTAG;
```

Note: ALL is a valid target identifier (TID).

Table 4-12
Syntax definition

Field	Purpose
TID	Target identifier
CTAG	Correlation tag

Example input

Retrieve the timing mode for network element Seattle:

```
RTRV-TMG-MODE:SEATTLE::12345;
```

Response block syntax

```
<SID><DATE><TIME>
<MODE=Domain>
```

Table 4-13
Response parameter descriptions

Parameter	Possible values	Description
SID		Source identifier of the network element.
DATE	YY-MM-DD	Date of list retrieval. YY is the last two digits of the year from 00 to 99, MM is the month of the year from 01 to 12, and DD is the day of the month from 01 to 31.
TIME	HH-MM-SS	Time of list retrieval. HH is the hour from 00 to 23, MM is the minute from 00 to 59, and SS is the second from 00 to 59.
Mode	EXT, INT, or LINE	External timing (BITS), Internal timing (freerun), or Line timing

RTRV-TMREFIN

The Retrieve Timing References Input command is used to retrieve the primary and secondary input timing references used for shelf timing.

Note: This command will never generate an error response; a default value for the system always exists.

Security level

Level 1

Input syntax

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

Note: ALL is a valid target identifier (TID).

Table 4-14
Syntax definition

Field	Purpose
TID	Target identifier
CTAG	Correlation tag

Example input

Retrieve the timing reference for network element New York:

```
RTRV-TMREFIN:NEWYORK::CTAG45;
```

Response block syntax

```
<SID><DATE><TIME>
^^^"PRI = <Facility AID>:<SST>,<Sync msg status>,<Sync msg
status>-P <cr> <lf>
^^^^SEC = <Facility AID>:<SST>,<Sync msg status>,<Sync msg
status>-P" <cr> <lf>
```

Table 4-15
Response parameter descriptions

Parameter	Possible values	Description
SID		Source identifier of the network element or network processor.
DATE	YY-MM-DD	Date of list retrieval. YY is the last two digits of the year ranging from 00 to 99, MM is the month of the year ranging from 01 to 12, and DD is the day of the month ranging from 01 to 31.
TIME	HH-MM-SS	Time of list retrieval. HH is the hour ranging from 00 to 23, MM is the minute ranging from 00 to 59, and SS is the second ranging from 00 to 59.
Facility AID	Timing reference:	
	OC3-slot#-port#	OC-3 where slot# = 3 to 10 port# = 1 to 4
	OC12-slot#-port#	OC-12 or OC-12x4 STS where slot# = 3 to 12 for OC-12, 3 to 10 for OC-12x4 STS port# = 1 for OC-12, 1 to 4 for OC-12x4 STS
	OC48-slot#	OC-48 or OC-48 STS where slot# = 11 or 12 for OC-48, 3 to 12 for OC-48 STS
	OC192-slot#	OC-192 where slot# = 11 or 12
	EC1-slot#-port#	EC-1 where slot# = 3, 5, 7, 9 port# = 1 to 12
	DS1-slot#-port#	DS1 where slot# = 4 to 10 port# = 1 to 12
	BITSIN-<bits>	bits = A or B
	NONE	Deprovision timing reference

Table 4-15 (continued)
Response parameter descriptions

Parameter	Possible values	Description
SST (secondary state)	ACT&WKH	Active and working
	ACT&ERRANL	Active and errored
	IDLE&WKG	Idle and working
	IDLE&FLT	Idle and faulty
Sync msg status	ST1	Stratum 1 Traceable
	STU	Synchronized–traceability unknown
	ST2	Stratum 2 Traceable
	ST3	Stratum 3 Traceable
	SMC	Traceable SONET minimum clock
	ST4	Stratum 4 Traceable
	RES	Reserved for network synchronization
	DUS	Do not use for synchronization
	NONE	None
Note 1: The user-provisioned synchronization status set by using the SET-SYNCSTIN command is also listed, with a P following the message. ***Note 2:*** The EC-1 port (line) cannot operate as a timing reference when used with EC-1x12 circuit packs.		

SET-BITS-IN

The Set BITS Input command is used to set the signal format, frame format, and the line code parameters for BITSIN-A and BITSIN-B.

Security level

Level 3

Input syntax

```
SET-BITS-IN:[TID]:AID:CTAG:::[SIGFMT=Domain][,FMT=Domain]
[,LINECDE=Domain];
```

Table 4-16
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. Bits input to act on.
CTAG	Correlation tag
Domain	Signal format, frame format, and line code values

Table 4-17
AID descriptions

AID type	Command-specific values	Purpose
BITS input	BITSIN-<bits>	Identify the BITS input to provision where bits= A or B

Table 4-18
Parameter descriptions

Parameter	Possible values	Description
SIGFMT	DS1 (default) CC	Signal format DS1 Composite Clock
FMT	SF (default) ESF	Superframe format Extended superframe format
LINECDE	AMI (default) B8ZS	Alternate mark inversion, both directions Bipolar with 8-zero substitution, both directions

Example input

Provision the BITS input to network element WASHINGTON:

```
SET-BITS-IN:WASHINGTON:BITSIN-A:CTAG23:FMT=SF,LINECODE=AMI;
```

SET-BITS-OUT

The Set BITS Output command is used to provision the primary and secondary timing references, the frame format, the equalization parameters, and the threshold synchronization levels for BITSout-A and BITSout-B. The BITS output provides timing reference to the BITS clock or to other digital equipment that accepts a BITS signal.

Security level

Level 3

Input syntax

```
SET-BITS-OUT:[TID]:AID:CTAG:::[PRI=Domain][,SEC=Domain]
[,FMT=Domain][,EQLZ=Domain][,THRESHOLD=Domain];
```

Table 4-19
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. BITS output to act on.
CTAG	Correlation tag
Domain	Primary and secondary timing reference sources, frame format, equalization values, or threshold synchronization levels

Table 4-20
AID descriptions

AID type	Command-specific values	Purpose
BITS output	BITSOUT-<bits>	Identify the BITS output to provision where bits= A or B

Table 4-21
Parameter descriptions

Parameter	Possible values	Description
PRI or SEC	OC3-slot#-port#	OC-3 where slot# = 3 to 10 port# = 1 for OC-3, 1 to 4 for OC-3x4
	OC12-slot#-port#	OC-12 or OC-12x4 STS where slot# = 3 to 12 for OC-12, slot# = 3 to 10 for OC-12x4 STS port# = 1 for OC-12, 1 to 4 for OC-12x4 STS
	OC48-slot#	OC-48 or OC-48 STS where slot# = 11 or 12 for OC-48, 3 to 12 for OC-48 STS
	OC192-slot#	OC-192 where slot# = 11 or 12
	EC1-slot#-port#	EC-1 where slot# = 3, 5, 7, 9 port# = 1 to 3 for EC-1x3, 1 to 12 for EC-1x12
	DS1-slot#-port#	DS1 where slot# = 4 to 10, port# = 1 to 12
	BITSIN-<bits>	bits = A or B
	NONE	Deprovision timing reference
FMT	SF (default)	Superframe format
	ESF	Extended superframe format
EQLZ	1 (default)	Short (0 to 266 ft.)
	2	Medium (266 to 533 ft.)
	3	Long (533 to 655 ft.)
Threshold	STU	Normal-Traceability unknown
	ST2	Stratum 2 Traceable
	ST3	Stratum 3 Traceable
	ST4	Stratum 4Traceable
	SMC	Sonet minimum clock traceable
	NONE	None
Note: The EC-1 port (line) cannot operate as a timing reference when used with EC-1x12 circuit packs.		

Example input
Provision the BITS output from network element WASHINGTON:

```
SET-BITS-OUT:WASHINGTON:BITSOUT-A:CTAG23:::PRI=OC3-5,
SEC=NONE,FMT=SF,EQLZ=1,THRESHOLD=ST2;
```

SET-SYNCSTIN

The Set Synchronization Status Input command sets the synchronization status to override the incoming message from a timing source, so that the incoming synchronization signal may be given a different value. This value determines whether the incoming synchronization signal is used as the timing reference.

Security level

Level 3

Input syntax

```
SET-SYNCSTIN:[TID]:AID:CTAG::SYNC_STATUS;
```

Table 4-22
Syntax definition

Field	Purpose
TID	Target identifier
AID	Facility provisioned as the timing reference
CTAG	Correlation tag
SYNC_STATUS	Synchronization status

Table 4-23
AID descriptions

AID type	Command-specific values	Purpose
Facility	OC3-slot#-port#	OC-3 where slot# = 3 to 10 port# = 1 for OC-3, 1 to 4 for OC-3x4
	OC12-slot#-port#	OC-12 or OC-12x4 STS where slot# = 3 to 12 for OC-12 slot# = 3 to 10 for OC-12x4 STS port# = 1 for OC-12, 1 to 4 for OC-12x4 STS
	OC48-slot#	OC-48 or OC-48 STS where slot# = 11 or 12 for OC-48, 3 to 12 for OC-48 STS
	OC192-slot#	OC-192 where slot# = 11 or 12
	EC1-slot#-port#	EC-1 where slot# = 3, 5, 7, 9 port# = 1 to 3 for EC-1x3, 1 to 12 for EC-1x12
	DS1-slot#-port#	DS1 where slot# = 4 to 10, port# = 1 to 12
	BITSIN-<bits>	bits = A or B
	NONE	Deprovision timing reference

Table 4-24
Parameter descriptions

Parameter	Possible values	Description
SYNC_STATUS	ST1	Traceable Stratum 1
	STU	Normal-Traceability Unknown
	ST2	Traceable Stratum 2
	ST3	Traceable Stratum 3
	SMC	Traceable SONET minimum clock
	ST4	Traceable Stratum 4
	RES	Reserved for Network Synchronization Use
	DUS	Do not use for synchronization
	NONE	None

Example input

Provision the synchronization status of BITS input A to ST2:

```
SET-SYNCSTIN:OTTAWA:BITSIN-A:CTAG23::ST2;
```

SET-TMG-MODE

The Set Timing Mode command sets the system timing mode for a network element to free-running internal (INT), line (LINE), or external (EXT).

> ***Note:*** The shelf timing mode cannot be changed from external or line timing to a different mode unless the sources for timing references are deprovisioned first.

Security level

Level 3

Input syntax

```
SET-TMG-MODE:[TID]::CTAG::[MODE];
```

Table 4-25
Syntax definition

Field	Purpose
TID	Target identifier
CTAG	Correlation tag
Mode	Shelf timing to be selected

Table 4-26
Parameter descriptions

Parameter	Possible values	Description
Mode	EXT	External timing (BITS)
	INT	Internal timing (freerun)
	LINE	Line timing

Example input

Set timing mode to line or internal:

```
SET-TMG-MODE:NEWYORK::CTAG02::LINE;

SET-TMG-MODE:WASHINGTON::CTAG03::INT;
```

SET-TMREFIN

The Set Timing Reference Input command is used to set the input timing references for the shelf. Possible values are BITSin-A, BITSin-B, OC-n tributaries, and DS1 tributaries.

Security level

Level 3

Input syntax

```
SET-TMREFIN:[TID]::CTAG:::[PRI=Domain][,SEC=Domain];
```

Table 4-27
Syntax definition

Field	Purpose
TID	Target identifier
CTAG	Correlation tag
Domain	Primary and secondary timing references

Table 4-28
Parameter descriptions

Parameter	Possible values	Description
PRI or SEC	OC3-slot#-port#	OC-3 where slot# = 3 to 10 port# = 1 for OC-3 port# = 1 to 4 for OC-3x4
	OC12-slot#-port#	OC-12 or OC-12x4 STS where slot# = 3 to 12 for OC-12 slot# = 3 to 10 for OC-12x4 STS port# = 1 for OC-12 port# = 1 to 4 for OC-12x4 STS
	OC48-slot#	OC-48 or OC-48 STS where slot# = 11 or 12 for OC-48 slot# = 3 to 12 for OC-48 STS
	OC192-slot#	OC-192 where slot# = 11 or 12
	EC1-slot#-port#	EC-1 where slot# = 3, 5, 7, 9 port# = 1 to 3 for EC-1x3 port# = 1 to 12 for EC-1x12
	DS1-slot#-port#	DS1 where slot# = 4 to 10 port# = 1 to 12
	BITSIN-<bits>	bits = A or B
	NONE	Deprovision timing reference
Note: The EC-1 port (line) cannot operate as a timing reference when used with EC-1x12 circuit packs.		

Example input
Provision the primary timing reference input from the OC-3 in slot 5 port 2 and deprovision the secondary timing reference (set to none):

```
SET-TMREFIN:WASHINGTON::CTAG34:::PRI=OC3-5-1,SEC=NONE;
```

BLSR detailed command descriptions

This chapter is an alphabetical summary of all the TL1 commands related to bidirectional line-switched rings (BLSR). The command descriptions in this chapter identify each command, and describe the command purpose, syntax, parameters, variables, and response.

The following table lists all the commands in this chapter.

Command	Page
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AUD-BLSR

Use the Audit BLSR command to run a configuration and connection audit on one or more network elements in the span of control of the network processor and to set the configuration audit period.

Note 1: By default, when you change the audit period, the first audit runs according to the occurrence of the last audit. For example, if you change the audit period to 20 hours and the last audit was 12 hours ago, the next audit would occur 8 hours after you change the audit period. You can specify that the audit run immediately after you change the audit period, rather than according to the last audit.

Note 2: When running this command, you must wait 10 seconds before performing this command again, otherwise you will get the message Status Not in Valid State (SNVS).

Security level

Level 3

Input syntax

```
AUD-BLSR:[TID]:[AID]:CTAG::[SID]:[AUDPERIOD=Domain]
[,RUNAUD=Domain];
```

Table 5-1
Syntax definition

Field	Purpose
TID	Target identifier
AID	Ring name
CTAG	Correlation tag
SID	Network element name
AUDPERIOD	Audit period
RUNAUD	Run audit option

Table 5-2
AID descriptions

AID type	Command-specific values	Purpose
Ring name	An alphanumeric string between 1 and 20 characters	Identify the ring name

Table 5-3
Parameter descriptions

Parameter	Possible values	Description
SID	An alphanumeric string between 1 and 20 characters or ALL	Network element name. To run the audit on all network elements, set this parameter to ALL.
AUDPERIOD	15 to 10080, in increments of 15	Connection audit period in minutes (default is 720). To turn off audits, set this parameter to 0.
RUNAUD	Y	Run the connection audit immediately after entering this command
	N	Run the connection audit on schedule after entering this command (default)

Example input

Audit the BLSR configuration immediately for network element OTTAWA and set the connection audit period to 15 minutes:

```
AUD-BLSR:NPFGXOTT:RING1:CTAG::OTTAWA:AUDPERIOD=15,RUNAUD=Y;
```

CANC-RINGMAP

Use the Cancel Ring Map command to cancel the previous provisioning change and apply the original ring map. This command is supported on the network processor.

Security level

Level 3

Input syntax

```
CANC-RINGMAP:[TID]:AID:CTAG;
```

Table 5-4
Syntax definition

Field	Purpose
TID	Target identifier.
AID	Ring name
CTAG	Correlation tag

Table 5-5
AID descriptions

AID type	Command-specific values	Purpose
Ring name	An alphanumeric string between 1 and 20 characters	Identify the ring name

Example input

Cancel the previous ring map provisioning for NPFGXOTT:

```
CANC-RINGMAP:NPFGXOTT:RING1:CTAG12;
```

CHK-RINGMAP

Use the Check Ring Map command to verify map information for a BLSR ring. This command is supported on the network processor and shelf processor.

Security level

Level 3

Input syntax

```
CHK-RINGMAP:[TID]:AID:CTAG;
```

Table 5-6
Syntax definition

Field	Purpose
TID	Target identifier.
AID	Ring name
CTAG	Correlation tag

Table 5-7
AID descriptions

AID type	Command-specific values	Purpose
Ring name	An alphanumeric string between 1 and 20 characters	Identify the ring name

Example input

Verify the ring map information for the BLSR RING1:

```
CHK-RINGMAP:NPFGXOTT:RING1:CTAG;
```

CMMT-RINGMAP

Use the Commit Ring Map command to copy the temporary ring map to the permanent ring map. This command is supported on the network processor.

Security level

Level 3

Input syntax

```
CMMT-RINGMAP:[TID]:AID:CTAG;
```

Table 5-8
Syntax definition

Field	Purpose
TID	Target identifier.
AID	Ring name
CTAG	Correlation tag

Table 5-9
AID descriptions

AID type	Command-specific values	Purpose
Ring name	An alphanumeric string between 1 and 20 characters	Identify the ring name

Example input

Commit the ring map provisioning for NPFGXOTT:

```
CMMT-RINGMAP:NPFGXOTT:RING1:CTAG;
```

DLT-BLSRRING

Use the Delete BLSR Ring command to delete a BLSR ring and its associated map. This command is supported on the network processor.

Security level

Level 3

Input syntax

```
DLT-BLSRRING:[TID]:AID:CTAG:::[DELETE=DOMAIN];
```

Table 5-10
Syntax definition

Field	Purpose
TID	Target identifier.
AID	Ring name
CTAG	Correlation tag
DELETE	Delete status

Table 5-11
AID descriptions

AID type	Command-specific values	Purpose
Ring name	An alphanumeric string between 1 and 20 characters	Identify the ring name

Table 5-12
Parameter descriptions

Parameter	Possible values	Description
DELETE	Y	Delete ring and all nodes on ring
	N (default)	Only delete ring with no nodes

Example input

Delete the BLSR ring and its ring map for NPFGXOTT:

```
DLT-BLSRRING:NPFGXOTT:RING1:CTAG:::DELETE=Y;
```

DLT-RINGMAP

Use the Delete Ring Map command to delete map information for a node in a BLSR ring. This command is supported on the network processor.

Security level

Level 3

Input syntax

```
DLT-RINGMAP:[TID]:AID:CTAG::[SID][,APSID];
```

Table 5-13
Syntax definition

Field	Purpose
TID	Target identifier.
AID	Ring name
CTAG	Correlation tag
SID	Node name
APSID	APS ID of the node

Table 5-14
AID descriptions

AID type	Command-specific values	Purpose
Ring name	An alphanumeric string between 1 and 20 characters	Identify the ring name

Table 5-15
Parameter descriptions

Parameter	Possible values	Description
SID	An alphanumeric string between 1 and 20 characters	Node name
APSID	An integer between 0 and 15	APS ID of the node

Example input

Delete the ring map information for the node SPFGXOTT in the ring RING1:

```
DLT-RINGMAP:NPFGXOTT:RING1:CTAG::SPFGXOTT,1;
```

ED-BLSRRING

Use the Edit BLSR Ring command to change the name of a BLSR ring. This command is supported on the network processor.

Security level

Level 3

Input syntax

```
ED-BLSRRING:[TID]:AID:CTAG::NEW_RINGNAME;
```

Table 5-16
Syntax definition

Field	Purpose
TID	Target identifier.
AID	Current ring name
CTAG	Correlation tag
NEW_RINGNAME	New ring name

Table 5-17
AID descriptions

AID type	Command-specific values	Purpose
Ring name	An alphanumeric string between 1 and 20 characters	Identify the ring name

Table 5-18
Parameter descriptions

Parameter	Possible values	Description
AID	An alphanumeric string between 1 and 20 characters	Current ring name
NEW_RINGNAME	An alphanumeric string between 1 and 20 characters. Special characters are not supported.	New ring name

Example input

Change the name of the BLSR ring to OTTAWARING:

```
ED-BLSRRING:NPFGXOTT:RING1:CTAG::OTTAWARING;
```

ENT-BLSRRING

Use the Enter BLSR Ring command to create a new BLSR ring with the specified name. This command is supported on the network processor.

Security level

Level 3

Input syntax

```
ENT-BLSRRING:[TID]:AID:CTAG;
```

Table 5-19
Syntax definition

Field	Purpose
TID	Target identifier.
AID	Ring name
CTAG	Correlation tag

Table 5-20
AID descriptions

AID type	Command-specific values	Purpose
Ring name	An alphanumeric string between 1 and 20 characters. Special characters are not supported.	Identify the ring name

Table 5-21
Parameter descriptions

Parameter	Possible values	Description
AID	An alphanumeric string between 1 and 20 characters. Special characters are not supported.	Ring name

Example input

Create a new BLSR ring with the name OTTAWA_RING:

```
ENT-BLSRRING:NPFGXOTT:OTTAWA_RING:CTAG;
```

ENT-RINGMAP

Use the Enter Ring Map command to enter map information for a managed or unmanaged node in a BLSR ring. This command is supported on the network processor.

Security level

Level 3

Input syntax

```
ENT-RINGMAP:[TID]:AID:CTAG::SID,APSID,WEST-AID,EAST-AID,
WEST-APSID,EAST-APSID;
```

Table 5-22
Syntax definition

Field	Purpose
TID	Target identifier.
AID	Ring name
CTAG	Correlation tag
SID	Node name
APSID	APS ID of the node
WEST	West optics slot number
EAST	East optics slot number
WEST-APSID	APS ID of the west adjacent node
EAST-APSID	APS ID of the east adjacent node

Table 5-23
AID descriptions

AID type	Command-specific values	Purpose
Ring name	Alphanumeric string between 1 and 20 characters.	Identify ring name

Table 5-24
Parameter descriptions

Parameter	Possible values	Description
SID	An alphanumeric string between 1 and 20 characters	Node name
APSID	An integer between 0 and 15	APS ID of the node
WEST	OCn-slot# where n is 48 or 192 where slot# = 11 or 12	Slot number of the node's west optics
EAST	OCn-slot# where n is 48 or 192 where slot# = 11 or 12	Slot number of the node's east optics
WEST-APSID	An integer between 0 and 15	APS ID of the west adjacent node
EAST-APSID	An integer between 0 and 15	APS ID of the east adjacent node

Example input
Enter the ring map information for NPFGXOTT:

```
ENT-RINGMAP:NPFGXOTT:OTTAWA_RING:CTAG::SPFGXOTT,1,OC48-11,
OC48-12,2,3;
```

INVK-RINGMAP

Use the Invoke Ring Map command to apply the ring map. This command is supported on the network processor.

Security level

Level 3

Input syntax

```
INVK-RINGMAP:[TID]:AID:CTAG;
```

Table 5-25
Syntax definition

Field	Purpose
TID	Target identifier.
AID	Ring name
CTAG	Correlation tag

Table 5-26
AID descriptions

AID type	Command-specific values	Purpose
Ring name	An alphanumeric string between 1 and 20 characters	Identify the ring name

Table 5-27
Parameter descriptions

Parameter	Possible values	Description
AID	An alphanumeric string between 1 and 20 characters	Ring name

Example input

Apply the ring map for NPFGXOTT:

```
INVK-RINGMAP:NPFGXOTT:OTTAWA_RING:CTAG;
```

LOAD-RINGMAP

Use the Load Ring Map command to load map information to all managed shelf processors.

By default, the ring map is loaded from the local network processor. You can also load the ring map from a remote network processor.

Security level

Level 3

Input syntax

```
LOAD-RINGMAP:[TID]:AID:CTAG::[REMOTE-NAME][,DIRECTORY];
```

Table 5-28
Syntax definition

Field	Purpose
TID	Target identifier
AID	Ring name
CTAG	Correlation tag
REMOTE-NAME	Remote shelf processor or network processor
DIRECTORY	Path that contains the ring map

Table 5-29
AID descriptions

AID type	Command-specific values	Purpose
Ring name	An alphanumeric string between 1 and 20 characters	Identify the ring name

Table 5-30
Parameter descriptions

Parameter	Possible values	Description
REMOTE-NAME	An alphanumeric string between 1 and 20 characters	Target identifier of the remote network processor
DIRECTORY	An alphanumeric string between 1 and 96 characters	Path on the remote shelf processor or network processor that contains the ring map

Example input

Load the ring map information to all nodes in the ring OTTAWA_RING:

```
LOAD-RINGMAP:NPFGXOTT:OTTAWA_RING:CTAG;
```

RTRV-AUD-BLSR

Use the Retrieve Audit BLSR command to retrieve the audit period for a specific ring or for all rings and to list the nodes the network processor failed to audit. This command is supported on the network processor.

Security level

Level 1

Input syntax

```
RTRV-AUD-BLSR:[TID]:[AID]:CTAG;
```

Table 5-31
Syntax definition

Field	Purpose
TID	Target identifier
AID	Ring name
CTAG	Correlation tag

Table 5-32
AID descriptions

AID type	Command-specific values	Purpose
Ring name	An alphanumeric string between 1 and 20 characters or ALL	Identify the ring name. To retrieve the audit period of all rings, set this parameter to ALL (default). If no AID is specified, defaults to ALL.

Table 5-33
Parameter descriptions

Parameter	Possible values	Description
AID	An alphanumeric string between 1 and 20 characters or ALL	Ring name. To retrieve the audit period of all rings, set this parameter to ALL.

Example input

Retrieve the audit period for the ring OTTAWA_RING:

```
RTRV-AUD-BLSR:NPFGXOTT:OTTAWA_RING:CTAG;
```

Response block syntax

```
<SID><DATE><TIME>
"<AID:AUDPERIOD=Domain>,<FAILEDNODES=Domain>"
```

Table 5-34
Response parameter descriptions

Parameter	Possible values	Description
SID		Source identifier of the network element or network processor.
DATE	YY-MM-DD	Date of list retrieval. YY is the last two digits of the year ranging from 00 to 99, MM is the month of the year ranging from 01 to 12, and DD is the day of the month ranging from 01 to 31.
AID	An alphanumeric string between 1 and 20 characters	Ring name
AUDPERIOD	10 to 1440	Audit period in minutes. A value of 0 indicates that audits are turned off.
FAILEDNODES	An alphanumeric string between 1 and 20 characters	List of nodes the network processor failed to audit.

RTRV-BLSRRING

Use the Retrieve BLSR Ring command to retrieve the name and status of each BLSR ring involved with the specified ring. This command is supported on the network processor and shelf processor.

Security level

Level 1

Input syntax

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

Table 5-35
Syntax definition

Field	Purpose
TID	Target identifier. A TID of ALL is supported.
AID	Ring name
CTAG	Correlation tag

Table 5-36
AID descriptions

AID type	Command-specific values	Purpose
Ring name	An alphanumeric string between 1 and 20 characters ALL	Identify the ring name To retrieve the audit period of all rings, set this parameter to ALL (default). If no AID is specified, defaults to ALL.

Example input

Retrieve the name and status of OTTAWA_RING:

```
RTRV-BLSRRING:NPFGXOTT:OTTAWA_RING:CTAG;
```

Retrieve the name and status of all of the BLSR rings:

```
RTRV-BLSRRING:NPFGXOTT:ALL:CTAG;
```

Response block syntax

```
<SID><DATE><TIME>
<RING-NAME>,<STATUS=DOMAIN>
```

Table 5-37
Response parameter descriptions

Parameter	Possible values	Description
SID		Source identifier of the network element or network processor.
DATE	YY-MM-DD	Date of list retrieval. YY is the last two digits of the year ranging from 00 to 99, MM is the month of the year ranging from 01 to 12, and DD is the day of the month ranging from 01 to 31.
RING-NAME	An alphanumeric string between 1 and 20 characters	Ring name Empty ring is empty
STATUS	IDLE	Ring is in an idle state
	PROV	Ring is in a provisioning state
	LOAD	Ring map is being loaded
	INVK	Ring map is being applied
	EDIT	Ring is being edited
	DELETE	Ring is being deleted
	INVALID	Ring is invalid
	EMPTY	Ring is empty

RTRV-RINGMAP

Use the Retrieve Ring Map command to retrieve map information for a node in a BLSR ring or to retrieve map information for all nodes in a BLSR ring. This command is supported on the network processor and shelf processor.

Security level

Level 1

Input syntax

```
RTRV-RINGMAP:[TID]:AID:CTAG::[SID][,APS-ID][,WEST-AID]
[,EAST-AID]:[DATA=Domain];
```

Table 5-38
Syntax definition

Field	Purpose
TID	Target identifier. A TID of ALL is supported.
AID	Ring name
CTAG	Correlation tag
SID	Node name
APS-ID	APS ID of the node
WEST-AID	West optics slot number
EAST-AID	East optics slot number
DATA	Retrieve original or temporary map information

Table 5-39
AID descriptions

AID type	Command-specific values	Purpose
Ring name	Alphanumeric string between 1 and 20 characters	Identify the ring name

Table 5-40
Parameter descriptions

Parameter	Possible values	Description
SID	An alphanumeric string between 1 and 20 characters	Node name. Omit this parameter to retrieve map information for all nodes.
APSID	An integer between 0 and 15	APS ID of the node. Omit this parameter if you are retrieving map information for all nodes.
WEST	OCn-slot# where n is 48 or 192, slot# = 11 or 12	Slot number of the node's west optics (default is 12)
EAST	OCn-slot# where n is 48 or 192, slot# = 11 or 12	Slot number of the node's east optics (default is 11)
DATA	WRK (default)	Retrieve the original map information of the node(s)
	TMP	Retrieve the temporary map information of the node(s)

Example input

Retrieve the ring map information for the SPFGXOTT network element in the BLSR ring OTTAWA_RING:

```
RTRV-RINGMAP:NPFGXOTT:OTTAWA_RING:CTAG::SPFGXOTT,1,OC48-11,
OC48-12:DATA=TMP;
```

Response block syntax

```
<SID><DATE><TIME>
<RING-NAME>,<SID>,<APSID>,<WEST-AID>,<EAST-AID>,
<WEST-APS-ID>,<EAST-APS-ID>
```

Table 5-41
Response parameter descriptions

Parameter	Possible values	Description
SID		Source identifier of the network element or network processor.
DATE	YY-MM-DD	Date of list retrieval. YY is the last two digits of the year from 00 to 99, MM is the month of the year from 01 to 12, and DD is the day of the month from 01 to 31.
RING-NAME	An alphanumeric string between 1 and 20 characters	Ring name

Table 5-41 (continued)
Response parameter descriptions

Parameter	Possible values	Description
SID	An alphanumeric string between 1 and 20 characters	Node name
APSID	An integer between 0 and 15	APS ID of the node
WEST	OCn-slot# where n is 48 or 192, slot# = 11 or 12	Slot number of node's west optics
EAST	OCn-slot# where n is 48 or 192, slot# = 11 or 12	Slot number of node's east optics
WEST-APS-ID	An integer between 0 and 15	APS ID of west adjacent node
EAST-APS-ID	An integer between 0 and 15	APS ID of east adjacent node

Equipment detailed command descriptions

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

The following table lists all the commands in this chapter.

Command	Page
DLT-EQPT	6-2
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DLT-EQPT

The Delete Equipment command is used to delete the provisioning information for the specified equipment.

Note 1: Equipment cannot be deleted if any facilities are provisioned on that equipment except the OC-3 facilities of the DS1 service module.

Note 2: The OC-3 facility of the DS1 service module must be taken out of service. The facility cannot be deleted.

When you delete OC-3x4, OC-12 or OC-12x4 STS equipment, the section data communications channel (SDCC) link is also affected (layers 1, 2).

Security level

Level 3

Input syntax

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

Table 6-1
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. Equipment to act on.
CTAG	Correlation tag

Table 6-2
AID descriptions

AID type	Command-specific values	Purpose
DS1 AID	DS1-slot#	Identify the DS1 equipment where slot# = 3 to 10
DS3 AID	DS3-slot#	Identify the DS3 equipment where slot# = 3 to 10
DS3VT AID	DS3V-slot#	Identify the DS3VTx12 equipment where slot# = 3 to 10
OC-3 AID	OC3-slot#	Identify the OC-3 equipment where slot# = 3 to 10
OC-12 AID	OC12-slot#	Identify the OC-12 or OC-12x4 STS equipment where slot# = 3 to 12 for OC-12 slot# = 3 to 10 for OC-12x4 STS

Table 6-2 (continued)
AID descriptions

AID type	Command-specific values	Purpose
OC-48 AID	OC48-slot#	Identify the OC-48 or OC-48 STS equipment where slot# = 11, 12 for OC-48 slot# = 3 to 12 for OC-48 STS
OC-192 AID	OC192-slot#	Identify the OC-192 equipment where slot# = 11, 12
EC1 AID	EC1-slot#	Identify the EC-1 equipment where slot# = 3 to 10
ILAN AID	ILAN	Identify the ILAN equipment
PSC AID	PSC	Identify the protection switch controller
PSX AID	PSX	Identify the protection switch extender ***Note:*** The PSX can only be deleted if DS1-6-5 and higher do not exist.
NP AID	NP	Identify the network processor
IPT100 AID	IPT100-slot#	Identify the 4x100BT equipment where slot# = 3 to 10
1GE AID	1GE-slot#	Identify the 2xGigE equipment where slot# = 3, 5, 7, 9
100FX AID	100FX-slot#	Identify the 4x100FX equipment where slot# = 3 to 10
100BTFOS AID	100BTFOS-slot#	Identify the 2x100BT-P2P circuit pack where slot# = 3 to 10
1GFOS AID	1GFOS-slot#	Identify the 2xGigE/FC-P2P circuit pack where slot# = 3 to 10
GEFC AID	GEFC-slot#-port#	Identify the 2xGigE/FC-P2P SFP module, where slot# = 3 to 10 port# = 1, 2
DS1TM AID	DS1TM-slot#-%HLINK-OC3-hslot#-hport#	Identify the DSM DS1 termination module , where slot# = 1 or 2, hslot# = 3 to 10, hport# 1 to 4

Example input
Delete the DS1 circuit pack in slot 4:

```
DLT-EQPT:NEWYORK:DS1-4:CTAG23;
```

ENT-EQPT

The Enter Equipment command is used to enter the attributes of a given type of common equipment module or slot definition in a network element. This tells the network element that a specific circuit pack of a particular type is supposed to be in a particular slot.

If the system does a self test and finds a circuit pack in a slot that does not match the description provisioned, an alarm is raised.

On a shelf, if this command is used to add OC-3x4, OC-12, or OC-12x4 STS equipment, it also adds the corresponding section data communications channel (SDCC) link (layers 1, 2). The SDCC protection scheme is based on the OC-3x4, OC-12, or OC-12x4 STS equipment protection scheme (Simplex instead of 1+1 protected).

Security level

Level 3

Input syntax

```
ENT-EQPT:[TID]:AID:CTAG::::[PST];
```

Table 6-3
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. Equipment to act on.
CTAG	Correlation tag
PST	Primary state

Table 6-4
AID descriptions

AID type	Command-specific values	Purpose
DS1 AID	DS1-slot#	Identify the DS1 equipment where slot# = 3 to 10
DS3 AID	DS3-slot#	Identify the DS3 equipment where slot# = 3 to 10
DS3VT AID	DS3V-slot#	Identify the DS3VTx12 equipment where slot# = 3 to 10
OC-3 AID	OC3-slot#	Identify the OC-3 equipment where slot# = 3 to 10

Table 6-4 (continued)
AID descriptions

AID type	Command-specific values	Purpose
OC-12 AID	OC12-slot#	Identify the OC-12 or OC-12x4 STS equipment where slot# = 3 to 12 for OC-12, 3 to 10 for OC-12x4 STS
OC-48 AID	OC48-slot#	Identify the OC-48 or OC-48 STS equipment where slot# = 11, 12 for OC-48, 3 to 12 for OC-48 STS
OC-192 AID	OC192-slot#	Identify the OC-192 equipment where slot# = 11, 12
EC1 AID	EC1-slot#	Identify the EC-1 equipment where slot# = 3 to 10
ILAN AID	ILAN	Identify the ILAN equipment
PSC AID	PSC	Identify the protection switch controller
PSX AID	PSX	Identify the protection switch extender ***Note:*** The PSX can only be deleted if DS1-6-5 and higher do not exist.
NP AID	NP	Identify the network processor
IPT100 AID	IPT100-slot#	Identify the 4x100BT equipment where slot# = 3 to 10
1GE AID	1GE-slot#	Identify the 2xGigE equipment where slot# = 3, 5, 7, 9
100FX AID	100FX-slot#	Identify the 4x100FX equipment where slot# = 3 to 10
100BTFOS AID	100BTFOS-slot#	Identify the 2x100BT-P2P circuit pack where slot# = 3 to 10
1GFOS AID	1GFOS-slot#	Identify the 2xGigE/FC-P2P circuit pack where slot# = 3 to 10
GEFC AID	GEFC-slot#-port#	Identify the 2xGigE/FC-P2P SFP module, where slot# = 3 to 10, port# = 1 or 2
DS1TM AID	DS1TM-slot#-%HLINK-OC3-hslot#-hport#	Identify the DSM DS1 termination module, where slot# = 1 or 2, hslot# = 3 to 10, hport# 1 to 4

Table 6-5
Parameter descriptions

Parameter	Possible values	Description
PST	IS	In-service (default)
	OOS-MA	Out-Of-Service maintenance for provisioning Memory Administration
	Note: Secondary state cannot be provisioned.	

Example input

Provision a DS1 circuit pack in slot 4:

```
ENT-EQPT:NEWYORK:DS1-4:CTAG12::::IS;
```

Provision a DS3 circuit pack in slot 6:

```
ENT-EQPT:SEATTLE:DS3-6:CTAG23;
```

INIT-UPGRD-EQPT

The Initiate Upgrade - Equipment command is used to initiate automatic line rate upgrade which converts all the provisioning data of an

- OC-3 to that of an OC-12
- OC-12 to that for an OC-48

Security level

Level 3

Input syntax

```
INIT-UPGRD-EQPT:[TID]:AID:CTAG;
```

Table 6-6
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. Equipment to act on.
CTAG	Correlation tag

Table 6-7
AID descriptions

AID type	Command-specific values	Purpose
OC-12 AID	OC12-slot#	Identify the OC-12 equipment where slot# = 3 to 12
OC-48 AID	OC48-slot#	Identify the OC-48 equipment where slot# = 11, 12

Example input

Initiate an automatic line rate upgrade for network element NEWYORK:

```
INIT-UPGRD-EQPT:NEWYORK:OC12-7:CTAG12;
```

RMV-EQPT

The Remove Equipment command removes the specified type of common equipment module from service and puts it in an out-of-service maintenance for memory administration state (OOS-MA). Any facilities on the equipment must also be OOS for this to be permitted.

Security level

Level 3

Input syntax

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

Table 6-8
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. Equipment to act on.
CTAG	Correlation tag

Table 6-9
AID descriptions

AID type	Command-specific values	Purpose
DS1 AID	DS1-slot#	Identify the DS1 equipment where slot# = 3 to 10
DS3 AID	DS3-slot#	Identify the DS3 equipment where slot# = 3 to 10
DS3VT AID	DS3V-slot#	Identify the DS3VTx12 equipment where slot# = 3 to 10
OC-3 AID	OC3-slot#	Identify the OC-3 equipment where slot# = 3 to 10
OC-12 AID	OC12-slot#	Identify the OC-12 or OC-12x4 STS equipment where slot# = 3 to 12 for OC-12 slot# = 3 to 10 for OC-12x4 STS
OC-48 AID	OC48-slot#	Identify the OC-48 or OC-48 STS equipment where slot# = 11, 12 for OC-48 slot# = 3 to 12 for OC-48 STS

Table 6-9 (continued)
AID descriptions

AID type	Command-specific values	Purpose
OC-192 AID	OC192-slot#	Identify the OC-192 equipment where slot# = 11, 12
EC1 AID	EC1-slot#	Identify the EC-1 equipment where slot# = 3 to 10
ILAN AID	ILAN	Identify the ILAN equipment
PSC AID	PSC	Identify the protection switch controller
PSX AID	PSX	Identify the protection switch extender ***Note:*** The PSX can only be deleted if DS1-6-5 and higher do not exist.
NP AID	NP	Identify the network processor
IPT100 AID	IPT100-slot#	Identify the 4x100BT equipment where slot# = 3 to 10
1GE AID	1GE-slot#	Identify the 2xGigE equipment where slot# = 3, 5, 7, 9
100FX AID	100FX-slot#	Identify the 4x100FX equipment where slot# = 3 to 10
100BTFOS AID	100BTFOS-slot#	Identify the 2x100BT-P2P circuit pack where slot# = 3 to 10
1GFOS AID	1GFOS-slot#	Identify the 2xGigE/FC-P2P circuit pack where slot# = 3 to 10
GEFC AID	GEFC-slot#-port#	Identify the 2xGigE/FC-P2P SFP module, where slot# = 3 to 10 port# = 1, 2
DS1TM AID	DS1TM-slot#-%HLINK-OC3-hslot#-hport#	Identify the DSM DS1 termination module, where slot# = 1 or 2 hslot# = 3 to 10 hport# 1 to 4
CLX AID	CLX-slot#	Identify the VTX or STX-192 equipment, where slot# = 13 or 14

Example input
Put the DS1 circuit pack in slot 4 out of service:

```
RMV-EQPT:NEWYORK:DS1-4:CTAG23;
```

RST-EQPT

The Restore Equipment command brings a given type of common equipment module back into service from an out-of-service maintenance for memory administration state.

Security level

Level 3

Input syntax

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

Table 6-10
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. Equipment to act on.
CTAG	Correlation tag

Table 6-11
AID descriptions

AID type	Command-specific values	Purpose
DS1 AID	DS1-slot#	Identify the DS1 equipment where slot# = 3 to 10
DS3 AID	DS3-slot#	Identify the DS3 equipment where slot# = 3 to 10
DS3VT AID	DS3V-slot#	Identify the DS3VTx12 equipment where slot# = 3 to 10
OC-3 AID	OC3-slot#	Identify the OC-3 equipment where slot# = 3 to 10
OC-12 AID	OC12-slot#	Identify the OC-12 or OC-12x4 STS equipment where slot# = 3 to 12 for OC-12 slot# = 3 to 10 for OC-12x4 STS
OC-48 AID	OC48-slot#	Identify the OC-48 or OC-48 STS equipment where slot# = 11, 12 for OC-48 slot# = 3 to 12 for OC-48 STS
OC-192 AID	OC192-slot#	Identify the OC-192 equipment where slot# = 11, 12

Table 6-11 (continued)
AID descriptions

AID type	Command-specific values	Purpose
DS1 AID	DS1-slot#	Identify the DS1 equipment where slot# = 3 to 10
EC1 AID	EC1-slot#	Identify the EC-1 equipment where slot# = 3 to 10
ILAN AID	ILAN	Identify the ILAN equipment
PSC AID	PSC	Identify the protection switch controller
PSX AID	PSX	Identify the protection switch extender ***Note:*** The PSX can only be deleted if DS1-6-5 and higher do not exist.
NP AID	NP	Identify the network processor
IPT100 AID	IPT100-slot#	Identify the 4x100BT equipment where slot# = 3 to 10
1GE AID	1GE-slot#	Identify the 2xGigE equipment where slot# = 3, 5, 7, 9
100FX AID	100FX-slot#	Identify the 4x100FX equipment where slot# = 3 to 10
100BTFOS AID	100BTFOS-slot#	Identify the 2x100BT-P2P circuit pack where slot# = 3 to 10
1GFOS AID	1GFOS-slot#	Identify the 2xGigE/FC-P2P circuit pack where slot# = 3 to 10
GEFC AID	GEFC-slot#-port#	Identify the 2xGigE/FC-P2P SFP module, where slot# = 3 to 10 port# = 1, 2
DS1TM AID	DS1TM-slot#-%HLINK-OC3-hslot#-hport#	Identify the DSM DS1 termination module, where slot# = 1 or 2, hslot# = 3 to 10, hport# 1 to 4
CLX AID	CLX-slot#	Identify the VTX or STX-192 equipment , where slot# = 13 or 14

Example input
Put the DS1 circuit pack in slot 4 back in to service for network element NEWYORK:

```
RST-EQPT:NEWYORK:DS1-4:CTAG34;
```

RTRV-BACKPLANE

The Retrieve Backplane command retrieves backplane information.

Security level

Level 1

Input syntax

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

Table 6-12
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. Equipment to act on.
CTAG	Correlation tag

Example input

Retrieve information on the backplane of the SEATTLE network element:

```
RTRV-BACKPLANE:SEATTLE::CTAG22;
```

Response block syntax

```
<SID><DATE><TIME>
<Backplane>::PEC=Domain,REL=Domain,CLEI=Domain
```

Table 6-13
Response parameter descriptions

Parameter	Possible values	Description
SID		Source identifier of the network element.
DATE	YY-MM-DD	Date of list retrieval. YY is the last two digits of the year from 00 to 99, MM is the month of the year from 01 to 12, and DD is the day of the month from 01 to 31.
TIME	HH-MM-SS	Time of list retrieval. HH is the hour from 00 to 23, MM is the minute from 00 to 59, and SS is the second from 00 to 59.
Backplane	OPTMET_3500 OPTMET_3400 OPTMET_3300	OPTera Metro 3500 backplane OPTera Metro 3400 backplane OPTera Metro 3300 backplane

Table 6-13 (continued)
Response parameter descriptions

Parameter	Possible values	Description
PEC	8 alphanumeric characters	Product engineering code, a standard Nortel Networks product identifier
REL	1 to 255	Release version number
CLEI	10 alphanumeric characters	Common Language equipment identifier

RTRV-EQPT

The Retrieve Equipment command retrieves the data parameters and state parameters for provisioned equipment and facilities. This command identifies only what is provisioned and does not identify which equipment is actually present or absent on the shelf.

> ***Note:*** If an unequipped slot is provisioned for a multi-port circuit pack (for example, the OC-12x4 STS), the single-port circuit pack type (for example, "OC12") appears when you retrieve the inventory or equipment details for the shelf. The multi-port circuit pack type (for example, "OC12x4") appears once the multi-port circuit pack is inserted and autoprovisioned in the slot.

To identify the equipment that is physically situated in each slot, use the RTRV-INVENTORY command.

Security level

Level 1

Input syntax

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

> ***Note:*** ALL is a valid target identifier (TID).

Table 6-14
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. Equipment to act on.
CTAG	Correlation tag
DISPLAY_CTYPE	Display card type

Table 6-15
AID descriptions

AID type	Command specific values	Purpose
DS1 AID	DS1-slot# DS1-ALL	Identify the DS1 equipment where slot# = 3 to 10
DS3 AID	DS3-slot# DS3-ALL	Identify the DS3 equipment where slot# = 3 to 10
DS3VT AID	DS3V-slot# DS3V-ALL	Identify the DS3VTx12 equipment where slot# = 3 to 10
OC-3 AID	OC3-slot# OC3-ALL	Identify the OC-3 equipment where slot# = 3 to 10
OC-12 AID	OC12-slot# OC12-ALL	Identify the OC-12 or OC-12x4 STS where slot# = 3 to 12 for OC-12 slot# = 3 to 10 for OC-12x4 STS
OC-48 AID	OC48-slot# OC48-ALL	Identify the OC-48 or OC-48 STS where slot# = 11, 12 for OC-48 slot# = 3 to 12 for OC-48 STS
OC-192 AID	OC192-slot#	Identify the OC-192 equipment where slot# = 11, 12
EC1 AID	EC1-slot# EC1-ALL	Identify the EC-1 equipment where slot# = 3 to 10
ILAN AID	ILAN	Identify the ILAN equipment where slot# = 16
PSC AID	PSC	Identify the protection switch controller
PSX AID	PSX	Identify the protection switch extender
CLX AID	CLX-slot# CLX-ALL	Identify the VTX or STX-192 equipment where slot# = 13 or 14
NP AID	NP	Identify the network processor
SP AID	SP	Identify the shelf processor
IPT100 AID	IPT100-slot#	Identify the 4x100BT equipment where slot# = 3 to 10
1GE AID	1GE-slot#	Identify the 2xGigE equipment where slot# = 3, 5, 7, 9
100FX AID	100FX-slot#	Identify the 4x100FX equipment where slot# = 3 to 10
100BTFOS AID	100BTFOS-slot#	Identify the 2x100BT-P2P circuit pack where slot# = 3 to 10

Table 6-15 (continued)
AID descriptions

AID type	Command specific values	Purpose
1GFOS AID	1GFOS-slot#	Identify the 2xGigE/FC-P2P circuit pack where slot# = 3 to 10
GEFC AID	GEFC-slot#-port#	Identify the 2xGigE/FC-P2P SFP module, where slot# = 3 to 10, port# = 1 or 2
DS1TM AID	DS1TM-slot#-%HLINK-OC3-hslot#-hport#	Identify the DSM DS1 termination module, where slot# = 1 or 2, hslot# = 3 to 10, hport# = 1 to 4
	DS1TM-ALL	Identify all DSM DS1x84 termination modules

Table 6-16
Parameter descriptions

Parameter	Command values	Purpose
DISPLAY_CTYPE	ON OFF (default)	Display card type Do not display card type

Example input
Retrieve a list of all DS1 equipment provisioned:

```
RTRV-EQPT:SEATTLE:DS1-ALL:CTAG19;
```

Retrieve a list of 4x100BT equipment provisioned in slot 7:

```
RTRV-EQPT:OC3SP:IPT100-7:123;
```

Response block syntax

```
<SID><DATE><TIME>
AID:[<CYPTE=Domain>]<PEC=Domain>,<REL=Domain>,<CLEI=Domain>,
<SER=Domain>,<MDAT=Domain>,<AGE=Domain>,<ONSC=Domain>,
<DSMMATE=Domain>,<DSMCONN=Domain>,<site=\"Domain\">:<PST>,
<SST>
```

Table 6-17
Response parameter descriptions

Parameter	Possible values	Description
SID		Source identifier of the network element.
DATE	YY-MM-DD	Date of list retrieval. YY is the last two digits of the year from 00 to 99, MM is the month of the year from 01 to 12, and DD is the day of the month from 01 to 31.
TIME	HH-MM-SS	Time of list retrieval. HH is the hour from 00 to 23, MM is the minute from 00 to 59, and SS is the second from 00 to 59.
AIDs	DS1-slot#	Identify the DS1 where slot# = 3 to 10
	DS3-slot#	Identify the DS3 where slot# = 3 to 10
	DS3V-slot#	Identify the DS3VTx12 where slot# = 3 to 10
	DS1TM-slot#-%HLINK-OC3-hslot#-hport#	Identify the DSM DS1 termination module where slot# = 1 or 2, hslot# = 3 to 10, hport# = 1 to 4
	PSC	Identify the protection switch controller
	PSX	Identify the protection switch extender
	OC3-slot#	Identify the OC-3 where slot# = 3 to 10
	OC12-slot#	Identify the OC-12 or OC-12x4 STS where slot# = 3 to 12 for OC-12 slot# = 3 to 10 for OC-12x4 STS
	OC48-slot#	Identify the OC-48 or OC-48 STS where slot# = 11, 12 for OC-48 slot# = 3 to 12 for OC-48 STS
	OC192-slot#	Identify the OC-192 where slot# = 11, 12
	EC1-slot#	Identify the EC-1 equipment where slot# = 3 to 10
	IPT100-slot#	Identify the 4x100BT equipment where slot# = 3 to 10
	1GE-slot#	Identify the 2xGigE equipment where slot# = 3, 5, 7, 9
	100FX-slot#	Identify the 4x100FX equipment where slot# = 3 to 10

Table 6-17 (continued)
Response parameter descriptions

Parameter	Possible values	Description
AIDs	100BTFOS-slot#	Identify the 2x100BT-P2P circuit pack where slot# = 3 to 10
	1GFOS-slot#	Identify the 2xGigE/FC-P2P circuit pack where slot# = 3 to 10
	GEFC-slot#-port#	Identify the 2xGigE/FC-P2P SFP module where slot# = 3 to 10, port# = 1 or 2
	ILAN	Identify the ILAN where slot# = 16
	CLX-slot#	Identify the VTX or STX-192 equipment where slot# = 13 or 14
	NP	Identify the network processor circuit pack
	SP	Identify the shelf processor circuit pack
CTYPE	alphanumeric string	Card type
PEC	8 alphanumeric characters	Product engineering code, a standard Nortel Networks product identifier
REL	1 to 255	Release version number
CLEI	10 alphanumeric characters	Common Language equipment identifier
SER	9 alphanumeric characters	Serial number
MDAT	YYYY-WOY	Manufacture date, the date the unit was manufactured, in the format: year-week of year.
AGE	YY-DDD-hh-mm	Age, cumulative in-service time elapsed since manufacture, in the format: years-days-hours-minutes.
ONSC	YY-DDD-hh-mm	On since, cumulative time since the unit was last inserted, in the format: years-days-hours-minutes.
DSMMATE	NONE UNKNOWN <SER>	No mate Mate is of unknown type Serial # of Mate card
DSMCONN	D I	OAM link in a direct mode OAM link in an indirect mode

Table 6-17 (continued)
Response parameter descriptions

Parameter	Possible values	Description
SITE	string of 1-40 characters enclosed in quotations	Site location of the DS1 service module
PST	IS	In-service (default)
	IS-ANR	In-service - Abnormal
	OOS-MA	Out-of-service maintenance for provisioning memory administration
	OOS-AU	Out-of-service autonomous from a failure detected point of view. It is not out of service from a state point of view. Alarm is raised if the entity is not able to perform its provisioned functions.
	OOS-AUMA	Out-of-service autonomous management - the entity is not able to perform its provisioned functions and is purposefully removed from service
	OOS-MA-ANR	Out-of-service maintenance – abnormal
SST	ACT	Active, carrying traffic (default)
	IDLE	Idle, not carrying traffic
	PSI	Protection switch inhibited
	FLT	Fault detected in equipment
	MEA	Mismatched equipment attributes (circuit pack)
	STBYH	Hot standby
	TSTF	Test failed, OOS due to failed test
	UEQ	Unequipped, circuit pack missing
	WRKG	Working
	WRKRX	Working in the receive direction
	WRKTX	Working in the transmit direction
	NOSITE	A DS1 service module is provisioned without its SITE parameter
	NOAM	A provisioned DSM TM does not have an OAM

RTRV-INVENTORY

The Retrieve Inventory command identifies what type of circuit packs are in which slots. This command does not retrieve what has been logically provisioned in those slots, but what is physically in the slots.

The RTRV-INVENTORY command can be used to identify incorrectly situated circuit packs with the RTRV-EQPT command.

Note: When the RTRV-INVENTORY command is used to retrieve information for a DSM shelf containing a connected, but unprotected DS1 termination module in slot 1 and an unconnected DS1 termination module in slot 2, all inventory parameter values are retrieved for the DS1 termination module in slot 1. Only the serial number value is displayed for the DSMMATE parameter.

Security level

Level 1

Input syntax

```
RTRV-INVENTORY:[TID]:AID:CTAG::[DISPLAY_CTYPE];
```

Note: ALL is a valid target identifier (TID).

Table 6-18
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. Slot number to act on.
CTAG	Correlation tag
DISPLAY_CTYPE	Display Card Type

Table 6-19
AID descriptions

AID type	Command-specific values	Purpose
AID	slot# = 1 to 17 ALL Null	Identify the circuit pack slot number. All slots All slots
DSM AID	%HLINK-OC3-hslot#-hport#	Identify the DSM DS1 termination module, where slot# = 1 or 2 hslot# = 3 to 10 hport# 1 to 4

Table 6-20
Parameter descriptions

Parameter	Command values	Purpose
DISPLAY_CTYPE	ON	Display card type
	OFF (default)	Do not display card type

Example input
Retrieve information about all circuit packs in one network element:

```
RTRV-INVENTORY:SEATTLE::CTAG19;
```

Retrieve information for all circuit packs in all currently logged in network elements:

```
RTRV-INVENTORY:ALL::CTAG20;
```

Response block syntax

```
<SID><DATE><TIME>
AID::[CTYPE=Domain]PEC=Domain,REL=Domain,CLEI=Domain,
SER=Domain,MDAT=Domain,AGE=Domain,ONSC=Domain
[,DSMMATE=domain][,DSMCONN=domain]
```

Table 6-21
Response parameter descriptions

Parameter	Possible values	Description
SID		Source identifier of the network element.
DATE	YY-MM-DD	Date of list retrieval. YY is the last two digits of the year ranging from 00 to 99, MM is the month of the year ranging from 01 to 12, and DD is the day of the month ranging from 01 to 31.
TIME	HH-MM-SS	Time of list retrieval. HH is the hour ranging from 00 to 23, MM is the minute ranging from 00 to 59, and SS is the second ranging from 00 to 59.

Table 6-21 (continued)
Response parameter descriptions

Parameter	Possible values	Description
AID	EMPTY-slot#	There is no identifiable circuit pack in the slot where slot# =1 to 18
	UNKNOWN-slot#	The circuit pack occupying the slot cannot be identified where slot# = 1 to 18
	DS1-slot#	DS1 circuit pack where slot# = 3 to 10
	DS3-slot#	DS3 circuit pack where slot# = 3 to 10
	DS3V-slot#	DS3VTx12 where slot# = 3 to 10
	OC3-slot#	OC-3 circuit pack where slot# = 3 to 10
	OC12-slot#	Identify the OC-12 or OC-12x4 STS equipment where slot# = 3 to 12 for OC-12 slot# = 3 to 10 for OC-12x4
	OC48-slot#	Identify the OC-48 or OC-48 STS equipment where slot# = 11, 12 for OC-48 slot# = 3 to 12 for OC-48 STS
	OC192-slot#	OC-192 circuit pack slot# = 11, 12
	EC1-slot#	EC-1 circuit pack where slot# = 3 to 10
	ILAN-slot#	ILAN circuit pack where slot# = 16
	IPT100-slot#	4x100BT equipment where slot# = 3 to 10
	1GE-slot#	2xGigE equipment where slot# = 3, 5, 7, 9
	100FX-slot#	4x100FX equipment where slot# = 3 to 10
	100BTFOS-slot#	2x100BT-P2P circuit pack where slot# = 3 to 10

Table 6-21 (continued)
Response parameter descriptions

Parameter	Possible values	Description
AID	1GFOS-slot#	Identify the 2xGigE/FC-P2P circuit pack where slot# = 3 to 10
	GEFC-slot#-port#	Identify the 2xGigE/FC-P2P SFP module, where slot# = 3 to 10 port# = 1, 2
	%HLINK-OC3-hslot#-hport#	DSM DS1 termination module, where slot# = 1 or 2 hslot# = 3 to 10 hport# 1 to 4
	LIF-1-1	Left interface in slot 1, subslot 1
	LOAM	Left OAM circuit pack is present
	EMPTY_LOAM	Left OAM circuit pack is not present
	UNKNOWN_LOAM	Left OAM circuit pack is not recognized
	PWR-1-<subslot#>	Power interface in slot 1 subslot# = 2, 3
	UNKNOWN-1-<subslot#>	Unknown circuit pack in a slot 1 subslot subslot# = 1 to 3
	EMPTY-1-<subslot#>	Empty subslot of slot 1 subslot# = 1 to 3
	PSC-slot#	Protection switch controller where slot# = 2
	PSX-slot#	Protection switch extender where slot# = 17
	CLX-slot#	VTX or STX-192 cross-connect circuit pack where slot# = 13 or 14
	NP-slot#	Network processor circuit pack where slot# = 16
	SP-slot#	Shelf processor circuit pack where slot# = 15
CTYPE	<circuit pack type>	Circuit pack type

Table 6-21 (continued)
Response parameter descriptions

Parameter	Possible values	Description
PEC	8 alphanumeric characters	Product Equipment Code. Standard Nortel product identifier.
REL	1 to 255	Release version number
CLEI	10 alphanumeric characters	Common Language equipment identifier
SER	9 alphanumeric characters	Serial number
MDAT	YYYY-WOY	Manufacture date. The date the unit was manufactured in the format: year-week of year.
AGE	YY-DDD-hh-mm	Age. Cumulative in-service time elapsed since manufacture in the format: years-days-hours-minutes.
ONSC	YY-DDD-hh-mm	On since. Cumulative time since the unit was last inserted, in the format: years-days-hours-minutes.
DSMMATE	NONE	No mate
	UNKNOWN	Mate is of unknown type
	<SER#>	Serial number of Mate card
DSMCONN	D	Direct connection to the DS1 service module
	I	Indiect connection to the DS1 service module

RTRV-INVENTORY-FAN

The Retrieve Inventory Fan command retrieves information on the network element cooling fans.

Security level

Level 1

Input syntax

```
RTRV-INVENTORY-FAN:[TID]:[AID]:CTAG;
```

Table 6-22
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. Equipment to act on.
CTAG	Correlation tag

Table 6-23
AID descriptions

AID type	Command-specific values	Purpose
AID	unit#	Identify the fan unit where unit# = 1 to 3
	ALL (default)	All fan units

Example input

Retrieve information on cooling fan number three of the SEATTLE network element:

```
RTRV-INVENTORY-FAN:SEATTLE:3:CTAG22;
```

Response block syntax

```
<SID><DATE><TIME>
AID::PEC=Domain,REL=Domain,CLEI=Domain
```

Table 6-24
Response parameter descriptions

Parameter	Possible values	Description
SID		Source identifier of the network element.
DATE	YY-MM-DD	Date of list retrieval. YY is the last two digits of the year ranging from 00 to 99, MM is the month of the year ranging from 01 to 12, and DD is the day of the month ranging from 01 to 31.
TIME	HH-MM-SS	Time of list retrieval. HH is the hour ranging from 00 to 23, MM is the minute ranging from 00 to 59, and SS is the second ranging from 00 to 59.
AID	FAN-unit#	Fan present and working unit#= 1 to 3
	EMPTY-unit#	Fan unit is missing unit#= 1 to 3
	UNKNOWN-unit#	Unknown unit or failed fan unit#=1 to 3
	DSMFAN	DSM fan
PEC	8 alphanumeric characters	Product engineering code, a standard Nortel Networks product identifier
REL	1 to 255	Release version number
CLEI	10 alphanumeric characters	Common Language equipment identifier

RTRV-INVENTORY-IO

The Retrieve Inventory Input Output command retrieves which of the following are situated in which slots:

- traffic I/O modules
- OAM I/O modules

Security level

Level 1

Input syntax

```
RTRV-INVENTORY-IO:[TID]:[AID]:CTAG;
```

Table 6-25
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. Slot or unit to inventory.
CTAG	Correlation tag

Table 6-26
AID descriptions

AID type	Command-specific values	Purpose
AID	slot#	Identify the I/O slot number where slot# = 3 to 10
	ALL (default)	All I/O slot numbers

Example input

Retrieve information about all I/O modules in one network element:

```
RTRV-INVENTORY-IO:SEATTLE::CTAG22;
```

Response block syntax

```
<SID><DATE><TIME>
AID::PEC=Domain,REL=Domain,CTYPE=Domain,CLEI=Domain;
```

Table 6-27
Response parameter descriptions

Parameter	Possible values	Description
AID	DS1IO-slot#	DS1 I/O circuit pack slot# = 3, 6
	BNCIO-slot#	BNC I/O circuit pack slot# = 3, 5, 7, 9
	IPTIO-slot#	RJ45 I/O circuit pack in slot slot# = 3 to 10
	FILLED-slot#	Slot occupied by a circuit pack that spans more than one slot slot# = 4 to 10
	EMPTY-slot#	Empty I/O slot slot# = 3 to 10
	UNKNOWN-slot#	Unknown circuit pack in I/O slot slot# = 3 to 10
PEC	8 alphanumeric characters	Product engineering code, a standard Nortel Networks product identifier
REL	1 to 255	Release version number
CTYPE	DS1 1 TO 28 FRONT	DS1 1 to 28 I/O, front facing
	DS1 1 TO 28 REAR	DS1 1 to 28 I/O, rear facing
	DS1 29 TO 84 FRONT	DS1 29 to 84 I/O, front facing
	DS1 29 TO 84 REAR	DS1 29 to 84 I/O, rear facing
	BNC 1 TO 12 FRONT	BNC 12 port I/O, front facing
	BNC 1 TO 12 REAR	BNC 12 port I/O, rear facing
	iPTx8 1 TO 8 FRONT	RJ45 8 port I/O, front facing
	iPTx8 1 TO 8 REAR	RJ45 8 port I/O, rear facing
CLEI	10 alphanumeric characters	Common Language equipment identifier

Facility detailed command descriptions

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

The following table lists all the commands in this chapter.

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DLT-EC1

The Delete EC-1 command is used to eliminate the EC-1 facility from the EC-1 circuit pack; the EC-1 facility provisioning information is deleted and all other information (errors, monitoring points) is ignored. Before you delete an EC-1 facility, you must delete all connections on the facility, delete any SDCC links on the EC-1, ensure the facility is not used as a timing reference, and put the facility OOS.

Security level

Level 3

Input syntax

```
DLT-EC1:[TID]:AID:CTAG;
```

Table 7-1
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. EC-1 facility to act on.
CTAG	Correlation tag

Table 7-2
AID descriptions

AID type	Command-specific values	Purpose
EC1 AID	EC1-slot#-port# EC1-slot-ALL	Identify the EC-1 slot where slot# = 3, 5, 7, 9 port # = 1 to 3 for EC-1x3 port # = 1 to 12 for EC-1x12

Example input

Delete the EC-1 facility in slot 7 port 2:

```
DLT-EC1:SEATTLE:EC1-7-2:CTAG04;
```

DLT-ETH

Use the Delete Ethernet command to deprovision an Ethernet facility (ETH port) of a 2x100BT-P2P or on the GE/FC SFP of a 2xGigE/FC-P2P circuit pack.

The command deletes facility provisioning information. Other information (errors, monitoring points) is ignored.

Before you delete an Ethernet facility, you must delete all connections on the WAN port associated with the Ethernet facility and put the Ethernet facility out-of-service (OOS). To delete connections, see:

- DLT-CRS-STS1 on page 16-3
- DLT-CRS-STS3C on page 16-6
- DLT-CRS-STS12C on page 16-9
- DLT-CRS-STS24C on page 16-11

To put an Ethernet facility OOS, see RMV-ETH on page 7-91.

Security level

Level 3

Input syntax

```
DLT-ETH:[TID]:AID:CTAG;
```

Table 7-3
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. The Ethernet facility to deprovision.
CTAG	Correlation tag

Table 7-4
AID descriptions

AID type	Command-specific values	Purpose
ETH AID	ETH-slot#-port# ETH-slot#-ALL	Identify the Ethernet facility where slot# = 3 to 10 port# = 1 or 2

Example input

Deprovision ETH port 1 of the 2x100BT-P2P circuit pack in slot 7 of network element OTTAWA:

```
DLT-ETH:OTTAWA:ETH-7-1:CTAG01;
```

DLT-FC

Use the Delete Fibre Channel command to deprovision a Fibre Channel facility (FC port) on the GE/FC SFP of a 2xGigE/FC-P2P circuit pack.

The command deletes facility provisioning information. Other information (errors, monitoring points) is ignored.

Before you delete a Fibre Channel facility, you must delete all connections on the WAN port associated with the Fibre Channel facility and put the Fibre Channel facility out-of-service (OOS). To delete connections, see:

- DLT-CRS-STS1 on page 16-3
- DLT-CRS-STS3C on page 16-6
- DLT-CRS-STS12C on page 16-9
- DLT-CRS-STS24C on page 16-11

To put a Fibre Channel facility OOS, see RMV-FC on page 7-92.

Security level

Level 3

Input syntax

```
DLT-FC:[TID]:AID:CTAG;
```

Table 7-5
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. The Fibre Channel facility to deprovision.
CTAG	Correlation tag

Table 7-6
AID descriptions

AID type	Command-specific values	Purpose
FC	FC-slot#-port# FC-slot#-ALL	Identify the Fibre Channel facility where slot# = 3 to 10 port# = 1 or 2

Example input

Deprovision FC port 1 of the GE/FC SFP of a 2xGigE/FC-P2P circuit pack in slot 7 of network element OTTAWA:

```
DLT-FC:OTTAWA:FC-7-1:CTAG01;
```

DLT-FFP-OC3

The Delete FFP OC-3 command is used to delete 1+1 protection for an OC-3 linear facility. Of the pair, the protection facility is in the even slot. The protection OC-3 facility must be OOS-MA (out of service maintenance for memory administration) before the FFP can be deleted. The OC-3 and OC-3x4 equipment runs in simplex mode once you delete the FFP. Connections on the protection OC-3 are deleted when you delete the FFP. Deleting protection also affects how the section data communication channel (SDCC) operates.

Note 1: Ensure that facilities on the protection circuit pack are out of service.

Note 2: You cannot execute this command if there is an active test access session on this facility.

Security level

Level 3

Input syntax

```
DLT-FFP-OC3:[TID]:workingOC3AID,protectionOC3AID:CTAG;
```

Table 7-7
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. OC-3 facility to act on.
CTAG	Correlation tag

Table 7-8
AID descriptions

AID type	Command-specific values	Purpose
working OC3 AID	OC3-slot#-port#	Identify the slot number of the working OC-3 where slot# = 3, 5, 7, 9 port# = 1 for OC-3 port# = 1 to 4 for OC-3x4
protection OC3 AID	OC3-slot#-port#	Identify the slot number of the protection OC-3 where slot# = 4, 6, 8, 10 port# = 1 for OC-3 port# = 1 to 4 for OC-3x4

Example input

Delete 1+1 protection for the OC-3 facility in slot 9 port 1 and slot 10 port 1:

```
DLT-FFP-OC3:SEATTLE:OC3-9-1,OC3-10-1:CTAG13;
```

DLT-FFP-OC12

The Delete FFP OC-12 command is used to delete 1+1 protection for an OC-12 linear facility. Of the pair, the protection facility is in the even slot. The protection OC-12 facility must be OOS-MA (out of service maintenance for memory administration) before the FFP can be deleted. The OC-12 and OC-12x4 STS run in simplex mode once you delete the FFP. Connections on the protection OC-12 are deleted when you delete the FFP. Deleting protection also affects how the section data communication channel (SDCC) operates.

Note 1: Ensure that facilities on the protection circuit pack are out of service.

Note 2: You cannot execute this command if there is an active test access session on this facility.

Security level

Level 3

Input syntax

```
DLT-FFP-OC12:[TID]:workingOC12AID,protectionOC12AID:CTAG;
```

Table 7-9
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. OC-12 facility to act on.
CTAG	Correlation tag

Table 7-10
AID descriptions

AID type	Command-specific values	Purpose
working OC-12 AID	OC12-slot#-port#	Identify the slot number of the working facility slot# = 3, 5, 7, 9, or 11 for OC-12 slot# = 3, 5, 7, or 9 for OC-12x4 STS port# = 1 for OC-12, 1 to 4 for OC-12x4 STS
protection OC-12 AID	OC12-slot#-port#	Identify the slot number of the protection facility slot# = 4, 6, 8, 10, or 12 for OC-12 slot# = 4, 6, 8, or 10 for OC-12x4 STS port# = 1 for OC-12, 1 to 4 for OC-12x4 STS

Example input

Delete 1+1 protection for the OC-12 facility in slot 7 port 1 and slot 8 port 1:

```
DLT-FFP-OC12:SEATTLE:OC12-7-1,OC12-8-1:CTAG13;
```

DLT-FFP-OC48

The Delete FFP OC-48 command is used to delete the specified protection scheme for an OC-48 facility. The OC-48 protection facility is in the even slot. The OC-48 protection facility must be OOS-MA (out of service maintenance for memory administration) before the FFP can be deleted. The OC-48 or OC-48 STS equipment runs in simplex mode once you delete the FFP. Connections on the protection OC-48 are deleted when you delete the FFP. Deleting protection also affects how the section data communication channel (SDCC) operates.

Note: You cannot execute this command if there is an active test access session on this facility.

Security level

Level 3

Input syntax

```
DLT-FFP-OC48:[TID]:workingOC48AID,protectionOC48AID:CTAG
:::[PS=Domain];
```

Table 7-11
Syntax definition

Field	Purpose
TID	Target identifier
workingOC48AID	Working side access identifier. OC-48 facility to act on.
protectionOC48AID	Protection side access identifier. OC-48 facility to act on.
CTAG	Correlation tag
PS	Protection scheme to delete

Table 7-12
AID descriptions

AID type	Command-specific values	Purpose
working OC-48 AID	OC48-slot#	Identifies the slot number of the working OC-48 or OC-48 STS slot# = 11 for OC-48 slot# = 3, 5, 7, 9, or 11 for OC-48 STS
protection OC-48 AID (see Note)	OC48-slot#	Identifies the slot number of the protection OC-48 or OC-48 STS slot# = 12 for OC-48 slot# = 4, 6, 8, 10, or 12 for OC-48 STS
Note: Ensure that facilities on the protection circuit pack are out of service.		

Table 7-13
Parameter descriptions

Parameter	Possible values	Description
PS	1PLUS1	Delete the 1+1 linear protection scheme (default)
	BLSR_2FR	Delete the 2-Fiber BLSR protection scheme

Example input

Delete 1+1 protection for the OC-48 facility in slot 11and slot 12:

```
DLT-FFP-OC48:SEATTLE:OC48-11,OC48-12:CTAG13;
```

DLT-FFP-OC192

The Delete FFP OC-192 command is used to delete the specified protection scheme for an OC-192 facility. The OC-192 protection facility is in the even slot. The OC-192 protection facility must be OOS-MA (out of service maintenance for memory administration) before the FFP can be deleted. The OC-192 equipment runs in simplex mode once you delete the FFP. Connections on the protection OC-192 are deleted when you delete the FFP. Deleting protection also affects how the section data communication channel (SDCC) operates.

Note: You cannot execute this command if there is an active test access session on this facility.

Security level

Level 3

Input syntax

```
DLT-FFP-OC192:[TID]:workingOC192AID,protectionOC192AID:CTAG
:::[PS=Domain];
```

Table 7-14
Syntax definition

Field	Purpose
TID	Target identifier
workingOC192AID	Working side access identifier. OC-192 facility to act on.
protectionOC192AID	Protection side access identifier. OC-192 facility to act on.
CTAG	Correlation tag
PS	Protection scheme to delete

Table 7-15
AID descriptions

AID type	Command-specific values	Purpose
working OC-192 AID	OC192-slot#	Identifies the slot number of the working OC-192 where slot# = 11
protection OC-192 AID (see Note)	OC192-slot#	Identifies the slot number of the protection OC-192 where slot# = 12
Note: Ensure that facilities on the protection circuit pack are out of service.		

Table 7-16
Parameter descriptions

Parameter	Possible values	Description
PS	1PLUS1	Delete the 1+1 linear protection scheme (default)
	BLSR_2FR	Delete the 2-Fiber BLSR protection scheme

Example input

Delete 1+1 protection for the OC-192 facility in slot 11and slot 12:

```
DLT-FFP-OC192:SEATTLE:OC192-11,OC192-12:CTAG13;
```

DLT-OC3

The Delete OC-3 command is used to eliminate the OC-3 facility from the OC-3 or OC-3x4 circuit pack; the OC-3 facility provisioning information is deleted and all other information (errors, monitoring points) is ignored. Before you delete an OC-3 facility, you must delete all connections on the facility, delete any SDCC links on the OC-3, ensure the facility is not used as a timing reference, delete the FFP and put the facility OOS.

The following cannot be deleted on the Host OC-3 prov-link, and DSM circuit packs OC3 line facility:

- SDCC links on the OC-3
- FFP

Security level

Level 3

Input syntax

```
DLT-OC3:[TID]:AID:CTAG;
```

Table 7-17
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. OC-3 facility to act on.
CTAG	Correlation tag

Table 7-18
AID descriptions

AID type	Command-specific values	Purpose
OC3 AID	OC3-slot#-port# OC3-slot#-ALL	Identify the OC-3 slot where slot# = 3 to 10 port# = 1 for OC-3 port# = 1 to 4 for OC-3x4

Example input

Delete the OC-3 facility in slot 10 port 1:

```
DLT-OC3:SEATTLE:OC3-10-1:CTAG04;
```

DLT-OC12

The Delete OC-12 command is used to eliminate the OC-12 facility from the OC-12 or OC-12x4 STS circuit pack. The OC-12 facility provisioning information is deleted and all other information (errors, monitoring points) is ignored. Before you delete an OC-12 facility, you must

- delete all connections on the facility
- delete any SDCC links on the OC-12
- ensure the facility is not used as a timing reference
- put the facility OOS
- delete the FFP

Security level

Level 3

Input syntax

```
DLT-OC12:[TID]:AID:CTAG;
```

Table 7-19
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. OC-12 facility to act on.
CTAG	Correlation tag

Table 7-20
AID descriptions

AID type	Command-specific values	Purpose
OC-12 AID	OC12-slot#-port#	Identify the OC-12 facility where slot# = 3 to 12 for OC-12 slot# = 3 to 10 for OC-12x4 STS port# = 1 for OC-12 port# = 1 to 4 for OC-12x4 STS

Example input

Delete the OC-12 facility in slot 7 port 1:

```
DLT-OC12:SEATTLE:OC12-7-1:CTAG04;
```

DLT-OC48

The Delete OC-48 command is used to eliminate the OC-48 facility from the OC-48 or OC-48 STS circuit pack. The OC-48 facility provisioning information is deleted and all other information (errors, monitoring points) is ignored. Before you delete an OC-48 facility, you must

- delete all connections on the facility
- delete any SDCC links on the OC-48
- ensure the facility is not used as a timing reference
- delete the FFP
- put the facility OOS

Security level

Level 3

Input syntax

```
DLT-OC48:[TID]:AID:CTAG;
```

Table 7-21
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. OC-48 facility to act on.
CTAG	Correlation tag

Table 7-22
AID descriptions

AID type	Command-specific values	Purpose
OC-48 AID	OC48-slot#	Identifies the OC-48 facility slot# = 11, 12 for OC-48 slot# = 3 to 12 for OC-48 STS

Example input

Delete the OC-48 facility in slot 11:

```
DLT-OC48:SEATTLE:OC48-11:CTAG04;
```

DLT-OC192

The Delete OC-192 command is used to eliminate the OC-192 facility from the OC-192 circuit pack. The OC-192 facility provisioning information is deleted and all other information (errors, monitoring points) is ignored. Before you delete an OC-192 facility, you must

- delete all connections on the facility
- delete any SDCC links on the OC-192
- ensure the facility is not used as a timing reference
- delete the FFP
- put the facility OOS

Security level

Level 3

Input syntax

```
DLT-OC192:[TID]:AID:CTAG;
```

Table 7-23
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. OC-192 facility to act on.
CTAG	Correlation tag

Table 7-24
AID descriptions

AID type	Command-specific values	Purpose
OC-192 AID	OC192-slot#	Identifies the OC-192 facility slot# = 11, 12

Example input

Delete the OC-192 facility in slot 11:

```
DLT-OC192:SEATTLE:OC19211:CTAG04;
```

DLT-T1

The Delete T1 command is used to eliminate a DS1 facility from a DS1 circuit pack; the DS1facility provisioning information is deleted and all other information (errors, monitoring points) is ignored. Before you delete a facility, you must delete all connections on the facility, ensure the facility is not used as a timing reference, and put the facility OOS.

Security level

Level 3

Input syntax

```
DLT-T1:[TID]:AID:CTAG;
```

Table 7-25
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. DS1 facilities to act on.
CTAG	Correlation tag

Table 7-26
AID descriptions

AID type	Command-specific values	Purpose
DS1 AID	DS1-slot#-port# DS1-slot#-ALL	Identify the DS1s where slot# = 4 to 10, port# =1 to 12
DS3V AID	DS1-slot#-port#-t1# DS1-slot#-port#-ALL	Identify the DS1s where slot# = 3, 5, 7, 9 port# = 1 to 12 t1# = 1 to 28
DSM AID	DS1-1-port#-%HLINK-OC3-hslot#-hport#	DS1 service module where port# = 1 to 84 hslot# = 3 to 10 hport# = 1 to 4
	DS1-1-ALL-%HLINK-OC3-hslot#-hport#	All DS1 ports on the DS1 service module where hslot# = 3 to 10 hport# = 1 to 4

Example input

Delete the DS1 facility on the DS1 circuit pack in slot 4 port 7:

```
DLT-T1:NEWYORK:DS1-4-7:CTAG123;
```

DLT-T3

The Delete T3 command is used to eliminate a DS3 facility from a circuit pack; the DS3 facility provisioning information is deleted and all other information (errors, monitoring points) is ignored. Before you delete a facility, you must delete all connections on the facility, and put the facility OOS.

Security level

Level 3

Input syntax

```
DLT-T3:[TID]:AID:CTAG;
```

Table 7-27
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. DS3s to act on.
CTAG	Correlation tag

Table 7-28
AID descriptions

AID type	Command-specific values	Purpose
T3 AID	DS3-slot#-port# DS3-slot#-ALL	Identify the T3 facilities slot# = 3, 5, 7, or 9 port# = 1 to 3 for DS3x3 port# = 1 to 12 for DS3x12, DS3x12e, or DS3VTx12

Example input

Delete the T3 facility on the DS3 circuit pack in slot 9 port 1 at the OTTAWA network element:

```
DLT-T3:OTTAWA:DS3-9-1:CTAG13;
```

ED-DFLT-AINS

Use the Edit default auto-in-service command to modify the default DS1 or DS3 auto-in-service (AINS) start-up time for a shelf.

When the secondary state of a DS1 or DS3 facility is set to auto-in-service (using the ED-T1/T3 or ENT-T1/T3 commands), and the start-up time parameter (HH-MM) is not entered, HH-MM assumes the default start-up time.

Security level

Level 3

Input syntax

```
ED-DFLT-AINS:[TID]::CTAG::[AINS-TIME];
```

Table 7-29
Syntax definition

Field	Purpose
TID	Target identifier
CTAG	Correlation tag
AINS-TIME	Auto-in-service start-up time

Table 7-30
Parameter descriptions

Parameter	Possible values	Description
AINS-TIME	HH-MM 00-01 to 96-00	Default = 04-00 (4 hours) Amount of time that an error-free signal must be present on the DS1 or DS3 line in order for the auto-in-service state to clear. If an error-free signal is present for less than this period of time, the DS1 or DS3 facility remains in an auto-in-service state. HH= 00-96 hours MM=00-59 minutes

Example input

For the SEATTLE network element, set the default AINS start-up time to 7 hours and 30 minutes:

```
ED-DFLT-AINS:SEATTLE::CTAG04::07-30;
```

ED-EC1

The Edit EC-1 command is used to edit the line buildout and auto in-service parameters of an EC-1 facility.

Security level

Level 3

Input syntax

```
ED-EC1:[TID]:AID:CTAG:::[LBO=Domain]:,[SST];
```

Table 7-32
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. EC-1 facility to act on.
CTAG	Correlation tag
LBO	Line buildout
SST	Secondary state

Table 7-33
AID descriptions

AID type	Command-specific values	Purpose
EC-1	EC1-slot#-port# EC1-slot#-ALL	Identify the EC-1 facility where slot# = 3, 5, 7, or 9 port # = 1 to 3 for EC-1x3, 1 to 12 for EC-1x12

Table 7-34
Parameter descriptions

Parameter	Possible values	Description
LBO	1 2	0 to 224 ft to EC-1 cross-connect (default) 225 to 450 ft to EC-1 cross-connect
SST (see Note)	AINS AINS-DEA	Auto in-service Auto in-service deactivated
Note: AINS is not supported on EC-1 facilities and equipment.		

Example input

At the EC-1 facility in slot 5 port 3 of network element SEATTLE, edit the line buildout to 300 feet:

```
ED-EC1:SEATTLE:EC1-5-3:CTAG04:::LBO=2;
```

ED-ETH

Use the Edit Ethernet command to edit the parameters of an Ethernet facility (ETH port) of a 2x100BT-P2P or on the GE/FC SFP of a 2xGigE/FC-P2P circuit pack.

Security level

Level 3

Input syntax for 2x100BT-P2P circuit pack

```
ED-ETH:[TID]:AID:CTAG:::[,ETHDPX=Domain][,SPEED=Domain]
[,PASSCTRL=Domain];
```

Input syntax for the GE/FC SFP of a 2xGigE/FC-P2P circuit pack

```
ED-ETH:[TID]:AID:CTAG:::[,MTU=Domain][,PAUSETX=Domain]
[,AN=Domain][,FLOWCTRL=Domain][,PASSCTRL=Domain];
```

Table 7-35
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. The Ethernet facility to edit.
CTAG	Correlation tag
ETHDPX	Duplex setting (2x100BT-P2P only)
SPEED	Speed (2x100BT-P2P only)
PASSCTRL	Control frames setting
MTU	Ethernet Maximum Transfer Unit. Maximum permitted Ethernet frame size. (GE/FC SFP on 2xGigE/FC-P2P only)
PAUSETX	Pause transmission when AN is disabled. (GE/FC SFP on 2xGigE/FC-P2P only)
AN	Auto-negotiation (GE/FC SFP on 2xGigE/FC-P2P only)
FLOWCTRL	Ethernet Flow Control. Advertised flow control capabilities. (GE/FC SFP on 2xGigE/FC-P2P only)

Table 7-36
AID descriptions

AID type	Command-specific values	Purpose
ETH AID	ETH-slot#-port# ETH-slot#-ALL	Identify the Ethernet facility where slot# = 3 to 10 port# = 1 or 2

Table 7-37
Parameter descriptions - 2x100BT-P2P

Parameter	Possible values	Description
ETHDPX	HALF	Set the duplex mode to Half, Full, or Both. Make sure the device connected to the ETH port has the same duplex setting. Note that, with auto-negotiation disabled, Both is equivalent to Full.
	FULL (default)	
	BOTH	
SPEED	10	Set the speed of the ETH port to 10, 100, or 10/100 Mbit/s. Make sure the device connected to the ETH port has the same speed. Note that, with auto-negotiation disabled, 10/100 is equivalent to 100.
	100 (default)	
	10/100	
PASSCTRL	ENABLE	Discard pause frames received on the ETH port (disable) or allow pause frames to transparently pass through (enable). Note that this attribute applies to pass control frames of type 0x8808 only (PAUSE is the only defined control frame). Other pass control frames (for example, type 0x8809) are not affected by this attribute, and will always be transparently passed through.
	DISABLE (default)	

Table 7-38
Parameter descriptions - GE/FC SFP

Parameter	Possible values	Description
PASSCTRL	ENABLE	Discard pause frames received on the ETH port (disable) or allow pause frames to transparently pass through (enable). Note that this attribute applies to pass control frames of type 0x8808 only (PAUSE is the only defined control frame). Other pass control frames (for example, type 0x8809) are not affected by this attribute, and will always be transparently passed through.
	DISABLE (default)	
MTU	1594	Set the maximum frame size (in bits) that this port can transmit to 1594, 1600 or 9600. This size includes all the overhead bytes such as MAC addresses, length and CRCs.
	1600 (default)	
	9600	
PAUSETX	ENABLE (default)	Enable or disable pause transmission of the port. Note that this attribute can only be enabled if auto negotiation is disabled. If auto negotiation is enabled, this attribute is ignored.
	DISABLE	
AN	ENABLE (default)	Set the auto negotiation mode of the port.
	DISABLE	
FLOWCTRL	ASYM (default)	Set the flow control capability used by auto negotiation to ASYM, SYM or NONE. Auto negotiation sets the actual flow control between two devices. Note that if auto negotiation is disabled, this attribute is ignored.
	SYM	
	NONE	

Example input

Change the duplex mode on ETH port 1 of the 2x100BT-P2P circuit pack in slot 7 of network element OTTAWA to HALF (do not change other settings):

```
ED-ETH:OTTAWA:ETH-7-1:CTAG01:::ETHDPX=HALF;
```

ED-FC

Use the Edit Fibre Channel command to edit the parameters of a Fibre Channel facility (FC port) on the GE/FC SFP of a 2xGigE/FC-P2P circuit pack.

Security level

Level 3

Input syntax

```
ED-FC:<tid>:<aid>:<ctag>:::[,SUBRATE=Domain][,EXTREACH=Domain]
[,SERVICE=Domain][,BBCOVERRIDE=Domain];
```

Table 7-39
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. The Fibre Channel facility to provision.
CTAG	Correlation tag
SUBRATE	Determines whether or not service is carried over sub-rate bandwidth
EXTREACH	Extended reach mode of operation
SERVICE	Type of service
BBCOVERRIDE	Buffer-to-buffer credit (BBC) override value

Table 7-40
AID descriptions

AID type	Command-specific values	Purpose
FC AID	FC-slot#-port# FC-slot#-ALL	Identify the Fibre Channel facility where slot# = 3 to 10 port# = 1 or 2

Table 7-41
Parameter descriptions

Parameter	Possible values	Description
SUBRATE	ENABLE	Enable or disable the ability of the service to be carried over sub-rate bandwidth.
	DISABLE (default)	
EXTREACH	ENABLE	Enable or disable the extended reach mode of operation.
	DISABLE (default)	
SERVICE	FC100 (default)	Set the service mode to FC100 or FICON.
	FICON	
BBCOVERRIDE	0 (default) 2 4 8 16 32 64 128 256	Set the buffer-to-buffer credit (BBC) override to 0 (no override), 1, 2, 4, 8, 16, 32, 64, 128 or 256. Note that if EXTREACH is disabled, this attribute and the selected value are ignored.

Example input
Change the service mode on FC port 1 of the GE/FC SFP of a 2xGigE/FC-P2P circuit pack in slot 7 of network element OTTAWA to FICON:

```
ED-FC:OTTAWA:FC-7-1:CTAG01:::SERVICE=FICON;
```

ED-FFP-OC3

The Edit FFP OC-3 command is used to edit the attributes of the OC-3 1+1 line protection group.

Note 1: Ensure that facilities on the protection circuit pack are out of service.

Note 2: You cannot execute this command if there is an active test access session on this facility.

Security level

Level 3

Input syntax

```
ED-FFP-OC3:[TID]:workingOC3AID,protectionOC3AID:CTAG:::
[PSDIRN=Domain];
```

Table 7-42
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. OC-3 facility to act on.
CTAG	Correlation tag
PSDIRN	Direction of protection group for OC-3 lines: UNI (unidirectional) or BI (bidirectional). Default is UNI.

Table 7-43
AID descriptions

AID type	Command-specific values	Purpose
working OC3 AID	OC3-slot#-port#	Identify the slot number of the working OC-3 slot# = 3, 5, 7, 9 port# = 1 for OC-3, 1 to 4 for OC-3x4
protection OC3 AID	OC3-slot#-port#	Identify the slot number of the protection OC-3 slot# = 4, 6, 8, 10 port# = 1 for OC-3, 1 to 4 for OC-3x4

Table 7-44
Parameter descriptions

Parameter	Possible values	Description
PSDIRN	UNI BI	Unidirectional (default) Bidirectional

Example input

Edit 1+1 protection for the OC-3 facility in slot 5 port 1 and slot 6 port 1 to be bidirectional:

```
ED-FFP-OC3:SEATTLE:OC3-5-1,OC3-6-1:CTAG13:::PSDIRN=BI;
```

ED-FFP-OC12

The Edit FFP OC-12 command is used to edit the attributes of the OC-12 1+1 line protection group.

Note 1: Ensure that facilities on the protection circuit pack are out of service.

Note 2: You cannot execute this command if there is an active test access session on this facility.

Security level

Level 3

Input syntax

```
ED-FFP-OC12:[TID]:workingOC12AID,protectionOC12AID:CTAG:::
[PSDIRN=Domain];
```

Table 7-45
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. OC-12 facility to act on.
CTAG	Correlation tag
PSDIRN	Direction of protection group for OC-12 lines: UNI (unidirectional) or BI (bidirectional). Default is UNI.

Table 7-46
AID descriptions

AID type	Command-specific values	Purpose
working OC-12 AID	OC12-slot#-port#	Identify the slot number of the working OC-12 facility slot# = 3, 5, 7, 9, or 11 for OC-12 slot# = 3, 5, 7, or 9 for OC-12x4 STS port# = 1 for OC-12 port# = 1 to 4 for OC-12x4 STS
protection OC-12 AID	OC12-slot#-port#	Identify the slot number of the protection OC-12 facility slot# = 4, 6, 8, 10, or 12 for OC-12 slot# = 4, 6, 8, or 10 for OC-12x4 STS port# = 1 for OC-12 port# = 1 to 4 for OC-12x4 STS

Table 7-47
Parameter descriptions

Parameter	Possible values	Description
PSDIRN	UNI	Unidirectional (default)
	BI	Bidirectional

Example input

Edit 1+1 protection for the OC-12 facility in slot 7 port 1 and slot 8 port 1 to be bidirectional:

```
ED-FFP-OC12:SEATTLE:OC12-7-1,OC12-8-1:CTAG13:::PSDIRN=BI;
```

ED-FFP-OC48

The Edit FFP OC-48 command is used to edit the attributes of the OC-48 line protection group.

Note 1: Ensure that facilities on the protection circuit pack are out of service.

Note 2: You cannot execute this command if there is an active test access session on this facility.

Security level

Level 3

Input syntax

```
ED-FFP-OC48:[TID]:workingOC48AID,protectionOC48AID:CTAG:::
[PSDIRN=Domain][,WR=Domain];
```

Table 7-48
Syntax definition

Field	Purpose
TID	Target identifier
workingOC48AID	Working side access identifier. OC-48 facility to act on.
protectionOC48AID	Protection side access identifier. OC-48 facility to act on.
CTAG	Correlation tag
PSDIRN	Protection switch direction for 1+1 linear systems
WR	Wait-to-restore period for BLSR systems

Table 7-49
AID descriptions

AID type	Command-specific values	Purpose
working OC-48 AID	OC48-slot#	Identify the slot number of the working OC-48 facility where slot# = 11 for OC-48 slot# = 3, 5, 7, 9, or 11 for OC-48 STS
protection OC-48 AID	OC48-slot#	Identify the slot number of the protection OC-48 facility where slot# = 12 for OC-48 slot# = 4, 6, 8, 10, or 12 for OC-48 STS

Table 7-50
Parameter descriptions

Parameter	Possible values	Description
PSDIRN	UNI BI	Unidirectional switch for 1+1 linear systems (default) Bidirectional switch for 1+1 linear systems
WR	n-MIN INFINITE	Wait-to-restore period for BLSR systems (in minutes, or infinite for no time limit). n = an integer between 1 and 12. Default is 5-MIN.

Example input

Edit 1+1 protection for the OC-48 facility in slots 11and 12 to be bidirectional:

```
ED-FFP-OC48:SEATTLE:OC48-11,OC48-12:CTAG13:::PSDIRN=BI;
```

ED-FFP-OC192

The Edit FFP OC-192 command is used to edit the attributes of the OC-192 line protection group.

Note 1: Ensure that facilities on the protection circuit pack are out of service.

Note 2: You cannot execute this command if there is an active test access session on this facility.

Security level

Level 3

Input syntax

```
ED-FFP-OC192:[TID]:workingOC192AID,protectionOC192AID:CTAG:::
[PSDIRN=Domain][,WR=Domain];
```

Table 7-51
Syntax definition

Field	Purpose
TID	Target identifier
workingOC192AID	Working side access identifier. OC-192 facility to act on.
protectionOC192AID	Protection side access identifier. OC-192 facility to act on.
CTAG	Correlation tag
PSDIRN	Protection switch direction for 1+1 linear systems
WR	Wait-to-restore period for BLSR systems

Table 7-52
AID descriptions

AID type	Command-specific values	Purpose
working OC-192 AID	OC192-slot#	Identify the slot number of the working OC-192 where slot# = 11
protection OC-192 AID	OC192-slot#	Identify the slot number of the protection OC-192 where slot# = 12

Table 7-53
Parameter descriptions

Parameter	Possible values	Description
PSDIRN	UNI BI	Unidirectional switch for 1+1 linear systems (default) Bidirectional switch for 1+1 linear systems
WR	n-MIN INFINITE	Wait-to-restore period for BLSR systems (in minutes, or infinite for no time limit). n = an integer between 1 and 12. Default is 5-MIN.

Example input
Edit 1+1 protection for the OC-192 facility in slots 11and 12 to be bidirectional:

```
ED-FFP-OC192:SEATTLE:OC192-11,OC192-12:CTAG13:::PSDIRN=BI;
```

ED-OC3

The Edit OC-3 command is used to set the signal degrade threshold (SDTH) for OC-3 facilities. The signal degrade threshold determines the bit error rate (BER) in a received OC-3 signal at which an autonomous protection switch occurs.

- an autonomous linear protection switch occurs between two 1+1 linear protected OC-3 facilities. (OC-3 facilities are provisioned for 1+1 linear protection with the ENT-FFP-OC3 command. See page 7-66 for more information on the ENT-FFP-OC3 command.)
- an autonomous protection switch occurs between two path-protected (switchmate) OC-3 facilities. (Path protection occurs either at the STS-3c, STS-1, or VT1.5 levels. To provision path protection, see the ED-CRS-xx or ENT-CRS-xx commands in Chapter 16, "Cross-connect detailed command descriptions").
- Provisioning the SDTH parameter on an optical interface provisions the SDTH for the line and for all signals (STS-3c, STS-1, VT1.5) on that line.

The Edit OC-3 command is also used to edit the section trace parameters. The user can edit the outgoing section trace message, the expected section trace message, the section trace format, and the section trace failure mode.

The Edit OC-3 command is also used to edit SS Bits parameters. By default, the value of SS Bits is SONET but it can also be set to SDH.

The following cannot be edited on the Host OC-3 prov-link, and the DSM circuit packs OC-3 line facility:

- remote node type (REMOTE=OM3X00)
- SS Bit Operation Mode (SSBITMDE=SONET)

Security level

Level 3

Input syntax

```
ED-OC3:[TID]:AID:CTAG:::[SDTH=Domain][,STFORMAT=Domain]
[,STRC=Domain][,EXPSTRC=Domain][,STFMODE=Domain]
[,SSBITMDE=Domain][,REMOTE=Domain]:[SST];
```

Table 7-54
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. Identifies an OC-3 facility.
CTAG	Correlation tag
SDTH	Signal degrade threshold, bit error level at which a linear autonomous protection switch takes place. See Parameter descriptions table for details.
STFORMAT	Section trace format. See Parameter descriptions table for details.
STRC	Outgoing section trace message. See Parameter descriptions table for details.
EXPSTRC	Expected section trace message. See Parameter descriptions table for details.
STFMODE	Section trace fail mode. See Parameter descriptions table for details.
SSBITMDE	SS bits mode
REMOTE	Type of node at remote end (for section trace purposes). See Parameter descriptions table for details.
SST	Secondary state. See Parameter descriptions table for details.

Table 7-55
AID descriptions

AID type	Command-specific values	Purpose
OC-3 Facility AID	OC3-slot#-port# OC3-slot#-ALL	Identify the OC-3 facility where slot# = 3 to 10 port# = 1 for OC-3 port# = 1 to 4 for OC-3x4
DSM OC-3 Facility AID	OC3-slot#-1-%HLINK-OC3-hslot#-hport#	Identify the DSM OC-3 facility where slot# = 1 or 2 hslot# = 3 to 10 hport# = 1 to 4

Table 7-56
Parameter descriptions

Parameter	Possible values	Description
SDTH	5 to 9	Translates to 10^{-5} to 10^{-9} (default is 6)
STFORMAT	NUM	Section trace message is 1 byte long (default)
	STRING	Section trace message is up to 15 bytes long
STRC	0 to 255	if STFORMAT is NUM (default is 1)
	ASCII string up to 15 characters	if STFORMAT is STRING (default is null character string). See Note 1.
EXPSTRC	0 to 255	if STFORMAT is NUM (default is 1)
	ASCII string up to 15 characters	if STFORMAT is STRING (default is null character string). See Note 1.
STFMODE	OFF	Alarms off, no traffic protection (default)
	ALMONLY	Alarms on, no traffic protection
	LINEFAIL	Alarms on, with traffic protection. See Notes 2 and 3.
SSBITMDE	SONET	SS bits operate in SONET mode (default)
	SDH	SS bits operate in SDH mode
REMOTE	EXPRESS	OPTera Metro node (default)
	OC48	OC-48 node

Table 7-56 (continued)
Parameter descriptions

Parameter	Possible values	Description
SST	AINS	Auto in-service
	AINS-DEA	Auto in-service deactivated
	TS	Test
	TS-DEA	Test Deactivated
Note 1: The Possible values of the section trace messages depend on the STFORMAT value. If STFORMAT is NUM, the Possible values are 0 to 255. If STFORMAT is STRING, the Possible values are any printable alphanumeric ASCII string up to 15 characters (except comma, colon, semi-colon, equal sign, or question mark) or a NULL character string (for example, STRC=, or EXPSTRC=,). Enclose the ASCII string in double quotes (“) to maintain case sensitivity. The string must begin and end with the double quotes. You cannot use double quotes, or any special character, as part of the ASCII string. ***Note 2:*** If STFMODE is currently set to LINEFAIL, you cannot modify the values of STFORMAT, STRC, or EXPSTRC, unless you also change STFMODE to OFF or ALMONLY in the same command. ***Note 3:*** STFMODE can be only be changed to LINEFAIL if the values of STFORMAT, STRC, and EXPSTRC are not being changed in the same command.		

Example input
At the NEWYORK network element, set the SDTH for OC-3 facility in slot 7 port 1 to 10^{-7} errors per second, set STFMODE to LINEFAIL, and set SSBITMDE to SONET:

```
ED-OC3:NEWYORK:OC3-7-1:CTAG23:::SDTH=7,STFMODE=LINEFAIL,
SSBITMDE=SONET;
```

Example input
At the OTTAWA network element, edit the section trace information for OC-3 facility in slot 1 hslot 3 hport 1:

```
ED-OC3:OTTAWA:OC3-1-1-%HLINK-OC3-3-1:ctag12:::STFORMAT=STRING,
STRC=DSMTM1;
```

ED-OC12

The Edit OC12 command is used to set the signal degrade threshold (SDTH) for OC-12 facilities. The signal degrade threshold determines the bit error rate (BER) in a received OC-12 signal at which an autonomous protection switch occurs.

- an autonomous linear protection switch occurs between two 1+1 linear protected OC-12 facilities. (OC-12 facilities are provisioned for 1+1 linear protection with the ENT-FFP-OC12 command. See page 7-68 for more information on the ENT-FFP-OC12 command.)
- an autonomous protection switch occurs between two path-protected (switchmate) OC-12 facilities. (Path protection occurs either at the STS-3c, STS-1, or VT1.5 levels. To provision path protection, see the ED-CRS-xx or ENT-CRS-xx commands in Chapter 16, "Cross-connect detailed command descriptions").
- Provisioning the SDTH parameter on an optical interface provisions the SDTH for the line and for all signals (STS-3c, STS-1, VT1.5) on that line.

The Edit OC-12 command is also used to edit section trace parameters and SS Bits parameters. By default, the value of SS Bits is SONET but it can also be set to SDH.

Security level

Level 3

Input syntax

```
ED-OC12:[TID]:AID:CTAG:::[SDTH=Domain][,STFORMAT=Domain]
[,STRC=Domain][,EXPSTRC=Domain][,STFMODE=Domain]
[,SSBITMDE=Domain]:,[SST];
```

Table 7-57
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. Identifies an OC-12 facility.
CTAG	Correlation tag
SDTH	Signal degrade threshold, bit error level at which a linear autonomous protection switch takes place. See Parameter descriptions table for details.
STFORMAT	Section trace format. See Parameter descriptions table for details.
STRC	Outgoing section trace message. See Parameter descriptions table for details.

Table 7-57 (continued)
Syntax definition

Field	Purpose
EXPSTRC	Expected section trace message. See Parameter descriptions table for details.
STFMODE	Section trace fail mode. See Parameter descriptions table for details.
SSBITMDE	SS bits mode. See Parameter descriptions table for details.
SST	Secondary state. See Parameter descriptions table for details.

Table 7-58
AID descriptions

AID type	Command-specific values	Purpose
OC-12 Facility AID	OC12-slot#-port#	Identify the OC-12 facility where slot# = 3 to 12 for OC-12 slot# = 3 to 10 for OC-12x4 STS port# = 1 for OC-12 port# = 1 to 4 for OC-12x4 STS

Table 7-59
Parameter descriptions

Parameter	Possible values	Description
SDTH	5 to 9	Translates to 10^{-5} to 10^{-9} (default is 6)
STFORMAT	NUM	Section trace message is 1 byte long (default)
	STRING	Section trace message is up to 15 bytes long
STRC	0 to 255	if STFORMAT is NUM (default is 1)
	ASCII string up to 15 characters	if STFORMAT is STRING (default is null character string). See Note 1.
EXPSTRC	0 to 255	if STFORMAT is NUM (default is 1)
	ASCII string up to 15 characters	if STFORMAT is STRING (default is null character string). See Note 1.
STFMODE	OFF	Alarms off, no traffic protection (default)
	ALMONLY	Alarms on, no traffic protection
	LINEFAIL	Alarms on, with traffic protection. See Notes 2 and 3.

Table 7-59 (continued)
Parameter descriptions

Parameter	Possible values	Description
SSBITMDE	SONET	SS bits operate in SONET mode (default)
	SDH	SS bits operate in SDH mode
SST	AINS	Auto in-service
	AINS-DEA	Auto in-service deactivated
	TS	Test. See Note 4.
	TS-DEA	Test Deactivated

Note 1: The Possible values of the section trace messages depend on the STFORMAT value. If STFORMAT is NUM, the Possible values are 0 to 255. If STFORMAT is STRING, the Possible values are any printable alphanumeric ASCII string up to 15 characters (except comma, colon, semi-colon, equal sign, or question mark) or a NULL character string (for example, STRC=, or EXPSTRC=,). Enclose the ASCII string in double quotes (“) to maintain case sensitivity. The string must begin and end with the double quotes. You cannot use double quotes, or any special character, as part of the ASCII string.

Note 2: If STFMODE is currently set to LINEFAIL, you cannot modify the values of STFORMAT, STRC, or EXPSTRC, unless you also change STFMODE to OFF or ALMONLY in the same command.

Note 3: STFMODE can only be changed to LINEFAIL if the values of STFORMAT, STRC, and EXPSTRC are not being changed in the same command.

Note 4: Test access secondary state is supported in slots 3 to 10 only.

Example input

At the NEWYORK network element, set the SDTH for the OC-12 facility in slot 7 port 1 to 10^{-7} errors per second and the STFMODE to LINEFAIL and the SSBITMDE to SONET:

```
ED-OC12:NEWYORK:OC12-7-1:CTAG23:::SDTH=7,STFMODE=LINEFAIL,
SSBITMDE=SONET;
```

ED-OC48

The Edit OC-48 command is used to set the signal degrade threshold (SDTH) for OC-48 facilities. The signal degrade threshold determines the bit error rate (BER) in a received OC-48 signal at which an autonomous protection switch occurs. An autonomous linear protection switch occurs between two 1+1 linear protected OC-48 facilities. (OC-48 facilities are provisioned for 1+1 linear protection with the ENT-FFP-OC48 command. See page 7-70 for more information on the ENT-FFP-OC48 command.) The Edit OC-48 command is also used to edit section trace parameters and SS Bits parameters. By default, the value of SS Bits is SONET but it can also be set to SDH.

Security level

Level 3

Input syntax

```
ED-OC48:[TID]:AID:CTAG:::[SDTH=Domain][,STFORMAT=Domain]
[,STRC=Domain][,EXPSTRC=Domain][,STFMODE=Domain]
[,SSBITMDE=Domain]:,[SST];
```

Table 7-60
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. Identifies an OC-48 facility.
CTAG	Correlation tag
SDTH	Signal degrade threshold, bit error level at which a linear autonomous protection switch takes place. See Parameter descriptions table for details.
STFORMAT	Section trace format. See Parameter descriptions table for details.
STRC	Outgoing section trace value. See Parameter descriptions table for details.
EXPSTRC	Expected incoming section trace value. See Parameter descriptions table for details.
STFMODE	Section trace fail mode. See Parameter descriptions table for details.
SSBITMDE	SS bit mode for optical signal. See Parameter descriptions table for details.
SST	Secondary state. See Parameter descriptions table for details.

Table 7-61
AID descriptions

AID type	Command-specific values	Purpose
OC-48 Facility AID	OC48-slot#	Identify the OC-48 facility where slot# = 11,12 for OC-48 slot# = 3 to 12 for OC-48 STS

Table 7-62
Parameter descriptions

Parameter	Possible values	Description
SDTH	5 to 9	Translates to 10^{-5} to 10^{-9} (default is 6)
STFORMAT	NUM	Integer 1 byte long (default)
	STRING	Section trace message is up to 15 bytes long
STRC	0 to 255	if STFORMAT is NUM (default is 1)
	ASCII string up to 15 characters	if STFORMAT is STRING (default is null character string). See Note 1.
EXPSTRC	0 to 255	if STFORMAT is NUM (default is 1)
	ASCII string up to 15 characters	if STFORMAT is STRING (default is null character string). See Note 1.
STFMODE	OFF	Alarms off, no traffic protection (default)
	ALMONLY	Alarms on, no traffic protection
	LINEFAIL	Alarms on, with traffic protection. See Notes 2 and 3.
SSBITMDE	SONET	Optical signal transmitted is SONET format (default)
	SDH	Optical signal transmitted is SDH format

Table 7-62 (continued)
Parameter descriptions

Parameter	Possible values	Description
SST	TS	Test. See Note 4.
	TS-DEA	Test Deactivated

Note 1: The Possible values of the section trace messages depend on the STFORMAT value. If STFORMAT is NUM, the Possible values are 0 to 255. If STFORMAT is STRING, the Possible values are any printable alphanumeric ASCII string up to 15 characters (except comma, colon, semi-colon, equal sign, or question mark) or a NULL character string (for example, STRC=, or EXPSTRC=,). Enclose the ASCII string in double quotes (“) to maintain case sensitivity. The string must begin and end with the double quotes. You cannot use double quotes, or any special character, as part of the ASCII string.

Note 2: If STFMODE is currently set to LINEFAIL, you cannot modify the values of STFORMAT, STRC, or EXPSTRC, unless you also change STFMODE to OFF or ALMONLY in the same command.

Note 3: STFMODE can only be changed to LINEFAIL if the values of STFORMAT, STRC, and EXPSTRC are not being changed in the same command.

Note 4: Test access secondary state is supported in slots 3 through 10 only.

Example input

At the NEWYORK network element, set the SDTH for the OC-48 facility in slot 11 to 10^{-7} errors per second and the STFMODE to LINEFAIL and the SSBITMDE to SONET:

```
ED-OC48:NEWYORK:OC48-11:CTAG23:::SDTH=7,STFMODE=LINEFAIL,
SSBITMDE=SONET;
```

ED-OC192

The Edit OC-192 command is used to set the signal degrade threshold (SDTH) for OC-192 facilities. The signal degrade threshold determines the bit error rate (BER) in a received OC-192 signal at which an autonomous protection switch occurs. An autonomous linear protection switch occurs between two 1+1 linear protected OC-192 facilities. (OC-192 facilities are provisioned for 1+1 linear protection with the ENT-FFP-OC192 command. See page 7-72 for more information on the ENT-FFP-OC192 command.) The Edit OC-192 command is also used to edit section trace parameters and SS Bits parameters. By default, the value of SS Bits is SONET but it can also be set to SDH.

Security level

Level 3

Input syntax

```
ED-OC192:[TID]:AID:CTAG:::[SDTH=Domain][,STFORMAT=Domain]
[,STRC=Domain][,EXPSTRC=Domain][,STFMODE=Domain]
[,SSBITMDE=Domain]:,[SST];
```

Table 7-63
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. Identifies an OC-192 facility.
CTAG	Correlation tag
SDTH	Signal degrade threshold, bit error level at which a linear autonomous protection switch takes place. See Parameter descriptions table for details.
STFORMAT	Section trace format. See Parameter descriptions table for details.
STRC	Outgoing section trace value. See Parameter descriptions table for details.
EXPSTRC	Expected incoming section trace value. See Parameter descriptions table for details.
STFMODE	Section trace fail mode. See Parameter descriptions table for details.
SSBITMDE	SS bit mode for optical signal. See Parameter descriptions table for details.
SST	Secondary state. See Parameter descriptions table for details.

Table 7-64
AID descriptions

AID type	Command-specific values	Purpose
OC-192 Facility AID	OC192-slot#	Identify the OC-192 facility where slot# = 11,12

Table 7-65
Parameter descriptions

Parameter	Possible values	Description
SDTH	5 to 9	Translates to 10^{-5} to 10^{-9} (default is 6)
STFORMAT	NUM	Integer 1 byte long (default)
	STRING	Section trace message is up to 15 bytes long
STRC	0 to 255	if STFORMAT is NUM (default is 1)
	ASCII string up to 15 characters	if STFORMAT is STRING (default is null character string). See Note 1.
EXPSTRC	0 to 255	if STFORMAT is NUM (default is 1)
	ASCII string up to 15 characters	if STFORMAT is STRING (default is null character string). See Note 1.
STFMODE	OFF	Alarms off, no traffic protection (default)
	ALMONLY	Alarms on, no traffic protection
	LINEFAIL	Alarms on, with traffic protection. See Notes 2 and 3.
SSBITMDE	SONET	Optical signal transmitted is SONET format (default)
	SDH	Optical signal transmitted is SDH format

Table 7-65 (continued)
Parameter descriptions

Parameter	Possible values	Description
SST	TS	Test. See Note 4.
	TS-DEA	Test Deactivated

Note 1: The Possible values of the section trace messages depend on the STFORMAT value. If STFORMAT is NUM, the Possible values are 0 to 255. If STFORMAT is STRING, the Possible values are any printable alphanumeric ASCII string up to 15 characters (except comma, colon, semi-colon, equal sign, or question mark) or a NULL character string (for example, STRC=, or EXPSTRC=,). Enclose the ASCII string in double quotes (“) to maintain case sensitivity. The string must begin and end with the double quotes. You cannot use double quotes, or any special character, as part of the ASCII string.

Note 2: If STFMODE is currently set to LINEFAIL, you cannot modify the values of STFORMAT, STRC, or EXPSTRC, unless you also change STFMODE to OFF or ALMONLY in the same command.

Note 3: STFMODE can only be changed to LINEFAIL if the values of STFORMAT, STRC, and EXPSTRC are not being changed in the same command.

Note 4: Test access secondary state is supported in slots 3 through 10 only.

Example input

At the NEWYORK network element, set the SDTH for the OC-192 facility in slot 11 to 10^{-7} errors per second and the STFMODE to LINEFAIL and the SSBITMDE to SONET:

```
ED-OC192:NEWYORK:OC192-11:CTAG23:::SDTH=7,STFMODE=LINEFAIL,
SSBITMDE=SONET;
```

ED-SYS

Use the Edit System command to set the following:

- The path signal degrade threshold value for all VT and STS paths within the network element
- The time out value for the test access session
- The configuration mode for 2xGigE circuit packs on the shelf. Use this parameter to specify point-to-point auto-provisioning for 2xGigE circuit packs.

  Note: You cannot set the 2xGigE configuration mode if there are any slots on the shelf provisioned for 2xGigE equipment. Refer to DLT-EQPT on page 6-2 to deprovision 2xGigE equipment.

Security level

Level 3

Input syntax

```
ED-SYS:[TID]::CTAG:::[PATHSDTH=Domain][,TS_TIMEOUT=Domain]
[,OPEGEMODE=Domain];
```

Table 7-66
Syntax definition

Field	Purpose
TID	Target identifier
CTAG	Correlation tag
PATHSDTH	Path signal degrade threshold value
TS_TIMEOUT	Test Access timeout value
OPEGEMODE	2xGigE configuration mode

Table 7-67
Parameter descriptions

Parameter	Possible values	Description
PATHSDTH	5 to 9	Range of PATHSDTH is $1x10^{-5}$ - $1x10^{-9}$
TS_TIMEOUT	0 to 900 Default is 300	Time out value in seconds for the test access session.
OPEGEMODE	RPR (default)	Do not auto-provision 2xGigE circuit packs for point-to-point mode.
	PTPT	Auto-provision a 2xGigE circuit pack for point-to-point mode when the 2xGigE equipment is provisioned on the shelf. Refer to the *Planning and Ordering Guide* (NTRN10AM) for information about this mode.

Example input
At the NEWYORK network element, set the PATHSDTH to $1x10^{-5}$:

```
ED-SYS:NEWYORK:OC48-11::CTAG23:::PATHSDTH=5;
```

ED-T1

The Edit T1 command is used to edit DS1 facility signal, facility service, and auto-in-service parameters.

If parameter and state changes are requested in the same edit command, the state change is processed first, followed by parameter updates.

Note: To change primary state use the RMV-T1 and RST-T1 commands.

Security level

Level 3

Input syntax

```
ED-T1:[TID]:AID:CTAG:::[EQLZ=Domain][,FENDNTE=Domain]
[,FLMDE=Domain][,FMT=Domain][,LINECDE=Domain]
[,MAP=Domain][,OMODE=Domain]:[,SST][,AINS-TIME];
```

Table 7-68
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. DS1s to act on.
CTAG	Correlation tag
EQLZ=Domain FENDNTE=Domain FLMDE=Domain FMT=Domain LINECDE=Domain MAP=Domain OMODE=Domain	Facility signal attribute parameters. See the Parameter descriptions table on page 7-50.
SST	Secondary state
AINS-TIME	DS1 auto-in-service time

Table 7-69
AID descriptions

AID type	Command-specific values	Purpose
DS1 AID	DS1-slot#-port# DS1-slot#-ALL	Identify the DS1s where slot# =4 to 10, port# =1 to 28
DS3 AID	DS1-slot#-port#-t1# DS1-slot#-port#-ALL	Identify the DS1s where slot# = 3, 5, 7, 9 port# = 1 to 12 t1# = 1 to 28
DSM AID	DS1-1-port#-%HLINK-OC3-hslot#-hport#	DS1 service module port# = 1 to 84 hslot# = 3 to 10 hport# = 1 to 4
	DS1-1-ALL-%HLINK-OC3-hslot#-hport#	All DS1 ports on the DS1 service module hslot# = 3 to 10 hport# = 1 to 4

Table 7-70
Parameter descriptions

Parameter	Possible values	Description
EQLZ		Cable connecting DS1 to DS1 cross-connect. If the cables for the incoming and outgoing streams are different, add “TX” or “RX” to the domain, for example “1RX” or “2TX”. 1, 2 and 3 set the values for both TX and RX cables.
	1 1TX 1RX	Default: short: 0 to 220 ft both directions 0 to 220 ft transmit 0 to 220 ft receive
	2 2TX 2RX	medium: 220 to 430 ft both directions 220 to 430 ft transmit 220 to 430 ft receive
	3 3TX 3RX	long: 430 to 655 ft both directions 430 to 655 ft transmit 430 to 655 ft receive
FENDNTE	ANSI NOTANSI	Default: Far end NTE supports ANSI standards ANSI standards are not supported

Table 7-70 (continued)
Parameter descriptions

Parameter	Possible values	Description
FLMDE		Fault locate mode: Faults in the frame format will be checked for. Use N if DS1 data is unframed.
	BOTH	Default: both incoming and outgoing data streams will have the frame format, as specified by FMT, checked.
	INC	Only check incoming data. (Outgoing can be unframed.)
	OC	Only check outgoing data.
	N	Do not check the frame format. (The DS1 facility can be unframed or used as a clear channel facility.)
FMT	SF	Default: Superframe format
	ESF	Extended Superframe format
	SF-TR08	Superframe with TR08 extensions
LINECDE		Line code. If the incoming and outgoing streams are different, add “TX” or “RX” to the domain, for example “AMITX”, “B8ZSRX”.
	AMI AMITX AMIRX	Default: Alternate mark inversion (“bipolar”) both directions AMI transmit AMI receive
	AMIZCS	AMI with zero code suppression, both directions If there are 8 zeros in a byte, the least significant will be changed to a one.
	AMIZCSTX	AMIZCS Transmit ***Note:*** Zero code suppression not supported in the receive direction.
	B8ZS B8ZSTX B8ZSRX	Bipolar with 8-zero substitution, both directions B8ZS Transmit B8ZS Receive

Table 7-70 (continued)
Parameter descriptions

Parameter	Possible values	Description
MAP		The form of mapping for DS1 payloads into VT1.5s. ***Note:*** You must enter each MAP parameter in a separate command.
	VTASYN	Default:VT1.5 bit asynchronous mapping
	VTBYTE	VT1.5 byte synchronous mapping
	VTBIT	VT1.5 bit synchronous mapping
		Note: If using VTBYTE mapping, one or both of these mappings can also be specified:
	SIGNLIN	Robbed bit signaling bits are transported.
	SIGNLOUT	Out slot (S1 to S4) signaling bits are transported.
OMODE		Output mode:
	NORM	Default: The outgoing stream is a regular DS1
	IDLE	The outgoing stream is set to an idle code: repeating 1100
	AZC	The outgoing stream will have any AIS code changed to all-zeros.

Table 7-70 (continued)
Parameter descriptions

Parameter	Possible values	Description
SST (secondary state)	AINS	auto-in-service
	AINS-DEA	auto-in-service deactivated
	TS	test
	TS-DEA	test deactivated
AINS-TIME (hour-minute)	HH-MM 00-01 to 96-00	Default = 04-00 (4 hours) Amount of time that an error-free signal must be present on the DS1 line in order for the auto-in-service state to clear. If an error-free signal is present for less than this period of time, the DS1 facility remains in an auto-in-service state. HH= 00-96 hours MM=00-59 minutes
Note 1: The default secondary state for a DS1 facility is NULL. That is, when a DS1 facility autoprovisions, the secondary state is not auto-in-service. This state is reported as a blank in the TL1 response to a RTRV-T1 command. The purpose of the AINS-DEA parameter is to deactivate the AINS secondary state. When the AINS-DEA parameter is entered, it is not maintained as a secondary state and is not reported by the RTRV-T1 command. The secondary state remains NULL until it is changed with either the ENT-T1 or ED-T1 command. ***Note 2:*** The default secondary state for DS1 facilities on a provisioned DSM circuit pack is auto-in-service.		

Example input

Alter the provisioning for the DS1 facility on the DS1 circuit pack in slot 4 port 7; change the TX EQLZ value and set the FMT to ESF:

```
ED-T1:NEWYORK:DS1-4-7:CTAG123:::EQLZ=2TX,FMT=ESF;
```

Change all the DS1 facilities on the DS1 circuit pack in slot 6 to use B8ZS:

```
ED-T1:SEATTLE:DS1-6-ALL:CTAG123:::LINECDE=B8ZS;
```

Change all the DS1 facilities on the DS1 circuit pack in slot 6 to set the MAP to VTBYTE:

```
ED-T1:SEATTLE:DS1-6-ALL:CTAG123:::MAP=VTBYTE;
```

Edit the frame format and line code of all DS1 ports on the DS1 service module in hport 7 hport 3 for network element OTTAWA:

```
ED-T1:OTTAWA:DS1-1-ALL-%HLINK-OC3-7-3:CTAG12:::FMT=ESF,
LINECDE=AMI;
```

ED-T3

The Edit T3 command is used to edit the service parameters (attributes) of a DS3 facility, such as the line buildout and auto in-service.

Note: To change primary state use the RMV-T3 and RST-T3 commands.

Security level

Level 3

Input syntax

```
ED-T3:[TID]:AID:CTAG:::[LBO=Domain][,FMT=Domain]:[,SST]
[,AINS-TIME];
```

Table 7-71
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. DS3s to act on.
CTAG	Correlation tag
LBO	Line buildout
FMT	Frame format
SST	Secondary state
AINS-TIME	DS1 auto-in-service time

Table 7-72
AID descriptions

AID type	Command-specific values	Purpose
T3 AID	DS3-slot#-port# DS3-slot#-ALL	Identify the DS3s slot# =3, 5, 7, or 9 port# = 1 to 3 for DS3x3 port# = 1 to 12 for DS3x12, DS3x12e, or DS3VTx12

Table 7-73
Parameter descriptions

Parameter	Possible values	Description
FMT	ASYNC	M13, multiplex framed (default)
	UNFR	Unframed clear channel
	CBIT	C-bit parity

Table 7-73 (continued)
Parameter descriptions

Parameter	Possible values	Description
LBO	1	0 to 224 ft to DS3 cross-connect (default)
	2	225 to 450 ft to DS3 cross-connect
SST (secondary state)	AINS	auto-in-service
	AINS-DEA	auto-in-service deactivated
	TS	test
	TS-DEA	test deactivated
AINS-TIME (hour-minute)	HH-MM 00-01 to 96-00	Default = 04-00 (4 hours) Amount of time that an error-free signal must be present on the DS3 line in order for the auto-in-service state to clear. If an error-free signal is present for less than this period of time, the DS3 facility remains in an auto-in-service state. HH= 00-96 hours MM=00-59 minutes

Example input

Change the FMT of the DS3 facility on the DS3 circuit pack in slot 5 port 1 to UNFR:

```
ED-T3:NEWYORK:DS3-5-1:CTAG23:::FMT=UNFR;
```

ED-WAN

Use the Edit WAN command to edit the parameters of a WAN port of a 2x100BT-P2P or on the GE/FC SFP of a 2xGigE/FC-P2P circuit pack.

> ***Note:*** To edit the parameters of a WAN port, the corresponding ETH or FC port must be in an out-of-service (OOS) state. See RMV-ETH on page 7-91 to put a ETH port to an OOS state. See RMV-FC on page 7-92 to put an FC port to an OOS state.

Security level

Level 3

Input syntax for 2x100BT-P2P

```
ED-WAN:[TID]:AID:CTAG:::[,MAGICNUM=Domain][,FCS=Domain]
[,LCM=Domain];
```

Input syntax for 2xGigE/FC-P2P circuit pack

```
ED-WAN:[TID]:AID:CTAG:::[,VCAT=Domain][,FCS=Domain];
```

Table 7-74
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. The WAN port to edit.
CTAG	Correlation tag
MAGICNUM	Magic number (for 2x100BT-P2P only)
FCS	Frame check size
LCM	Link connectivity monitor (for 2x100BT-P2P only)
VCAT	Virtual concatenation (for 2xGigE/FC-P2P only)

Table 7-75
AID descriptions

AID type	Command-specific values	Purpose
WAN AID	WAN-slot#-port# WAN-slot#-ALL	Identify the WAN port where slot# = 3 to 10 port# = 1 or 2

Table 7-76
Parameter descriptions

Parameter	Possible values	Description
MAGICNUM	ENABLE	Enable or disable the use of a magic number. The magic number is used during PPP negotiation on the 2x100BT-P2P WAN facility only. When enabled, the magic number field is four octets and helps in detecting looped back links. A random string is sent across the link and if the same value is returned, then the circuit pack determines that the link is looped back and the negotiation fails. If this occurs, a "Link Down" alarm is raised against the WAN port. When disabled, the magic number is always transmitted as zero and is always ignored on reception.
	DISABLE (default)	
FCS	0	Set the frame check size (in bits) of the WAN port. Possible values for the 2x100BT-P2P WAN facility are 16 or 32. Possible values for the 2xGigE/FC-P2P WAN facility are 0 or 32. Note that the port at the other end of the connection must have the same frame check size as this port. This parameter is only available for the GE/FC SFP WAN facility if the WAN facility was created in association with the ETH port.
	16	
	32	
LCM	ENABLE	Whether link connectivity monitoring is enabled or disabled at the WAN port. This attribute is only supported on the 2x100BT-P2P WAN facility. Note that if you enable link connectivity monitoring, the “Link Down” alarm is raised against the WAN port during a software load or FPGA upgrade or when the port at the other end of the connection does not support link connectivity monitoring. The recommended configuration is to have link connectivity monitoring disabled at both ends of the connection.
	DISABLE (default)	
VCAT	ENABLE	Enable or disable virtual concatenation for the GE/FC SFP WAN facility. This attribute is disabled by default. Note that you can only edit this attribute if there are no cross-connections present on the specified facility.
	DISABLE (default)	

Example input

Enable the use of a magic number, set the FCS to 16 bits, and disable link connectivity monitoring on WAN port 2 of the 2x100BT-P2P circuit pack in slot 9 of network element OTTAWA:

```
ED-WAN:OTTAWA:WAN-9-2:CTAG01:::MAGICNUM=ENABLE,FCS=16,
LCM=DISABLE;
```

ENT-EC1

The Enter EC-1 command provisions and enters the attributes of an EC-1 facility in a network element.

Security level

Level 3

Input syntax

```
ENT-EC1:[TID]:AID:CTAG:::[LBO=Domain]:[PST],[SST];
```

Table 7-77
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. EC-1 facility to act on.
CTAG	Correlation tag
LBO	Line buildout
PST	Primary state
SST	Secondary state

Table 7-78
AID descriptions

AID type	Command-specific values	Purpose
EC1 AID	EC1-slot#-port# EC1-slot#-ALL	Identify the EC-1 facility where slot# = 3, 5, 7, or 9 port # = 1 to 3 for EC-1x3 port # = 1 to 12 for EC-1x12

Table 7-79
Parameter descriptions

Parameter	Possible values	Description
LBO	1	0 to 224 ft to EC-1 cross-connect (default)
	2	225 to 450 ft to EC-1 cross-connect
PST	IS	In service (default)
	OOS-MA	Out of service maintenance for provisioning memory administration
SST (see Note)	AINS	Auto in-service
	AINS-DEA	Auto in-service deactivated
	TS	Test
	TS-DEA	Test Deactivated
Note: AINS is not supported on EC-1 facilities and equipment.		

Example input
Set the EC-1 facilities on all ports in slot 9 to a line buildout of 0 to 224 feet, a primary state of in-service, and a secondary state of auto in-service:

```
ENT-EC1:SEATTLE:EC1-9-ALL:CTAG12:::LBO=1:IS,AINS;
```

ENT-ETH

Use the Enter Ethernet command to provision an Ethernet facility (ETH port) of a 2x100BT-P2P or 2xGigE/FC-P2P circuit pack.

> ***Note:*** The WAN facility on a 2x100BT-P2P circuit pack or on the GE/FC SFP of a 2xGigE/FC-P2P circuit pack is created automatically when its corresponding ETH facility is created.

Security level

Level 3

Input syntax for 2x100BT-P2P circuit pack

```
ENT-ETH:[TID]:AID:CTAG:::[,ETHDPX=Domain][,SPEED=Domain]
[,PASSCTRL=Domain][,PST-Q=Domain];
```

Input syntax for 2xGigE/FC-P2P circuit pack

```
ENT-ETH:[TID]:AID:CTAG:::[,MTU=Domain][,PAUSETX=Domain]
[,AN=Domain][,FLOWCTRL=Domain][,PASSCTRL=Domain]
[,PST-Q=Domain];
```

Table 7-80
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. The Ethernet facility to provision.
CTAG	Correlation tag
ETHDPX	Duplex setting (2x100BT-P2P only)
SPEED	Speed (2x100BT-P2P only)
PASSCTRL	Control frames setting
PST-Q	Primary state qualifier
MTU	Ethernet Maximum Transfer Unit. Maximum permitted Ethernet frame size. (2xGigE/FC-P2P only)
PAUSETX	Pause transmission when AN is disabled. (2xGigE/FC-P2P only)
AN	Auto-negotiation (2xGigE/FC-P2P only)
FLOWCTRL	Ethernet Flow Control. Advertised flow control capabilities. (2xGigE/FC-P2P only)

Table 7-81
AID descriptions

AID type	Command-specific values	Purpose
ETH AID	ETH-slot#-port# ETH-slot#-ALL	Identify the Ethernet facility where slot# = 3 to 10 port# = 1 or 2

Table 7-82
Parameter descriptions - 2x100BT-P2P

Parameter	Possible values	Description
ETHDPX	HALF	Set the duplex mode to Half, Full, or Both. Make sure the device connected to the ETH port has the same duplex setting. Note that, with auto-negotiation disabled, Both is equivalent to Full.
	FULL (default)	
	BOTH	
SPEED	10	Set the speed of the ETH port to 10, 100, or 10/100 Mbit/s. Make sure the device connected to the ETH port has the same speed. Note that, with auto-negotiation disabled, 10/100 is equivalent to 100.
	100 (default)	
	10/100	
PASSCTRL	ENABLE	Discard pause frames received on the ETH port (disable) or allow pause frames to transparently pass through (enable). Note that this attribute applies to pass control frames of type 0x8808 only (PAUSE is the only defined control frame). Other pass control frames (for example, type 0x8809) are not affected by this attribute, and will always be transparently passed through.
	DISABLE (default)	
PST-Q	IS (default)	Set the state of the facility to in-service (IS) or out-of-service management (OOS-MA).
	OOS-MA	

Table 7-83
Parameter descriptions - GE/FC SFP

Parameter	Possible values	Description
PASSCTRL	ENABLE DISABLE (default)	Discard pause frames received on the ETH port (disable) or allow pause frames to transparently pass through (enable). Note that this attribute applies to pass control frames of type 0x8808 only (PAUSE is the only defined control frame). Other pass control frames (for example, type 0x8809) are not affected by this attribute, and will always be transparently passed through.
PST-Q	IS (default) OOS-MA	Set the state of the facility to in-service (IS) or out-of-service management (OOS-MA).
MTU	1594 1600 (default) 9600	Set the maximum frame size (in bits) that this port can transmit to 1594, 1600 or 9600. This size includes all the overhead bytes such as MAC addresses, length and CRCs.
PAUSETX	ENABLE (default) DISABLE	Enable or disable pause transmission of the port. Note that this attribute can only be enabled if auto negotiation is disabled. If auto negotiation is enabled, this attribute is ignored.
AN	ENABLE (default) DISABLE	Set the auto negotiation mode of the port.
FLOWCTRL	ASYM (default) SYM NONE	Set the flow control capability used by auto negotiation to ASYM, SYM or NONE. Auto negotiation sets the actual flow control between two devices. Note that if auto negotiation is disabled, this attribute is ignored.

Example input
Provision ETH port 1 of the 2x100BT-P2P circuit pack in slot 7 of network element OTTAWA as follows:

- Set the duplex mode to FULL
- Set the speed to 100 Mbit/s
- Discard pause frames
- Set the primary state in-service

```
ENT-ETH:OTTAWA:ETH-7-1:CTAG01:::ETHDPX=FULL,SPEED=100,
PASSCTRL=DISABLE:IS;
```

ENT-FC

Use the Enter Fibre Channel command to provision a Fibre Channel facility (FC port) of a 2xGigE/FC-P2P circuit pack.

> ***Note:*** The WAN facility on the GE/FC SFP of a 2xGigE/FC-P2P circuit pack is created automatically when its corresponding FC facility is created.

Security level

Level 3

Input syntax

```
ENT-FC:<tid>:<aid>:<ctag>:::[,SUBRATE=Domain]
[,EXTREACH=Domain][,SERVICE=Domain][,BBCOVERRIDE=Domain]
[PST-Q=Domain];
```

Table 7-84
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. The Fibre Channel facility to provision.
CTAG	Correlation tag
SUBRATE	Determines whether or not service is carried over sub-rate bandwidth
EXTREACH	Extended reach mode of operation
SERVICE	Type of service
BBCOVERRIDE	Buffer-to-buffer credit (BBC) override value
PST-Q	Primary state qualifier

Table 7-85
AID descriptions

AID type	Command-specific values	Purpose
FC AID	FC-slot#-port# FC-slot#-ALL	Identify the Fibre Channel facility where slot# = 3 to 10 port# = 1 or 2

Table 7-86
Parameter descriptions

Parameter	Possible values	Description
SUBRATE	ENABLE	Enable or disable the ability of the service to be carried over sub-rate bandwidth.
	DISABLE (default)	
EXTREACH	ENABLE	Enable or disable the extended reach mode of operation.
	DISABLE (default)	
SERVICE	FC100 (default)	Set the service mode to FC100 or FICON.
	FICON	
BBCOVERRIDE	0 (default) 2 4 8 16 32 64 128 256	Set the buffer-to-buffer credit (BBC) override to 0 (no override), 1, 2, 4, 8, 16, 32, 64, 128 or 256. Note that if EXTREACH is disabled, this attribute and the selected value are ignored.
PST-Q	IS (default)	Set the state of the facility to in-service (IS) or out-of-service management (OOS-MA).
	OOS-MA	

Example input

Provision FC port 1 of the 2xGigE/FC-P2P circuit pack in slot 7 of network element OTTAWA as follows:

- the subrate is disabled
- the extended reach is disabled
- the service mode is set to FC100
- the BBC override is set to 0

```
ENT-FC:OTTAWA:ETH-7-1:CTAG01:::SUBRATE=DISABLE,
EXTREACH=DISABLE;SERVICE=FC100,BBCOVERRIDE=0;
```

ENT-FFP-OC3

The Enter FFP OC-3 command is used to set up 1+1 linear protection for OC-3 interfaces. The command also affects the operation of the SDCC in different ways depending on the current number of SDCC links configured on the pair of OC-3 interfaces targeted by this command. If two SDCC links are provisioned before 1+1 protection is set up, make sure the SDCC layer 2 parameters are the same for both links. If the parameters are not the same, the ENT-FFP-OC3 command will not complete.

Note 1: If the craftsperson attempts to modify optical protection through an FFP command, the command will be denied if the shelf has an active test access session.

Note 2: You cannot execute this command if there is an active test access session on this facility.

Security level

Level 3

Input syntax

```
ENT-FFP-OC3:[TID]:workingOC3AID,protectionOC3AID:CTAG:::
[PSDIRN=Domain];
```

Table 7-87
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. OC-3 to act on.
CTAG	Correlation tag
PSDIRN	Direction of protection group for OC-3 lines.

Table 7-88
AID descriptions

AID type	Command-specific values	Purpose
working OC3 AID	OC3-slot#-port#	Identify the slot number of the working OC-3 where slot# = 3, 5, 7, 9 port# = 1 for OC-3 port# = 1 to 4 for OC-3x4
protection OC3 AID	OC3-slot#-port#	Identify the slot number of the protection OC-3 where slot# = 4, 6, 8, 10 port# = 1 for OC-3 port# = 1 to 4 for OC-3x4

Table 7-89
Parameter descriptions

Parameter	Possible values	Description
PSDIRN	UNI	Unidirectional (default)
	BI	Bidirectional

Example input

Provision unidirectional 1+1 protection for the pair of OC-3 circuit packs in slot 9 port 1 and slot 10 port 1:

```
ENT-FFP-OC3:NEWYORK:OC3-9-1,OC3-10-1:CTAG12:::PSDIRN=UNI;
```

ENT-FFP-OC12

The Enter FFP OC-12 command is used to set up 1+1 linear protection for OC-12 interfaces. The command also affects the operation of the SDCC in different ways depending on the current number of SDCC links configured on the pair of OC-12 interfaces targeted by this command. If two SDCC links are provisioned before 1+1 protection is set up, make sure the SDCC layer 2 parameters are the same for both links. If the parameters are not the same, the ENT-FFP-OC12 command will not complete.

Note 1: If the craftsperson attempts to modify optical protection through an FFP command, the command will be denied if the shelf has an active test access session.

Note 2: You cannot execute this command if there is an active test access session on this facility.

Security level

Level 3

Input syntax

```
ENT-FFP-OC12:[TID]:workingOC12AID,protectionOC12AID:CTAG:::
[PSDIRN=Domain];
```

Table 7-90
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. OC-12 to act on.
CTAG	Correlation tag
PSDIRN	Direction of protection group for OC-12 lines.

Table 7-91
AID descriptions

AID type	Command-specific values	Purpose
working OC12 AID	OC12-slot#-port#	Identify the slot number of the working OC-12 facility where slot# = 3, 5, 7, 9, or 11 for OC-12 slot# = 3, 5, 7 or 9 for OC-12x4 STS port# = 1 for OC-12 port# = 1 to 4 for OC-12x4 STS
protection OC12 AID	OC12-slot#-port#	Identify the slot number of the protection OC-12 facility where slot# = 4, 6, 8, 10, or 12 for OC-12 slot# = 4, 6, 8, or 10 for OC-12x4 STS port# = 1 for OC-12 slot# = 1 to 4 for OC-12x4 STS

Table 7-92
Parameter descriptions

Parameter	Possible values	Description
PSDIRN	UNI BI	Unidirectional (default) Bidirectional

Example input

Provision unidirectional 1+1 protection for the pair of OC-12 circuit packs in slot 9 port 1 and slot 10 port 1:

```
ENT-FFP-OC12:NEWYORK:OC12-9-1,OC12-10-1:CTAG12:::PSDIRN=UNI;
```

ENT-FFP-OC48

The Enter FFP OC-48 command is used to set up protection for OC-48 interfaces. The command also affects the operation of the SDCC in different ways depending on the current number of SDCC links configured on the pair of OC-48 interfaces targeted by this command. If two SDCC links are provisioned before 1+1 protection is set up, make sure the SDCC layer 2 parameters are the same for both links. If the parameters are not the same, the ENT-FFP-OC48 command will not complete.

Note 1: Ensure that facilities on the protection circuit pack are out of service.

Note 2: You cannot execute this command if there is an active test access session on this facility.

Security level

Level 3

Input syntax

```
ENT-FFP-OC48:[TID]:workingOC48AID,protectionOC48AID:CTAG:::
[PSDIRN=Domain][,PS=Domain][,WR=Domain];
```

Table 7-93
Syntax definition

Field	Purpose
TID	Target identifier
workingOC48AID	Working side access identifier. OC-48 to act on
protectionOC48AID	Protection side access identifier
CTAG	Correlation tag
PSDIRN	Protection switch direction for 1+1 linear systems
PS	Protection scheme
WR	Wait-to-restore period for BLSR systems

Table 7-94
AID descriptions

AID type	Command-specific values	Purpose
workingOC48 AID	OC48-slot#	Identifies the slot number of the working OC-48 facility where slot# = 11 for OC-48 slot# = 3, 5, 7, 9, or 11 for OC-48 STS
protectionOC48 AID	OC48-slot#	Identifies the slot number of the protection OC-48 facility where slot# = 12 for OC-48 slot# = 4, 6, 8, 10, or 12 for OC-48 STS

Table 7-95
Parameter descriptions

Parameter	Possible values	Description
PSDIRN	UNI BI	Unidirectional (default) Bidirectional
PS	1PLUS1	1+1 protection (default)
	BLSR_2FR	2-Fiber BLSR protection
WR	n-MIN INFINITE	Wait-to-restore period for BLSR systems (in minutes, or infinite for no time limit). n = an integer between 1 and 12. Default is 5-MIN.

Example input
Provision unidirectional 1+1 protection for the pair of OC-48 circuit packs in slots 11 and 12:

```
ENT-FFP-OC48:NEWYORK:OC48-11,OC48-12:CTAG12:::PSDIRN=UNI;
```

Example input
Enter a BLSR protection for the pair of OC-48 circuit packs in slots 11 and 12 and set a wait to restore value of 1 minute:

```
ENT-FFP-OC48:NEWYORK:OC48-11,OC48-12:CTAG12:::
PS=BLSR_2FR,WR=1-MIN;
```

ENT-FFP-OC192

The Enter FFP OC-192 command is used to set up protection for OC-192 interfaces. The command also affects the operation of the SDCC in different ways depending on the current number of SDCC links configured on the pair of OC-192 interfaces targeted by this command. If two SDCC links are provisioned before 1+1 protection is set up, make sure the SDCC layer 2 parameters are the same for both links. If the parameters are not the same, the ENT-FFP-OC192 command will not complete.

Note 1: Ensure that facilities on the protection circuit pack are out of service.

Note 2: You cannot execute this command if there is an active test access session on this facility.

Security level

Level 3

Input syntax

```
ENT-FFP-OC192:[TID]:workingOC192AID,protectionOC192AID:CTAG:::
[PSDIRN=Domain][,PS=Domain][,WR=Domain];
```

Table 7-96
Syntax definition

Field	Purpose
TID	Target identifier
workingOC192AID	Working side access identifier. OC-192 to act on
protectionOC192AID	Protection side access identifier
CTAG	Correlation tag
PSDIRN	Protection switch direction for 1+1 linear systems
PS	Protection scheme
WR	Wait-to-restore period for BLSR systems

Table 7-97
AID descriptions

AID type	Command-specific values	Purpose
workingOC192 AID	OC192-slot#	Identifies the slot number of the working OC-192 where slot# = 11
protectionOC192 AID	OC192-slot#	Identifies the slot number of the protection OC-192 where slot# = 12

Table 7-98
Parameter descriptions

Parameter	Possible values	Description
PSDIRN	UNI BI	Unidirectional (default) Bidirectional
PS	1PLUS1	1+1 protection (default)
	BLSR_2FR	2-Fiber BLSR protection
WR	n-MIN INFINITE	Wait-to-restore period for BLSR systems (in minutes, or infinite for no time limit). n = an integer between 1 and 12. Default is 5-MIN.

Example input
Provision unidirectional 1+1 protection for the pair of OC-192 circuit packs in slots 11 and 12:

```
ENT-FFP-OC192:NEWYORK:OC192-11,OC192-12:CTAG12:::PSDIRN=UNI;
```

Example input
Enter a BLSR protection for the pair of OC-192 circuit packs in slots 11 and 12 and set a wait to restore value of 1 minute:

```
ENT-FFP-OC192:NEWYORK:OC19211,OC192-12:CTAG12:::
PS=BLSR_2FR,WR=1-MIN;
```

ENT-OC3

The Enter OC-3 command provisions and enters the attributes of an OC-3 facility in a network element.

Note: This command is not supported for Host prov-link OC-3 facility, and DSM TM OC-3 line facility.

Security level

Level 3

Input syntax

```
ENT-OC3:[TID]:AID:CTAG:::[SDTH=Domain][,STFORMAT=Domain]
[,STRC=Domain][,EXPSTRC=Domain][,STFMODE=Domain]
[,SSBITMDE=Domain][,REMOTE=Domain]:[PST],[SST];
```

Table 7-99
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. OC-3 to act on.
CTAG	Correlation tag
SDTH	Signal degrade threshold. See Parameter descriptions table for details.
STFORMAT	Section trace format. See Parameter descriptions table for details.
STRC	Outgoing section trace message. See Parameter descriptions table for details.
EXPSTRC	Expected section trace message. See Parameter descriptions table for details.
STFMODE	Section trace fail mode. See Parameter descriptions table for details.
SSBITMDE	SS bits mode
REMOTE	Type of node at remote end (for section trace purposes). See Parameter descriptions table for details.
PST	Primary state. See Parameter descriptions table for details.
SST	Secondary state. See Parameter descriptions table for details.

Table 7-100
AID descriptions

AID type	Command-specific values	Purpose
OC3 AID	OC3-slot#-port# OC3-slot#-ALL	Identify the OC-3 where slot# = 3 to 10 port# = 1 for OC-3 port# = 1 to 4 for OC-3x4

Table 7-101
Parameter descriptions

Parameter	Possible values	Description
SDTH	5 to 9	Translates to 10^{-5} to 10^{-9} (default is 6)
STFORMAT	NUM	Section trace message is 1 byte long (default)
	STRING	Section trace message is up to 15 bytes long
STRC	0 to 255	If STFORMAT is NUM (default is 1)
	ASCII string up to 15 characters	If STFORMAT is STRING (default is null character string). See Note.
EXPSTRC	0 to 255	If STFORMAT is NUM (default is 1)
	ASCII string up to 15 characters	If STFORMAT is STRING (default is null character string). See Note.
STFMODE	OFF	Alarms off, no traffic protection (default)
	ALMONLY	Alarms on, no traffic protection
SSBITMDE	SONET	SS bits operate in SONET mode (default)
	SDH	SS bits operate in SDH mode
REMOTE	EXPRESS	OPTera Metro node (default)
	OC48	OC-48 node
PST (see Note 2)	IS	In service (default)
	OOS-MA	Out of service maintenance for provisioning memory administration

Table 7-101 (continued)
Parameter descriptions

Parameter	Possible values	Description
SST	AINS	Auto in-service
	AINS-DEA	Auto in-service deactivated
	TS	Test
	TS-DEA	Test Deactivated
Note: The Possible values of the section trace messages depend on the STFORMAT value. If STFORMAT is NUM, the Possible values are 0 to 255. If STFORMAT is STRING, the Possible values are any printable alphanumeric ASCII string up to 15 characters (except comma, colon, semi-colon, equal sign, or question mark) or a NULL character string (for example, STRC=, or EXPSTRC=,). Enclose the ASCII string in double quotes (“) to maintain case sensitivity. The string must begin and end with the double quotes. You cannot use double quotes, or any special character as part of the ASCII string.		

Example input

Set the primary state of the OC-3 facility in slot 10 port 1 to an in-service state with a section trace format value of STRING and an outgoing section trace value of Abc123 and the SSBITMDE to SONET:

```
ENT-OC3:SEATTLE:OC3-10-1:CTAG12:::STFORMAT=STRING,
STRC=”Abc123”,SSBITMDE=SONET:IS;
```

ENT-OC12

The Enter OC-12 command provisions and enters the attributes of an OC-12 facility in a network element.

Security level

Level 3

Input syntax

```
ENT-OC12:[TID]:AID:CTAG:::[SDTH=Domain][,STFORMAT=Domain]
[,STRC=Domain][,EXPSTRC=Domain][,STFMODE=Domain]
[,SSBITMDE=Domain]:[PST],[SST];
```

Table 7-102
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. OC-12 to act on.
CTAG	Correlation tag
SDTH	Signal degrade threshold. See Parameter descriptions table for details.
STFORMAT	Section trace format. See Parameter descriptions table for details.
STRC	Outgoing section trace message. See Parameter descriptions table for details.
EXPSTRC	Expected section trace message. See Parameter descriptions table for details.
STFMODE	Section trace fail mode. See Parameter descriptions table for details.
SSBITMDE	SS bits mode. See Parameter descriptions table for details.
PST	Primary state. See Parameter descriptions table for details.
SST	Secondary state. See Parameter descriptions table for details.

Table 7-103
AID descriptions

AID type	Command-specific values	Purpose
OC12 AID	OC12-slot#-port# OC-12-slot#-ALL	Identify the OC-12 facility where slot# = 3 to 12 for OC-12 slot# = 3 to 10 for OC-12x4 STS port# = 1 for OC-12 port# = 1 to 4 for OC-12x4 STS

Table 7-104
Parameter descriptions

Parameter	Possible values	Description
SDTH	5 to 9	Translates to 10^{-5} to 10^{-9} (default is 6)
STFORMAT	NUM	Section trace message is 1 byte long (default)
	STRING	Section trace message is up to 15 bytes long
STRC	0 to 255	If STFORMAT is NUM (default is 1)
	ASCII string up to 15 characters	If STFORMAT is STRING (default is null character string). See Note 1.
EXPSTRC	0 to 255	If STFORMAT is NUM (default is 1)
	ASCII string up to 15 characters	If STFORMAT is STRING (default is null character string). See Note 1.
STFMODE	OFF	Alarms off, no traffic protection (default)
	ALMONLY	Alarms on, no traffic protection
SSBITMDE	SONET	SS bits operate in SONET mode (default)
	SDH	SS bits operate in SDH mode
PST (see Note 2)	IS	In service (default)
	OOS-MA	Out of service maintenance for provisioning memory administration
SST	AINS	Auto in-service
	AINS-DEA	Auto in-service deactivated
	TS	Test. See Note 2.
	TS-DEA	Test Deactivated

Note 1: The Possible values of the section trace messages depend on the STFORMAT value. If STFORMAT is NUM, the Possible values are 0 to 255. If STFORMAT is STRING, the Possible values are any printable alphanumeric ASCII string up to 15 characters (except comma, colon, semi-colon, equal sign, or question mark) or a NULL character string (for example, STRC=, or EXPSTRC=,). Enclose the ASCII string in double quotes (“) to maintain case sensitivity. The string must begin and end with the double quotes. You cannot use double quotes, or any special character as part of the ASCII string.

Note 2: Test access secondary state is supported in slots 3 through 10 only.

Example input

Set the primary state of the OC-12 facility in slot 7 port 1 to in-service, with a section trace format value of STRING, an outgoing section trace value of Abc123, and SSBITMDE set to SONET:

```
ENT-OC12:SEATTLE:OC12-7-1:CTAG12:::STFORMAT=STRING,
STRC=”Abc123”,SSBITMDE=SONET:IS;
```

ENT-OC48

The Enter OC-48 command provisions and enters the attributes of an OC-48 facility in a network element.

Security level

Level 3

Input syntax

```
ENT-OC48:[TID]:AID:CTAG:::[SDTH=Domain][,STFORMAT=Domain]
[,STRC=Domain][,EXPSTRC=Domain][,STFMODE=Domain]
[,SSBITMDE=Domain]:[PST],[SST];
```

Table 7-105
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. OC-48 to act on.
CTAG	Correlation tag
SDTH	Signal degrade threshold. See Parameter descriptions table for details.
STFORMAT	Section trace format. See Parameter descriptions table for details.
STRC	Outgoing section trace value. See Parameter descriptions table for details.
EXPSTRC	Expected incoming section trace value. See Parameter descriptions table for details.
STFMODE	Section trace fail mode. See Parameter descriptions table for details.
SSBITMDE	SS bit mode for optical signal. See Parameter descriptions table for details.
PST	Primary state. See Parameter descriptions table for details.
SST	Secondary state. See Parameter descriptions table for details.

Table 7-106
AID descriptions

AID type	Command-specific values	Purpose
OC48 AID	OC48-slot#	Identify the OC-48 facility where slot# = 11, 12 for OC-48 slot# = 3 to 12 for OC-48 STS

Table 7-107
Parameter descriptions

Parameter	Possible values	Description
SDTH	5 to 9	Translates to 10^{-5} to 10^{-9} (default is 6)
STFORMAT	NUM	An integer 1 byte long (default)
	STRING	An ASCII string up to 15 bytes long
STRC	0 to 255	If STFORMAT is NUM (default is 1)
	ASCII string up to 15 characters	If STFORMAT is STRING (default is null character string). See Note 1.
EXPSTRC	0 to 255	If STFORMAT is NUM (default is 1)
	ASCII string up to 15 characters	If STFORMAT is STRING (default is null character string). See Note 1.
STFMODE	OFF	Alarms off, no traffic protection (default)
	ALMONLY	Alarms on, no traffic protection
	LINEFAIL	Alarms on, traffic protection
SSBITMDE	SONET	SS bits operate in SONET mode (default)
	SDH	SS bits operate in SDH mode
PST (see Note 2)	IS	In service (default)
	OOS-MA	Out of service - memory administration
SST	AINS	Auto in-service
	AINS-DEA	Auto in-service deactivated
	TS	Test. See Note 2.
	TS-DEA	Test Deactivated
Note 1: The Possible values of the section trace messages depend on the STFORMAT value. If STFORMAT is NUM, the Possible values are 0 to 255. If STFORMAT is STRING, the Possible values are any printable alphanumeric ASCII string up to 15 characters (except comma, colon, semi-colon, equal sign, or question mark) or a NULL character string (for example, STRC=, or EXPSTRC=,). Enclose the ASCII string in double quotes (“) to maintain case sensitivity. The string must begin and end with the double quotes. You cannot use double quotes, or any special character as part of the ASCII string. ***Note 2:*** Test access secondary state is supported in slots 3 through 10 only.		

Example input

Set the primary state of the OC-48 facility in slot 11 to an in-service state with a section trace format value of STRING and an outgoing section trace value of Abc123 and the SSBITMDE to SONET:

```
ENT-OC48:SEATTLE:OC48-11:CTAG12:::STFORMAT=STRING,
STRC=”Abc123”,SSBITMDE=SONET:IS;
```

ENT-OC192

The Enter OC-192 command provisions and enters the attributes of an OC-192 facility in a network element.

Security level

Level 3

Input syntax

```
ENT-OC192:[TID]:AID:CTAG:::[SDTH=Domain][,STFORMAT=Domain]
[,STRC=Domain][,EXPSTRC=Domain][,STFMODE=Domain]
[,SSBITMDE=Domain]:[PST],[SST];
```

Table 7-108
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. OC-192 to act on.
CTAG	Correlation tag
SDTH	Signal degrade threshold. See Parameter descriptions table for details.
STFORMAT	Section trace format. See Parameter descriptions table for details.
STRC	Outgoing section trace value. See Parameter descriptions table for details.
EXPSTRC	Expected incoming section trace value. See Parameter descriptions table for details.
STFMODE	Section trace fail mode. See Parameter descriptions table for details.
SSBITMDE	SS bit mode for optical signal. See Parameter descriptions table for details.
PST	Primary state. See Parameter descriptions table for details.
SST	Secondary state. See Parameter descriptions table for details.

Table 7-109
AID descriptions

AID type	Command-specific values	Purpose
OC192 AID	OC192-slot#	Identify the OC-192 facility where slot# = 11, 12

Table 7-110
Parameter descriptions

Parameter	Possible values	Description
SDTH	5 to 9	Translates to 10^{-5} to 10^{-9} (default is 6)
STFORMAT	NUM	An integer 1 byte long (default)
	STRING	An ASCII string up to 15 bytes long
STRC	0 to 255	If STFORMAT is NUM (default is 1)
	ASCII string up to 15 characters	If STFORMAT is STRING (default is null character string). See Note 1.
EXPSTRC	0 to 255	If STFORMAT is NUM (default is 1)
	ASCII string up to 15 characters	If STFORMAT is STRING (default is null character string). See Note 1.
STFMODE	OFF	Alarms off, no traffic protection (default)
	ALMONLY	Alarms on, no traffic protection
	LINEFAIL	Alarms on, traffic protection
SSBITMDE	SONET	Optical signal transmitted is SONET format (default)
	SDH	Optical signal transmitted is SDH format
PST (see Note 2)	IS	In service (default)
	OOS-MA	Out of service - memory administration

Table 7-110 (continued)
Parameter descriptions

Parameter	Possible values	Description
SST	AINS	Auto in-service
	AINS-DEA	Auto in-service deactivated
	TS	Test. See Note 2.
	TS-DEA	Test Deactivated
Note 1: The Possible values of the section trace messages depend on the STFORMAT value. If STFORMAT is NUM, the Possible values are 0 to 255. If STFORMAT is STRING, the Possible values are any printable alphanumeric ASCII string up to 15 characters (except comma, colon, semi-colon, equal sign, or question mark) or a NULL character string (for example, STRC=, or EXPSTRC=,). Enclose the ASCII string in double quotes (“) to maintain case sensitivity. The string must begin and end with the double quotes. You cannot use double quotes, or any special character as part of the ASCII string. ***Note 2:*** Test access secondary state is supported in slots 3 through 10 only.		

Example input

Set the primary state of the OC-192 facility in slot 11 to an in-service state with a section trace format value of STRING and an outgoing section trace value of Abc123 and the SSBITMDE to SONET:

```
ENT-OC192:SEATTLE:OC192-11:CTAG12:::STFORMAT=STRING,
STRC=”Abc123”,SSBITMDE=SONET:IS;
```

ENT-T1

The Enter T1 command is used to enter the attributes of a DS1 facility in a network element.

To modify DS1 facilities once they have been created, use the ED-T1 command.

Security level

Level 3

Input syntax

```
ENT-T1:[TID]:AID:CTAG:::[EQLZ=Domain][,FENDNTE=Domain]
[,FLMDE=Domain][,FMT=Domain][,LINECDE=Domain][,MAP=Domain]
[,OMODE=Domain]:[PST],[SST],[AINS-TIME];
```

Table 7-111
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. DS1s to act on.
CTAG	Correlation tag
EQLZ=Domain FENDNTE=Domain FLMDE=Domain FMT=Domain LINECDE=Domain MAP=Domain OMODE=Domain	Facility signal attribute parameters. See the Parameter descriptions table on page 7-85.
PST	Primary state
SST	Secondary state
AINS-TIME	DS1 auto-in-service time

Table 7-112
AID descriptions

AID type	Command-specific values	Purpose
DS1 AID	DS1-slot#-port# DS1-slot#-ALL	Identify the DS1s where slot# =4 to 10, port# =1 to 28
DS3 AID	DS1-slot#-port#-t1# DS1-slot#-port#-ALL	Identify the DS1s where slot# = 3, 5, 7, 9 port# = 1 to 12 t1# = 1 to 28
DSM AID	DS1-1-port#-%HLINK-OC3-hslot#-hport#	DS1 service module port# = 1 to 84 hslot# = 3 to 10 hport# = 1 to 4
	DS1-1-ALL-%HLINK-OC3-hslot#-hport#	All DS1 ports on the DS1 service module hslot# = 3 to 10 hport# = 1 to 4

Table 7-113
Parameter descriptions

Parameter	Possible values	Description
EQLZ		Cable connecting T1 to DS1 cross-connect. If the cables for the incoming and outgoing streams are different, add “TX” or “RX” to the domain, for example “1RX” or “2TX”. 1, 2 and 3 set the values for both TX and RX cables.
	1 1TX 1RX	Default: short: 0-220 ft both directions 0 to 220 ft transmit 0 to 220 ft receive
	2 2TX 2RX	medium: 220 to 430 ft both directions 220 to 430 ft transmit 220 to 430 ft receive
	3 3TX 3RX	long: 430 to 655 ft both directions 430 to 655 ft transmit 430 to 655 ft receive
FENDNTE	ANSI NOTANSI	Default: Far end NTE supports ANSI standards ANSI standards are not supported

Table 7-113 (continued)
Parameter descriptions

Parameter	Possible values	Description
FLMDE		Fault locate mode: Faults in the frame format that will be checked for. Use N if DS1 data is unframed.
	BOTH	Default: both incoming and outgoing data streams will have the frame format, as specified by FMT, checked.
	INC	Only check incoming data. (Outgoing can be unframed.)
	OC	Only check outgoing data.
	N	Do not check the frame format. (The DS1 facility can be unframed or used as a clear channel facility.)
FMT	SF	Default: Superframe format
	ESF	Extended Superframe format
	SF-TR08	Superframe with TR08 extensions
LINECDE		Line code. If the incoming and outgoing streams are different, add “TX” or “RX” to the domain, for example “AMITX”, “B8ZSRX”.
	AMI AMITX AMIRX	Default: Alternate mark inversion (“bipolar”) both directions AMI transmit AMI receive
	AMIZCS	AMI with zero code suppression, both directions If there are 8 zeros in a byte, the least significant will be changed to a one.
	AMIZCSTX	AMIZCS transmit ***Note:*** Zero code suppression is not supported in the receive direction.
	B8ZS B8ZSTX B8ZSRX	Bipolar with 8-zero substitution, both directions B8ZS Transmit B8ZS Receive
MAP		The form of mapping for DS1 payloads into VT1.5s.
	VTASYN	Default:VT1.5 bit asynchronous mapping
	VTBYTE	VT1.5 byte synchronous mapping
	VTBIT	VT1.5 bit synchronous mapping

Table 7-113 (continued)
Parameter descriptions

Parameter	Possible values	Description
MAP		If using VTBYTE mapping, one or both of these mappings can also be specified:
	SIGNLIN	Robbed bit signaling bits are transported.
	SIGNLOUT	Out slot (S1-S4) signaling bits are transported.
		Note: You must enter each MAP parameter in a separate command.
OMODE		Output mode:
	NORM	Default: The outgoing stream is a regular DS1
	IDLE	The outgoing stream is set to an idle code: repeating 1100
	AZC	The outgoing stream will have any AIS code changed to all-zeros.
PST (primary state)	IS	In service (default)
	OOS-MA	Out of service maintenance
SST	AINS	Auto in-service
	AINS-DEA	Auto in-service deactivated
	TS	Test
	TS-DEA	Test Deactivate

Example input
Provision the DS1 facility on the DS1 circuit pack in slot 4 port 7 and set its TX EQLZ value:

```
ENT-T1:NEWYORK:DS1-4-7:CTAG23:::EQLZ=2TX;
```

Provision all the DS1 facilities on the DS1 circuit pack in slot 6 and set their LINECDE values to use B8ZS:

```
ENT-T1:NEWYORK:DS1-6-ALL:CTAG23:::LINECDE=B8ZS;
```

Provision the DS1 facility on the DS1 circuit pack in slot 4 port 7, overruling the defaults for EQLZ (it is a long cable, not a short one) and FMT (the framing is extended superframe):

```
ENT-T1:NEWYORK:DS1-4-7:CTAG23:::EQLZ=3,FMT=ESF;
```

Provision all the DS1 facilities on the DS1 circuit pack in slot 6 and set their MAP values to use VTBYTE:

```
ENT-T1:SEATTLE:DS1-6-ALL:CTAG23:::MAP=VTBYTE;
```

ENT-T3

The Enter T3 command is used to enter the attributes of a DS3 facility in a network element.

To modify DS3 facilities once they have been created, use the ED-T3 command.

Security level

Level 3

Input syntax

```
ENT-T3:[TID]:AID:CTAG:::[LBO=Domain][,FMT=Domain]:[PST],[SST],
[AINS-TIME];
```

Table 7-114
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. DS3s to act on.
CTAG	Correlation tag
LBO	Line buildout
FMT	Frame format
PST	Primary state
SST	Secondary state
AINS-TIME	DS1 auto-in-service time

Table 7-115
AID descriptions

AID type	Command-specific values	Purpose
T3 AID	DS3-slot#-port# DS3-slot#-ALL	Identify the DS3s where slot# =3, 5, 7, or 9 port# = 1 to 3 for DS3x3 port# = 1 to 12 for DS3x12, DS3x12e, or DS3VTx12

Table 7-116
Parameter descriptions

Parameter	Possible values	Description
FMT	ASYNC	M13, multiplex framed (default)
	UNFR	Unframed clear channel
	CBIT	C-bit parity
LBO	1 (default)	0 to 224 ft to DS3 cross-connect
	2	225 to 450 ft to DS3 cross-connect
PST	IS	In service (default)
	OOS-MA	Out of service maintenance for provisioning memory administration
SST	AINS	Auto in-service
	AINS-DEA	Auto in-service deactivated
	TS	Test
	TS-DEA	Test deactivated
AINS-TIME	HH-MM 00-01 to 96-00	Amount of time that an error-free signal must be present on the DS1 line in order for the auto-in-service state to clear. If an error-free signal is present for less than this period of time, the DS1 facility remains in an auto-in-service state. Default = 04-00 (4 hours) HH= 00-96 MM=00-59

Example input

Provision a DS3 facility on the DS3 circuit pack in slot 5 port 1 with a line buildout of 225 ft and the frame format to unframed:

```
ENT-T3:NEWYORK:DS3-5-1:CTAG23:::LBO=2,FMT=UNFR;
```

RMV-EC1

The Remove EC-1 command instructs a network element to change the state of the EC-1 facility from in service to out-of-service maintenance for memory administration. Once the EC-1 is removed from service, service-affecting tests or physical replacement of defective equipment can be initiated.

Security level

Level 3

Input syntax

```
RMV-EC1:[TID]:AID:CTAG;
```

Table 7-117
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. EC-1 to act on.
CTAG	Correlation tag

Table 7-118
AID descriptions

AID type	Command-specific values	Purpose
EC-1	EC1-slot#-port# EC1-slot#-ALL	Identify the EC-1 facility slot# = 3, 5, 7, 9 port # = 1 to 3 for EC-1x3 port # = 1 to 12 for EC-1x12

Example input

Remove the EC1 facility on the EC1 circuit pack in slot 7 port 1:

```
RMV-EC1:NEWYORK:EC1-7-1:CTAG56;
```

RMV-ETH

The Remove Ethernet command changes an Ethernet facility (ETH port) of a 2x100BT-P2P or 2xGigE/FC-P2P circuit pack from an in-service (IS) state to an out-of-service management (OOS-MA) state.

Security level

Level 3

Input syntax

```
RMV-ETH:[TID]:AID:CTAG;
```

Table 7-119
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. The Ethernet facility to change.
CTAG	Correlation tag

Table 7-120
AID descriptions

AID type	Command-specific values	Purpose
ETH AID	ETH-slot#-port# ETH-slot#-ALL	Identify the Ethernet facility where slot# = 3 to 10 port# = 1 or 2

Example input

Change ETH port 1 of the 2x100BT-P2P circuit pack in slot 7 of network element OTTAWA to an OOS-MA state:

```
RMV-ETH:OTTAWA:ETH-7-1:CTAG77;
```

RMV-FC

The Remove Fibre Channel command changes a Fibre Channel facility (FC port) of a 2xGigE/FC-P2P circuit pack from an in-service (IS) state to an out-of-service management (OOS-MA) state.

Security level

Level 3

Input syntax

```
RMV-FC:[TID]:AID:CTAG;
```

Table 7-121
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. The Fibre Channel facility to change.
CTAG	Correlation tag

Table 7-122
AID descriptions

AID type	Command-specific values	Purpose
FC	FC-slot#-port# FC-slot#-ALL	Identify the Fibre Channel facility where slot# = 3 to 10 port# = 1 or 2

Example input

Change FC port 1 of the 2xGigE/FC-P2P circuit pack in slot 7 of network element OTTAWA to an OOS-MA state:

```
RMV-FC:OTTAWA:FC-7-1:CTAG77;
```

RMV-OC3

The Remove OC-3 command instructs a network element to change the state of the OC-3 facility from in service to out-of-service maintenance for memory administration. Once the OC-3 is removed from service, service-affecting tests or physical replacement of defective equipment can be initiated.

Security level

Level 3

Input syntax

```
RMV-OC3:[TID]:AID:CTAG;
```

Table 7-123
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. OC-3 to act on.
CTAG	Correlation tag

Table 7-124
AID descriptions

AID type	Command-specific values	Purpose
OC-3 AID	OC3-slot#-port# OC3-slot#-ALL	Identify the OC-3 where slot# = 3 to 10 port# = 1 for OC-3 port# = 1 to 4 for OC-3x4
DSM OC-3 Facility AID	OC3-slot#-1-%HLINK-OC3-hslot#-hport#	slot# = 1 or 2 hslot# = 3 to 10 hport# = 1 to 4

Example input

Remove the OC-3 facility on the OC-3x4 circuit pack in slot 10 port 1:

```
RMV-OC3:NEWYORK:OC3-10-1:CTAG56;
```

RMV-OC12

The Remove OC-12 command instructs a network element to change the state of the OC-12 facility from in service to out-of-service maintenance for memory administration. Once the OC-12 facility is removed from service, service-affecting tests or physical replacement of defective equipment can be initiated.

Security level

Level 3

Input syntax

```
RMV-OC12:[TID]:AID:CTAG;
```

Table 7-125
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. OC-12 to act on.
CTAG	Correlation tag

Table 7-126
AID descriptions

AID type	Command-specific values	Purpose
OC-12 AID	OC12-slot#-port# OC-12-slot#-ALL	Identify the OC-12 facility where slot# = 3 to 12 for OC-12 slot# = 3 to 10 for OC-12x4 STS port# = 1 for OC-12 port# = 1 to 4 for OC-12x4 STS

Example input

Remove the OC-12 facility on the OC-12 circuit pack in slot 7 port 1:

```
RMV-OC12:NEWYORK:OC12-7:CTAG56;
```

RMV-OC48

The Remove OC-48 command instructs a network element to change the state of the OC-48 facility from in service to out-of-service maintenance for memory administration. After the OC-48 facility is removed from service, service-affecting tests or replacement of defective equipment can be initiated.

Security level

Level 3

Input syntax

```
RMV-OC48:[TID]:AID:CTAG;
```

Table 7-127
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. OC-48 to act on.
CTAG	Correlation tag

Table 7-128
AID descriptions

AID type	Command-specific values	Purpose
OC-48 AID	OC48-slot#	Identifies the OC-48 facility slot# = 11, 12 for OC-48 slot# = 3 to 12 for OC-48 STS

Example input

Remove the OC-48 facility on the OC-48 circuit pack in slot 11:

```
RMV-OC48:NEWYORK:OC48-11:CTAG56;
```

RMV-OC192

The Remove OC-192 command instructs a network element to change the state of the OC-192 facility from in service to out-of-service maintenance for memory administration. After the OC-192 facility is removed from service, service-affecting tests or replacement of defective equipment can be initiated.

Security level

Level 3

Input syntax

```
RMV-OC192:[TID]:AID:CTAG;
```

Table 7-129
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. OC-192 to act on.
CTAG	Correlation tag

Table 7-130
AID descriptions

AID type	Command-specific values	Purpose
OC-192 AID	OC192-slot#	Identifies the OC-192 facility slot# = 11, 12

Example input

Remove the OC-192 facility on the OC-192 circuit pack in slot 11:

```
RMV-OC192:NEWYORK:OC192-11:CTAG56;
```

RMV-T1

The Remove T1 command instructs a network element to change the state of the DS1 from in-service to out-of-service maintenance for memory administration. Once the DS1 is removed from service, service-affecting tests or physical replacement of defective equipment can be initiated.

Security level

Level 3

Input syntax

```
RMV-T1:[TID]:AID:CTAG;
```

Table 7-131
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. DS1s to act on.
CTAG	Correlation tag

Table 7-132
AID descriptions

AID type	Command-specific values	Purpose
DS1 AID	DS1-slot#-port# DS1-slot#-ALL	Identify the DS1s where slot# =4 to 10, port# =1 to 12
DS3 AID	DS1-slot#-port#-t1# DS1-slot#-port#-ALL	Identify the DS1s where slot# = 3, 5, 7, 9 port# = 1 to 12 t1# = 1 to 28
DSM AID	DS1-1-port#-%HLINK-OC3-hslot#-hport#	DS1 service module port# = 1 to 84 hslot# = 3 to 10 hport# = 1 to 4
	DS1-1-ALL-%HLINK-OC3-hslot#-hport#	All DS1 ports on the DS1 service module hslot# = 3 to 10 hport# = 1 to 4

Example input

Remove the DS1 facility on the DS1 circuit pack in slot 4 port 1:

```
RMV-T1:NEWYORK:DS1-4-1:CTAG45;
```

Remove all the DS1 facilities on the DS1 circuit pack in slot 6:

```
RMV-T1:CHARLESTON:DS1-6-ALL:CTAG78;
```

RMV-T3

The Remove T3 command instructs a network element to change the state of the DS3 from in-service to out-of-service maintenance for memory administration. Once the DS3 is removed from service, service-affecting tests or physical replacement of defective equipment can be initiated.

Security level

Level 3

Input syntax

```
RMV-T3:[TID]:AID:CTAG;
```

Table 7-133
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. DS3s to act on.
CTAG	Correlation tag

Table 7-134
AID descriptions

AID type	Command-specific values	Purpose
T3	DS3-slot#-port# DS3-slot#-ALL	Identify the DS3s slot# =3, 5, 7, or 9 port# = 1 to 3 for DS3x3 port# = 1 to 12 for DS3x12, DS3x12e, or DS3VTx12

Example input

Remove the DS3 facility on the DS3 circuit pack in slot 5 port 1:

```
RMV-T3:TOMBSTONE:DS3-5-1:CTAG45;
```

RST-EC1

The Restore EC-1 command instructs the network element to bring an EC-1 facility back into service from an out-of-service maintenance for memory administration state.

Security level

Level 3

Input syntax

```
RST-EC1:[TID]:AID:CTAG;
```

Table 7-135
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. EC-1 facility to act on.
CTAG	Correlation tag

Table 7-136
AID descriptions

AID type	Command-specific values	Purpose
EC-1 AID	EC1-slot#-port# EC1-slot#-ALL	Identify the EC-1 facility slot# = 3, 5, 7, 9 port # = 1 to 3 for EC-1x3 port # = 1 to 12 for EC-1x12

Example input

Restore the EC-1 facility on the EC-1 circuit pack in slot 5 port 1:

```
RST-EC1:NEWYORK:EC1-5-1:CTAG77;
```

RST-ETH

The Restore Ethernet command changes an Ethernet facility (ETH port) of a 2x100BT-P2P or 2xGigE/FC-P2P circuit pack from an out-of-service management (OOS-MA) state to an in-service (IS) state.

Security level

Level 3

Input syntax

```
RST-ETH:[TID]:AID:CTAG;
```

Table 7-137
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. The Ethernet facility to change.
CTAG	Correlation tag

Table 7-138
AID descriptions

AID type	Command-specific values	Purpose
ETH AID	ETH-slot#-port# ETH-slot#-ALL	Identify the Ethernet facility where slot# = 3 to 10 port# = 1 or 2

Example input

Change ETH port 1 of the 2x100BT-P2P circuit pack in slot 7 of network element OTTAWA to an IS state:

```
RST-ETH:OTTAWA:ETH-7-1:CTAG77;
```

RST-FC

The Restore Fibre Channel command changes a Fibre Channel facility (FC port) of a 2xGigE/FC-P2P circuit pack from an out-of-service management (OOS-MA) state to an in-service (IS) state.

Security level

Level 3

Input syntax

```
RST-FC:[TID]:AID:CTAG;
```

Table 7-139
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. The Fibre Channel facility to change.
CTAG	Correlation tag

Table 7-140
AID descriptions

AID type	Command-specific values	Purpose
FC AID	FC-slot#-port# FC-slot#-ALL	Identify the Fibre Channel facility where slot# = 3 to 10 port# = 1 or 2

Example input

Change FC port 1 of the 2xGigE/FC-P2P circuit pack in slot 7 of network element OTTAWA to an IS state:

```
RST-FC:OTTAWA:FC-7-1:CTAG77;
```

RST-OC3

The Restore OC-3 command instructs the network element to bring an OC-3 facility back into service from an out-of-service maintenance for memory administration state.

Security level

Level 3

Input syntax

```
RST-OC3:[TID]:AID:CTAG;
```

Table 7-141
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. OC-3s to act on.
CTAG	Correlation tag

Table 7-142
AID descriptions

AID type	Command-specific values	Purpose
OC-3 AID	OC-3-slot#-port# OC-3-slot#-ALL	Identify the OC-3 where slot# = 3 to 10 port# = 1 for OC-3 port# = 1 to 4 for OC-3x4
DSM OC-3 Facility AID	OC3-slot-1-%HLINK-OC3-hslot-hport	slot# = 1 or 2 hslot# = 3 to 10 hport# = 1 to 4

Example input

Restore the OC-3 facility on the OC-3x4 circuit pack in slot 9 port 1:

```
RST-OC3:NEWYORK:OC3-9-1:CTAG77;
```

RST-OC12

The Restore OC-12 command instructs the network element to bring an OC-12 facility back into service from an out-of-service maintenance for memory administration state.

Security level

Level 3

Input syntax

```
RST-OC12:[TID]:AID:CTAG;
```

Table 7-143
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. OC-12 to act on.
CTAG	Correlation tag

Table 7-144
AID descriptions

AID type	Command-specific values	Purpose
OC-12 AID	OC12-slot#-port# OC12-slot#-ALL	Identify the OC-12s where slot# = 3 to 12 for OC-12 slot# = 3 to 10 for OC-12x4 STS port# = 1 for OC-12 port# = 1 to 4 for OC-12x4 STS

Example input

Restore the OC-12 facility on the OC-12 circuit pack in slot 11 port 1:

```
RST-OC12:NEWYORK:OC12-11-1:CTAG77;
```

RST-OC48

The Restore OC-48 command instructs the network element to bring an OC-48 facility back into service from an out-of-service maintenance for memory administration state.

Security level

Level 3

Input syntax

```
RST-OC48:[TID]:AID:CTAG;
```

Table 7-145
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. OC-48 to act on.
CTAG	Correlation tag

Table 7-146
AID descriptions

AID type	Command-specific values	Purpose
OC-48 AID	OC48-slot#	Identifies the OC-48 facility slot# = 11, 12 for OC-48 slot# = 3 to 12 for OC-48 STS

Example input

Restore the OC-48 facility on the OC-48 circuit pack in slot 11:

```
RST-OC48:NEWYORK:OC48-11:CTAG77;
```

RST-OC192

The Restore OC-192 command instructs the network element to bring an OC-192 facility back into service from an out-of-service maintenance for memory administration state.

Security level

Level 3

Input syntax

```
RST-OC192:[TID]:AID:CTAG;
```

Table 7-147
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. OC-192 to act on.
CTAG	Correlation tag

Table 7-148
AID descriptions

AID type	Command-specific values	Purpose
OC-192 AID	OC192-slot#	Identifies the OC-192 facility slot# = 11, 12

Example input

Restore the OC-192 facility on the OC-192 circuit pack in slot 11:

```
RST-OC192:NEWYORK:OC192-11:CTAG77;
```

RST-T1

The Restore T1 command instructs a network element to bring a DS1 line facility back into service from an out-of-service maintenance for memory administration state.

Security level

Level 3

Input syntax

```
RST-T1:[TID]:AID:CTAG;
```

Table 7-149
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. DS1s to act on.
CTAG	Correlation tag

Table 7-150
AID descriptions

AID type	Command-specific values	Purpose
DS1 AID	DS1-slot#-port# DS1-slot#-ALL	Identify the DS1s where slot# =4 to 10, port# =1 to 12
DS3 AID	DS1-slot#-port#-t1# DS1-slot#-port#-ALL	Identify the DS1s where slot# = 3, 5, 7, 9 port# = 1 to 12 t1# = 1 to 28
DSM AID	DS1-1-port#-%HLINK-OC3-hslot#-hport#	DS1 service module port# = 1 to 84 hslot# = 3 to 10 hport# = 1 to 4
	DS1-1-ALL-%HLINK-OC3-hslot#-hport#	All DS1 ports on the DS1 service module hslot# = 3 to 10 hport# = 1 to 4

Example input

Restore DS1 facility # 7 on the DS1 circuit pack in slot 4:

```
RST-T1:NEWYORK:DS1-4-7:BM001;
```

Restore all the DS1 facilities on the DS1 circuit pack in slot 6:

```
RST-T1:SEATTLE:DS1-6-ALL:CK002;
```

RST-T3

The Restore T3 command instructs a network element to bring a DS3 line facility back into service from an out-of-service maintenance for memory administration state.

Security level

Level 3

Input syntax

```
RST-T3:[TID]:AID:CTAG;
```

Table 7-151
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. DS3s to act on.
CTAG	Correlation tag

Table 7-152
AID descriptions

AID type	Command-specific values	Purpose
T3	DS3-slot#-port# DS3-slot#-ALL	Identify the DS3s slot# =3, 5, 7, or 9 port# = 1 to 3 for DS3x3 port# = 1 to 12 for DS3x12, DS3x12e, or DS3VTx12

Example input

Restore the DS3 facility on the DS3 circuit pack in slot 5 port 1:

```
RST-T3:NEWYORK:DS3-5-1:CTAG01;
```

RTRV-DFLT-AINS

Use the Retrieve default auto-in-service command to retrieve the current default auto-in-service (AINS) start-up time for a shelf.

When the secondary state of a DS1 or DS3 facility is set to auto-in-service (using the ED-T1/T3 or ENT-T1/T3 commands), and the start-up time parameter (HH:MM) is not entered, HH:MM assumes the default start-up time.

Security level

Level 1

Input syntax

```
RTRV-DFLT-AINS:[TID]::CTAG;
```

Table 7-153
Syntax definition

Field	Purpose
TID	Target identifier
CTAG	Correlation tag

Example input

For the SEATTLE network element, retrieve the default AINS start-up time:

```
RTRV-DFLT-AINS:SEATTLE::CTAG04;
```

Response block syntax

```
<SID><DATE><TIME>
DFLT-AINS-TIME=HH:MM
```

Table 7-154
Response parameter descriptions

Parameter	Possible values	Description
SID		Source identifier of the network element.
DATE	YY-MM-DD	Date of list retrieval. YY is the last two digits of the year ranging from 00 to 99, MM is the month of the year ranging from 01 to 12, and DD is the day of the month ranging from 01 to 31.
TIME	HH-MM-SS	Time of list retrieval. HH is the hour ranging from 00 to 23, MM is the minute ranging from 00 to 59, and SS is the second ranging from 00 to 59.
HH:MM (hour:minute)	HH-MM 00:01 to 96:00	Default = 04:00 (4 hours) Amount of time that an error-free signal must be present on the DS1 or DS3 line in order for the auto-in-service state to clear. If an error-free signal is present for less than this period of time, the DS1 or DS3 facility remains in an auto-in-service state. HH= 00-96 hours MM=00-59 minutes

RTRV-EC1

The Retrieve EC1 command is used to retrieve the data parameters and state parameters for provisioned EC-1 facilities.

Security level

Level 1

Input syntax

```
RTRV-EC1:[TID]:AID:CTAG;
```

Note: ALL is a valid target identifier (TID).

Table 7-155
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. EC-1 facilities to act on.
CTAG	Correlation tag

Table 7-156
AID descriptions

AID type	Command-specific values	Purpose
EC-1	EC1-slot#-port# EC1-slot#-ALL EC1-ALL	Identify the EC-1 facility where slot# = 3, 5, 7, or 9 port # = 1 to 3 for EC-1x3 port # = 1 to 12 for EC-1x12

Example input

For the SEATTLE network element, retrieve the data parameters and state parameters for the EC-1 facility in slot 3 port 1:

```
RTRV-EC1:SEATTLE:EC1-3-1:CTAG04;
```

Response block syntax

```
<SID><DATE><TIME>
AID::<TMGREF=Domain><,DCC=Domain><,LBO=Domain>:<PST>,<SST>
```

Table 7-157
Response parameter descriptions

Parameter	Possible values	Description
SID		Source identifier of the network element.
DATE	YY-MM-DD	Date of list retrieval. YY is the last two digits of the year ranging from 00 to 99, MM is the month of the year ranging from 01 to 12, and DD is the day of the month ranging from 01 to 31.
TIME	HH-MM-SS	Time of list retrieval. HH is the hour ranging from 00 to 23, MM is the minute ranging from 00 to 59, and SS is the second ranging from 00 to 59.
EC-1 AID	EC1-slot#-port#	Identify the EC-1 facility where slot# = 3, 5, 7, or 9 port # = 1 to 3 for EC-1x3 port # = 1 to 12 for EC-1x12
TMGREF (see Note 1)	Y	Yes, the signal is a timing reference.
	N	No, the signal is not a timing reference.
DCC (see Note 2)	Y	Yes, SDCC is enabled
	N	No, SDCC is not enabled
LBO	1 (default)	0 to 224 ft to EC-1 cross-connect (default)
	2	225 to 450 ft to EC-1 cross-connect
PST	IS	In-service
	IS-ANR	In-service -Abnormal
	OOS-MA	Out-Of-Service Maintenance for provisioning Memory Administration
	OOS-AU	Out-Of-Service Autonomous - the entity is not able to perform its provisioned functions (alarm is raised)
	OOS-AUMA	Out-Of-Service Autonomous Management - the entity is not able to perform its provisioned functions and is purposefully removed from service
	OOS-MA-ANR	Out-Of-Service Maintenance - abnormal

Table 7-157 (continued)
Response parameter descriptions

Parameter	Possible values	Description
SST (see Note 3)	ACT (default)	Active - carrying traffic
	DISCD	Disconnected - not carrying traffic
	FLT	Fault detected in equipment
	SGEO	Supporting entity outage
Note 1: The EC-1 port (line) cannot operate as a timing reference when used with EC-1 x12 circuit packs. ***Note 2:*** SDCC is not supported on EC-1x12 circuit packs. ***Note 3:*** AINS is not supported on EC-1 facilities and equipment.		

RTRV-ETH

Use the Retrieve Ethernet command to retrieve parameters for an Ethernet facility (ETH port) of a 2x100BT-P2P or the GE/FC SFP of a 2xGigE/FC-P2P circuit pack.

Security level

Level 1

Input syntax

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

Table 7-158
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. The Ethernet facility to retrieve.

Table 7-159
AID descriptions

AID type	Command-specific values	Purpose
ETH AID	ETH-slot#-port# ETH-slot#-ALL ETH-ALL	Identify the Ethernet facility where slot# = 3 to 10 port# = 1 or 2

Example input

Retrieve parameters for ETH port 1 of the 2x100BT-P2P circuit pack in slot 7 of network element OTTAWA:

```
RTRV-ETH:OTTAWA:ETH-7-1:CTAG01;
```

Response block syntax

```
<SID><DATE><TIME>
AID::[AN=Domain] [,ANSTATUS=Domain] [,ANETHDPX=Domain]
[,ANSPEED=Domain] [,ANPAUSETX=Domain] [,ANPAUSERX=Domain]
[,ETHDPX=Domain] [,SPEED=Domain] [,FLOWCTRL=Domain]
[,ADVETHDPX=Domain] [,ADVSPEED=Domain] [,ADVFLOWCTRL=Domain]
[,PAUSETX=Domain] [,PAUSERX=Domain] [,PAUSERXOVERRIDE=Domain]
[,MTU=Domain] [,PASSCTRL=Domain] [,PHYSADDR=Domain]
[,PST-Q=Domain] [,SST=Domain]
```

Table 7-160
Response parameter descriptions - 2x100BT-P2P

Parameter	Possible values	Description
SID	Any valid source identifier.	Source identifier of the network element.
DATE	YY-MM-DD	Date of retrieval. YY is the last two digits of the year (from 00 to 99), MM is the month of the year (from 01 to 12), DD is the day of the month (from 01 to 31).
TIME	HH-MM-SS	Time of retrieval. HH is the hour (from 00 to 23), MM is the minute (from 00 to 59), SS is the second (from 00 to 59).
AID	ETH-slot#-port#	The ETH port where slot# = 3 to 10 port# = 1 or 2
AN	DISABLE	Whether auto-negotiation is enabled or disabled on the ETH port. Always disabled.
ANSTATUS	Disabled	The status of the auto-negotiation process with the connecting device. Always disabled.
ANETHDPX	UNKNOWN	The negotiated duplex mode. Always unknown.
ANSPEED	UNKNOWN	The negotiated speed (in Mbit/s). Always unknown.
ANPAUSETX	UNKNOWN	The negotiated pause frames transmit state. Always unknown.
ANPAUSERX	UNKNOWN	The negotiated pause frames receive state. Always unknown.
ETHDPX	UNKNOWN	The link partner advertised duplex mode. Always unknown.
SPEED	UNKNOWN	The link partner advertised speed. Always unknown.
FLOWCTRL	UNKNOWN	The link partner advertised flow control setting. Always unknown.
ADVETHDPX	HALF	The administrative duplex mode of the ETH port. Note that, with auto-negotiation disabled, BOTH is equivalent to FULL.
	FULL	
	BOTH	

Table 7-160 (continued)
Response parameter descriptions - 2x100BT-P2P

Parameter	Possible values	Description
ADVSPEED	10	The administrative speed of the ETH port (in Mbit/s). Note that, with auto-negotiation disabled, 10/100 is equivalent to 100.
	100	
	10/100	
ADVFLOWCTRL	NONE	The flow control capability used by auto negotiation. Auto negotiation sets the actual flow control between two devices. Always none.
PAUSETX	DISABLE	Whether to generate pause frames to the connecting device. Always disabled.
PAUSERX	DISABLE	Whether there is acknowledgement of pause frames received by the connecting device Always disabled.
PAUSERXOVERRIDE	ENABLE	Whether to override pause frame reception. Always enabled.
MTU	1594	The maximum frame size (in bits) that the ETH port can transmit. This size includes all overhead bytes such as media access control (MAC) addresses, length and CRCs. Always 1594.
PASSCTRL	ENABLE	The setting of pass control frames where the pause frames received at the port are discarded (Disable) or allowed to transparently pass through (Enable). Note that this attribute applies to pass control frames of type 0x8808 only (PAUSE is the only defined control frame). Other pass control frames (for example, type 0x8809) are not affected by this attribute, and will always be transparently passed through.
	DISABLE (default)	

Table 7-160 (continued)
Response parameter descriptions - 2x100BT-P2P

Parameter	Possible values	Description
PHYSADDR	48-bit value	The media access control (MAC) address of the ETH port.
PST-Q	IS, OOS-MA, OOS-AU, or OOS-AUMA	The primary state of the ETH port: • IS (in-service) • OOS-MA (out-of-service management) • OOS-AU (in-service; failure detected) • OOS-AUMA (out-of-service; failure detected)
SST	UEQ, DISCD, FLT, LPBK, or SGEO	The secondary state of the ETH port: • UEQ (equipment missing) • DISCD (no connections established) • FLT (failure detected) • LPBK (loopback mode) • SGEO (supporting equipment has a failure)

Table 7-161
Response parameter descriptions - GE/FC SFP

Parameter	Possible values	Description
SID	Any valid source identifier.	Source identifier of the network element.
DATE	YY-MM-DD	Date of retrieval. YY is the last two digits of the year (from 00 to 99), MM is the month of the year (from 01 to 12), DD is the day of the month (from 01 to 31).
TIME	HH-MM-SS	Time of retrieval. HH is the hour (from 00 to 23), MM is the minute (from 00 to 59), SS is the second (from 00 to 59).
AID	ETH-slot#-port#	The ETH port where slot# = 3 to 10 port# = 1 or 2
AN	ENABLE	Whether auto-negotiation is enabled or disabled on the ETH port.
ANSTATUS	IN PROGRESS	The status of the auto-negotiation process with the connecting device.
	COMPLETED	
	UNKNOWN	
ANETHDPX	FULL	The negotiated duplex mode.
	UNKNOWN	
ANSPEED	1000	The negotiated speed (in Mbit/s).
	UNKNOWN	
ANPAUSETX	ENABLE	The negotiated pause frames transmit state.
	DISABLE	
ANPAUSERX	ENABLE	The negotiated pause frames receive state.
	DISABLE	
ETHDPX	FULL	The link partner advertised duplex mode.
	HALF	
	BOTH	
	UNKNOWN	
SPEED	1000	The link partner administrative speed (in Mbit/s).
	UNKNOWN	

Table 7-161 (continued)
Response parameter descriptions - GE/FC SFP

Parameter	Possible values	Description
FLOWCTRL	NONE	The link partner advertised flow control.
	ASYM	
	SYM	
	UNKNOWN	
ADVETHDPX	FULL	The duplex mode of the ETH port. Always full.
ADVSPEED	1000	The administrative speed of the ETH port (in Mbit/s). Always 1000.
ADVFLOWCTRL	ASYM	Setting of the flow control capability used by auto negotiation. Auto negotiation sets the actual flow control between two devices. Note that if auto negotiation is disabled, this attribute is ignored.
	SYM	
	NONE	
PAUSETX	ENABLE	Setting of pause transmission of the ETH port. Note that this attribute can only be enabled if auto negotiation is disabled. If auto negotiation is enabled, this attribute is ignored.
	DISABLE	
PAUSERX	ENABLE	Whether acknowledgement of pause frames received by the connecting device is enabled or disabled.
	DISABLE	
PAUSERXOVERRIDE	ENABLE	Whether to override pause frame reception. Always enabled.
MTU	1600	The maximum frame size (in bits) that the ETH port can transmit. This size includes all overhead bytes such as media access control (MAC) addresses, length and CRCs.
	9600	

Table 7-161 (continued)
Response parameter descriptions - GE/FC SFP

Parameter	Possible values	Description
PASSCTRL	ENABLE or DISABLE	Set pass control frames so that pause frames received at the port are discarded (Disable) or allowed to transparently pass through (Enable). This attribute is disabled by default. Note that this attribute applies to pass frames of type 0x8808 only (PAUSE is the only defined control frame). Other pass control frames (for example, type 0x8809) are not affected by this attribute, and will always be transparently passed through.
PHYSADDR	48-bit value	The media access control (MAC) address of the ETH port.
PST-Q	IS, OOS-MA, OOS-AU, or OOS-AUMA	The primary state of the ETH port: • IS (in-service) • OOS-MA (out-of-service management) • OOS-AU (in-service; failure detected) • OOS-AUMA (out-of-service; failure detected)
SST	UEQ, DISCD, FLT, LPBK, or SGEO	The secondary state of the ETH port: • UEQ (equipment missing) • DISCD (no connections established) • FLT (failure detected) • LPBK (loopback mode) • SGEO (supporting equipment has a failure)

RTRV-FC

Use the Retrieve Fibre Channel command to retrieve parameters for a Fibre Channel facility (FC port) on the GE/FC SFP of a 2xGigE/FC-P2P circuit pack.

Security level

Level 1

Input syntax

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

Table 7-162
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. The Fibre Channel facility to retrieve.

Table 7-163
AID descriptions

AID type	Command-specific values	Purpose
FC AID	FC-slot#-port# FC-slot#-ALL FC-ALL	Identify the Fibre Channel facility where slot# = 3 to 10 port# = 1 or 2

Example input

Retrieve parameters for FC port 1 on the GE/FC SFP of the 2xGigE/FC-P2P circuit pack in slot 7 of network element OTTAWA:

```
RTRV-FC:OTTAWA:FC-7-1:CTAG01;
```

Response block syntax

```
<SID><DATE><TIME>
AID::[SUBRATE=Domain] [,EXTREACH=Domain] [,SERVICE=Domain]
[,BBCOVERRIDE][,BBC][,FCLINKSTATE][,PST=Domain] [,SST=Domain]
```

Table 7-164
Response parameter descriptions

Parameter	Possible values	Description
SID	Any valid source identifier.	Source identifier of the network element.
DATE	YY-MM-DD	Date of retrieval. YY is the last two digits of the year (from 00 to 99), MM is the month of the year (from 01 to 12), DD is the day of the month (from 01 to 31).
TIME	HH-MM-SS	Time of retrieval. HH is the hour (from 00 to 23), MM is the minute (from 00 to 59), SS is the second (from 00 to 59).
AID	FC-slot#-port#	The FC port where slot# = 3 to 10 port# = 1 or 2
SUBRATE	ENABLE	Indicates whether or not the service can be carried over sub-rate bandwidth.
	DISABLE (default)	
EXTREACH	ENABLE	Indicates if the extended reach mode of operation is used or not.
	DISABLE (default)	
SERVICE	FC100 (default)	The type of service of the port.
	FICON	
BBCOVERRIDE	0 (default) 2 4 8 16 32 64 128 256	The buffer-to-buffer credit (BBC) override. Note that if EXTREACH is disabled, this attribute and the selected value are ignored.
BBC	1, 2, 4, 8, 16, 32, 64, 128, 256, 512, 1024, 2048, 4096, 8192, 16384, 32768 or 65536	The buffer-to-buffer credit (BBC). The BBC is the number of non-intrusively monitored buffers allocated to the transmit port.

Table 7-164 (continued)
Response parameter descriptions

Parameter	Possible values	Description
FCLINKSTATE	ACTIVE	Fibre Channel link state.
	LINKRECOVERY	
	LINKFAILURE	
	OFFLINE	
	UNKNOWN	
PST	IS, OOS-MA, OOS-AU, or OOS-AUMA	The primary state of the FC port: • IS (in-service) • OOS-MA (out-of-service management) • OOS-AU (in-service; failure detected) • OOS-AUMA (out-of-service; failure detected)
SST	UEQ, DISCD, FLT, LPBK, or SGEO	The secondary state of the FC port: • UEQ (equipment missing) • DISCD (no connections established) • FLT (failure detected) • LPBK (loopback mode) • SGEO (supporting equipment has a failure)

RTRV-FFP-OC3

The Retrieve Facility Protection Group OC-3 command is used to retrieve the protection state of the OC-3 interfaces.

Security level

Level 1

Input syntax

```
RTRV-FFP-OC3:[TID]:OC3-ALL|workingOC3AID,protectionOC3AID:
CTAG;
```

Note: ALL is a valid target identifier (TID).

Table 7-165
Syntax definition

Field	Purpose
TID	Target identifier
CTAG	Correlation tag

Table 7-166
AID descriptions

AID type	Command-specific values	Purpose
OC3 AID	OC3-ALL	All OC-3 interfaces
working OC3 AID	OC3-slot#-port# OC3-slot#-ALL OC3-ALL	Identify the slot number of the working OC-3 or OC-3x4 where slot# = 3, 5, 7, 9 port# = 1 for OC-3, 1 to 4 for OC-3x4
protection OC3 AID		Identify the slot number of the protection OC-3 or OC-3x4 where slot# = 4, 6, 8, 10 port# = 1 for OC-3, 1 to 4 for OC-3x4
working DSM OC-3 Facility AID	OC3-slot#-1-%HLINK-OC3-hslot#-hport#	Identify the slot number of the working DSM OC-3 where slot# = 1, hslot# = 3, 5, 7, or 9 hport# = 1 to 4
protection DSM OC-3 Facility AID		Identify the slot number of the protection DSM OC-3 where slot# = 2, hslot# = 4, 6, 8, or 10 hport# = 1 to 4

Example input
Retrieve the protection state of all OC-3 interfaces for network element WASHINGTON:

```
RTRV-FFP-OC3:WASHINGTON:OC3-ALL:CTAG12;
```

Example input
Retrieve the protection state of the DSM OC-3 interface for network element NEWYORK:

```
RTRV-FFP-OC3:NEWYORK:OC3-1-1-%HLINK-OC3-5-1,
OC3-2-1-%HLINK-OC3-6-1:CTAG12;
```

Response block syntax

```
<SID><DATE><TIME>
WorkingOC3aid,ProtectionOC3aid:<PSDIRN=Domain>
```

Table 7-167
Response parameter descriptions

Parameter	Possible values	Description
SID		Source identifier of the network element.
DATE	YY-MM-DD	Date of list retrieval. YY is the last two digits of the year ranging from 00 to 99, MM is the month of the year ranging from 01 to 12, and DD is the day of the month ranging from 01 to 31.
TIME	HH-MM-SS	Time of list retrieval. HH is the hour ranging from 00 to 23, MM is the minute ranging from 00 to 59, and SS is the second ranging from 00 to 59.
working OC3 AID protection OC3 AID	OC3-slot#-port#	Slot number of the working OC-3 or OC-3x4 where slot# = 3, 5, 7, 9 port# = 1 for OC-3, 1 to 4 for OC-3x4 Slot number of the protection OC-3 or OC-3x4 where slot# = 4, 6, 8, 10 port# = 1 for OC-3, 1 to 4 for OC-3x4
working DSM OC-3 Facility AID protection DSM OC-3 Facility AID	OC3-slot#-1-%HLINK-OC3-hslot#-hport#	Slot number of the working DSM OC-3 where slot# = 1, hslot# = 3, 5, 7, or 9, hport# = 1 to 4 Slot number of the protection DSM OC-3 where slot# = 2, hslot# = 4, 6, 8, or 10, hport# = 1 to 4
PSDIRN	UNI BI	Unidirectional Bidirectional

RTRV-FFP-OC12

The Retrieve Facility Protection Group OC-12 command is used to retrieve the protection state of OC-12 facilities.

Security level

Level 1

Input syntax

```
RTRV-FFP-OC12:[TID]:OC12-ALL|workingOC12AID,protectionOC12AID:
CTAG;
```

Note: ALL is a valid target identifier (TID).

Table 7-168
Syntax definition

Field	Purpose
TID	Target identifier
CTAG	Correlation tag

Table 7-169
AID descriptions

AID type	Command-specific values	Purpose
OC-12 AID	OC12-ALL	Identify all OC-12 facilities
working OC-12 AID	OC12-slot#-port# OC12-slot#-ALL OC12-ALL	Identify the slot number of the working OC-12 facility slot# = 3, 5, 7, 9, or 11 for OC-12 slot# = 3, 5, 7, or 9 for OC-12x4 STS port# = 1 for OC-12 port# = 1 to 4 for OC-12x4 STS
protection OC-12 AID	OC12-slot#-port# OC12-slot#-ALL	Identify the slot number of the protection OC-12 facility slot# = 4, 6, 8, 10, or 12 for OC-12 slot# = 4, 6, 8, or 10 for OC-12x4 STS port# = 1 for OC-12 port# = 1 to 4 for OC-12x4 STS

Example input

Retrieve the protection state for network element WASHINGTON:

```
RTRV-FFP-OC12:WASHINGTON:OC12-ALL:CTAG12;
```

Response block syntax

```
<SID><DATE><TIME>
WorkingOC12aid,ProtectionOC12aid:<PSDIRN=Domain>
```

Table 7-170
Response parameter descriptions

Parameter	Possible values	Description
SID		Source identifier of the network element.
DATE	YY-MM-DD	Date of list retrieval. YY is the last two digits of the year ranging from 00 to 99, MM is the month of the year ranging from 01 to 12, and DD is the day of the month ranging from 01 to 31.
TIME	HH-MM-SS	Time of list retrieval. HH is the hour ranging from 00 to 23, MM is the minute ranging from 00 to 59, and SS is the second ranging from 00 to 59.
Working OC-12 AID	OC12-slot#-port#	Working OC-12 facility slot# = 3, 5, 7, 9, or 11 for OC-12 slot# = 3, 5, 7, or 9 for OC-12x4 STS port# = 1 for OC-12 port# = 1 to 4 for OC-12x4 STS
Protection OC-12 AID	OC12-slot#-port#	Protection OC-12 facility slot# = 4, 6, 8, 10, or 12 slot# = 4, 6, 8, or 10 for OC-12x4 STS port# = 1 for OC-12 port# = 1 to 4 for OC-12x4 STS
PSDIRN	UNI	Unidirectional
	BI	Bidirectional

RTRV-FFP-OC48

The Retrieve Facility Protection Group OC-48 command is used to retrieve the protection state of OC-48 facilities.

Security level

Level 1

Input syntax

```
RTRV-FFP-OC48:[TID]:OC48-ALL|workingOC48AID,protectionOC48AID:
CTAG;
```

Note: ALL is a valid target identifier (TID).

Table 7-171
Syntax definition

Field	Purpose
TID	Target identifier
workingOC48AID	Working side access identifier. OC-48 facility to act on.
protectionOC48AID	Protection side access identifier. OC-48 facility to act on.
CTAG	Correlation tag

Table 7-172
AID descriptions

AID type	Command-specific values	Purpose
OC48 AID	OC48-ALL	Identifies all OC-48 working facilities
working OC-48 AID	OC48-slot#	Identifies the slot number of the working OC-48 facility slot# = 11 for OC-48 slot# = 3, 5, 7, 9, or 11 for OC-48 STS
protection OC-48 AID	OC48-slot#	Identify the slot number of the protection OC-48 facility slot# = 12 for OC-48 slot# = 4, 6, 8, 10, or 12 for OC-48 STS

Example input

Retrieve the protection state of all OC-48 interfaces for network element WASHINGTON:

```
RTRV-FFP-OC48:WASHINGTON:OC48-ALL:CTAG12;
```

Response block syntax

```
<SID><DATE><TIME>
WorkingOC48aid,ProtectionOC48aid:<PSDIRN=Domain>
<,PS=Domain><,WR=Domain>
```

Table 7-173
Response parameter descriptions

Parameter	Possible values	Description
SID		Source identifier of the network element.
DATE	YY-MM-DD	Date of list retrieval. YY is the last two digits of the year ranging from 00 to 99, MM is the month of the year ranging from 01 to 12, and DD is the day of the month ranging from 01 to 31.
TIME	HH-MM-SS	Time of list retrieval. HH is the hour ranging from 00 to 23, MM is the minute ranging from 00 to 59, and SS is the second ranging from 00 to 59.
WorkingOC48 aid	OC48-slot#	Working OC-48 side, where slot# = 11 for OC-48 slot# = 3, 5, 7, 9, or 11 for OC-48 STS
ProtectionOC48 aid	OC48-slot#	Protection OC-48 side, where slot# = 12 for OC-48 slot# = 4, 6, 8, 10, or 12 for OC-48 STS
PSDIRN	UNI	Unidirectional protection for 1+1 linear systems
	BI	Bidirectional protection for 1+1 linear systems
PS	1PLUS1	1+1 protection
	BLSR_2FR	2-Fiber BLSR protection
WR	n-MIN INFINITE	Wait-to-restore period for BLSR systems (in minutes). n = an integer between 1 and 12. Default is 5-MIN.

RTRV-FFP-OC192

The Retrieve Facility Protection Group OC-192 command is used to retrieve the protection state of the OC-192 interfaces.

Security level

Level 1

Input syntax

```
RTRV-FFP-OC192:[TID]:OC192-ALL|workingOC192AID,protectionOC192
AID:CTAG;
```

Note: ALL is a valid target identifier (TID).

Table 7-174
Syntax definition

Field	Purpose
TID	Target identifier
workingOC192AID	Working side access identifier. OC-192 facility to act on.
protectionOC192AID	Protection side access identifier. OC-192 facility to act on.
CTAG	Correlation tag

Table 7-175
AID descriptions

AID type	Command-specific values	Purpose
OC192 AID	OC192-ALL	Identifies all OC-192 working facilities
working OC-192 AID	OC192-slot#	Identifies the slot number of the working OC-192 where slot# = 11
protection OC-192 AID	OC192-slot#	Identify the slot number of the protection OC-192 where slot# = 12

Example input

Retrieve the protection state of all OC-192 interfaces for network element WASHINGTON:

```
RTRV-FFP-OC192:WASHINGTON:OC192-ALL:CTAG12;
```

Response block syntax

```
<SID><DATE><TIME>
WorkingOC192aid,ProtectionOC192aid:<PSDIRN=Domain>
<,PS=Domain><,WR=Domain>
```

Table 7-176
Response parameter descriptions

Parameter	Possible values	Description
SID		Source identifier of the network element.
DATE	YY-MM-DD	Date of list retrieval. YY is the last two digits of the year ranging from 00 to 99, MM is the month of the year ranging from 01 to 12, and DD is the day of the month ranging from 01 to 31.
TIME	HH-MM-SS	Time of list retrieval. HH is the hour ranging from 00 to 23, MM is the minute ranging from 00 to 59, and SS is the second ranging from 00 to 59.
WorkingOC192 aid	OC192-slot#	Working OC-192 side, where slot# = 11
ProtectionOC192 aid	OC192-slot#	Protection OC-192 side, where slot# = 12
PSDIRN	UNI	Unidirectional protection for 1+1 linear systems
	BI	Bidirectional protection for 1+1 linear systems
PS	1PLUS1	1+1 protection
	BLSR_2FR	2-Fiber BLSR protection
WR	n-MIN INFINITE	Wait-to-restore period for BLSR systems (in minutes). n = an integer between 1 and 12. Default is 5-MIN.

RTRV-OC3

The Retrieve OC-3 command retrieves the data, state, and signal degrade threshold (SDTH) parameters and the provisioned section trace and SS Bits information for specified OC-3 facilities.

Security level

Level 1

Input syntax

```
RTRV-OC3:[TID]:AID:CTAG:::[STINFO=Domain][,SSBITINFO=Domain]
[,DSMINFO=Domain]
```

Note: ALL is a valid target identifier (TID).

Table 7-177
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. OC-3 facilities to act on.
CTAG	Correlation tag
STINFO	Section trace information. See the Parameter descriptions table for details.
SSBITINFO	SS bit mode information. See the Parameter descriptions table for details.
DSMINFO	DSM information: See the Parameter descriptions table for details.

Table 7-178
AID descriptions

AID type	Command-specific values	Purpose
OC3	OC3-slot#-port# OC3-slot#-ALL OC3-ALL	Identify the OC-3 where slot# = 3 to 10 port# = 1 for OC-3 port# = 1 to 4 for OC-3x4
DSM OC3 Facility AID	OC3-slot#-1-%HLINK-OC3-hslot#-hport#	slot# = 1 or 2 hslot# = 3 to 10 hport# = 1 to 4

Table 7-179
Parameter descriptions

Parameter	Possible values	Description
STINFO	NO	Do not include the section trace information in the response (default)
	YES	Include the section trace information in the response
SSBITINFO	NO	Do not include SS Bits information in the response (default)
	YES	Include SS Bits information in the response
DSMINFO	NO	Do not include the DSM information in the response (default)
	YES	Include the DSM information in the response

Example input
Retrieve information for the OC-3 facility in slot 10 on network element NEWYORK:

```
RTRV-OC3:NEWYORK:OC3-10:CTAG46:::STINFO=YES,SSBITINFO=YES;
```

Example input
Retrieve information for the DSM OC-3 facility in slot 1 hslot 5 and hport 1 on network element OTTAWA:

```
RTRV-OC3:OTTAWA:OC3-1-1-%HLINK-OC3-5-1:ctag12:::DSMINFO=YES;
```

Response block syntax

If the values of the STINFO, SSBITINFO and DSMINFO parameters are NO or not specified:

```
<SID><DATE><TIME>
"AID::<TMGREF=Domain>,<DCC=Domain>,<SDTH=Domain>,,,:
<PST>,<SST>,"
```

If the values of the STINFO, SSBITINFO and DSMINFO parameters are YES:

```
<SID><DATE><TIME>
"AID::<TMGREF=Domain>,<DCC=Domain>,<SDTH=Domain>,
<STFORMAT=Domain>,<EXPSTRC=Domain>,<STRC=Domain>,
<STFMODE=Domain>,<REMOTE=Domain>,<DSM=Domain>,
<SSBITMDE=Domain>,,,:<PST>,<SST>,"
```

Table 7-180
Response parameter descriptions

Parameter	Possible values	Description
SID		Source identifier of the network element.
DATE	YY-MM-DD	Date of list retrieval. YY is the last two digits of the year ranging from 00 to 99, MM is the month of the year ranging from 01 to 12, and DD is the day of the month ranging from 01 to 31.
TIME	HH-MM-SS	Time of list retrieval. HH is the hour ranging from 00 to 23, MM is the minute ranging from 00 to 59, and SS is the second ranging from 00 to 59.
OC3 AID	OC3-slot#-port#	Identify the OC-3 facility
DSM OC3 AID	OC3-slot-1-%HLINK-OC3-hslot#-hport#	Identify the OC-3 facility where slot# = 1 or 2, hslot# = 3 to 10, hport# = 1 to 4
TMGREF	Y	Yes, the signal is a timing reference.
	N	No, the signal is not a timing reference.
DCC	Y	Yes, SDCC is enabled.
	N	No, SDCC is not enabled.
SDTH	5, 6, 7, 8, or 9	Signal degrade threshold is specified as a bit error rate where: 5 = 10^{-5} errors per second 6 = 10^{-6} errors per second 7 = 10^{-7} errors per second 8 = 10^{-8} errors per second
STFORMAT	NUM STRING	Section trace format (see Notes 1 and 2)
EXPSTRC		Expected incoming section trace message (see Notes 1 and 2)
STRC		Outgoing section trace message (see Notes 1 and 2)

Table 7-180 (continued)
Response parameter descriptions

Parameter	Possible values	Description
STFMODE	OFF ALMONLY LINEFAIL	Section trace fail mode (see Note 2)
REMOTE	OM3X00	OPTera Metro mode (default)
	OC48	OC-48 node
DSM	NONE	No DSM provisioned
	HOSTSIDE	OC3 on Shelf
	DSMSIDE	OC3 on DS1x84 Card
SSBITMDE (see Note 4)	SONET	SS bits operate in SONET mode (default)
	SDH	SS bits operate in SDH mode
PST	IS	In-service
	IS-ANR	In-service – Abnormal
	OOS-MA	Out-Of-Service Maintenance for provisioning Memory Administration
	OOS-AU	Out-Of-Service Autonomous - the entity is not able to perform its provisioned functions (alarm is raised)
	OOS-AUMA	Out-Of-Service Autonomous Management - the entity is not able to perform its provisioned functions and is purposefully removed from service
	OOS-MA-ANR	Out-Of-Service Maintenance – abnormal

Table 7-180 (continued)
Response parameter descriptions

Parameter	Possible values	Description
SST (see Note 3)	ACT	Active – carrying traffic (default)
	DISCD	Disconnected –not carrying traffic
	FLT	Fault detected in equipment
	SGEO	Supporting entity outage
	WRKTX	Working (active) transmitter
	WRKRX	Working (active) receiver
	STBYH	Inactive facility in both directions (Hot Standby)
	MSC	Host-DSM fiber misconnected. For example: There is a discrepancy between provisioning data/rules and the actual fiber connection. ***Note:*** Not applicable for OC-3 facilities on DSM circuit packs.

Note 1: The Possible values of the section trace messages depend on the STFORMAT value. If STFORMAT is NUM, the Possible values are 0 to 255. If STFORMAT is STRING, the Possible values are any printable alphanumeric ASCII string up to 15 characters (except comma, colon, semi-colon, equal sign, or question mark) or a NULL character string (for example, STRC=, or EXPSTRC=,).

Note 2: This value is only returned by the RTRV-OC3 command if STINFO=YES.

Note 3: The secondary state can be retrieved by the RTRV-OC3 command but cannot be set by the corresponding ENT-OC3 command.

Note 4: This value is only returned by the RTRV-OC3 command if SSBITINFO=YES.

RTRV-OC12

The Retrieve OC-12 command retrieves the data, state, and signal degrade threshold (SDTH) parameters and the provisioned section trace and SS Bits information for specified OC-12 facilities.

Security level

Level 1

Input syntax

```
RTRV-OC12:[TID]:AID:CTAG:::[STINFO=Domain][,SSBITINFO=Domain];
```

Note: ALL is a valid target identifier (TID).

Table 7-181
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. OC-12 facilities to act on.
CTAG	Correlation tag
STINFO	Section trace information. See the Parameter descriptions table for details.
SSBITINFO	SS bit mode information. See the Parameter descriptions table for details.

Table 7-182
AID descriptions

AID type	Command-specific values	Purpose
OC-12	OC12-slot#-port# OC12-slot#-ALL	Identify the OC-12 facility where slot# = 3 to 12 for OC-12 slot# = 3 to 10 for OC-12x4 STS port# = 1 for OC-12 port# = 1 to 4 for OC-12x4 STS

Table 7-183
Parameter descriptions

Parameter	Possible values	Description
STINFO	NO	Do not include the section trace information in the response (default)
	YES	Include the section trace information in the response
SSBITINFO	NO	Do not include SS bits information in the response (default)
	YES	Include SS bits information in the response

Example input
Retrieve information for the OC-12 facility in slot 10 on network element NEWYORK:

```
RTRV-OC12:NEWYORK:OC12-10-ALL:CTAG46:::STINFO=YES,SSBITINFO=
YES;
```

Response block syntax

If the values of the STINFO and SSBITINFO parameters are NO or not specified:

```
<SID><DATE><TIME>
"AID::<TMGREF=Domain>,<DCC=Domain>,<SDTH=Domain>,,,:
<PST>,<SST>,"
```

If the values of the STINFO and SSBITINFO parameters are YES:

```
<SID><DATE><TIME>
"AID::<TMGREF=Domain>,<DCC=Domain>,<SDTH=Domain>,
<STFORMAT=Domain>,<EXPSTRC=Domain>,<STRC=Domain>,
<STFMODE=Domain>,<SSBITMDE=Domain>,,,:<PST>,<SST>,"
```

Table 7-184
Response parameter descriptions

Parameter	Possible values	Description
SID		Source identifier of the network element.
DATE	YY-MM-DD	Date of list retrieval. YY is the last two digits of the year ranging from 00 to 99, MM is the month of the year ranging from 01 to 12, and DD is the day of the month ranging from 01 to 31.
TIME	HH-MM-SS	Time of list retrieval. HH is the hour ranging from 00 to 23, MM is the minute ranging from 00 to 59, and SS is the second ranging from 00 to 59.

Table 7-184 (continued)
Response parameter descriptions

Parameter	Possible values	Description
OC-12 AID	OC12-slot#-port#	Identify the OC-12 facility slot# = 3 to 12 for OC-12 slot# = 3 to 10 for OC-12x4 STS port# = 1 for OC-12 port# = 1 to 4 for OC-12x4 STS
TMGREF	Y	Yes, the signal is a timing reference.
	N	No, the signal is not a timing reference.
DCC	Y	Yes, SDCC is enabled.
	N	No, SDCC is not enabled.
SDTH	5, 6, 7, 8, or 9	Signal degrade threshold is specified as a bit error rate where: 5 = 10^{-5} errors per second 6 = 10^{-6} errors per second 7 = 10^{-7} errors per second 8 = 10^{-8} errors per second
STFORMAT	NUM STRING	Section trace format
EXPSTRC		Expected incoming section trace message (see Notes 1 and 2)
STRC		Outgoing section trace message (see Notes 1 and 2)
STFMODE	OFF ALMONLY LINEFAIL	Section trace fail mode (see Note 2)
SSBITMDE (see Note 4)	SONET	SS bits operate in SONET mode (default)
	SDH	SS bits operate in SDH mode

Table 7-184 (continued)
Response parameter descriptions

Parameter	Possible values	Description
PST	IS	In-service
	IS-ANR	In-service – Abnormal
	OOS-MA	Out-Of-Service Maintenance for provisioning Memory Administration
	OOS-AU	Out-Of-Service Autonomous - the entity is not able to perform its provisioned functions (alarm is raised)
	OOS-AUMA	Out-Of-Service Autonomous Management - the entity is not able to perform its provisioned functions and is purposefully removed from service
	OOS-MA-ANR	Out-Of-Service Maintenance – abnormal
SST (see Note 3)	ACT	Active – carrying traffic (default)
	DISCD	Disconnected –not carrying traffic
	FLT	Fault detected in equipment
	SGEO	Supporting entity outage
	WRKTX	Working (active) transmitter
	WRKRX	Working (active) receiver

Note 1: The Possible values of the section trace messages depend on the STFORMAT value. If STFORMAT is NUM, the Possible values are 0 to 255. If STFORMAT is STRING, the Possible values are any printable alphanumeric ASCII string up to 15 characters (except comma, colon, semi-colon, equal sign, or question mark) or a NULL character string (for example, STRC=, or EXPSTRC=,).

Note 2: This value is only returned by the RTRV-OC12 command if STINFO=YES.

Note 3: The secondary state can be retrieved by the RTRV-OC12 command but cannot be set by the corresponding ENT-OC3 command.

Note 4: This value is only returned by the RTRV-OC12 command if SSBITINFO=YES.

RTRV-OC48

The Retrieve OC-48 command retrieves the data, state, and signal degrade threshold (SDTH) parameters and the provisioned section trace and SS Bits information for specified OC-48 facilities.

Security level

Level 1

Input syntax

```
RTRV-OC48:[TID]:AID:CTAG:::[STINFO=Domain][,SSBITINFO=Domain];
```

Note: ALL is a valid target identifier (TID).

Table 7-185
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. OC-48 facilities to act on.
CTAG	Correlation tag
STINFO	Section trace information. See the Parameter descriptions table for details.
SSBITINFO	SS bit information. See the Parameter descriptions table for details.

Table 7-186
AID descriptions

AID type	Command-specific values	Purpose
OC-48	OC48-slot#	Identifies the OC-48 facility slot# = 11, 12 for OC-48 slot# = 3 to 12 for OC-48 STS

Table 7-187
Parameter descriptions

Parameter	Possible values	Description
STINFO	NO	Do not retrieve the section trace information (default)
	YES	Retrieve the section trace information
SSBITINFO	NO	Do not retrieve SS bit information (default)
	YES	Retrieve SS bit information

Example input

Retrieve information for the OC-48 facility in slot 11 on network element NEWYORK:

```
RTRV-OC48:NEWYORK:OC48-11:CTAG46:::STINFO=YES,SSBITINFO=YES;
```

Response block syntax

If the values of the STINFO and SSBITINFO parameters are NO or not specified:

```
<SID><DATE><TIME>
"AID::<TMGREF=Domain>,<DCC=Domain>,<SDTH=Domain>,,,:
<PST>,<SST>,"
```

If the values of the STINFO and SSBITINFO parameters are YES:

```
<SID><DATE><TIME>
"AID::<TMGREF=Domain>,<DCC=Domain>,<SDTH=Domain>,
<STFORMAT=Domain>,<EXPSTRC=Domain>,<STRC=Domain>,
<STFMODE=Domain>,<SSBITMDE=Domain>,,,:<PST>,<SST>,"
```

Table 7-188
Response parameter descriptions

Parameter	Possible values	Description
SID		Source identifier of the network element.
DATE	YY-MM-DD	Date of list retrieval. YY is the last two digits of the year ranging from 00 to 99, MM is the month of the year ranging from 01 to 12, and DD is the day of the month ranging from 01 to 31.
TIME	HH-MM-SS	Time of list retrieval. HH is the hour ranging from 00 to 23, MM is the minute ranging from 00 to 59, and SS is the second ranging from 00 to 59.
OC-48 AID	OC48-slot#	Identifies the OC-48 facility slot# = 11, 12 for OC-48 slot# = 3 to 12 for OC-48 STS
TMGREF	Y	The signal is a timing reference.
	N	The signal is not a timing reference.
DCC	Y	DCC is enabled.
	N	DCC channel is not enabled.

Table 7-188 (continued)
Response parameter descriptions

Parameter	Possible values	Description
SDTH	5, 6, 7, 8, or 9	Signal degrade threshold is specified as a bit error rate where: 5 = 10^{-5} errors per second 6 = 10^{-6} errors per second 7 = 10^{-7} errors per second 8 = 10^{-8} errors per second
STFORMAT	NUM	Integer one byte long
	STRING	ASCII string up to 15 bytes long
EXPSTRC (see Notes 1, 2)	0-255	If STFORMAT is NUM
	ASCII string	If STFORMAT is STRING
STRC (see Notes 1, 2)	0-255	If STFORMAT is NUM
	ASCII string	If STFORMAT is STRING
STFMODE (see Note 2)	OFF	Alarms off, no protection
	ALMONLY	Alarms on, no protection
	LINEFAIL	Alarms on, traffic protection
SSBITMDE (see Note 3)	SONET	Optical signal transmitted is SONET format
	SDH	Optical signal transmitted is SDH format
PST	IS	In-service
	IS-ANR	In-service – Abnormal
	OOS-MA	Out-Of-Service - Maintenance, for provisioning Memory Administration
	OOS-AU	Out-Of-Service - Autonomous, the entity is not able to perform its provisioned functions (alarm is raised)
	OOS-AUMA	Out-Of-Service - Autonomous Management, the entity is not able to perform its provisioned functions and is purposefully removed from service
	OOS-MA-ANR	Out-Of-Service - Maintenance - Abnormal

Table 7-188 (continued)
Response parameter descriptions

Parameter	Possible values	Description
SST (see Note 4)	ACT	Active – carrying traffic
	DISCD	Disconnected – not carrying traffic
	FLT	Fault detected in equipment
	SGEO	Supporting entity outage
	WRKTX	Working (active) transmitter
	WRKRX	Working (active) receiver

Note 1: The Possible values of the section trace messages depend on the STFORMAT value. If STFORMAT is NUM, the Possible values are 0 to 255. If STFORMAT is STRING, the Possible values are an alphanumeric ASCII string or a NULL character string (for example, STRC=, or EXPSTRC=,).

Note 2: This value is retrieved by the RTRV-OC48 command if STINFO=YES.

Note 3: SSBITINFO is retrieved by the RTRV-OC48 command if SSBITINFO=YES.

Note 4: The secondary state can be retrieved by the RTRV-OC48 command but cannot be set by the corresponding ENT-OC48 command.

RTRV-OC192

The Retrieve OC-192 command retrieves the data, state, and signal degrade threshold (SDTH) parameters and the provisioned section trace and SS Bits information for specified OC-192 facilities.

Security level

Level 1

Input syntax

```
RTRV-OC192:[TID]:AID:CTAG:::[STINFO=Domain]
[,SSBITINFO=Domain];
```

Note: ALL is a valid target identifier (TID).

Table 7-189
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. OC-48 facilities to act on.
CTAG	Correlation tag
STINFO	Section trace information. See the Parameter descriptions table for details.
SSBITINFO	SS bit information. See the Parameter descriptions table for details.

Table 7-190
AID descriptions

AID type	Command-specific values	Purpose
OC-192	OC192-slot#	Identifies the OC-192 facility slot# = 11, 12

Table 7-191
Parameter descriptions

Parameter	Possible values	Description
STINFO	NO	Do not retrieve the section trace information (default)
	YES	Retrieve the section trace information
SSBITINFO	NO	Do not retrieve SS bit information (default)
	YES	Retrieve SS bit information

Example input

Retrieve information for the OC-192 facility in slot 11 on network element NEWYORK:

```
RTRV-OC192:NEWYORK:OC192-11:CTAG46:::STINFO=YES,SSBITINFO=YES;
```

Response block syntax

If the values of the STINFO and SSBITINFO parameters are NO or not specified:

```
<SID><DATE><TIME>
"AID::<TMGREF=Domain>,<DCC=Domain>,<SDTH=Domain>,,,:
<PST>,<SST>,"
```

If the values of the STINFO and SSBITINFO parameters are YES:

```
<SID><DATE><TIME>
"AID::<TMGREF=Domain>,<DCC=Domain>,<SDTH=Domain>,
<STFORMAT=Domain>,<EXPSTRC=Domain>,<STRC=Domain>,
<STFMODE=Domain>,<SSBITMDE=Domain>,,,:<PST>,<SST>,"
```

Table 7-192
Response parameter descriptions

Parameter	Possible values	Description
SID		Source identifier of the network element.
DATE	YY-MM-DD	Date of list retrieval. YY is the last two digits of the year ranging from 00 to 99, MM is the month of the year ranging from 01 to 12, and DD is the day of the month ranging from 01 to 31.
TIME	HH-MM-SS	Time of list retrieval. HH is the hour ranging from 00 to 23, MM is the minute ranging from 00 to 59, and SS is the second ranging from 00 to 59.
OC-192 AID	OC192-slot#	Identifies the OC-192 facility slot# = 11, 12
TMGREF	Y	The signal is a timing reference.
	N	The signal is not a timing reference.
DCC	Y	DCC is enabled.
	N	DCC channel is not enabled.

Table 7-192 (continued)
Response parameter descriptions

Parameter	Possible values	Description
SDTH	5, 6, 7, 8, or 9	Signal degrade threshold is specified as a bit error rate where: 5 = 10^{-5} errors per second 6 = 10^{-6} errors per second 7 = 10^{-7} errors per second 8 = 10^{-8} errors per second
STFORMAT	NUM	Integer one byte long
	STRING	ASCII string up to 15 bytes long
EXPSTRC (see Notes 1, 2)	0-255	If STFORMAT is NUM
	ASCII string	If STFORMAT is STRING
STRC (see Notes 1, 2)	0-255	If STFORMAT is NUM
	ASCII string	If STFORMAT is STRING
STFMODE (see Note 2)	OFF	Alarms off, no protection
	ALMONLY	Alarms on, no protection
	LINEFAIL	Alarms on, traffic protection
SSBITMDE (see Note 3)	SONET	Optical signal transmitted is SONET format
	SDH	Optical signal transmitted is SDH format
PST	IS	In-service
	IS-ANR	In-service – Abnormal
	OOS-MA	Out-Of-Service - Maintenance, for provisioning Memory Administration
	OOS-AU	Out-Of-Service - Autonomous, the entity is not able to perform its provisioned functions (alarm is raised)
	OOS-AUMA	Out-Of-Service - Autonomous Management, the entity is not able to perform its provisioned functions and is purposefully removed from service
	OOS-MA-ANR	Out-Of-Service - Maintenance - Abnormal

Table 7-192 (continued)
Response parameter descriptions

Parameter	Possible values	Description
SST (see Note 4)	ACT	Active – carrying traffic
	DISCD	Disconnected – not carrying traffic
	FLT	Fault detected in equipment
	SGEO	Supporting entity outage
	WRKTX	Working (active) transmitter
	WRKRX	Working (active) receiver

Note 1: The Possible values of the section trace messages depend on the STFORMAT value. If STFORMAT is NUM, the Possible values are 0 to 255. If STFORMAT is STRING, the Possible values are an alphanumeric ASCII string or a NULL character string (for example, STRC=, or EXPSTRC=,).

Note 2: This value is retrieved by the RTRV-OC192 command if STINFO=YES.

Note 3: SSBITINFO is retrieved by the RTRV-OC192 command if SSBITINFO=YES.

Note 4: The secondary state can be retrieved by the RTRV-OC192 command but cannot be set by the corresponding ENT-OC192 command.

RTRV-SYS

Use the Retrieve System command to retrieve the following:

- The path signal degrade threshold value for all VT and STS paths within the network element
- The time out value for the test access session
- The configuration mode for 2xGigE circuit packs on the shelf

Security level

Level 3

Input syntax

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

Table 7-193
Syntax definition

Field	Purpose
TID	Target identifier
CTAG	Correlation tag

Example input

Retrieve system parameters for network element NEWYORK:

```
RTRV-SYS:NEWYORK::CTAG22;
```

Response block syntax

```
<SID><DATE><TIME>
<PATHSDTH=Domain>
<TS_TIMEOUT=Domain>
<OPEGEMODE=Domain>
```

Table 7-194
Response parameter descriptions

Parameter	Possible values	Description
SID		Source identifier of the network element.
DATE	YY-MM-DD	Date of list retrieval. YY is the last two digits of the year ranging from 00 to 99, MM is the month of the year ranging from 01 to 12, and DD is the day of the month ranging from 01 to 31.
TIME	HH-MM-SS	Time of list retrieval. HH is the hour ranging from 00 to 23, MM is the minute ranging from 00 to 59, and SS is the second ranging from 00 to 59.
PATHSDTH	5 to 9	Path signal degrade threshold Range of PATHSDTH is $1x10^{-5}$ - $1x10^{-9}$
TS_TIMEOUT	0 to 900	Time out value in seconds for the test access session.
OPEGEMODE	RPR	2xGigE circuit packs on the shelf are not auto-provisioned for point-to-point mode.
	PTPT	2xGigE circuit packs on the shelf are auto-provisioned for point-to-point mode.

RTRV-T1

The Retrieve T1 command retrieves the data parameters and state parameters that have been provisioned for specified DS1 facilities. This command identifies what parameters have been set using the ENT-T1 or ED-T1 command.

The RTRV-T1 command does not report whether a DS1 circuit pack is present or operational, but simply that it has been provisioned and with which attributes.

Security level

Level 1

Input syntax

```
RTRV-T1:[TID]:AID:CTAG;
```

Note: ALL is a valid target identifier (TID).

Table 7-195
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. DS1s to act on.
CTAG	Correlation tag

Table 7-196
AID descriptions

AID type	Command-specific values	Purpose
DS1 AID	DS1-slot#-port# DS1-slot#-ALL DS1-ALL	Identify the DS1s where slot# =4 to 10, port# =1 to 12
DS3 AID	DS1-slot#-port#-t1# DS1-slot#-port#-ALL	Identify the DS1s where slot# = 3, 5, 7, 9 port# = 1 to 12 t1# = 1 to 28
DSM AID	DS1-1-port#-%HLINK-OC3-hslot#-hport#	Identify the DS1s where DSM port# = 1 to 84 hslot# = 1 to 10, hport# = 1 to 4
	DS1-1-ALL-%HLINK-OC3-hslot#-hport#	Identify all DS1 ports on the DSM where hslot# = 3 to 10, hport# = 1 to 4

Example input

Retrieve provisioned conditions of all the DS1 facilities in slot 6:

```
RTRV-T1:NEWYORK:DS1-6-ALL:CTAG29;
```

Retrieve provisioned conditions of the DS1 facility in slot 5 port 3:

```
RTRV-T1:WASHINGTON:DS1-5-3:CTAG34;
```

Retrieve the data and state parameters of the provisioned DS1 facilities for all ports in hslot 7 hport 3 on the DSM:

```
RTRV-T1:OTTAWA:DS1-1-ALL-%HLINK-OC3-7-3:ctag12;
```

Response block syntax

```
<SID><DATE><TIME>
"AID::<EQLZ=Domain>,<FENDNTE=Domain>,<FLMDE=Domain>,
<FMT=Domain>,<LINECDE=Domain>,<MAP=Domain>,<OMODE=Domain>,
<TMGREF=Domain>:<PST>,<SST>[,HH:MM]"
```

Table 7-197
Response parameter descriptions

Parameter	Possible values	Description
SID		Source identifier of the network element.
DATE	YY-MM-DD	Date of list retrieval. YY is the last two digits of the year ranging from 00 to 99, MM is the month of the year ranging from 01 to 12, and DD is the day of the month ranging from 01 to 31.
TIME	HH-MM-SS	Time of list retrieval. HH is the hour ranging from 00 to 23, MM is the minute ranging from 00 to 59, and SS is the second ranging from 00 to 59.
DS1 AID	DS1-slot#-port#	Identify the DS1s where slot# = 4 to 10, port# =1 to 12
	DS1-1-port#-% HLINK-OC3-hslot#-hport#	Identify the DS1s where DSM port# = 1 to 84 hslot# = 1 to 10 hport# = 1 to 4

Table 7-197 (continued)
Response parameter descriptions

Parameter	Possible values	Description
EQLZ		Cable connecting T1 to DS1 cross-connect. If the cables for the incoming and outgoing streams are different, add “TX” or “RX” to the domain, for example “1RX” or “2TX”. 1, 2, and 3 set the values for both TX and RX cables.
	1 1TX 1RX	Default: short: 0-220 ft both directions 0-220 ft transmit 0-220 ft receive
	2 2TX 2RX	medium: 220-430 ft both directions 220-430 ft transmit 220-430 ft receive
	3 3TX 3RX	long: 430-655 ft both directions 430-655 ft transmit 430-655 ft receive
FENDNTE	ANSI NOTANSI	Default: Far end NTE supports ANSI standards ANSI standards are not supported
FLMDE	 BOTH INC OC N	Fault locate mode: Faults in the frame format will be checked for. Use N if DS1 data is unframed. Default: both incoming and outgoing data streams will have the frame format, as specified by FMT, checked. Only check incoming data. (Outgoing can be unframed.) Only check outgoing data. Do not check the frame format. (The DS1 facility can be unframed or used as a clear channel facility.)
FMT	SF ESF SF-TR08	Default: Superframe format Extended Superframe format Superframe with TR08 extensions

Table 7-197 (continued)
Response parameter descriptions

Parameter	Possible values	Description
LINECDE		Line code. If the incoming and outgoing streams are different, add “TX” or “RX” to the domain, for example “AMITX”, “B8ZSRX”.
	AMI AMITX AMIRX	Default: Alternate mark inversion (“bipolar”) both directions AMI Transmit AMI Receive
	AMIZCS AMIZCSTX	AMI with zero code suppression, both directions If there are eight zeros in a byte, the least significant will be changed to a one. AMIZCS transmit ***Note:*** Zero code suppression is not supported in the receive direction.
	B8ZS B8ZSTX B8ZSRX	Bipolar with 8-zero substitution, both directions B8ZS transmit B8ZS receive
MAP		The form of mapping for DS1 payloads into VT1.5s.
	VTASYN	Default: VT1.5 asynchronous mapping
	VTBYTE	VT1.5 byte synchronous mapping
	VTBIT	VT1.5 bit synchronous mapping
MAP		If using VTBYTE mapping, one or both of these mappings can also be specified:
	SIGNLIN	Robbed bit signaling bits are transported.
	SIGNLOUT	Out slot (S1 to S4) signaling bits are transported.
		Note: You must enter each MAP parameter in a separate command.
OMODE		Output mode:
	NORM	Default: The outgoing stream is a regular DS1
	IDLE	The outgoing stream is set to an idle code: repeating 1100
	AZC	The outgoing stream will have any AIS code changed to all-zeros.
TMGREF	Y N	Yes, the signal is a timing reference. No, the signal is not a timing reference.

Table 7-197 (continued)
Response parameter descriptions

Parameter	Possible values	Description
PST	IS	In-Service
	IS-ANR	In Service - Abnormal
	OOS-MA	Out-Of-Service Maintenance for provisioning Memory Administration
	OOS-AU	Out-Of-Service Autonomous the entity is not able to perform its provisioned functions (alarm is raised)
	OOS-AUMA	Out-Of-Service Autonomous Management - the entity is not able to perform its provisioned functions and is purposefully removed from service
	OOS-MA-ANR	Out of service maintenance – abnormal
SST	ACT	Default: Active -- carrying traffic
	DISCD	Disconnected -- not carrying traffic
	FLT	Fault Detected in Equipment
	SGEO	Supporting Entity Outage
	AINS	Auto-in-service
	AINS-DEA	Auto-in-service deactivated (see Note 1)
HH:MM (hour:minute)	00:01 to 96:00	Amount of time that an error-free signal must be present on the DS1 line in order for the auto-in-service state to clear. If an error-free signal is present for less than this period of time, the DS1 facility remains in an auto-in-service state. See Note 2.
Note 1: Although the value of AINS-DEA can be set as the SST, it will never be retrieved. ***Note 2:*** HH:MM is only returned in the TL1 Response Block if there is an SST of AINS.		

RTRV-T3

The Retrieve T3 command retrieves the data parameters and state parameters that have been provisioned for specified DS3 facilities. This command identifies what parameters have been set using the ENT-T3 command.

The RTRV-T3 command does not report whether a DS3 facility is present or operational, but simply that it has been provisioned and with which attributes.

Security level

Level 1

Input syntax

```
RTRV-T3:[TID]:AID:CTAG;
```

Note: ALL is a valid target identifier (TID).

Table 7-198
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. DS3s to act on.
CTAG	Correlation tag

Table 7-199
AID descriptions

AID type	Command-specific values	Purpose
T3 AID	DS3-slot#-port# DS3-slot#-ALL	Identify the DS3s slot# = 3, 5, 7, or 9 port# = 1 to 3 for DS3x3 port# = 1 to 12 for DS3x12, DS3x12e, or DS3VTx12
	DS3-ALL	Identify all DS3s

Example input

Retrieve provisioned conditions of the DS3 facility in slot 7 port 1:

```
RTRV-T3:NEWYORK:DS3-7-1:CTAG29;
```

Response block syntax

```
<SID><DATE><TIME>
"AID::<LBO=Domain><,FMT=Domain>:<PST>[<,SST>][,AINS]"
```

Table 7-200
Response parameter descriptions

Parameter	Possible values	Description
SID		Source identifier of the network element.
DATE	YY-MM-DD	Date of list retrieval. YY is the last two digits of the year ranging from 00 to 99, MM is the month of the year ranging from 01 to 12, and DD is the day of the month ranging from 01 to 31.
TIME	HH-MM-SS	Time of list retrieval. HH is the hour ranging from 00 to 23, MM is the minute ranging from 00 to 59, and SS is the second ranging from 00 to 59.
T3 AID	DS3-slot#-port#	Identify the DS3s slot# =3, 5, 7, or 9 port# = 1 to 3 for DS3x3 port# = 1 to 12 for DS3x12, DS3x12e, or DS3VTx12
FMT	ASYNC	M13, multiplex framed (default)
	UNFR	Unframed clear channel
	CBIT	C-bit parity
LBO	1	0 to 224 ft to DS3 cross-connect
	2	225 to 450 ft to DS3 cross-connect
PST	IS	In service
	OOS-MA	Out of service maintenance for provisioning memory administration
SST	AINS	Auto in-service
	AINS-DEA	Auto in-service deactivated
AINS	HH:MM (hour:minute)	Auto in-service time in hours and minutes. Valid range is 00:01 to 96:00

RTRV-WAN

Use the Retrieve WAN command to retrieve parameters for a WAN port of a 2x100BT-P2P or the GE/FC SFP of a 2xGigE/FC-P2P circuit pack.

Security level

Level 1

Input syntax

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

Table 7-201
Syntax definition

Field	Purpose
TID	Target identifier
AID	Access identifier. The WAN port to retrieve.

Table 7-202
AID descriptions

AID type	Command-specific values	Purpose
WAN AID	WAN-slot#-port# WAN-slot#-ALL WAN-ALL	Identify the WAN port where slot# = 3 to 10 port# = 1 or 2

Example input

Retrieve parameters for WAN port 2 of the 2x100BT-P2P circuit pack in slot 9 of network element OTTAWA:

```
RTRV-WAN:OTTAWA:WAN-9-2:CTAG01;
```

Response block syntax

```
<SID><DATE><TIME>
AID::[MAPPING=Domain][,MODE=Domain][,RATE=Domain]
[,VCAT=Domain][,LCAS=Domain][,PROVUNITS=Domain]
[,ACTUALUNITS=Domain][,MAGICNUM=Domain][,FCS=Domain]
[,SCRAMBLE=Domain][,LCM=Domain][,LANFCS=Domain][,NCP=Domain]
[,RTDELAY=Domain][,SST=Domain]
```

Table 7-203
Response parameter descriptions

Parameter	Possible values	Description
SID	Any valid source identifier.	Source identifier of the network element.
DATE	YY-MM-DD	Date of retrieval. YY is the last two digits of the year (from 00 to 99), MM is the month of the year (from 01 to 12), DD is the day of the month (from 01 to 31).
TIME	HH-MM-SS	Time of retrieval. HH is the hour (from 00 to 23), MM is the minute (from 00 to 59), SS is the second (from 00 to 59).
AID	WAN-slot#-port#	The WAN port where slot# = 3 to 10 port# = 1 or 2
MAPPING	POS	The Ethernet to SONET mapping protocol in use at the WAN port. Always Packet-over-SONET for the 2x100BT-P2P circuit pack and GFP-F for the 2xGigE/FC-P2P circuit pack.
	GFP-F	
MODE	SONET	The transmission mode of the WAN port. Always SONET.
RATE	STS1	The provisioned SONET rate of the WAN port. STS12C and STS24C are only available for the GE/FC SFP on the 2xGigE/FC-P2P circuit pack.
	STS3C	
	STS12C	
	STS24C	
	NONE	
VCAT	ENABLE	Whether virtual concatenation is enabled or disabled at the WAN port. Always disabled for the 2x100BT-P2P WAN facility. This attribute is disabled by default for the GE/FC SFP on the 2xGigE/FC-P2P circuit pack.
	DISABLE	
LCAS	DISABLE	Whether link capacity adjustment is enabled or disabled at the WAN port. Always disabled.
PROVUNITS	0 or 1	The number of provisioned cross-connects at the WAN port.
ACTUALUNITS	0 or 1	The number of cross-connects actually carrying traffic at the WAN port.

Table 7-203 (continued)
Response parameter descriptions

Parameter	Possible values	Description
MAGICNUM	ENABLE DISABLE	Whether the use of a magic number is enabled or disabled. The magic number is used during PPP negotiation on the 2x100BT-P2P WAN facility only. When enabled, the magic number field is four octets and helps in detecting looped back links. A random string is sent across the link and if the same value is returned, then the circuit pack determines that the link is looped back and the negotiation fails. If this occurs, a "Link Down" alarm is raised against the WAN port. When disabled, the magic number is always transmitted as zero and is always ignored on reception.
FCS	0 16 32	The frame check size (in bits) of the WAN port. Possible values for the 2x100BT-P2P WAN facility are 16 or 32. Possible values for the 2xGigE/FC-P2P WAN facility are 0 or 32. Note that the port at the other end of the connection must have the same frame check size as this port. This parameter is only available for the GE/FC SFP WAN facility if the WAN facility was created in association with the ETH port.
SCRAMBLE	ENABLE	Whether the scrambler is enabled or disabled at the WAN port. Always enabled.
LCM	ENABLE DISABLE	Whether link connectivity monitoring is enabled or disabled at the WAN port. This attribute is only supported on the 2x100BT-P2P WAN facility. Note that if you enable link connectivity monitoring, the “Link Down” alarm is raised against the WAN port during a software load or FPGA upgrade or when the port at the other end of the connection does not support link connectivity monitoring. The recommended configuration is to have link connectivity monitoring disabled at both ends of the connection.

Table 7-203 (continued)
Response parameter descriptions

Parameter	Possible values	Description
LANFCS	DISABLE	Whether the ETH FCS is included in the encapsulated frame. Always disabled for the 2x100BT-P2P WAN facility. Not available for the GE/FC SFP WAN facility.
NCP	BCP NONE	The network control protocol in use at the WAN port. This attribute is always the bridge control protocol (BCP) for the 2x100BT-P2P WAN facility. This attribute is always NONE for the GE/FC SFP WAN facility.
RTDELAY	Number of microseconds UNKNOWN	The round trip delay time (in microseconds) for one packet to travel from device to another and back again. This attribute can be unknown if the delay is not calculated. Only supported on the 2xGigE/FC-P2P circuit pack.
SST	UEQ, DISCD, FLT, LPBK, or SGEO	The secondary state of the WAN port: UEQ (equipment missing) DISCD (no connections established) FLT (failure detected) LPBK (loopback mode) SGEO (supporting equipment has a failure)

Nortel Networks

OPTera Metro 3500 Multiservice Platform

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