Calix E-Series (E7 OS R2.5) Command-Line Interface (CLI) Reference

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Contents

About This Reference

This document provides a comprehensive command reference for the E-series Command-Line Interface (CLI) and describes how to perform key system management and operational functions from the CLI. The embedded command-line interface (CLI) for system management access can be used over local or remote TCP/IP connections and local console connections.

In this document, the following references are made:

- **"E7"** indicates:
  - E7-2 single-shelf
  - E7-2 modular chassis
  - E7-20
- **"E-Series"** indicates:
  - All E7 products listed above, *and*
  - E3-48C
  - E3-12C
  - E3-48
  - E3-8G

Intended audience

This document is intended for personnel responsible for turning up and managing carrier network systems and services. This document assumes that the user is familiar with using a command-line interface (CLI) over a standard telnet or console connection. Familiarity with datacom, telecom, and standards-based Ethernet technologies and conventions is recommended.

Related documentation

You can access Calix product documentation by logging into My Calix (www.calix.com/my-calix) and browsing the My Calix Documentation Library.

The Calix E-Series documentation set includes:

Engineering and Planning
• *Calix Ethernet Access Networks Engineering & Planning Guide* This document provides high-level engineering and planning information for building secure, reliable, resilient, and scalable Layer 2 switched Ethernet access networks using Calix products to deliver data, voice, and video services. It describes all aspects of Ethernet access network design—from physical topologies to network bandwidth requirements in the context of Calix products, describing an access network where the traffic terminates at the edge router. • *Calix E-Series (E7 OS) Engineering and Planning Guide* This document provides engineering and planning information for the Calix E7 Ethernet Service Access Platform (ESAP) and Calix E3-48C/E5-48/E5-48C/E3-8G Ethernet Service Access Nodes (ESAN). It describes the features and capabilities of each system, and provides engineering guidelines to assist engineers and network planners effectively deploy the E-Series.
Installation
• *Calix E7-2 Installation Guide* • *Calix E7-20 Installation Guide* • *Calix E3-48C Installation Guide* • *Calix E5-48/E5-48C Installation Guide* • *Calix E3-8G Installation Guide* These documents provide a general installation practice for the Calix Ethernet service access platform, including guidance for planning, power installation, cabling, and maintenance.
Initial Turn-up and Transport Configuration
• *Calix E-Series (E7 OS) Turn-up and Transport Guide* These guides are intended for initial turnup and also show you how to set up management access, system attributes, administrative tasks, and configure transport and aggregation applications.

Software Upgrade
• *Calix E-Series (E7 OS) System Upgrade Guide* This document describes how to perform software/firmware upgrades as well as database backup and restore operations. • *Calix E-Series (E7 OS) GPON ONT Upgrade Guide* For E-Series GPON systems, this document describes how to perform upgrades for compatible P-Series, GigaCenter, and T-Series GPON ONTs.
Application Provisioning
• *Calix E-Series (E7 OS) GPON Applications Guide* • *Calix E-Series (E7 OS) xDSL Applications Guide* • *Calix E-Series (E7 OS) Active Ethernet Applications Guide* These application guides show you how to provision subscriber services using specific technologies, assuming that the system is already installed and turned up.
Maintenance and Troubleshooting
• *Calix E-Series (E7 OS) Maintenance and Troubleshooting Guide* This guide includes procedures for monitoring E-Series network operation, general troubleshooting, and replacing or installing equipment.
Command Line Interface
• *Calix E-Series (E7 OS) CLI Reference* This document provides a comprehensive command reference for the E-series Command-Line Interface (CLI) and describes how to perform key system management and operational functions from the CLI. The embedded command-line interface (CLI) for system management access can be used over local or remote TCP/IP connections and local console connections.

Related Documentation

- *P-Series/T-Series ONT Software Matrix for E-Series (E7 OS) GPON*
- *Calix P-Series ONT Model/Feature Matrix*
- *Calix 800 GigaFamily Service Provider's Guide*
- *Calix 844G/854G GigaCenter User's Guide*
- *Calix T1 Pseudowire Applications Guide*
- *Calix C7 VoIP Services Guide*
- *Calix Application Note: Using the VoIP Configuration File*
- *Calix Application Note: Using the RG Configuration File*
- *Completing Residential Gateway and SIP Configuration File Intake Forms*
- *Calix P-Series VoIP Configuration File - Template*
- *Calix Residential Gateway Wi-Fi Best Practices Guide*
- *Calix GPON RF Overlay Deployment Guidelines*
- *Calix Application Note: GPON Interface Adaptor*
- *Calix E7 Pluggable Transceiver Module Support*
- *CAB-12-023 - Pairing Bidirectional SFPs (to Support Single-Fiber Ethernet Links)*

Chapter 1

Getting Started with the Calix E7

This section introduces the Calix E7 platform and its CLI interface for system management. The CLI information in this book consists of the E7 (standalone E7-2, modular chassis, and E7-20), and the E-series (E3-8G, E3-48C, E5-48, E5-48C) products.

See the product-specific User Guides and the GPON and xDSL Applications Guides where the applicable CLI commands follow the individual procedures.

Note: For instructions on how to install the E-Series hardware and connect physical network interfaces, see the appropriate *Calix Installation Guide*.

About the E7 CLI

This topic describes the CLI environment and operation. Detailed information about using the CLI commands appears in subsequent sections. See Command Organizer for categories of commands.

Command assistance

The E-Series offers command interactive help, command completion and history, as well as the ability to recognize abbreviations. As you type, the following keys can assist you with specifying the command you want:

- The **?** key displays the interactive help that is a list of valid keywords or values, along with brief descriptions. This helps new users learn the system as they use it.
- The ↑ and ↓ arrows allow access and use of previous commands.
- The Ctrl+P key combination accesses the previous command.
- The Ctrl+N key combination accesses the next command.
- The **Tab** key expands a partially typed keyword and completes commands when unique abbreviations are recognized by the system. These features allow experienced users to administer system control with a minimum of typing.
- The ← and → arrows allow editing in the current line.
- The Ctrl+A key combination moves the cursor to the beginning of the line.
- The Ctrl+C key combination cancels commands that have more than one step. For example, prompting for a password.
- The Ctrl+E key combination moves the cursor to the end of the line.
- The Ctrl+B key combination moves the cursor back a space.
- The Ctrl+F key combination moves the cursor forward a space.
- The Ctrl+U key combination erases text from the cursor to the beginning of the line.
- The Ctrl+K key combination erases text from cursor to the end of the line.

Command syntax

The straight-forward command syntax has the following rules:

- The commands are “imperative,” meaning they start with a verb and instruct the system to perform some action.
- For commands that have optional parameters, you can specify them in any order or omit any that are unnecessary.
- When naming a database backup file, only use the following acceptable characters: letters, digits, underscore, and dash.
- The CLI command buffer allows a maximum of 4k characters for a single "paste" operation.

- When restoring a backup database file from a Windows-based server, use a forward slash (/) as a path separation character when working with FTP application operations.
- When referencing an entity name that has spaces, use quotation marks around the entity name. For example, use "Test 123" to enclose the name Test 123.

Note: If you type an invalid string—for example, the name of a command or statement that does not exist—the message "Invalid input detected at '^' marker" appears. The caret (^) indicates where the error is located.

Displaying valid keywords

The CLI provides the ability to display a list of valid keywords at the current level. This section presents some examples of how to evoke lists of particular command keywords and corresponding information.

Example 1:

Type "**?**" at the prompt and press **Enter** to see a list of the first-level commands available.

Possible commands:

activate	Activate system components.
add	Adds items to a collection.
apply	Apply a template.
clear	Clear system diagnostic information.
commit	Commit to a software version.
create	Create system equipment and service objects.
delete	Deletes system components.
dig	Find the IP address for a hostname.
disable	Disable system equipment and service objects.
download	Download system components.
enable	Enable system equipment and service objects.
exit	Logout from this session.
extract	Extract system data to server.
help	Ask for help.
load	Load a database backup onto system.
logout	Logout from this session.
ping	Ping another host.
quit	Logout from this session.
reboot	Reboot shelf, using the current software version.
remove	Remove items from a collection.
reset	Reset system components.
restart	Restart a system service.
revert	Revert to a software version.
set	Configure system equipment and service objects.
show	Show attributes of equipment and service objects.
snapshot	Captures the current system database.
switch	Switch to the loaded database.
telnet	Start a telnet session to another host.

test	Test system components and services.
traceroute	Find the route to another host.
turn-up	Starts the interactive turn-up tool.
unlink	Unlink system components.
upgrade	Upgrade system components.

Example 2:

Type **`clear ?`** to see a list of all possible completions for the clear command.

Possible completions:

dsl-template	Clear parameters in a DSL port template.
interface	Clear interface counters.
lldp-neighbor	Clear LLDP neighbor information.
log	Clear system logs.
ont	Clear ONT counters.
ont-port	Clear ONT port information.
pm	Clear performance monitoring statistics.
pots-port	Clear information for POTS ports.
stats	Clear cumulative statistics.
sw-resource-alarm	Evaluate software resource usage, clearing alarm if appropriate.

Example 3:

Type **`clear log ?`** to see a list of all possible completions for the clear log command.

Possible completions:

alarm	Clear the alarm log.
dbchange	Clear the database change log.
event	Clear the event log.
security	Clear the security log.
tca	Clear the TCA log.

Displaying configuration settings

The CLI also provides information on the current configuration settings and performance monitoring data. This section presents an example of how to evoke lists of particular information.

Example 4:

Type **`show interface <interface name>`** and press **Enter** to list the current configuration settings for the specific Ethernet port interface.

Note: For E7, you can specify the name of a LAG interface, a card number, or a card/Ethernet port specification. For example, 2/g1. Permitted values for the port type are "g" (for Gigabit Ethernet) or "x" (for 10-Gigabit Ethernet).

Configuration settings shown:

- Name
- Description
- Role
- Current Rate
- # VLANs / Tag Actions
- Status

Example 5:

Type **`show ?`** to see all of the possible sets of configuration parameters.

Chapter 2

E7 CLI Commands

The commands in this section are frequently used for configuring and maintaining the E7.

For CLI commands pertaining to IEEE 802.1Q Tagged VLANs, see IEEE 802.1Q Tagging Types.

activate ont-release

(GPON applications only) Activates ONT software on ONTs. See "Performing an ONT-Only Firmware Upgrade" in the *Calix E7/E-Series Software Upgrade Guide* for the sequence of commands to use.

Syntax:

```
activate ont-release [vendor|model|product|serial-number|release-
name]
```

Parameters:

vendor	(Optional) ONT vendor ID. This is a text string.
model	You can activate new firmware on a subset of ONTs by entering the Model mask for one or more ONT models. This is a text string.
product	You can activate new firmware on a subset of ONTs by entering the Product code for specific groups of ONT models. This is a text string.
release-name	(For mass-ONT upgrades) Critical—leave all fields blank except for Release Name, if required. If releases for P-Series and T-Series or GigaCenter ONTs are present in the system simultaneously, enter the desired ONT release name.
serial-number	You can activate new firmware on a subset of ONTs by entering the serial number for a single ONT.

add class-rule

Adds a matching-criteria rule for incoming packets to the classification map.

A classification map contains one or more class rules specifying some criteria against which to identify packets. The class map can specify that packets must match all rules in order to be selected, or can match any rule. Policy map objects use a classification map to select packets and perform some action.

Syntax:

```
add class-rule <rule index> to-map <c-map name> match-2-tags outer
<outer vlan ID> inner <inner vlan ID> [match-pbit]

add class-rule <rule index> to-map <c-map name> match-all

add class-rule <rule index> to-map <c-map name> match-dscp <dscp
value>

add class-rule <rule index> to-map <c-map name> match-pbit <p-bit
value>

add class-rule <rule index> to-map <c-map name> match-tag <outer
vlan ID> [match-pbit]
```

Parameters:

rule index	Numeric index value that uniquely identifies this object within the system. Index values 1-100.
c-map name	Name of classification map. This is a text string.
match-all	Adds a rule to a specified classification map that states all packets will match the criteria.
match-dscp	Adds a DSCP matching rule to a classification map that states the tagged packets must have a specified DSCP value.
dscp value	DSCP value 0-63, or: be, cs0, cs1, af11, af12, af13, cs2, af21, af22, af23, cs3, af31, af32, af33, cs4, af41, af42, af43, cs5, ef, cs6, cs7. See *create dscp-map* (on page 116).
match-pbit	Adds a p-bit matching rule to a classification map that states the tagged packets must have a specified p-bit value, indicating a determined priority value.
p-bit value	P-bit value (range 0-7) that specifies the VLAN priority value to match. Alternately, if "any" is used or the parameter is not specified, the p-bit value is not considered.

match-tag	Adds a tag matching rule to a classification map that states the packets must have a specified tag, and optionally, the specified priority value.
outer vlan ID	Outer VLAN ID to match. VLANs can specified by name or by numeric VLAN ID (range 1-4093).
inner vlan ID	Inner VLAN ID to match. VLANs can specified by name or by numeric VLAN ID (range 1-4093).
match-2-tags outer	Adds a two-tag matching rule to a classification map that states the packets must match with the specified two outermost tags, and optionally, the specified priority value.

add dot1x-auth-server

Adds an 802.1x authentication server to the E-Series system for secure network access. You can also configure attributes for the authenticator (E-Series) parameters, using the 802.1x profile. Also see set dot1x-auth-server.

Syntax:

```
add dot1x-auth-server <priority> host <hostname>
[port|timeout|retries]
```

Parameters:

priority	The priority order in which the radius servers are accessed. The server is identified by its configured priority. The allowed range is 1 to 100.
hostname	IP address of the RADIUS server. This is in IPv4 "dotted quad" format: "192.168.1.100".
port	Port number for the RADIUS server. This is a TCP or UDP port number. The allowed range is 1-65535.
timeout	Timeout duration for 802.1x server in seconds. The allowed range is 1-3.
retries	Number of retries for the 802.1x server. These are authentication attempts before logging a failure of authentication in the system. The "quiet" period (specified in the 802.1x profile) is imposed before attempting any more retries after the maximum allowed retries are reached. The allowed range is 1-10.

After completing this command, you will be prompted to enter the 802.1x shared secret for the E7 and the 802.1x server (1-16 ASCII characters).

add dot1x-acct-server

Adds an 802.1x accounting server to the E-Series system. Also see set dot1x-acct-server.

Syntax:

```
add dot1x-acct-server <priority> host <hostname>
[port|timeout|retries]
```

Parameters:

priority	The priority order in which the radius servers are accessed. The server is identified by its configured priority. The allowed range is 1 to 100.
hostname	IP address of the RADIUS server. This is in IPv4 "dotted quad" format: "192.168.1.100". This may be the same address used for the authentication server as long as the port number (below) is unique.
port	Port number for the RADIUS server. This is a TCP or UDP port number. The allowed range is 1-65535.
timeout	Timeout duration for 802.1x server in seconds. The allowed range is 1-3.
retries	Number of retries for the 802.1x server. These are attempts before logging a failure in the system. The "quiet" period (specified in the 802.1x profile) is imposed before attempting any more retries after the maximum allowed retries are reached. The allowed range is 1-10.

After completing this command, you will be prompted to enter the 802.1x shared secret for the E7 and the 802.1x server (1-16 ASCII characters).

add dsl-port * to-eth-mirror

(VDSL2 applications only) Adds a source to the Ethernet mirror. For diagnostic purposes, the traffic from one or more VDSL ports can be mirrored on a target port for performance analysis. The target port (destination) must first be specified with the following command before you can add ports to the Ethernet mirror for monitoring.

```
create eth-mirror dest-eth-port <card/port ID> [admin-state]created
```

By default, both ingress and egress traffic will be mirrored. To mirror only one of those, use the "type" option.

Important! Port mirroring should only be enabled on a temporary basis as it causes high CPU utilization.

Syntax:

```
add dsl-port <port ID> to-eth-mirror [type]
```

Example E7 commands that add an Ethernet port to be mirrored:

```
add dsl-port 1/v2 to-eth-mirror type ingress
add dsl-port 1/v3 to-eth-mirror type egress
add dsl-port 1/v4 to-eth-mirror type both
```

Parameters:

port ID	• **For stand-alone E7-2**, DSL ports are specified by card, port type, and port number. For example: 1/v1. • **For modular chassis E7-2**, DSL ports are specified by shelf, card, port type, and port number. For example: 1/2/v4. • **For E-series**, DSL ports are specified by port number. Permitted values for the port type are "g" (for Gigabit Ethernet) or "x" (for 10-Gigabit Ethernet). For example: v1.
type	(Optional) Type of traffic to mirror. Valid values: ingress, egress, both.

add erps-domain * to-vlan *

Adds a specified ERPS (Ethernet Ring Protection Switching) domain to a specified VLAN membership. VLAN Membership allows an interface to forward or accept traffic for the specified VLANs. Membership of a VLAN on an interface is required for any traffic to flow on the VLAN, regardless of tag actions. Membership is applied to interfaces and ERPS-Domains.

Syntax:

```
add erps-domain <domain name> to-vlan <vlan ID>
```

Parameters:

domain name	Name of ERPS domain. This is a text string.
vlan ID	Name of a VLAN, a numeric VLAN ID (2 to 4093 except for 1002-1005 which are reserved for E7 operation), or a range of numeric VLAN IDs specified by a hyphen (for example, 100-200).

add eth-port * to-eth-mirror

Adds a source to the Ethernet mirror. For diagnostic purposes, the traffic from one or more Ethernet ports can be mirrored on a target port for performance analysis. The target port (destination) must first be specified with the following command before you can add ports to the Ethernet mirror for monitoring.

```
create eth-mirror dest-eth-port <card/port ID> [admin-state]created
```

By default, both ingress and egress traffic will be mirrored. To mirror only one of those, use the "type" option.

Important! Port mirroring should only be enabled on a temporary basis as it causes high CPU utilization.

Syntax:

```
add eth-port <port ID> to-eth-mirror [type]
```

Example E7 commands that add an Ethernet port to be mirrored:

```
add eth-port 1/g2 to-eth-mirror type ingress
add eth-port 1/g3 to-eth-mirror type egress
add eth-port 1/g4 to-eth-mirror type both
```

Example E-Series commands that add an Ethernet port to be mirrored:

```
add eth-port g2 to-eth-mirror type ingress
add eth-port g3 to-eth-mirror type egress
add eth-port g4 to-eth-mirror type both
```

Parameters:

port ID	• **For E7**, Ethernet ports are specified by card, port type, and port number. For example: 1/g1. • **For modular chassis E7-2**, Ethernet ports are specified by shelf, card, port type, and port number. For example: 1/1/g1. • **For E-series**, Ethernet ports are specified by port type and port number. For example: g1. Permitted values for the port type are "g" (for Gigabit Ethernet) or "x" (for 10-Gigabit Ethernet).
type	(Optional) Type of traffic to mirror. Valid values: ingress, egress, both.

add eth-svc

Adds a service to a DSL bonded interface, a DSL port, or an ONT Ethernet port.

Syntax:

```
add eth-svc <service name> to-dsl-bond-interface <b-intfc> bw-
profile <bw-profile-name> svc-tag-action [outer-vlan <vlan ID>
inner-vlan <vlan ID> mcast-profile <profile name> description
<service> admin-state [enabled|disabled]]

add eth-svc <service name> to-interface <dsl-port> bw-profile <bw-
profile-name> svc-tag-action [outer-vlan <vlan ID> inner-vlan <vlan
ID> mcast-profile <profile name> description <service> admin-state
[enabled|disabled]]

add eth-svc <service name> to-ont-port <ONT port> bw-profile <bw
profile name> svc-tag-action <tag-action name> [outer-vlan <vlan ID>
inner-vlan <vlan ID> mcast-profile <profile name> description
<service> pon-cos <us-cos> us-cir-override <value> us-pir-override
<value> ds-pir-override <value> admin-state [enabled|disabled]
```

Parameters:

service name	Name of service to add to the specified ONT port. This is a number or text string.
ONT port	ONT ports are specified by ONT logical ID and port number. The port number is prefixed by a "port identifying letter": g=Gigabit Ethernet, h=HPNA Ethernet, r=video RF, R=video Hot RF, d=DS-1, p=POTS. Example: 10001/p2.
bw profile name	Name of bandwidth profile to use.
tag-action name	Name of service tag action to use.
outer-vlan <vlan ID>	Outer tag VLAN ID. VLAN is specified by numeric VLAN ID, which ranges from 1-4093 (except for 1002-1005 which are reserved for E7 operation). Alternately, "none" indicates that no VLAN ID is specified by this service.
inner-vlan <vlan ID>	Inner tag VLAN ID. VLAN is specified by numeric VLAN ID, which ranges from 2-4093 (except for 1002-1005 which are reserved for E7 operation). Alternately, "none" indicates that no VLAN ID is specified by this service.
mcast-profile <profile name>	Name of multicast profile to use. This is a text string.

description <service>	Description of the Ethernet service added.
pon-cos <us-cos>	(GPON only) Class of service for PON upstream. Valid values: derived, user-1, user-2, user-3, user-4, cos-1, cos-2, cos-3, cos-4, fixed.
us-cir-override <value>	For DOCSIS provisioning (with the Calix Compass: Open Link Cable vCMTS) to allow an override of the Ethernet bandwidth profile applied to a service. This allows a pre-defined profile to be reused and also allows the required DOCSIS provisioning where the upstream/downstream bandwidth parameters are specified individually each time a new service is configured on a port. See the *Calix Open Link Cable vCMTS Command-Line Interface (CLI) Reference Guide* and *Calix Open Link Cable vCMTS SNMP Management Guide* for more information. Kb/s in 64K increments. Use "m" or "g" suffix for Mb/s or Gb/s.
us-pir-override <value>	For DOCSIS provisioning (with the Calix Compass: Open Link Cable vCMTS) to allow an override of the Ethernet bandwidth profile applied to a service. This allows a pre-defined profile to be reused and also allows the required DOCSIS provisioning where the upstream/downstream bandwidth parameters are specified individually each time a new service is configured on a port. See the *Calix Open Link Cable vCMTS Command-Line Interface (CLI) Reference Guide* and *Calix Open Link Cable vCMTS SNMP Management Guide* for more information. Kb/s in 64K increments. Use "m" or "g" suffix for Mb/s or Gb/s.
ds-pir-override <value>	For DOCSIS provisioning (with the Calix Compass: Open Link Cable vCMTS) to allow an override of the Ethernet bandwidth profile applied to a service. This allows a pre-defined profile to be reused and also allows the required DOCSIS provisioning where the upstream/downstream bandwidth parameters are specified individually each time a new service is configured on a port. See the *Calix Open Link Cable vCMTS Command-Line Interface (CLI) Reference Guide* and *Calix Open Link Cable vCMTS SNMP Management Guide* for more information. Kb/s in 64K increments. Use "m" or "g" suffix for Mb/s or Gb/s.
admin-state	Admin state of added Ethernet service. Valid values: enabled, disabled.

add g8032-ring * to-vlan *

Adds a specified G.8032v2 transport ring to a specified VLAN membership. VLAN Membership allows an interface to forward or accept traffic for the specified VLANs. Membership of a VLAN on an interface is required for any traffic to flow on the VLAN, regardless of tag actions. Membership is applied to all interfaces on the node that are associated with the G.8032v2 ring.

Syntax:

```
add g8032-ring <name> to-vlan <vlan ID>
```

Parameters:

name	Name assigned to the G.8032v2 ring instance. This is a text string.
vlan ID	Name of a VLAN, a numeric VLAN ID (2 to 4093 except for 1002-1005 which are reserved for E7 operation), or a range of numeric VLAN IDs specified by a hyphen (for example, 100-200).

add gpon-port * to-eth-mirror

(GPON applications only) Adds a source to the Ethernet mirror. For diagnostic purposes, the E7 can mirror traffic from one or more GPON ports to a target port for performance analysis. The target port (destination) must first be specified with the following command before you can add ports to the Ethernet mirror for monitoring.

```
create eth-mirror dest-eth-port <card/port ID> [admin-state]created
```

By default, both ingress and egress traffic will be mirrored. To mirror only one of those, use the "type" option.

Important! Port mirroring should only be enabled on a temporary basis as it causes high CPU utilization.

Syntax:

```
add gpon-port <port ID> to-eth-mirror [type]
```

Example commands that add a GPON port to be mirrored:

```
add gpon-port 1/1 to-eth-mirror type ingress
add gpon-port 1/2 to-eth-mirror type egress
add gpon-port 1/3 to-eth-mirror type both
```

Parameters:

port ID	• **For E7**, GPON ports are specified by card and port number. For example: 1/2. • **For modular chassis E7-2**, GPON ports are specified by shelf, card, and port number. For example: 1/2/4.
type	(Optional) Type of traffic to mirror. Valid values: ingress, egress, both.

add h248-gw-svc

Adds an H.248 gateway service to an ONT voice port, or a VDSL2 voice port.

Syntax:

```
add h248-gw-svc to-ont-port <o-port> h248-gw-profile <p-name>
termination-id <t-id> [admin-state]

add h248-gw-svc to-pots-port <vdsl-port> h248-gw <gw-name>
termination-id <t-id> h248-gw-profile <p-name> [admin-state]
```

Parameters:

o-port	ONT ports are specified by ONT logical ID, port type, and port number. For example: 25/p2 = the second POTS port on ONT 25.
vdsl-port	VDSL2 voice port, identified by shelf (if MC)/card/pots-port. For example: 1/2/v3.
p-name	Name of the H.248 Gateway profile to use.
gw-name	Object that describes how to configure H.248 gateway voice service on a Voice (POTS) port. Each E-series can only support one voice service type, either SIP, TDM gateway, or H.248 gateway.
t-id	The ID to use for ephemeral terminations. Valid values: 0-48.
admin-state	(Optional) Admin state of ONT service. Valid values: enabled, disabled.

add interface * to-vlan

Adds a specified interface to a specified VLAN membership. VLAN Membership allows an interface to forward or accept traffic for the specified VLANs. Membership of a VLAN on an interface is required for any traffic to flow on the VLAN, regardless of tag actions. Membership is applied to interfaces and ERPS-Domains.

Note: An interface role (trunk, edge) cannot be modified when the interface has been added to a VLAN membership.

Syntax:

```
add interface <interface name> to-vlan <vlan ID>
```

Parameters:

interface name	Name of an interface or a range of Ethernet interfaces specified by a hyphen. This is a text string. • For an E7 example, 1/g3-1/g8. • For an E-series example, g1-g3. **Note:** If the E7 system is set to Modular Chassis mode, the management interface ports are indicated with a shelf/card/port location. For example, 1/2/g1 or 1/2/g1-1/2/g4.
vlan ID	Name of a VLAN, a numeric VLAN ID (2 to 4093), or a range of numeric VLAN IDs specified by a hyphen (for example, 100-200).

add mcast-white-list

Adds a multicast white list to an existing video service. You can also add a multicast white list to a video service at the time of the service creation.

Syntax:

```
add mcast-white-list <list-name> to-interface <vdsl interface> eth-
svc <service>

add mcast-white-list <list-name>  to-ont-port <ont port> eth-svc
<service>

add mcast-white-list <list-name> to-dsl-bond-interface <vdsl
interface> eth-svc <service>
```

Parameters:

list-name	Name of multicast white list. This is a text string.
vdsl interface	For E-series systems, DSL ports are specified by 1/port. For E7-2 standalone systems, DSL ports are specified by card/port. For E7-2 modular chassis systems, DSL ports are specified by shelf/card/port.
ont port	ONT ports are specified by ONT logical ID and port number. The port number is prefixed by a "port identifying letter": g=Gigabit Ethernet, h=HPNA Ethernet, r=video RF, R=video Hot RF, d=DS-1, p=POTS. Example: 10001/p2.
service	Name of service to add to the specified ONT port. This is a number or text string.

add mep

(E7 only) Adds a maintenance endpoint (MEP) to a maintenance entity group (MEG). A MEP defines the end of a Maintenance Domain (MD), it will discard OAM PDUs with a lower MD Level and process those at its own Level. OAM PDUs with a higher MD Level will pass

Syntax:

For ONT Ethernet ports:

```
add mep ont-port <port-id> to-meg <name> id <endpoint-id> direction
<m-direction> [ccm-ltm-priority|continuity-check|frame-measure-
profile|delay-loss-mac|delay-measurement|loss-measurement|admin-
state]
```

For ONT POTS ports:

```
add mep ont <ont-id> ip-host <sip|tdm-gw|h248|mgcp|pwe3> to-meg
<name> id <endpoint-id> direction <m-direction> [ccm-ltm-
priority|continuity-check|frame-measure-profile|delay-loss-
mac|delay-measurement|loss-measurement|admin-state]
```

For G.8032v2 Ethernet interfaces:

```
add mep g8032-ring-interface <ring-id> to-meg <name> id <endpoint-
id> [ccm-ltm-priority|admin-state]
```

Parameters:

port-id	For ONT Ethernet ports only: ONT port indicated by ont-id/ont-port, or ont-id only. For ont-port: f=fast-eth, g=gig-eth, h=hpna-eth, r=video-rf, R=video-hot-rf, t=t1, p=pots. For example, 10001/g1.
ont-id	For ONT POTS ports only: Identifies ONT by a global ID (range 1-64000000). For example, 10001.
ring-id	For G.8032v2 ring interfaces only: ring-name/intf-inst, valid options: intf-inst range 1-2. For example, test/1.
ip-host	For ONT POTS ports only: Selects the ONT IP host. Valid options: sip, tdm-gw, h248, pwe3, mgcp.
name	Name of maintenance entity group (MEG). This is a text string.

endpoint-id	Ethernet OAM maintenance endpoints. This is a text string. Valid range: 1-8191.
m-direction	MEP direction. Valid values: up, down. • An UP MEP faces into the Relay function of the Bridge and will source and sink OAM frames into or from the switch fabric. • A Down MEP faces out of the Switch toward the line or wire side and will source or sink OAM frames to or from the line.
ccm-ltm-priority	CCM LTM priority. This is a numeric value. Valid range: 0-7.
continuity-check	Continuity check. Valid values: enabled, disabled.
frame-measure-profile	Index of frame measurement profile. This is a numeric value. Valid range: 1-20.
delay-loss-mac	MAC address for delay/loss measurement. This is a MAC address. Valid values: six hexadecimal digits in the range 0-FF, optionally separated by colons. Alternatively, "auto" can be used to indicate that the MAC address is to be auto-discovered.
delay-measurement	Frame delay measurement. Valid values: enabled, disabled.
loss-measurement	Frame loss measurement. Valid values: enabled, disabled.
admin-state	Admin state of the port. Valid values: enabled, disabled.

add mgcp-svc

(E7 only) Adds MGCP service to an ONT POTS port.

Syntax:

```
add mgcp-svc to-ont-port <POTS port> mgcp-profile <mgcp-profile>
[gr-303|admin-state]
```

Parameters:

POTS port	ONT ports are specified by ONT logical ID and port number. The port number is prefixed by a "port identifying letter": g=Gigabit Ethernet, h=HPNA Ethernet, r=video RF, R=video Hot RF, d=DS-1, p=POTS. Example: 10001/p2.
mgcp-profile	Name of MGCP gateway profile to use. This is a text string.
gr-303	Whether GR-303 signaling is enabled. Valid values: enabled, disabled.
admin-state	(Optional) Admin state of ONT service. Valid values: enabled, disabled.

add mip ont-port

(GPON applications only) Adds a maintenance intermediate point (MIP) to a maintenance entity group (MEG).

Syntax:

```
add mip ont-port <port-id> to-meg <name> [admin-state]
```

Parameters:

port-id	ONT port indicated by ont-id/ont-port, or ont-id only. For ont-port: f=fast-eth, g=gig-eth, h=hpna-eth, r=video-rf, R=video-hot-rf, t=t1, p=pots. For example, 10001/g1.
name	Name of maintenance entity group. This is a text string.
admin-state	Admin state of the port. Valid values: enabled, disabled.

add ont

(GPON applications only) Adds an ONT to the quarantine list, specified by a particular characteristic.

Syntax:

```
add ont <ont-id> to-quarantine

add ont serial-number <ont-serial> to-quarantine

add ont serial-number <ont-serial> vendor-id <v-id> to-quarantine
```

Parameters:

ont-id	Logical ID for an ONT, an integer in the range 1-64000000, inclusive.
ont-serial	Serial number specified for an ONT, a hexadecimal integer. The serial number is the only identifier guaranteed to exist for both provisioned and unprovisioned ONTs.
v-id	Overrides the default Vendor ID (CXNT). This is a text string.

add ont-pon-us-cos

(GPON applications only) Adds an ONT PON upstream Class of Service (CoS) to an ONT.

Syntax:

```
add ont-pon-us-cos <user-id> to-ont <ont-id> pon-us-cos-profile <p-name>
```

Parameters:

user-id	Name of ONT PON Cos. Valid values: user-1, user-2, user-3, user-4.
ont-id	ONTs are specified by logical ID, an integer in the range 1-64000000, inclusive.
p-name	Name of PON upstream profile. This is a text string.

add ont-port

(GPON applications only) Adds an ONT port to either a Residential Gateway interface or to a Full Bridge interface.

Syntax:

```
add ont-port <ont-port> to-res-gw
add ont-port <ont-port> to-full-bridge
```

Parameters:

ont-port	ONT ports are specified by ONT logical ID and port number. The port number is prefixed by a "port identifying letter": g=Gigabit Ethernet, h=HPNA Ethernet, r=video RF, R=video Hot RF, d=DS-1, p=POTS, G=res-gw, F=full-bridge. Example: 10001/p2

add policy

Adds a policy to the specified policy map. The class map that you want to associate to the policy map must already exist.

Policy maps are lists of QoS-related actions to take on packets that match certain criteria. The matching criteria is specified by a classification map.

Note: If you create multiple policy rules that specify a P-bit value, only the policy rule with the lowest sequence ID is carried out. You must add a non-zero max-burst-size for the operation to complete.

Syntax:

```
add policy <policy index> to-map <p-map name> class-map <c-map name>
[set-pbit|rate-limit|max-burst-size]
```

Parameters:

policy index	Index of policy in map. This is a numeric index value that uniquely identifies this object within the system. Index values start with 1.
p-map name	Name of policy map. This is a text string.
c-map name	Name of classification map. This is a text string.
set-pbit	P-bit value (range 0-7) that specifies the VLAN priority value to match. Alternately, if "none" is used or the parameter is not specified, the P-bit value is not considered.
rate-limit	Maximum allowable processing rate in Mb/s at which packets entering an interface are forwarded. (megabits/s 1-10000 Mb/s). This is a numeric value. **Note:** You must add a non-zero max-burst-size, or the command will be rejected. Alternatively, you can enter "none" for no rate limiting.

max-burst-size	Max burst size (kilobits or megabits) ensures the bursting nature of the traffic is reduced to the specified value. Set the maximum burst size to a value greater than default when using jumbo frames (for example 9000 kbyte) at higher rates. Also consider whether the traffic is shaped before reaching the E7; the edge device doing the shaping will greatly reduce the buffer requirements in the infrastructure device. **Note:** You must add a non-zero max-burst-size, or the command will be rejected. (Range = 4000-16000 Kbyte in increments of 4000 Kbyte or use "m" for megabytes.) This is a numeric value.

add pwe3-svc

(E7 only) Adds PWE3 service to an ONT T1 port.

T1 PWE3 (Pseudo-wire) service provisioning specifies the address of the remote endpoint of the pseudo-wire, the UDP port number for for the local endpoint represented by the service, and a profile containing configuration details for how the pseudo-wire operates.

Syntax:

```
add pwe3-svc to-ont-port <ONT T1 port> t1-pwe3-profile <profile
name> transport-type udp local-port <l-port> remote-ip <address>
[remote-port|ont-pwe3-svc-gos|outer-vlan|inner-vlan|admin-state]

add pwe3-svc to-ont-port <ONT T1 port> t1-pwe3-profile <profile
name> transport-type mef ecid <circuit-id> remote-ecid <r-circuit-
id> remote-ip <address> [ont-pwe3-svc-gos|outer-vlan|inner-
vlan|admin-state]

add pwe3-svc to-ont-port <ONT T1 port> t1-pwe3-profile <profile
name> transport-type mef ecid <circuit-id> remote-ecid <r-circuit-
id> remote-mac <mac> [ont-pwe3-svc-gos|outer-vlan|inner-vlan|admin-
state]
```

Parameters:

ONT T1 port	ONT ports are specified by ONT logical ID and port number. The port number is prefixed by a "port identifing letter": g=Gigabit Ethernet, h=HPNA Ethernet, r=video RF, R=video Hot RF, d=DS-1, p=POTS. Example: 10001/p2 <ont-id/ont-port> Example: 10001/t1.
profile name	Name of T1 PWE3 profile to use. This is a text string.
l-port	Local UDP port. Range: 1024-65535. Local MEF ECID port. Range: 1-1048575.
address	IP address of the remote end of the pseudo-wire. This is in "dotted quad" format: "192.168.1.100". Alternately, "none" can be used to reset the value to "0.0.0.0".
circuit-id	Emulated circuit ID. This is a numeric value. Valid range: 1-1048575.
r-circuit-id	Remote emulated circuit ID. This is a numeric value. Valid range: 1-1048575.

remote-port	UDP port at the remote end of the pseudo-wire. This is a TCP or UDP port number. Valid range: 1024-65534, or use-local.
mac	MAC address of the remote end of the pseudo-wire. This is a MAC address. Valid values: six hexadecimal digits in the range 0-FF, optionally separated by colons.
ont-pwe3-svc-gos	(Optional) Index of the ONT PWE2 Service GOS profile to use. This is a text string.
outer-vlan	Outer tag VLAN ID. Valid values: 1-4093, none.
inner-vlan	Inner tag VLAN ID. Valid values: 1-4093, none.
admin-state	(Optional) Admin state of ONT service. Valid values: enabled, disabled.

add radius-acct-server

Adds a RADIUS accounting server to the system.

Syntax:

```
add radius-acct-server <priority> host <hostname> port <port ID>
secret <shared>
```

Parameters:

priority	The priority order in which the radius servers are accessed. The allowed range is 1 to 100.
hostname	Hostname or IP address of the RADIUS server. This is in "dotted quad" format: "192.168.1.100". Alternately, "none" can be used to reset the value to "0.0.0.0".
shared	The "shared secret" for the E7 and the RADIUS server. This is a text string. From 1 to 16 ASCII characters. This string must match the string configured in the RADIUS server.
port ID	(Optional) Hostname or IP address of RADIUS server. This is an TCP or UDP port number. The allowed range is 1 to 65535. The default is 1813.

add radius-auth-server

Adds a RADIUS authentication server to the system.

Syntax:

```
add radius-auth-server <priority> host <hostname> secret <shared>
[port <port ID>]
```

Parameters:

priority	The priority order in which the radius servers are accessed. The allowed range is 1 to 100.
hostname	Hostname or IP address of the RADIUS server. This is in "dotted quad" format: "192.168.1.100". Alternately, "none" can be used to reset the value to "0.0.0.0".
shared	The "shared secret" for the E7 and the RADIUS server. This is a text string. From 1 to 16 ASCII characters. This string must match the string configured in the RADIUS server.
port ID	(Optional) Hostname or IP address of RADIUS server. This is an TCP or UDP port number. The allowed range is 1 to 65535.

add range to-mcast-map

Adds a multicast address range to a multicast address map.

Syntax:

```
add range to-mcast-map <m-name> mcast <m-range>
```

Parameters:

m-name	Name of multicast address map. This is a text string.
m-range	Range of multicast group addresses to add to the specified multicast address map. In dotted quad" format, separated by a dash. For example, "224.0.0.1-224.0.0.100".

add range to-mcast-white-list

Adds a multicast white list range to a multicast white list.

Also see:

create mcast-white-list (on page 152)
add mcast-white-list (on page 50)

Syntax:

```
add range to-mcast-white-list <list-name> mcast <range>
```

Parameters:

list-name	Name of multicast address map. This is a text string.
range	Range of multicast group addresses to add to the specified multicast white list. In dotted quad" format, separated by a dash. For example, "224.0.0.1-224.0.0.100".

add remote-mep

(E7 only) Adds a remote maintenance endpoint to a maintenance entity group.

Syntax:

```
add remote-mep id <endpoint-id> to-meg <name>
```

Parameters:

endpoint-id	Ethernet OAM maintenance endpoint. This is a numeric value. Valid range: 1-8191.
name	Name of the maintenance entity group. This is a text string.

add rule

Adds a rule to the specified voice dial plan. The dial plan that you want to associate to the rule must already exist.

Syntax:

```
add rule <p-index> to-dial-plan <p-name> pattern <token>
```

Parameters:

p-index	Index of dial plan rule. This is a numeric index value that uniquely identifies this object within the system. Valid values: 1-100.
p-name	Name of dial plan. This is a text string.
token	Dial plan rule pattern. • **^** Required to match from the start of the dial string • **|** Required vertical bar (pipe key) as a rule-separating character at the end of each rule in the dial plan • **[a-b]** Square brackets are used to define options or sub-ranges of allowable digits • **{n}** Curly brackets are used to define the number of of allowed digits in a string (range match length). Applies only to variable directly preceding it. • ***** Wild card match - Matches on a variable number of digits • **T** Variable digit timeout • **S** Star key on the handset - applies to Vertical Service Codes • **c** Confirmation tone is played after star code is executed • **r** Recall tone is played during call forwarding sequence • **d** Dial tone is played during a call forwarding sequence • **,** (Comma) Outside dial tone is played if preceded by a 9 • **n** no local disconnect • **#** Pound indicator • **b** /*Must immediately follow '#'*/ **Note:** The Maximum Network Dial Plan Table size is 100 rows x 28 (2800 bytes). A rule cannot exceed 28 bytes (or characters), because a rule must fit in a single row. The required "|" character at the end of each rule limits the rule to 27 characters. A rule is not allowed to overlap rows.

add sip-svc

Adds SIP service to an ONT POTS port, or an VDSL POTS port.

Syntax:

```
add sip-svc to-ont-port <o-port> sip-rmt-cfg-profile <sipr-profile>
user <user name> password <pswd> uri <URI ID> [sip-rmt-cfg-
override|call-waiting|caller-id|three-way-calling|t38-fax-
relay|dial-plan|admin-state|direct-connect|direct-connect-timer|msg-
waiting-indicator]

add sip-svc to-ont-port <o-port> sip-gw-profile <sipgw-profile> user
<user name> password <pswd> uri <URI ID> [call-waiting|caller-
id|three-way-calling|dial-plan|admin-state|direct-connect|direct-
connect-timer|msg-waiting-indicator]

add sip-svc to-pots-port <vdsl-port> ip-host <lc-ip> sip-gw-profile
<sipgw-profile> user <user name> password <pswd> uri <URI ID> [call-
waiting|caller-id|three-way-calling|t38-fax-relay| dial-plan|admin-
state|direct-connect|direct-connect-timer|msg-waiting-indicator]
```

Parameters:

o-port	ONT ports are specified by ONT logical ID and port number. The port number is prefixed by a "port identifying letter": g=Gigabit Ethernet, h=HPNA Ethernet, r=video RF, R=video Hot RF, d=DS-1, p=POTS. Example: 10001/p2.
sipr-profile	Name of SIP remote configuration profile to use for ONT service. This is a text string.
user name	Name of user. This is a text string.
pswd	Password that matches specified user.
URI ID	Universal resource identifier for SIP service.
sip-rmt-cfg-override	Whether the service provisioning parameters in the SIP Configuration File are used, rather than the parameters configured locally. Valid values: enabled, disabled.
call-waiting	Whether the call-waiting is enabled. Valid values: enabled, disabled.
caller-id	Whether the caller ID is enabled. Valid values: enabled, disabled.
three-way-calling	Whether the three-way-calling is enabled. Valid values: enabled, disabled.

t38-fax-relay	Whether the T.38 fax is enabled. Valid values: enabled, disabled.
dial-plan	Name of dial plan to use for the service. This is a text string.
direct-connect	Warm-line or Hot-Line phone number. This is a text string.
direct-connect-timer	Warm-line or hot-line timer value in seconds. Valid values: 0-35.
msg-waiting-indicator	Enable message-waiting indicator. Valid values: enabled, disabled.
vdsl-port	VDSL2 voice port, identified by shelf (if MC)/card/pots-port.
lc-ip	Name of line card IP Host. This is a text string.
sipgw-profile	Name of the SIP Gateway profile to use for VDSL2 service. This is a text string.
admin-state	(Optional) Admin state of ONT service. Valid values: enabled, disabled.

add static-ip-entry

Adds either a static host or a static subnet to an Ethernet service on a xDSL interface, a xDSL-bonded interface, or an ONT port.

When Ethernet services are assigned static IP entries for use by subscriber equipment, subscriber traffic must originate from the specified addresses or subnets.

Syntax:

```
add static-ip-entry to-ont-port <p-id> eth-svc <s-name> type host ip
<h-ip> netmask <n-ip> default-gw <gw-ip> [mac <m-address>]

add static-ip-entry to-ont-port <p-id> eth-svc <s-name> type subnet
ip <sub-ip> netmask <n-ip> default-gw <gw-ip>

add static-ip-entry to-dsl-bond-interface <dsl-intfc> eth-svc <s-
name> type host ip <h-ip> netmask <n-ip> default-gw <gw-ip> [mac <m-
address>]

add static-ip-entry to-dsl-bond-interface <dsl-intfc> eth-svc <s-
name> type subnet ip <sub-ip> netmask <n-ip> default-gw <gw-ip>

add static-ip-entry to-interface <dsl-intfc> eth-svc <s-name> type
host ip <h-ip> netmask <n-ip> default-gw <gw-ip> [mac <m-address>]

add static-ip-entry to-interface <dsl-intfc> eth-svc <s-name> type
subnet ip <sub-ip> netmask <n-ip> default-gw <gw-ip>
```

Parameters:

p-id	ONT port specified by ONT logical ID and port number. The port number is prefixed by a "port identifing letter": g=Gigabit Ethernet, h=HPNA Ethernet, r=video RF, R=video Hot RF, d=DS-1, p=POTS. For example, 10001/p2.
s-name	Name of service for the ONT port.
h-ip	Subscriber host IP address in "dotted quad" format: "192.168.1.100". Alternately, "none" can be used to reset the value to "0.0.0.0".
sub-ip	Subscriber IP address subnet in "dotted quad" format: "192.168.1.100". Alternately, "none" can be used to reset the value to "0.0.0.0".
n-ip	IP Netmask for subscriber host. This is an IP address in "dotted quad" format: "192.168.1.100". Alternately, "none" can be used to reset the value to "0.0.0.0".

gw-ip	Default IP gateway. This is an IP address in "dotted quad" format: "192.168.1.100". Alternately, "none" can be used to reset the value to "0.0.0.0".
m-address	(Optional) Subscriber host MAC address: six hexadecimal digits in the range 0-FF, optionally separated by colons. Alternatively, none indicates the MAC address is unspecified.
dsl-intfc	DSL port specified by shelf/card/port.

add static-mcast-src

Adds an interface static multicast source to a VLAN.

Syntax:

```
add static-mcast-src interface <i-id> to-vlan <vlan-id>
```

Parameters:

i-id	Name of an interface or a range of Ethernet interfaces specified by a hyphen. This is a text string. • For an E7 example, 1/g3-1/g8. • For an E-series example, g1-g3.
vlan-id	Name of a VLAN, a numeric VLAN ID (2 to 4093), or a range of numeric VLAN IDs specified by a hyphen (for example, 100-200).

add tagged-rule

Adds a tagged rule to a service match list.

A service match list is an ordered collection of matching rules to associate with a service tag action. The match list defines how the ONT classifies subscriber traffic to determine the service in which it belongs. A match list can contain both “tagged” and “untagged” match rules, up to 12 tagged rules and up to 16 untagged rules for each ONT Ethernet port.

- **Untagged match rules** can match on a portion of the source MAC address as indicated by the Source MAC and Source MAC Mask attributes of a video Set-Top box. If no Source Mac value is available, as in data traffic, you can use the system default match list "all-untagged," to match all untagged traffic.
- **Tagged match rules** can match on any combination of the outer tag VLAN-ID and P-bit values. The Tag Protocol Identifier (TPID) can also be specified at the E7 egress Ethernet port interface, but defaults to 0x8100.

Syntax:

```
add tagged-rule to-svc-match-list <l-name> vlan <vlan-id>
add tagged-rule to-svc-match-list <l-name> p-bit <value>
```

Parameters:

l-name	Name of the service match list. This is a text string.
vlan	(Optional) VLAN ID of outer tag (tagged match rules only). VLANs can be specified by name or by numeric VLAN ID, which ranges from 1-4095. In addition, "untagged" indicates that only untagged traffic should be matched and "ignore" indicates that the VLAN ID should not be examined.
p-bit	(Optional) P-bit value of outer tag (tagged match rules only). P-bit values are in the range 0-7. Alternatively, "any" means the P-bit value is not considered. If this parameter is not specified, "any" is the default behavior.

add tdm-gw-svc

Adds TDM voice Gateway service to an ONT voice port, or a VDSL2 linecard POTS port.

Syntax:

```
add tdm-gw-svc to-ont-port <ont port> tdm-gw-profile <profile name>
crv <crv-id> [admin-state <state>]

add tdm-gw-svc to-pots-port <pots port> ip-host <card ip> tdm-gw-
profile <profile name> crv <crv-id> [admin-state]
```

Example:

```
add tdm-gw-svc to-ont-port 1/p1 tdm-gw-profile VOICE crv N1-1-IG1-224 admin-
state enabled
```

Parameters:

ont port	ONT POTS port, specified by the ONT logical ID and port number. The port number is prefixed by a "port indentifying letter": g=Gigabit Ethernet, h=HPNA Ethernet, r=video RF, R=video Hot RF, d=DS-1, p=POTS. Example: 10001/p2.
pots port	VDSL2 Linecard POTS ports are specified by shelf (if modular chassis), card, POTS port.
profile name	Name of TDM Gateway profile to use. This is a text string.
crv-id	The Call Reference Value Access Identifier identifies the CRV (circuit) address of a subscriber line in a GR-303 interface group. Enter the CRV number for this subscriber line, as provisioned on the Calix C7 gateway interface group (case sensitive). For example, **N1-1-IG1-224**. Cross-Connect DS0 Ports to GR-303 Interface Group CRVs Call Reference Values (CRVs) are used to build translation tables on the Class 5 switch that map remote connections to internal circuits at the switch.
card ip	Name of the linecard IP Host. This is a text string.
admin-state	Administrative state of ONT service. Valid values: enabled, disabled.

add untagged-rule

Adds an untagged rule to a service match list.

A service match list is an ordered collection of matching rules to associate with a service tag action. The match list defines how the ONT classifies subscriber traffic to determine the service in which it belongs. A match list can contain both "tagged" and "untagged" match rules, up to 12 tagged rules and up to 16 untagged rules for each ONT Ethernet port.

- **Untagged match rules** can match on the following:
  - A portion of the source MAC address as indicated by the Source MAC and Source MAC Mask attributes of a video Set-Top box.
  - The Ethertype can also be specified at the E7 egress Ethernet port interface to distinguish video and high-speed internet traffic on untagged interfaces.
  - The VPI and VCI values used by the subscriber's ADSL modem.
  - If no Source Mac value is available, as in data traffic, you can use the system default match list "all-untagged," to match all untagged traffic.
- **Tagged match rules** can match on any combination of the outer tag VLAN-ID and P-bit values.

Syntax:

```
add untagged-rule to-svc-match-list <l-name> src-mac <mac address>
add untagged-rule to-svc-match-list <l-name> src-mac-mask <mac mask>
add untagged-rule to-svc-match-list <l-name> ethertype <eth-options>
add untagged-rule to-svc-match-list <l-name> vpi <vpi>
add untagged-rule to-svc-match-list <l-name> vci <vci>
```

Parameters:

l-name	Name of the service match list. This is a text string.
src-mac	(Optional) Source MAC address (untagged match rules only). This is a MAC address: six hexadecimal digits in the range 0-FF, optionally separated by colons. Alternatively, "ignore" disregards the MAC address.
src-mac-mask	(Optional) Source MAC mask (untagged match rules only). This is a MAC address: six hexadecimal digits in the range 0-FF, optionally separated by colons.

ethertype	Ethertype in VLAN tag. Valid values: • any = default • pppoe = 0x8864 • arp = 0x0806 • ipv4 = 0x0800 • ipv6 = 0x86DD
vpi	• VPI value used by the subscriber's modem (ADSL modems only). Valid values: 0-255.
vci	• VCI value used by the subscriber's modem (ADSL modems only). Valid values: 32-65535.

add vlan * to-mvr-profile *

Adds a VLAN to a multicast VLAN registration profile.

Syntax:

```
add vlan <vlan-id> to-mvr-profile <p-name> [mcast-range-1|mcast-
range-2|mcast-range-3|mcast-range-4]
```

Parameters:

p-name	Name of multicast VLAN registration profile. This is a text string.
vlan ID	Name of a VLAN, a numeric VLAN ID (2 to 4093 except for 1002-1005 which are reserved for E7 operation), or a range of numeric VLAN IDs specified by a hyphen (for example, 100-200).
mcast-range-1	A range of multicast group addresses in dotted quad" format, separated by a dash. For example, "224.0.0.1-224.0.0.100".
mcast-range-2	A range of multicast group addresses in dotted quad" format, separated by a dash. For example, "224.0.0.1-224.0.0.100".
mcast-range-3	A range of multicast group addresses in dotted quad" format, separated by a dash. For example, "224.0.0.1-224.0.0.100".
mcast-range-4	A range of multicast group addresses in dotted quad" format, separated by a dash. For example, "224.0.0.1-224.0.0.100".

apply dsl-coefficient

(VDSL2 applications only) Applies the downloaded (retrieved) DSL coefficient file to the VDSL2 card. This results in a card reset, and then the VDSL2 card applies the configuration from the file to its provisioning. When this action is invoked, all the ONTs matching the vendor, model, and product will be reset.

Also see:

retrieve dsl-coefficient (on page 379)
remove dsl-coefficient (on page 339)
cancel dsl-coefficient (on page 82)
show dsl-coefficient (on page 578)

Syntax:

```
apply dsl-coefficient
```

apply dsl-config

(VDSL2 applications only) Applies the downloaded (retrieved) DSL configuration file to the VDSL2 card. This results in a card reset, and then the VDSL2 card applies the configuration from the file to its provisioning.

Also see:

retrieve dsl-config (on page 380)
remove dsl-config (on page 340)
cancel dsl-config (on page 83)

Syntax:

```
apply dsl-config config-name <instance>
```

Parameters:

instance	DSL Configuration file instance. Valid values: voip-1, 1, voip-2, 2, voip-3, 3, voip-4, 4.

apply dsl-template

(VDSL2 applications only) Applies a DSL port template to a DSL port.

Syntax:

```
apply dsl-template <t-name> to-dsl-port <port>
```

Parameters:

t-name	Name of the DSL port template. This is a text string.
port	• **For E-series**, DSL ports are specified by card (1), port type, and port number. For example: 1/v1. • **For stand-alone E7-2**, DSL ports are specified by card, port type, and port number. For example: 2/v1. • **For modular chassis E7-2**, DSL ports are specified by shelf, card, port type, and port number. For example: 1/2/v4.

apply ont-config

(GPON applications only) Applies the downloaded (retrieved) configuration file to the ONT. This results in an ONT reset, and then the ONT applies the configuration from the file to its provisioning. When this action is invoked, all the ONTs matching the vendor, model, and product will be reset.

Syntax:

```
apply ont-config vendor <vendor ID> [model|product]
```

Parameters:

vendor ID	ONT vendor ID. This is a text string of 4 alphanumeric characters.
model	ONT model. This is a text string of 16 characters, maximum.
product	ONT product name. Valid values: 1-65535, or 2 alphanumeric characters.

cancel dsl-coefficient

(VDSL2 applications only) Cancels the retrieve command and deletes the DSL VoIP coefficient file from system memory.

The **cancel dsl-coefficient** command can be invoked before the **apply dsl-coefficient** command is invoked, either while the "retrieve" action is still in progress, or after the "retrieve" action has completed. After the "apply" action is performed, then use the **remove dsl-coefficient** command action to delete the coefficient file from system memory.

Syntax:

```
cancel dsl-coefficient
```

cancel dsl-config

(VDSL2 applications only) Cancels the retrieve command and deletes the DSL VoIP configuration file from system memory.

The **cancel dsl-config** command can be invoked before the **apply dsl-config** command is invoked, either while the "retrieve" action is still in progress, or after the "retrieve" action has completed. After the "apply" action is performed, then use the **remove dsl-config** command action to delete the coefficient file from system memory.

Syntax:

```
cancel dsl-config
```

cancel dsl-selt

(VDSL2 applications only) Stops the in-progress SELT process. See **`test dsl-selt`** (on page 696).

Syntax:

```
cancel dsl-selt dsl-port <port-id>
```

Parameters:

port-id	• **For E-series**, DSL ports are specified by card (1), port type, and port number. For example: 1/v1. • **For stand-alone E7-2**, DSL ports are specified by card, port type, and port number. For example: 2/v1. • **For modular chassis E7-2**, DSL ports are specified by shelf, card, port type, and port number. For example: 1/2/v4.

cancel ont-config

(GPON applications only) Cancels the retrieve command and deletes the ONT configuration file from ONT and E7 memory.

The **cancel ont-config** command can be invoked before the **apply ont-config** command is invoked, either while the "retrieve" action is still in progress, or after the "retrieve" action has completed. After the "apply" action is performed, then use the **remove ont-config** command action to delete the configuration file from ONT and E7 memory.

Syntax:

```
cancel ont-config vendor <vendor ID> instance <index>
[model|product]
```

Parameters:

vendor ID	ONT vendor ID. This is a text string of 4 alphanumeric characters.
index	Logical index of ONT grouping. Valid values: 1-65535, or 2 alphanumeric characters.
model	(Optional) ONT model. This is a text string of 16 characters, maximum.
product	(Optional) ONT product name. Valid values: 1-65535, or 2 alphanumeric characters.

cancel ont-release

(GPON applications only) Cancels an incomplete download ont-release or activate ont-release command, and then removes ONT images from E7 memory.

Syntax:

```
cancel ont-release
```

Parameters:

none

cancel reset

Cancels an in-progress reset for the system or specified card.

Syntax:

```
cancel reset system
cancel reset card <slot>
```

Parameters:

slot	(E7 only) Slot number of card. This is an index value, a numeric identifier that uniquely identifies this object within the system. Index values start with 1.

cancel upgrade

Cancels an in-progress upgrade or discards the software for a completed upgrade, if done before the system has reset.

Syntax:

```
cancel upgrade system
cancel upgrade card <slot>
```

Parameters:

slot	(E7 only) Slot number of card. This is an index value, a numeric identifier that uniquely identifies this object within the system. Index values start with 1.

clear dsl-bond-interface

(VDSL2 applications only) Clears the PPPoE discovery statistics or IGMP counters for Ethernet services on the xDSL bonded interface(s).

Syntax:

```
clear dsl-bond-interface dot1x
clear dsl-bond-interface igmp-counters
clear dsl-bond-interface <intfc-name> [igmp-counters|pppoe]
```

Parameters:

intfc-name	xDSL bonded interface. This is a text string.
dot1x	Clears 802.1x counters for all dsl-bond-interfaces, or only the specified xDSL bonded interface.
igmp-counters	Clears IGMP counters for all, or only the specified xDSL bonded interfaces.
pppoe	Clears the PPPoE discovery statistics for the specified xDSL bonded interface.

clear dsl-selt

(VDSL2 applications only) Removes existing SELT statistics from the specified DSL port.

Syntax:

```
clear dsl-selt dsl-port <port-id>
```

Parameters:

port-id	DSL port ID <shelf/card/dsl-port>. For example: 1/2/v4.

clear dsl-template

(VDSL2 applications only) Clears the basic, advanced, or power spectral density attributes of a DSL port template.

Syntax:

```
clear dsl-template <name> basic
clear dsl-template <name> advanced
clear dsl-template <name> psd
```

Parameters:

name	Name of the DSL port template. This is a text string.

clear g8032-ring

Removes an existing force or manual switch command on the ring port. The Clear command is used at the Ring Protection Link (RPL) owner to clear a non-revertive mode condition.

Syntax:

```
clear g8032-ring <name>
```

Parameters:

name	Assigned name of the G.8032v2 ring. This is a text string.

clear inband-loopback

Clears the inband loopback on ONT-T1 port.

The DS1 in-band loopback code detection on this port verifies the circuit is provisioned correctly by inserting a specific repeating bit pattern (Facility Type 2 or FAC2) into the T1 bit stream and putting the port into loopback. In-band loopbacks allow the service provider to test DS1 circuits independently of the access network by isolating the transport side of the circuit.

(E7 only) Clears ONT port information.

Syntax:

```
clear inband-loopback ont-port <p-id>
```

Parameters:

p-id	ONT port specified by ONT logical ID and port number. For example, 10001/t2.

clear interface

Clears the PPPoE discovery statistics, or IGMP counters for a specified interface.

Syntax:

```
clear interface igmp-counters
clear interface dot1x
clear interface <intfc-name> [dot1x|eth-svc|igmp-
counters|pppoe|vlan]
clear interface <intfc-name> eth-svc [pppoe|e-name]
clear interface <intfc-name> vlan <vlan-id> igmp-counters
```

Parameters:

intfc-name	xDSL Ethernet interface. This is a text string.
e-name	Name of the Ethernet service. This is a text string.
dot1x	Clears the 802.1x counters for all interfaces, or only the specified interface.
eth-svc	Clears the Ethernet services statistics for the specified interface.
igmp-counters	Clears IGMP counters for a specified interface. This is a test string.
pppoe	Clears the PPPoE discovery statistics for all Ethernet services.
vlan-id	Clears IGMP counters for a specified VLAN on a specified Ethernet interface. This is a test string.

clear lldp-neighbor

With Link Layer Discovery Protocol (LLDP), each interface not only maintains a set of MIB objects that it will transmit, but it also maintains a MIB per peer containing all the objects sent by those peers. This information can be leveraged by the management interfaces to build a "network" topology view and identify all connected access nodes.

This command clears the peer information of the specified Ethernet port.

Syntax:

```
clear lldp-neighbor <eth-port>
```

Parameters:

eth-port	• **For E7**, Ethernet ports are specified by card, port type, and port number. For example: 1/g1. • **For modular chassis E7-2**, Ethernet ports are specified by shelf, card, port type, and port number. For example: 1/1/g1. • **For E-series**, Ethernet ports are specified by port type and port number. For example: g1. Permitted values for the port type are "g" (for Gigabit Ethernet) or "x" (for 10-Gigabit Ethernet).

clear log

Clears the specified log, erasing the system record of all related activity. The system keeps a record of the last 500 of five types of system activity: alarms, events, database changes, security events, and threshold crossings

Syntax:

```
clear log [alarm|dbchange|event|security|tca]
```

Parameters:

alarm	Clears the alarm log, erasing the system record of all alarm activity.
dbchange	Clears the database change log, erasing the system record of all provisioning activity.
event	Clears the system event log, erasing the systems record of event activity.
security	Clears the security log, erasing the system record of security events.
tca	Clears the TCA log, erasing the system record of threshold crossing alerts.

clear ont

(GPON applications only) Clears ONT RF counters for RF video overlay.

Syntax:

```
clear ont <p-id> rf-burst-counters
```

Parameters:

p-id	ONT port specified by ONT logical ID and port number. The port number is prefixed by a "port identifing letter": g=Gigabit Ethernet, h=HPNA Ethernet, r=video RF, R=video Hot RF, d=DS-1, p=POTS. For example, 10001/p2.

clear ont-port

(GPON applications only) Clears ONT port information.

Syntax:

```
clear ont-port <p-id> dot1x
clear ont-port <p-id> eth-counters
clear ont-port <p-id> eth-svc counters|pppoe
clear ont-port <p-id> eth-svc <s-name> counters|pppoe
clear ont-port <p-id> pppoe
clear ont-port <p-id> sip-counters
clear ont-port <p-id> tdm-gw-counters
```

Parameters:

p-id	ONT port specified by ONT logical ID and port number. The port number is prefixed by a "port identifing letter": g=Gigabit Ethernet, h=HPNA Ethernet, r=video RF, R=video Hot RF, d=DS-1, p=POTS. For example, 10001/p2.
dot1x	Clears the ONT Ethernet port 802.1x counters.
eth-counters	Clears the ONT Ethernet port packet counters.
eth-svc	Clears information for all ONT Ethernet port services. This is a number or text string.
pppoe	Clears the PPPoE discovery statistics for the specified ONT port.
sip-counters	Clears the ONT SIP service counters.
tdm-gw-counters	Clears the ONT TDM Gateway service counters.

clear pm

Clears the specified performance monitoring statistics, erasing the indicated collection periods maintained by the system.

Syntax:

```
clear pm [dsl-port <g-port>|erps-domain <d-name>|eth-port <port
ID>|gpon-port <g-port>|ont <ont ID>|ont-port <o-port>] [1-day all|1-
day current|15-min all|15-min current]
```

Parameters:

g-port	GPON port specified by shelf (if MC)/card/gpon-port. For example: 1/2/4.
d-name	Name of ERPS domain. This is a text string.
port ID	• **For E7**, Ethernet ports are specified by card, port type, and port number. For example: 1/g1. • **For E-series**, Ethernet ports are specified by port type and port number. For example: g1. Permitted values for the port type are "g" (for Gigabit Ethernet) or "x" (for 10-Gigabit Ethernet).
ont ID	(E7 only) Logical ID for an ONT, an integer in the range 1-64000000, inclusive.
o-port	(E7 only) ONT ports are specified with ont-id/ont-port. For example: 10001/g1. Legal values for the port type are: f=fast-eth, g=gig-eth, h=hpna-eth, r=video-rf, R=video-hot-rf, t=t1, p=pots.
1-day all	Erases all 8 1-day collection periods maintained by the system.
1-day current	Erases data for the current 1-day collection period.
15-min all	Erases all 97 15-minute collection periods maintained by the system.
15-min current	Erases data in the current 15-minute collection period.

clear pots-port

Clears the information on a specified POTS port.

Syntax:

```
clear pots-port <p-id> sip-counters
clear pots-port <p-id> h248-gw-counters
clear pots-port <p-id> tdm-gw-counters
```

Parameters:

p-id	POTS ports are specified by shelf (if modular chassis), card, POTS port.
sip-counters	Clears the ONT SIP service counters.
tdm-gw-counters	Clears the ONT TDM Gateway service counters.
h248-counters	Clears the ONT Ethernet port packet counters.

clear stats

Clears specified cumulative performance monitoring statistics, leaving statistics collected by time period (15-minute and 1-day bins) unaffected.

Syntax:

```
clear stat dhcp
clear stats dsl-port <dsl-port-id> <ethernet|line>
clear stats erps-domain <erps-name>
clear stats eth-port <eth-port-id>
clear stats g8032-ring <g8032-ring-name>
clear stats gpon-port <g-port-id>
clear stats igmp-counters
clear stats lacp [interface] <lag-name>
clear stats ont <ont-id>
clear stats ont-port <o-port>

clear stats meg <megname> mep g8032-ring-interface <ring-port-
object>

clear stats meg <meg-name> mep ont-port <o-port> [frame-delay|frame-
loss]

clear stats meg <meg-name> mep ont <ont-id> ip-host <sip|tdm-
gw|h248|mgcp|pwe3> [frame-delay|frame-loss]

clear stats meg <meg-name> mep id <endpoint-id> [frame-delay|frame-
loss]

clear stats meg <meg-name> mip ont-port <o-port>
```

Examples for standalone E7-2 and E7-20:

- **`clear stats eth-port 1/g1`**
- **`clear stats dsl-port 1/v1 line`**
- This clears the statistics for port 1 on card 1.
- **`clear stats eth-port 1/g`**
- **`clear stats dsl-port 1/v1 line`**

  This clears the statistics for all 1Gig ports or DSL ports on card 1.

- **For stand-alone E7-2**, ports are specified by card, port type, and port number. For example: 1/v1 or 1/g1.
- **For modular chassis E7-2**, ports are specified by shelf, card, port type, and port number. For example: 1/2/v4 or 1/2/x1.

Examples for E-series:

- `clear stats eth-port g1`
- This clears the statistics for the port 1 interface.
- `clear stats eth-port g`

  This clears the statistics for all 1Gig interfaces.
- `clear-stats eth-port x`

  This clears the statistics for all 10Gig interfaces.

Parameters:

dsl-port-id	• **For stand-alone E7-2**, DSL ports are specified by card, port type, and port number. For example: 1/v1. • **For modular chassis E7-2**, DSL ports are specified by shelf, card, port type, and port number. For example: 1/2/v4.
ethernet	Shows cumulative DSL port Ethernet statistics.
line	Shows cumulative DSL port line-level statistics.
erps-name	Name of ERPS domain. This is a text string.
eth-port-id	• **For E7**, Ethernet ports are specified by card, port type, and port number. For example: 1/g1. • **For E-series**, Ethernet ports are specified by port type and port number. For example: g1. Permitted values for the port type are "g" (for Gigabit Ethernet) or "x" (for 10-Gigabit Ethernet).
g8032-ring-name	Name of G.8032v2 ring. This is a text string.
lag-name	Name of the LAG interface.
ont-id	(E7 only) Logical ID for an ONT, an integer in the range 1-64000000, inclusive.
g-port-id	GPON port specified by shelf (if MC)/card/gpon-port. For example: 1/2/4.
igmp-counters	Clears cumulative IGMP statistics.
o-port	(E7 only) ONT ports are specified with ont-id/ont-port. For example: 10001/g1. Legal values for the port type are: f=fast-eth, g=gig-eth, h=hpna-eth, r=video-rf, R=video-hot-rf, t=t1, p=pots.

meg-name	Name of the Ethernet OAM maintenance entity group. This is a text string.
ring-port-object	G.8032v2 ring interface specified as ring-name/interface-instance. For example: test/1.
endpoint-id	Ethernet OAM maintenance endpoint. This is a numeric value. Valid range: 1-8191.
ip-host	IP host for the MEP. Valid values: sip, tdm-gw, h248, mgcp, pwe3.
frame-delay	Clears the frame delay statistics for a maintenance endpoint on an ONT Port.
frame-loss	Clears the frame loss statistics for a maintenance endpoint on an ONT Port.

clear sw-resource-alarm

Evaluates software resource usage and clears "low resources" alarm, if appropriate.

Syntax:

```
clear sw-resource-alarm [card <c-number>]
```

Parameters:

c-number	Card number or ID. Valid values: 1-20, a, b.

commit *

Commits a or system, or an E7 line card (E7 only) to a specified software version. Or, commits the ONTs to the currently running software version.

This version becomes the default software that loads when the system power is cycled.

Syntax for E7:

```
commit [system|card <slot>] version <version ID>

commit ont-release
```

Syntax for E-series:

```
commit system version <version ID>
```

Parameters:

slot	(E7 only) Slot number of card.
version ID	Software version. This is a software version identifier of the form "a.b.c.d."

create bw-profile

Creates a profile that defines the upstream and downstream bandwidth. Bandwidth profiles are applied to an Ethernet service. They define the committed (minimum), peak (maximum), and burst data rates for the service.

Syntax:

```
create bw-profile <p-name> [upstream-cir|upstream-pir|downstream-
pir|upstream-cbs|upstream-pbs|downstream-pbs]
```

Parameters:

p-name	Name of the bandwidth profile. This is a text string.
upstream-cir	Committed information rate for upstream traffic. This is a numeric value in the range 1-2048 Kb/s in 64K increments. Use "m" suffix for Mb/s or "g" for Gb/s in whole number increments. Default = 0 kbps.
upstream-pir	Peak information rate for upstream traffic. This is a numeric value in the range 1-2048 Kb/s in 64K increments. Use "m" suffix for Mb/s or "g" for Gb/s in whole number increments. Default = 0 kbps.
downstream-pir	Peak information rate for downstream traffic. This is a numeric value in the range 1-2048 Kb/s in 64K increments. Use "m" suffix for Mb/s or "g" for Gb/s in whole number increments. Default = 0 kbps.
upstream-cbs	Committed burst size for upstream traffic. This is a numeric value in the range 4-16000 Kb/s. Use "m" suffix for Mb/s in whole number increments.
upstream-pbs	Peak burst size for upstream traffic. This is a numeric value in the range 4-16000 Kb/s. Use "m" suffix for Mb/s in whole number increments.
downstream-pbs	Peak burst size for downstream traffic. This is a numeric value in the range 4-16000 Kb/s. Use "m" suffix for Mb/s in whole number increments.

create card

(E7 only) Creates a card. Once a card is created, it can be provisioned and begin to provide service. A card can be automatically created by inserting it into a slot that has not yet been provisioned.

Syntax:

```
create card <slot> type <c-type> [controller|admin-state]
```

Parameters:

slot	Slot number of card.
c-type	Card type. Valid values for E7-2: ge-12, ge-24, 10ge-4, gpon-4, gpon-4r, gpon-8, vdsl2-48c, vdsl2-48d, vdsl2-48. Valid values for E7-20: gpon-4x, gpon-8x, ge-24x, scp-10ge.
controller	(Optional) Whether the system can select the card to become a controller. Valid values: enabled, disabled.
admin-state	(Optional) Admin state of ONT service. Valid values: enabled, disabled.

create certificate

Creates a new SSL/TLS certificate for the secure webserver.

Syntax:

```
create certificate
```

Parameters:

none

*create class-map **

Creates a classification map that contains one or more class rules specifying some criteria against which to identify packets. The class map can specify that packets must match all rules in order to be selected, or can match any rule. Policy map objects use a classification map to select packets and perform some action.

If you do not specify the type, the default version of class-map creation results in a map that contains a "match all" criteria. That is, a traffic packet will match the class map criteria if it matches **all** of the rules in the map.

Syntax:

```
create class-map <c-map name>

create class-map <c-map name> match-type all

create class-map <c-map name> match-type any
```

Parameters:

c-map name	Name of classification map. This is a text string.
match-type all	Creates a classification map that contains a "match all" criteria, where a traffic packet matches the class map criteria if it matches **all** of the rules in the map.
match-type any	Creates a classification map that contains a "match any" criteria, where a traffic packet matches the class map criteria if it matches **any** of the rules in the map.

create cos-queue-cfg *

Creates a Class of service (CoS) queue configuration, where you specify a set of eight queues that are applied to one or more Ethernet ports for the purpose of egress shaping. Currently, there is a direct mapping between a VLAN tag's P-bit value and the queues.

Also see *set cos-queue-cfg* (on page 394).

Syntax:

```
create cos-queue-cfg <queue name> [queue-*-rate|queue-*-min-bw|port-rate|port-burst-size]
```

Parameters:

queue name	Name of COS queue. This is a text string.
queue-1-rate	(Optional) Shaping rate for queue 1. Shaping rates are specified in Mbits/s. Alternatively, the keyword "unshaped" indicates shaping should not be done on this queue.
queue-1-min-bw	(Optional) Minimum bandwidth for queue 1. Minimum bandwidth is specified in Mbits/s. Alternatively, the keyword "none" indicates this queue has no minimum bandwidth.
queue-2-rate	(Optional) Shaping rate for queue 2. Shaping rates are specified in Mbits/s. Alternatively, the keyword "unshaped" indicates shaping should not be done on this queue.
queue-2-min-bw	(Optional) Minimum bandwidth for queue 2. Minimum bandwidth is specified in Mbits/s. Alternatively, the keyword "none" indicates this queue has no minimum bandwidth.
queue-3-rate	(Optional) Shaping rate for queue 3. Shaping rates are specified in Mbits/s. Alternatively, the keyword "unshaped" indicates shaping should not be done on this queue.
queue-3-min-bw	(Optional) Minimum bandwidth for queue 3. Minimum bandwidth is specified in Mbits/s. Alternatively, the keyword "none" indicates this queue has no minimum bandwidth.
queue-4-rate	(Optional) Shaping rate for queue 4. Shaping rates are specified in Mbits/s. Alternatively, the keyword "unshaped" indicates shaping should not be done on this queue.

queue-4-min-bw	(Optional) Minimum bandwidth for queue 4. Minimum bandwidth is specified in Mbits/s. Alternatively, the keyword "none" indicates this queue has no minimum bandwidth.
queue-5-rate	(Optional) Shaping rate for queue 5. Shaping rates are specified in Mbits/s. Alternatively, the keyword "unshaped" indicates shaping should not be done on this queue.
queue-5-min-bw	(Optional) Minimum bandwidth for queue 5. Minimum bandwidth is specified in Mbits/s. Alternatively, the keyword "none" indicates this queue has no minimum bandwidth.
queue-6-rate	(Optional) Shaping rate for queue 6. Shaping rates are specified in Mbits/s. Alternatively, the keyword "unshaped" indicates shaping should not be done on this queue.
queue-6-min-bw	(Optional) Minimum bandwidth for queue 6. Minimum bandwidth is specified in Mbits/s. Alternatively, the keyword "none" indicates this queue has no minimum bandwidth.
queue-7-rate	(Optional) Shaping rate for queue 7. Shaping rates are specified in Mbits/s. Alternatively, the keyword "unshaped" indicates shaping should not be done on this queue.
queue-7-min-bw	(Optional) Minimum bandwidth for queue 7. Minimum bandwidth is specified in Mbits/s. Alternatively, the keyword "none" indicates this queue has no minimum bandwidth.
queue-8-rate	(Optional) Shaping rate for queue 8. Shaping rates are specified in Mbits/s. Alternatively, the keyword "unshaped" indicates shaping should not be done on this queue.
queue-8-min-bw	(Optional) Minimum bandwidth for queue 8. Minimum bandwidth is specified in Mbits/s. Alternatively, the keyword "none" indicates this queue has no minimum bandwidth.
port-rate	Aggregate shaping rate for port, specified in Mbits/s. The allowed range is 1 to 10000. Alternately, the keyword "unshaped" indicates that shaping should not be done.

port-burst-size	Aggregate burst size for port, specified in Kbits. The allowed range is 1 to 128000. Alternately, the keyword "auto" indicates that the burst size should be automatically calculated.

create dial-plan

Creates a voice dial plan. A newly created dial plan is "empty" of content. To make the dial plan useful, add individual rules to the dial plan with the "*add rule* (on page 67)" command.

Syntax:

```
create dial-plan <name> [digit-short-timer|digit-long-timer]
```

Parameters:

name	Name of dial plan. This is a text string.
digit-short-timer	Digit short timer, in seconds. Valid values: 1-16.
digit-long-timer	Digit long timer, in seconds. Valid values: 4-20.

create dhcp-svc-prof

Creates a DHCP Proxy Service Profile.

Syntax:

```
create dhcp-svc-prof <name> [vlan-ip-host|svr-ip-1|svr-ip-2|svr-ip-3|svr-ip-4|svr-ip-5]
```

Parameters:

name	Name of profile. This is a text string.
vlan-ip-host	Where to get the IP host configuration for the DHCP Proxy Agent, from a VLAN IP Host Profile or from the In-Band Management Interface and System IP Gateway. Valid options: <name of a VLAN IP Host Profile> or mgmt-cfg.
svr-ip-1 to 5	IP address for the DHCP server(s).

create dot1x-profile

Creates an 802.1x profile that specifies the attributes for the access port when the E-Series is acting as the 802.1x authenticator. The profile is then assigned to the subscriber port before adding an Ethernet service.

Syntax:

```
create dot1x-profile <name> [reauth-period|quiet-period|reauth-
timer|max-retries|svr-timeout|retrans-timer]
```

Parameters:

name	Name of Ethernet security profile. This is a text string.
reauth-period	Whether to enable the reauthorization period. The allowed options: enabled, disabled.
quiet-period	Quiet period in seconds. This is the HELD timer, which on expiry, the EAPOL-Request may be sent to a supplicant by the authenticator when the authentication has not been successful on an 802.1X enabled port. The allowed range is 1-65535.
reauth-timer	Reauthorization timer in seconds. This can also be set by the authentication server and takes precedence over the local value. The allowed range is 1-65535.
max-retries	Maximum number of retries. These are authentication attempts before logging a failure of authentication in the system. The "quiet" period is imposed before attempting any more retries after the maximum allowed retries are reached. The allowed range is 1 to 10.
svr-timeout	Total number of seconds an authentication attempt will spend contacting Radius server(s). The allowed range is 1 to 300.
retrans-timer	Retransmit timer in seconds. This is EAPoL packet retransmit timer used by authenticator to retransmit an EAP Request on failure to see a response from the supplicant in the given interval. The retransmit count before indicating a failure to transmit is 3 and this is not configurable. The allowed range is 1-65535.

create dscp-map

Creates a DSCP map that allows mapping of layer 3 DSCP bits into layer 2 priority bits.

Syntax:

```
create dscp-map <name>
[default|cs0|af11|af12|af13|af21|af22|af23|cs3|af31|af41|ef|cs6|cs7]
```

Parameters:

name	Name of DSCP map. This is a text string.
default	P-bit value for DSCP default (0). This is a numeric value in the range 0-7 (default: 0).
be	P-bit value for DSCP BE (0). This is a numeric value in the range 0-7 (default: 0).
cs0	P-bit value for DSCP CS0 (0). This is a numeric value in the range 0-7 (default: 0).
cs1	P-bit value for DSCP CS1 (8). This is a numeric value in the range 0-7 (default: 0).
af11	P-bit value for DSCP AF11 (10). This is a numeric value in the range 0-7 (default: 0).
af12	P-bit value for DSCP AF12 (12). This is a numeric value in the range 0-7 (default: 0).
af13	P-bit value for DSCP AF13 (14). This is a numeric value in the range 0-7 (default: 0).
cs2	P-bit value for DSCP CS2 (16). This is a numeric value in the range 0-7 (default: 0).
af21	P-bit value for DSCP AF21 (18). This is a numeric value in the range 0-7 (default: 0).
af22	P-bit value for DSCP AF22 (20). This is a numeric value in the range 0-7 (default: 0).
af23	P-bit value for DSCP AF23 (22). This is a numeric value in the range 0-7 (default: 0).
cs3	P-bit value for DSCP CS3 (24). This is a numeric value in the range 0-7 (default: 0).
af31	P-bit value for DSCP AF31 (26). This is a numeric value in the range 0-7 (default: 0).
af32	P-bit value for DSCP AF32 (28). This is a numeric value in the range 0-7 (default: 0).

af33	P-bit value for DSCP AF33 (30). This is a numeric value in the range 0-7 (default: 0).
cs4	P-bit value for DSCP CS4 (32). This is a numeric value in the range 0-7 (default: 0).
af41	P-bit value for DSCP AF41 (34). This is a numeric value in the range 0-7 (default: 0).
af42	P-bit value for DSCP AF42 (36). This is a numeric value in the range 0-7 (default: 0).
af43	P-bit value for DSCP AF43 (38). This is a numeric value in the range 0-7 (default: 0).
cs5	P-bit value for DSCP EF (40). This is a numeric value in the range 0-7 (default: 0).
ef	P-bit value for DSCP EF (46). This is a numeric value in the range 0-7 (default: 0).
cs6	P-bit value for DSCP CS6 (48). This is a numeric value in the range 0-7 (default: 0).
cs7	P-bit value for DSCP CS7 (56). This is a numeric value in the range 0-7 (default: 0).

create dsl-bond-interface

(VDSL2 applications only) Creates a DSL-bond interface. Use the command, **`set dsl-port <port-id> basic dsl-bond-interface <intfc-name>`**, to add xDSL ports to the bonded interface.

Syntax:

create dsl-bond-interface <intfc-name> [description|subscriber-id|dscp-p-bit-map|ip-prec-p-bit-map|eth-sec-profile|immediate-leave|ds-min-rate|us-min-rate|force-dot1x|admin-state]

Parameters:

intfc-name	• For E-series systems, DSL bonded interfaces are specified by 1/interface name. • For E7-2 standalone systems, DSL bonded interfaces are specified by card/interface name. • For E7-2 modular chassis systems, DSL bonded interfaces are specified by shelf/card/interface name.
description	(Optional) Description of the DSL bonded interface. This is a text string.
subscriber-id	(Optional) Subscriber ID. This is a text string.
dscp-p-bit-map	Name of DSCP to p-bit map to use on ingress. This is a text string.
ip-prec-p-bit-map	Name of IP-precedence to P-bit map to use on ingress. This is a text string.
eth-sec-profile	Name of the security profile to use. This is a text string.
immediate-leave	Enable or disable IGMP immediate leave. Valid values: enabled, disabled, use-vlan-setting.
ds-min-rate	(Optional) Downstream minimum rate Kb/s, or use "m" suffix for Mb/s. Valid values: 1-512000, none.
us-min-rate	(Optional) Upstream minimum rate Kb/s, or use "m" suffix for Mb/s. Valid values: 1-512000.
force-dot1x	(Optional) An 802.1x supplicant attribute to force the supplicant to be unauthorized or authorized until the force attribute is set to none. Valid values: none, authorized, unauthorized.
admin-state	(Optional) Admin state of the interface. Valid values: enabled, disabled.

create dsl-port-gos

(VDSL2 applications only) Creates a DSL port grade-of-service (GOS) profile. A grade-of-service profile allows users to specify reporting thresholds for certain monitored attributes of a DSL port. Any time a particular count exceeds the specified theshold within a certain period (either 15 minutes or one day), a threshold crossing alert is generated.

GOS profiles are always referenced by a unique index number assigned using this command. A profile can be assigned to a specified DSL port by using the "**set dsl-port * gos ***" command.

Syntax:

```
create dsl-port-gos <gos index> [cv-c|cv-cfe*|fec-c*|fec-cfe*|fec-
l*|fec-lfe*|es-l*|es-lfe*|ses-l*|ses-lfe*|loss-l*|loss-lfe*|uas-
l*|uas-lfe*|init-l*|linit-l*|crc*|cv*]
```

Parameters:

gos index	A numeric index value, uniquely identifying the DSL port GOS profile object within the system. Index values start with 1.
cv-c-15-min **cv-c-1-day**	(Optional) Number of code violations (channel) in a 15-minute period. GOS 15-minute, or 1-day thresholds are in the range 0-1000000000, or 0-1000000000000.
cv-cfe-15-min **cv-cfe-1-day**	(Optional) Number of code violations (channel far end) in a 15-minute period. GOS 15-minute, or 1-day thresholds are in the range 0-1000000000, or 0-1000000000000.
fec-c-15-min **fec-c-1-day**	(Optional) Number of forward error corrections (channel) in a 15-minute period. GOS 15-minute, or 1-day thresholds are in the range 0-1000000000, or 0-1000000000000.
fec-cfe-15-min **fec-cfe-1-day**	(Optional) Number of forward error corrections (channel far end) in a 15-minute period. GOS 15-minute, or 1-day thresholds are in the range 0-1000000000, or 0-1000000000000.
fec-l-15-min **fec-l-1-day**	(Optional) Number of forward error corrections (line) in a 15-minute period. GOS 15-minute, or 1-day thresholds are in the range 0-1000000000, or 0-1000000000000.

fec-lfe-15-min **fec-lfe-1-day**	(Optional) Number of forward error corrections (line far end) in a 15-minute period. GOS 15-minute, or 1-day thresholds are in the range 0-1000000000, or 0-1000000000000.
es-l-15-min **es-l-1-day**	(Optional) Number of errored seconds (line) in a 15-minute period. GOS 15-minute, or 1-day thresholds are in the range 0-1000000000, or 0-1000000000000.
es-lfe-15-min **es-lfe-1-day**	(Optional) Number of errored seconds (line far end) in a 15-minute period. GOS 15-minute, or 1-day thresholds are in the range 0-1000000000, or 0-1000000000000.
ses-l-15-min **ses-l-1-day**	(Optional) Number of severely errored seconds (line) in a 15-minute period. GOS 15-minute, or 1-day thresholds are in the range 0-1000000000, or 0-1000000000000.
ses-lfe-15-min **ses-lfe-1-day**	(Optional) Number of severely errored seconds (line far end) in a 15-minute period. GOS 15-minute, or 1-day thresholds are in the range 0-1000000000, or 0-1000000000000.
loss-l-15-min **loss-l-1-day**	(Optional) Number of loss of signal seconds (line) in a 15-minute period. GOS 15-minute, or 1-day thresholds are in the range 0-1000000000, or 0-1000000000000.
loss-lfe-15-min **loss-lfe-1-day**	(Optional) Number of loss of signal seconds (line far end) in a 15-minute period. GOS 15-minute, or 1-day thresholds are in the range 0-1000000000, or 0-1000000000000.
uas-l-15-min **uas-l-1-day**	(Optional) Number of unavailable seconds (line) in a 15-minute period. GOS 15-minute, or 1-day thresholds are in the range 0-1000000000, or 0-1000000000000.
uas-lfe-15-min **uas-lfe-1-day**	(Optional) Number of unavailable seconds (line far end) in a 15-minute period. GOS 15-minute, or 1-day thresholds are in the range 0-1000000000, or 0-1000000000000.
init-l-15-min **init-l-1-day**	(Optional) Number of full initializations (line) in a 15-minute period. GOS 15-minute, or 1-day thresholds are in the range 0-1000000000, or 0-1000000000000.
linit-l-15-min **linit-l-1-day**	(Optional) Number of failed full initializations (line) in a 15-minute period. GOS 15-minute, or 1-day thresholds are in the range 0-1000000000, or 0-1000000000000.

crc-15-min **crc-1-day**	(Optional) Number of CRC errors in a 15-minute period. GOS 15-minute, or 1-day thresholds are in the range 0-1000000000, or 0-1000000000000.
cv-15-min **cv-1-day**	(Optional) Number of coding violations in a 15-minute period. GOS 15-minute, or 1-day thresholds are in the range 0-1000000000, or 0-1000000000000.

create dsl-template

(VDSL2 applications only) Creates a DSL port template. To set parameters in a DSL port template, see one of the set dsl-template commands.

Syntax:

```
create dsl-template <name>
```

Parameters:

name	Name of the DSL port template. This is a text string.

create erps-domain * role master

Creates an ERPS domain, assigning the unit a master role. Only one unit on an ERPS ring can be the master and all others must be assigned the role of transit.

Syntax:

```
create erps-domain <domain name> role master pri-interface <pri
name> sec-interface <sec name> ctrl-vlan <vlan ID> [health-msg-
freq|recover-msg-freq|leave-suppression|topology-monitor|admin-
status]
```

Parameters:

domain name	Name of ERPS domain. This is a text string of 31 characters.
pri name	Name of primary interface. This is a text string.
sec name	Name of secondary interface. This is a text string.
vlan ID	ID of control VLAN. This is a numeric value (range 2-4093). Even if no interface is currently using VLAN 1 as the Native VLAN, it is still off limits for user provisioning, including use as the ERPS control VLAN.
health-msg-freq	Health message frequency, in seconds. This is a numeric value (range 1-60).
recover-msg-freq	Recovery message frequency, in seconds. This is a numeric value (range 1-10).
leave-suppression	Suppresses IGMP Leave message on ring when the last subscriber leaves the channel. Valid values are: enabled, disabled.
topology-monitor	Each E7 node may be configured to collect topology information via messages sent around an ERPS ring via the command set erps-domain <domain name> topology-monitor enabled. Valid values are: enabled, disabled. Issue the command "show erps-domain <domain name> topology" to report the E7 node's view of the ring. Each element in this array provides information about a single port, its neighbor ERPS port on the same system, and its neighbor ERPS port on the other end of the physical link. Note that if the ring is fragmented (i.e., there are two or more breaks in the ring), a node will show only its fragmented view of the ring.

admin-status	Admin status of ERPS domain. Valid values are: enabled, disabled.

create erps-domain * role transit

Creates an ERPS domain, assigning the unit a transit node role.

Syntax:

```
create erps-domain <domain name> role transit interface-1
<interface-1 name> interface-2 <interface-2 name> ctrl-vlan <vlan
ID> [health-msg-freq|recover-msg-freq|leave-suppression|topology-
monitor|admin-status]
```

Parameters:

domain name	Name of ERPS domain. This is a text string of 31 characters.
interface-1 name	Name of the first interface to the ring. This is a text string.
interface-2 name	Name of the second interface to the ring. This is a text string.
vlan ID	ID of control VLAN. This is a numeric value (range 2-4093). Even if no interface is currently using VLAN 1 as the Native VLAN, it is still off limits for user provisioning, including use as the ERPS control VLAN.
health-msg-freq	Health message frequency, in seconds. This is a numeric value (range 1-60).
recover-msg-freq	Recovery message frequency, in seconds. This is a numeric value (range 1-10).
leave-suppression	Suppresses IGMP Leave message on the ring when the last subscriber leaves the channel. Valid values are: enabled, disabled.

topology-monitor	Each E7 node may be configured to collect topology information via messages sent around an ERPS ring via the command set erps-domain <domain name> topology-monitor enabled. Valid values are: enabled, disabled. Issue the command "show erps-domain <domain name> topology" to report the E7 node's view of the ring. Each element in this array provides information about a single port, its neighbor ERPS port on the same system, and its neighbor ERPS port on the other end of the physical link. Note that if the ring is fragmented (i.e., there are two or more breaks in the ring), a node will show only its fragmented view of the ring.
admin-status	Admin status of ERPS domain. Valid values are: enabled, disabled.

*create eth-gos **

Creates an Ethernet grade-of-service (GOS) profile. GOS profiles are always referenced by a unique index number assigned using this command. A profile can be assigned to a specified ethernet port by using the "**`set eth-port * eth-gos *`**" command.

Syntax:

```
create eth-gos <gos index> [disc-frames-15-min|disc-frames-1-
day|err-frames-15-min|err-frames-1-day]
```

Parameters:

gos index	A numeric index value, uniquely identifying the Ethernet GOS profile object within the system. Index values start with 1.
disc-frames-15-min	Number of discarded frames in a 15-minute period. This is a numeric value (range 0-1000000000).
disc-frames-1-day	Number of discarded frames in a 1-day period. This is a numeric value (range 0-1000000000000).
err-frames-15-min	Number of frame errors in a 15-minute period. This is a numeric value (range 0-1000000000).
err-frames-1-day	Number of frame errors in a 1-day period. This is a numeric value (range 0-1000000000000).

create eth-mirror dest-eth-port *

Creates an Ethernet mirror. For diagnostic purposes, the E-Series can mirror traffic from one or more of the following listed items, to a target Ethernet port for performance analysis.

- Ethernet port
- GPON port (E7-2, E7-20 only)
- xDSL port (E7-2, E-series only)

Only one mirror can be created at a time. After an Ethernet mirror is created, add ports to the mirror for monitoring:

- **add eth-port <card/port ID> to-eth-mirror [type]**
- **add gpon-port <port ID> to-eth-mirror [type]**
- **add dsl-port <port ID> to-eth-mirror [type]**

Important! Port mirroring should only be enabled on a temporary basis as it causes high CPU utilization.

Syntax:

```
create eth-mirror dest-eth-port <port ID> [admin-state]
```

Parameters:

port ID	• **For E7**, Ethernet ports are specified by shelf (modular chassis only), card, port type, and port number. For example: 1/g1. • **For E-series**, Ethernet ports are specified by port type and port number. For example: g1. Permitted values for the port type are "g" (for Gigabit Ethernet) or "x" (for 10-Gigabit Ethernet).
admin-state	Admin. Valid values are: enabled, disabled.

create eth-sec-profile

Creates an Ethernet security profile to apply to ONT Ethernet ports or xDSL interfaces. The profile defines security features such as packet rate limits and restrictions on MAC addresses on the subscriber network.

Syntax:

```
create eth-sec-profile <p-name> [src-mac-limit|src-mac-age|dhcp-
lease-limit|upstrm-bcast-mcast-limit|l2cp-filter|dos-attack-
detection|allow-ip-v6]
```

Parameters:

p-name	Name of Ethernet security profile. This is a text string.
src-mac-limit	Number of unique MAC addresses allowed on a subscriber port. The allowed range is 0-255.
src-mac-age	Maximum age for source MAC addresses, in seconds. The allowed range is 60-86400.
dhcp-lease-limit	Number of DHCP leases allowed. The allowed range is 1 to16.
upstrm-bcast-mcast-limit	Maximum packet rate for upstream broadcast/multicst traffic (Kb/s). The allowed range is 0 to 10240.
l2cp-filter	Layer-2 control protocol filter. This is a text string.
dos-attack-detection	Whether to enable or disable DOS attack detection.
allow-ip-v6	Whether to enable or disable IPv6 traffic.

create ffp-group

(E7 GPON only) Creates a Fast Facility Protection (FFP) group for Type B PON protection.

Syntax:

```
create ffp-group <name> working-port <port> protecting-port <port>
```

Parameters:

name	Name of the FFP group. This is a text string up to 32 characters.
working-port	The default protected (or active) port in the FFP group. This port does not have to be OOS before creating the FFP group. It may be either IS or OOS.
protecting-port	The default protecting (or standby) port in the FFP group. This port must be on a different GPON OLT card in the same E7 shelf, same E7 MC node, or same E7-20 chassis. This port must be OOS without any linked ONTs before creating the FFP group.

create frame-measure-profile

(E7 only) Creates an Ethernet OAM frame measurement profile.

Syntax:

```
create frame-measure-profile <name> [delay-rate|loss-rate|loss-
measurement-type|max-ne-loss-alm|max-ne-loss-alm-clr|avg-ne-loss-
alm|avg-ne-loss-alm-clr|max-fe-loss-alm|max-fe-loss-alm-clr|avg-fe-
loss-alm|avg-fe-loss-alm-clr|max-rt-dly-alm|max-rt-dly-alm-clr|avg-
rt-dly-alm|avg-rt-dly-alm-clr|max-rt-dly-var-alm|max-rt-dly-var-alm-
clr|avg-rt-dly-var-alm|avg-rt-dly-var-alm-clr]
```

Parameters:

name	A descriptive name for the profile. This is a text string.
delay-rate	Frame delay measurement sampling rate. Valid values: 1sec, 10sec.
loss-rate	Frame loss measurement sampling rate. Valid values: 1sec, 10sec.
loss-measurement-type	Frame loss measurement type. Valid values: single-ended, dual-ended.
max-ne-loss-alm	Alarm threshold for maximum near-end loss ratio. This is a numeric value. Valid range: 0.0000-100.0000.
max-ne-loss-alm-clr	Alarm-clearing threshold for the maximum near-end loss ratio. This is a numeric value. Valid range: 0.0000-100.0000.
avg-ne-loss-alm	Alarm threshold for the average near-end loss ratio. This is a numeric value. Valid range: 0.0000-100.0000.
avg-ne-loss-alm-clr	Alarm-clearing threshold for the average near-end loss ratio. This is a numeric value. Valid range: 0.0000-100.0000.
max-fe-loss-alm	Alarm threshold for the maximum far-end loss ratio. This is a numeric value. Valid range: 0.0000-100.0000.
max-fe-loss-alm-clr	Alarm-clearing threshold for the maximum far-end loss ratio. This is a numeric value. Valid range: 0.0000-100.0000.
avg-fe-loss-alm	Alarm threshold for average far-end loss ratio. Valid range: 0.0000-100.0000.
avg-fe-loss-alm-clr	Alarm-clearing threshold for average far-end loss ratio This is a numeric value. Valid range: 0.0000-100.0000.

max-rt-dly-alm	Alarm threshold for maximum round-trip delay (microseconds). This is a numeric value. Valid range: 0-100000.
max-rt-dly-alm-clr	Alarm-clearing threshold for the maximum delay (microseconds). This is a numeric value. Valid range: 0-100000.
avg-rt-dly-alm	Alarm threshold for the average delay (microseconds). This is a numeric value. Valid range: 0-100000.
avg-rt-dly-alm-clr	Alarm-clearing threshold for average round-trip delay (microseconds). This is a numeric value. Valid range: 0-100000.
max-rt-dly-var-alm	Alarm threshold for maximum round-trip delay variation (microseconds). This is a numeric value. Valid range: 0-100000.
max-rt-dly-var-alm-clr	Alarm-clearing threshold for the maximum near-end delay (variation (microseconds). This is a numeric value. Valid range: 0-100000.
avg-rt-dly-var-alm	Alarm threshold for average round-trip delay variation (microseconds). This is a numeric value. Valid range 0-100000.
avg-rt-dly-var-alm-clr	Alarm-clearing threshold for the average round-trip delay variation (microseconds). This is a numeric value. Valid range 0-100000.

create g8032-ring

Creates the node attributes for a G.8032v2 transport ring.

Syntax:

```
create g8032-ring <r-name> ring-id <r-id> interface-1 <intf-1>
interface-2 <intf-2> ctrl-vlan <c-vlan-id> [mel|revertive|wtr-
time|monitor-fop-to|holdoff-time|description|admin-status]
```

Parameters:

r-name	Name assigned to the G.8032v2 ring. This is a text string.
r-id	Sets the ring instance ring ID. The ring ID is inserted in the R-APS source MAC address in the 6th octet. This is a text string. Valid values: 1-239.
intf-1	The card/port that specifies the interface to use as interface-1 of the ring. This is a text string.
intf-2	The card/port that specifies the interface to use as interface-2 of the ring. This is a text string.
c-vlan-id	Sets the control VLAN for the ring instance. The control VLAN assigned to the G.8032v2 ring instance passes Ring Automatic Protection Switching (R-APS) packets between all nodes on the ring, allowing them to communicate. This is a numeric value (range 2-4093).
mel	For the control VLAN, sets the ring instance maintenance entity to be inserted into R-APS control messages. **Note:** When configuring SOAM on a ring for Connectivity Fault Management (CFM), the Maintenance Entity Level parameter must be set higher than the MEG level of the CCM frames generated by the ring ports. Valid values: 0-7.

revertive	Sets the ring instance revertive/non-revertive mode. Default mode is revertive. When enabled, the ring reverts after the signal failure condition, causing a ring switch clears. The traffic resumes use of the recovered ring link only after the RPL blocks the traffic. When disabled, the ring does not revert after the signal failure condition causing a ring switch clears. The traffic remains blocked on the recovered link and unblocked on the RPL. Valid values are: enabled, disabled.
wtr-time	Sets the ring instance wait-to-restore time. This timer determines how long to wait before reverting the ring after a signal failure condition is removed, where the ring is configured to operate in a revertive mode. Valid values: 1-12 minutes.
guard-time	Sets the ring instance guard time to block out of date R-APS control messages during a topology change. The guard time prevents unnecessary state changes. Valid values: 10–2000 milli-seconds (ms), in 10 ms steps.
monitor-fop-to	Sets whether to monitor the detection of a Failure of Protocol – Timeout (FOP-TO). Because Calix equipment expects the G.8032 protocol packets (R-APS packets) to be received in both directions and some interoperating equipment (such as Alcatel 7750) does not forward the packet if it is the configured as the "neighbor" port, you can disabled the "Monitor FOP-TO" attribute so the alarm is not shown for this configuration. Valid values are: enabled, disabled (Default=enabled/selected)
description	Sets the ring instance description field. This is a text string up to 255 characters.
admin-status	Admin status of the ring instance. Valid values are: enabled, disabled.

create h248-gw

Creates a profile that specifies the H.248 gateway properties for the VDSL2 H.248 gateway services.

Syntax:

```
create h248-gw <gw-name> h248-gw-profile <p-name> ip-host <h-name>
[admin-state]
```

Parameters:

gw-name	Name of the H.248 Gateway. This is a text string.Card number/h.248 gateway name. For example, 1/name.
admin-state	Administrative status for the gateway. Valid options: enabled, disabled.
p-name	Name of the H.248 gateway profile. This is a text string.
h-name	Name of the line card IP Host. This is a text string.

create h248-gw-profile

Creates an H.248 Gateway profile.

Syntax:

```
create h248-gw-profile <p-name> [rtp-base-port|pri-gw-
controller|pri-switch-type|sec-gw-controller|sec-switch-type|term-
prefix|ephemeral-term-id|esa-mode|rtp-codec|packet-rate|country
code]
```

Parameters:

p-name	Name of the H.248 Gateway profile. This is a text string.
rtp-base-port	(Optional) Base port number for RTP packets. Valid range: 0-65535.
pri-gw-controller	(Optional) IP address or hostname of the primary H.248 gateway controller (softswitch). This is a text string.
pri-switch-type	(Optional) Type of voice soft switch. Valid values: • **h248-ansi-generic** - softswitch type set to H.248 ANSI Generic • **none** - softswitch type not specified • **cs-2000** - Nortel Communication Server 2000 • **cs-1500** - Nortel Communication Server 1500 • **metaswitch** - Metaswitch softswitches • **sonus** - Sonus softswitches • **genband-g2** - GENBAND G2 Compact Gateway • **genband-g9** - GENBAND G9 Converged Gateway • **taqua** - Taqua softswitches • **tss** - Ericsson softswitches (xDSL only)
sec-gw-controller	(Optional) IP address or hostname of the secondary H.248 gateway controller (softswitch). This is a text string.
sec-switch-type	(Optional) Type of voice soft switch. Valid values: • **h248-ansi-generic** - softswitch type set to H.248 ANSI Generic • **none** - softswitch type not specified • **cs-2000** - Nortel Communication Server 2000 • **cs-1500** - Nortel Communication Server 1500 • **metaswitch** - Metaswitch softswitches • **sonus** - Sonus softswitches • **genband-g2** - GENBAND G2 Compact Gateway • **genband-g9** - GENBAND G9 Converged Gateway • **taqua** - Taqua softswitches • **tss** - Ericsson softswitches (xDSL only)

term-prefix	(Optional) Prefix string to use for terminations. This is a text string.
ephemeral-term-id	(Optional) ID to use for ephemeral terminations. This is a text string.
esa-mode	Whether to enable the ESA mode.
rtp-codec	RTP code to use. Valid values: u-law, a-law.
packet-rate	Packet rate (packets/msec). Valid values: 10, 20.
country-code (xDSL only)	E.164 Country code designator (Protocol Country Variant profile). This attribute specifies the country code where the service is being deployed. This code selects country specific tone settings, line interfaces, line levels and line frequencies. Currently supported values include the following: • North America: 1 (xDSL only) • Italy: 39 (xDSL only) • Switzerland: 41 (xDSL only) • United Kingdom: 44 (xDSL only) • Sweden: 46 (xDSL only) • Poland: 48 (xDSL only) • Brazil: 55 (xDSL only) • Australia: 61 (xDSL only) • New Zealand: 64 (xDSL only) • Algeria: 213 (xDSL only) • Ukraine: 380 (xDSL only) • ETSI: 9000 (xDSL only)

create igmp-profile

Creates an IGMP profile.

Syntax:

```
create igmp-profile <p-name> [name|immediate-leave|robustness|last-
memb-query-count|last-memb-query-intrvl|router-learning-mode|router-
solicit-top-chg|query-interval|query-resp-interval|startup-query-
interval|startup-query-count|proxy-ip|host-port-purge-
time|router_port-purge-time|source-specific-mcast-range]
```

Parameters:

p-name	Name of the IGMP profile. This is a text string.
immediate-leave	(Optional) Whether Immediate Leave is enabled which omits checks to see if there are other hosts interested in the multicast group. Valid values: enabled, disabled.
robustness	(Optional) Number of general queries sent per query interval when proxy is configured (range 1-10).
last-memb-query-count	Number of group-specific queries sent when a leave is received (range 1-8).
last-memb-query-intrvl	(Optional) Time to wait in milliseconds for responses to group-specific queries (range 100-5000).
router-learning-mode	(Optional) Method used for learning the location of upstream routers. Note: With Router Learning Mode configured for 'static-only,' IGMP Proxy will not allow a static multicast router ('mrouter') interface to be a multicast destination. Valid values: static, static-dynamic.
router-solicit-top-chg	(Optional) Whether to send a Query Solicitation when a topology change occurs. When the topology changes in a network, such as when a link is added or removed from an RSTP domain, a Query Solicitation message is generated on all ports belonging to the VLAN for which IGMP snooping is enabled. If the upstream multicast Querier in the network supports Query Solicitation and has the function enabled, it will respond by sending a General Query out, causing devices to re-adjust to a new multicast source port location, if necessary. Valid values: enabled, disabled.

query-interval	(Optional) Time interval in seconds between general queries. Note: Calix recommends setting (or leaving) the IGMP Query Interval value for the video VLAN to 60 seconds (default). A 60-second query interval allows a good balance between maintaining bandwidth efficiency (channel pruning) versus limiting potential IGMP control message processing overflow by the CPU, and it matches the typical default IGMP Query setting on most routers.
query-resp-interval	Time to wait in seconds for responses to general queries (range 5-60). Note: Setting the value lower than 10 could result in a high traffic rate.
startup-query-interval	Time between general queries during startup in seconds (range 2-1000).
startup-query-count	Number of times to send general queries during startup (range 1-10).
proxy-ip	IP address to use when in proxy mode. This address is used as the source address in IGMP messages sent upstream, and it is also used as the source address for queries downstream towards subscribers. It should be a valid IPv4 address in the same subnet as the upstream router. This address can be the same IP as the Management VLAN for the node. This is an IP address in "dotted quad" format. For example: "192.168.1.100". Alternately, "none" can be used to reset the value to "0.0.0.0".
host-port-purge-time	Purge time in seconds for host ports (range 130-3600).
router-port-purge-time	Purge time in seconds for router ports (range 60-600).

source-specific-mcast-range	IP address that indicates the start and end of the range used by the system to switch E7 multicast traffic based on a destination IP instead of a destination MAC. Source-Specific Multicast (SSM) is a form of multicast in which the host subscribes to a multicast group from a specific video source. This allows the reuse of the same multicast group address for different video servers to provide different contents (range 232.0.0.0-232.255.255.255). Multicast IP not in the source specific range would be discarded.

*create interface **

Creates a link aggregate group (LAG) interface and sets the associated attributes.

Ethernet ports and the associated Ethernet interfaces always exist and can only be modified. LAG interfaces and their association with Ethernet ports can be created, deleted, and modified.

Syntax:

```
create interface <interface name>  [eth-
svc|name|role|description|subscriber-id|native-vlan|mtu|rstp-
active|rstp-prio|rstp-path-cost|rstp-bpdu-mac|rstp-edge|bpdu-
guard|immediate-leave|ingress-policy-map|split-horizon-fwd|lag-
mode|lacp-role|lacp-hash-method|lacp-min-ports|lacp-max-ports|lacp-
system-priority|lag-cross-card|lag-cross-card-
revert|trusted|ethertype|iqa-mode|iqa-polling-interval|iqa-error-
interval-count|iqa-interval-min-frames|admin-state]
```

Example command that creates a LAG interface:

```
create interface "MyLAG" role trunk description "LAG to 3750"
```

Parameters:

interface name	Name of LAG interface. This is a text string. **Note:** The name is case sensitive.
i-role	(Optional) Role of interface. Valid values are: trunk, edge.
description	(Optional) Description of this interface. This is a text string of 31 characters maximum.
subscriber-id	(Optional) Description of this interface. This is a text string of 63 maximum.
native-vlan	(Optional) Native VLAN for untagged user traffic on this interface. VLANs can be specified by name or by numeric VLAN ID. Supported for trunk and edge interfaces, only. To forward untagged traffic on E7 Ethernet ports with an access interface, an add-tag action must be applied to untagged frames, assigning the traffic to a designated VLAN. VLANs can specified by name or by numeric VLAN ID (range 1-4093).
mtu	(Optional) Maximum Transmission Unit size (bytes). This is a numeric value (range 1500-9000).

rstp-active	(Optional) Interface is running RSTP. The E7 supports port-level RSTP. Therefore, ensure the far-end device is configured similarly (port-level RSTP) and not using VLAN-level RSTP. • RSTP (enabled) is only supported for trunk and edge interfaces. • RSTP (tunneled) is supported for all interface roles. • RSTP and BPDU Guard cannot be enabled on an interface, simultaneously. • For Modular Chassis systems, RSTP is only supported on MCC shelf interfaces. • For E7-20 systems, RSTP is only supported on SCP interfaces. • For cross-card LAG interfaces, RSTP is not supported and must be disabled in order to configure a cross-card LAG. Valid values: enabled, disabled, tunneled (should only be used when setting up TLAN service tunneling of RSTP BPDUs).
rstp-prio	(Optional) STP priority of this port. Valid values: 0, 16, 32, 48, 64, 80, 96, 112, 128, 144, 160, 176, 192, 208, 224, 240.
rstp-path-cost	(Optional) Spanning tree protocol (STP) path cost is the cost of transmitting a frame on to a network through that port. It is assigned according to the speed of the bridge. The slower the media, the higher the cost. This is a numeric value (range 0-200000000).
rstp-bpdu-mac	(Optional) MAC for rapid spanning tree protocol (RSTP) bridge protocol data units (BPDUs). Valid values: 1d, 1ad. • **1d** results in the C7 transmitting BPDUs with a DA of 01:80:C2:00:00:00. Use this selection when the C7 is connected to an 802.1d compliant switch with redundant link. • **1ad** results in the C7 transmitting BPDUs with a DA of 01:80:C2:00:00:08. Use this selection when the C7 is connected to an 802.1ad compliant switch with redundant link.
rstp-edge	(Optional) Enables or disables the RSTP automatic edge link mode. Valid values: enable, disable.

bpdu-guard	Enables or disable BPDU guard mode. When enabled, this prevents the participation of an interface in a spanning tree. When the interface receives a BPDU, it is put into a disabled state where an operator must manually disable, and then re-enable the interface to put the interface back into service. Valid values: enabled disabled.
immediate-leave	Enable or disable IGMP immediate leave. Valid values: enabled, disabled, use-vlan-setting.
ingress-policy-map	(Optional) Name of policy map used on ingress. This is a text string.
split-horizon-fwd	(Optional) Enable or disable split-horizon forwarding on this Edge interface of a standalone E7-2 or modular chassis controller shelf. (The Split Horizon Forwarding is not supported on the E7-20 system.) The default is "Enabled" or "Y" and should only be disabled when setting up TLAN service between multiple edge or access ports on the same E7. When Split-horizon forwarding is enabled on an edge port, traffic from that port will only route to trunk links. The Split-horizon forwarding flag has no effect on trunk links. Examples of an edge port would include GE ports to managed CPE, a GE/10GE port to external equipment which may use different tagging levels, or GPON ports. By default, E7 edge ports have the split horizon feature enabled which isolates port traffic from other edge ports within the same E7 line card.
lag-mode	• **lacp-enable** - This means that the LACP protocol is used to control the LAG ports. It is required for an Active/Standby LAG, or for any LAG that might have standby ports • **manual** - The LACP protocol is not used. Therefore, if a port is added to the LAG, it is automatically made an active link when the port is enabled. This is also known as a static LAG.
lacp-role	Role for this end of the LAG. Valid values: active, passive. • Active control mode actively initiates the LACP negotiations on a link. • Passive mode does not initiate LACP negotiations, but will respond.

lacp-hash-method	(Optional) (Valid for LAG interfaces only.) Individual traffic flows will only use a single link in the link aggregation group. The link used for each packet is based on a hash algorithm. The default and recommended value is src-dst-mac. Valid values: src-mac, dst-mac, src-dst-mac.
lacp-min-ports	(LAG only) Minimum number of ports required for LAG activation. When the number of active ports falls below this value, the group is taken out of service. • When two LAGs are used with RSTP node protection, the system switches LAG operation to the other LAG. • For active-standby cross-card LAGs, the system switches the LAG operation to the ports on the standby card.
lacp-max-ports	(LAG only) Maximum number of active ports participating in the LAG. • For single-card LAGs, the ports added to the LAG that exceed this value are designated as standby ports and come online when an active LAG port fails. • For active/standby cross-card LAGs, this value indicates the number of ports on each card, assuming that there are an equal number of active and standby ports in the LAG. You cannot add more than this number of ports from any one card. The limit is 4. • For Active/Active LAGs, this value indicates the total number of ports in the LAG where all available ports must be active, so you cannot add more than the Max ports. The limit is 8.

lacp-system-priority	(LAG only) Used between two systems connected by the LAG to determine which system should be controlling the LAG. **The lower value takes priority.** Typically, the upstream side of the LAG is configured for the LAG master (lower value). • When the LACP system-priority is changed, a 2-second downtime will occur where no traffic passes through the LAG. • When provisioning active/standby LAG, the port priority should **NOT** be provisioned to 0. • For both ends of a cross-card LAG, the LAG ports on each card must all have the same LACP Priority value for the Ethernet port parameter, and the priority values must be different between the two cards. For active-standby cross-card LAGs, priority on the active card ports must be lower than the value set for the ports on the standby card, giving the priority to the active card ports. The port priorities on each side of the LAG should be set to the same values.Valid range: 0-65535.
lag-cross-card	(LAG only) Whether LAG cross-card protection is enabled, allowing ports on two cards to be configured into a LAG: • **active-standby** - one card's ports are active and the other card's ports are standby. • **active-active** - both cards' ports are active. **Note:** This only applies to cross-card protection LAGs.
lag-cross-card-revert	(LAG only) Whether to have the LAG interface revert to the ports on the active card after a failure is found and fixed. **Note:** This only applies to active-standby cross-card protection LAGs.
trusted	Whether the interface is a trusted source of DHCP option 082 data. Valid values: Yes, No. • Ethernet interfaces used for LAG or ERPS links can only be not set to Trusted = Y. • Access interfaces can only be set to Trusted = N.

ethertype	(Optional) The Ethertype indicates the protocol being transported in the Ethernet frame. 0x8100 - IEEE 802.1Q-tagged 0x88a8 - IEEE 802.1ad provider bridging 0x9100 - Q-in-Q (double tagged) The recommended value of 0x8100 should be used for all interfaces (Ethernet and LAG).
iqa-mode	Interface quality audit mode. Valid values: no-audit, alarm-only, protocol-action, disable-interface.
iqa-polling-interval	Number of seconds between interface quality audits. This is a numeric value 1-60.
iqa-error-threshold	Interface quality audit error threshold for an interval (errored packets per million). This is a numeric value 1-100000.
iqa-polling-window	Number of interface quality audit intervals to consider for failure determination. This is a numeric value 10-60.
iqa-error-interval-count	Number of failed audit quality intervals that will indicate interface failure. This is a numeric value 1-60.
iqa-interval-min-frames	Minimum number of frames in interval to be valid for interface quality audit. This is a numeric value 1-2147483647.
admin-state	(Optional) Admin state of the port. Valid values: enabled, disabled.

create ip-host

(VDSL2 Only) Creates an IP host so it can serve as an endpoint for services such as VoIP. In addition to IP address information, an IP host also has VLAN configuration parameters so that traffic can be switched onto appropriate layer 2 network. Each E-series supports one voice service type, either SIP, TDM gateway, or H.248 Gateway. Therefore, each VDSL2 card or E-series node supports a maximum of one IP host for voice services. Also see, *set ip-host* (on page 470).

Syntax:

```
create ip-host <name> [outer-vlan|host-config|static-ip|static-
netmask|static-gw|host-name|ping|traceroute]
```

Parameters:

name	Identifies a line card IP host by shelf/card/ip-host name.
outer-vlan	Outer VLAN ID. Valid values: 1-4093.
host-config	Protocol to use for obtaining IP host configuration. • If the host-config is set to **dhcp**, the addresses for static-ip, static-netmask, and static-gw parameters are ignored, yet preserved. • If the host-config is set to **static**, you must also enter the addresses for static-ip, static-netmask, and static-gw parameters. • If the host-config is set to **no-ip** (PWE3 only), no IP address is specified.
static-ip	IP address to use for static configuration.
static-netmask	IP netmask to use for static configuration.
static-gw	IP address of default gateway to use for static configuration.
host-name	Host-name that will be transmitted in DHCP Option 81.
svc-tag-action	Name of service tag action.

create ip-precedence-map

Creates an IP precedence map that allows mapping of layer 3 IP Precedence bits into layer 2 priority bits.

Syntax:

```
create ip-precedence-map <name> [ip-precedence-0|ip-precedence-1|ip-
precedence-2|ip-precedence-3|ip-precedence-4|ip-precedence-5|ip-
precedence-6|ip-precedence-7]
```

Parameters:

name	Name of IP Precedence map. This is a text string.
ip-precedence-0	P-bit value for IP precedence 0. This is a numeric value in the range 0-7 (default: 0).
ip-precedence-1	P-bit value for IP precedence 1. This is a numeric value in the range 0-7 (default: 0).
ip-precedence-2	P-bit value for IP precedence 2. This is a numeric value in the range 0-7 (default: 0).
ip-precedence-3	P-bit value for IP precedence 3. This is a numeric value in the range 0-7 (default: 0).
ip-precedence-4	P-bit value for IP precedence 4. This is a numeric value in the range 0-7 (default: 0).
ip-precedence-5	P-bit value for IP precedence 5. This is a numeric value in the range 0-7 (default: 0).
ip-precedence-6	P-bit value for IP precedence 6. This is a numeric value in the range 0-7 (default: 0).
ip-precedence-7	P-bit value for IP precedence 7. This is a numeric value in the range 0-7 (default: 0).

create l2cp-filter

Creates a layer 2 Control Protocol (L2CP) filter. The E7 supports provisionable L2CP handling (tunnel, discard) on GPON ONT Ethernet and xDSL interfaces and VLANs on the interface. The provisioning model is consistent across all ONT models. Spanning Tree BPDU frames are an example of L2CP frames, but the MEF specifies a range of IP addresses that are to be blocked or tunneled.

Syntax:

```
create l2cp-filter <name> [range-1-action|range-2-action|range-3-
action]
```

Parameters:

name	Name of the layer-2 control protocol filter. This is a text string.
range-1-action	(Optional) Action for layer-2 control protocol packets in range 1. Valid values: discard, tunnel.
range-2-action	(Optional) Action for layer-2 control protocol packets in range 2. Valid values: discard, tunnel.
range-3-action	(Optional) Action for layer-2 control protocol packets in range 3. Valid values: discard, tunnel.

create mcast-map

Creates a multicast address map.

Syntax:

```
create mcast-map <m-name>
```

Parameters:

m-name	Name of the multicast address map. This is a text string.

create mcast-profile

Creates a multicast profile.

Syntax:

```
create mcast-profile <p-name> max-strms  [name|query-
interval|convert-mcast|mcast-map|mvr-profile]
```

Parameters:

p-name	Name of the multicast profile. This is a text string.
name	New name for ONT multicast profile. This is a text string.
max-strms	Maximum number of multicast streams (range 1-128).
query-interval	(Optional) Query interval of upstream querier in seconds (range 10-3600).
convert-mcast	(Optional) Whether to convert multicast packets to unicast. Valid values: enabled, disabled.
mcast-map	(Optional) Name of multicast address map to assign to the profile. This is a text string.
mvr-profile	(Optional) Name of the multicast VLAN registration (MVR) profile to assign to the multicast profile. This is a text string.

create mcast-white-list

Creates a multicast white list. Also see **add range to-mcast-white-list** (on page 65).

Syntax:

```
create mcast-white-list <list-name>
```

Parameters:

list-name	Name of the multicast white list. This is a text string.

create meg

(E7 only) Creates an Ethernet Operation and Maintenance (OAM) maintenance entity group (MEG).

Syntax:

```
create meg <group> vlan <vlan-id> level <m-level> [meg-id-
format|ccm-interval|auto-discover|auto-discovery-timeout|min-cc-
defect|alarm-time|alarm-reset-period]
```

Parameters:

group	Name of the maintenance entity group. This is a text string.
vlan-id	Name of VLAN (or VLAN ID). VLANs can be specified by name or by numeric VLAN ID. Valid range: 1-4093.
m-level	MEG Level. This is a numeric value. Valid range: 0-7.
meg-id-format	(Optional) MEG ID format. Valid values: 8021ag-maid, y1731.
ccm-interval	(Optional) The interval for sending a continuity check. Valid values: none, 1-sec, 10-sec, 1-min, 10-min.
auto-discover	(Optional) Auto-discovery of remote MEPs. Valid values: enabled, disabled.
auto-discovery-timeout	(Optional) Remote MEP auto-discovery timeout. This is a numeric value. Valid range: 3.5-10.0.
min-cc-defect	(Optional) Minimum continuity check fault required to raise an alarm. Valid values: • none = do not alarm continuity check defects • rdi = alarm remote defect indications • mac = alarm MAC status defects • remote = alarm remote MEP defects • error = alarm receipt of CCM with incorrect time interval • xcon = alarm cross-connect defects
alarm-time	(Optional) Time that a defect must be present before an alarm is raised (seconds). This is a numeric value. Value range: 0.0-10.0.
alarm-reset-period	(Optional) Time period that a defect must be absent before the associated alarm can be cleared (seconds). This is a numeric value. Valid range: 0.0-20.0.

create mgcp-profile

(E7 only) Creates a MGCP media gateway profile used by the MGCP service on a POTS port.

Syntax:

```
create mgcp-profile <p-name> [pri-gw-controller|sec-gw-
controller|term-prefix|retry-timeout|restart-delay|flash-hook-
persist|on-hook-persist|off-hook-persist]
```

Parameters:

p-name	Name of the SIP profile. This is a text string.
pri-gw-controller	IP address or hostname of primary MGCP gateway controller. This is an IP address in "dotted quad" format: "192.168.1.100". Alternately, "none" can be used to reset the value to "0.0.0.0"
sec-gw-controller	IP address or hostname of secondary MGCP gateway controller. This is an IP address in "dotted quad" format: "192.168.1.100". Alternately, "none" can be used to reset the value to "0.0.0.0"
term-prefix	Prefix string to use for terminations. This is a text string.
retry-timeout	Retry timeout (seconds). This is a numeric value in the range 4-50 (default: 30).
restart-delay	Restart delay (seconds). This is a numeric value in the range 1-600 (default: 1).
flash-hook-persist	Persist flash hook events. Valid values are: enabled disabled.
on-hook-persist	Persist on hook events. Valid values are: enabled disabled.
off-hook-persist	Persist off hook events. Valid values are: enabled disabled.

create mvr-profile

Creates a multicast VLAN registration profile.

Syntax:

```
create mvr-profile <p-name>
```

Parameters:

p-name	Name of the multicast VLAN registration profile. This is a text string.

create ont

(GPON applications only) Creates an ONT provisioning record.

Syntax:

```
create ont <ont ID> profile <p-name> [serial-number|reg-
id|subscriber-id|description|ont-pwe3-profile|sdber-rate|admin-
state|low-rx-opt-pwr-ne-thresh|high-rx-opt-pwr-ne-thresh]
```

Parameters:

ont ID	ONTs are specified by logical ID, an integer in the range 1-64000000, inclusive.
p-name	ONT profile name to use. This is a text string.
serial-number	(Optional) ONT serial number. This is a numeric value.
reg-id	(Optional) ONT registration ID. This is a 1-10 alpha-numeric character text string.
subscriber-id	(Optional) ONT subscriber ID. This is a 1-63 character text string.
description	(Optional) ONT description. This is a 1-47 character text string.
ont-pwe3-profile	(Optional) Name of ONT PWE3 profile. This is a text string.
sdber-rate	ONT upstream SDBER Rate defined in 10^-n. Valid values: 2-9.
low-rx-opt-pwr-ne-thresh	Low threshold for NE received optical power (dBm). This is a numeric value in the range -30.0 to -7.0.
high-rx-opt-pwr-ne-thresh	High threshold for NE received optical power (dBm). This is a numeric value in the range -30.0 to -7.0.
admin-state	(Optional) Admin status of ONT. Valid values: enabled, disabled.

create ont-eth-gos

(GPON applications only) Creates an Ethernet grade-of-service (GOS) profile. GOS profiles are always referenced by a unique index number assigned using this command. A profile can be assigned to a specified ethernet port by using the "**set eth-port * eth-gos ***" command.

Syntax:

```
create ont-eth-gos <gos index> [fcs-frames*|excess-coll*|late-
coll*|long-frame*|rx-overflow*|tx-overflow*|single-coll*|multi-
coll*|sqe-count*|deferred-tx*|mac-tx*|carrier-sense-err*|alignment-
err*|mac-rx*]
```

Parameters:

gos index	A numeric index value, uniquely identifying the ONT Ethernet GOS profile object within the system. Index values start with 1.
fcs-err-15-min **fcs-err-1-day**	(Optional) Number of frames that failed FCS, but had an integral # of octets in a 15-minute or 1-day period. • GOS 15-minute thresholds are in the range 0-1000000000. • GOS 1-day thresholds are in the range 0-1000000000000.
excess-coll-15-min **excess-coll-1-day**	(Optional) Number of transmission failures due to excess collisions in a 15-minute or 1-day period. • GOS 15-minute thresholds are in the range 0-1000000000. • GOS 1-day thresholds are in the range 0-1000000000000.
late-coll-15-min **late-coll-1-day**	(Optional) Number of times collision is detected late in the process of frame transmission in a 15-minute or 1-day period. • GOS 15-minute thresholds are in the range 0-1000000000. • GOS 1-day thresholds are in the range 0-1000000000000.

long-frame-15-min **long-frame-1-day**	(Optional) Number of frames that are too-long in a 15-minute or 1-day period. • GOS 15-minute thresholds are in the range 0-1000000000. • GOS 1-day thresholds are in the range 0-1000000000000.
rx-overflow-15-min **rx-overflow-1-day**	(Optional) Number of Rx buffer overflows in a 15-minute or 1-day period. • GOS 15-minute thresholds are in the range 0-1000000000. • GOS 1-day thresholds are in the range 0-1000000000000.
tx-overflow-15-min **tx-overflow-1-day**	(Optional) Number of TX buffer overflows in a 15-minute or 1-day period. • GOS 15-minute thresholds are in the range 0-1000000000. • GOS 1-day thresholds are in the range 0-1000000000000.
single-coll-15-min **single-coll-1-day**	(Optional) Number of successful transmission that had one collision in a 15-minute or 1-day period. GOS 15-minute thresholds are in the range 0-1000000000.
	(Optional) Number of successful transmission that had one collision in a 1-day period. GOS 1-day thresholds are in the range 0-1000000000000.
multi-coll-15-min **multi-coll-1-day**	(Optional) Number of successful transmission that had multiple collisions in a 15-minute or 1-day period. • GOS 15-minute thresholds are in the range 0-1000000000. • GOS 1-day thresholds are in the range 0-1000000000000.
sqe-count-15-min **sqe-count-1-day**	(Optional) Number of SQE TEST ERROR messages generated by PLS sublayer in a 15-minute or 1-day period. • GOS 15-minute thresholds are in the range 0-1000000000. • GOS 1-day thresholds are in the range 0-1000000000000.

deferred-tx-15-min **deferred-tx-1-day**	(Optional) Number of transmissions deferred because medium was busy in a 15-minute or 1-day period. • GOS 15-minute thresholds are in the range 0-1000000000. • GOS 1-day thresholds are in the range 0-1000000000000.
mac-tx-15-min **mac-tx-1-day**	(Optional) Number of frames not transmitted due to internal MAC sublayer error in a 15-minute or 1-day period. • GOS 15-minute thresholds are in the range 0-1000000000. • GOS 1-day thresholds are in the range 0-1000000000000.
carrier-sense-err-15-min **carrier-sense-err-1-day**	(Optional) Number of transmission attempts in which carrier sense was lost or not asserted in a 15-minute or 1-day period. • GOS 15-minute thresholds are in the range 0-1000000000. • GOS 1-day thresholds are in the range 0-1000000000000.
alignment-err-15-min **alignment-err-1-day**	(Optional) Number of frames that failed FCS and did not have an integral number of octets in a 15-minute or 1-day period. • GOS 15-minute thresholds are in the range 0-1000000000. • GOS 1-day thresholds are in the range 0-1000000000000.
max-rx-15-min **max-rx-1-day**	(Optional) Number of frames not received due to internal MAC sublayer error in a 15-minute or 1-day period. • GOS 15-minute thresholds are in the range 0-1000000000. • GOS 1-day thresholds are in the range 0-1000000000000.

us-dropped-pkt-15-min **us-dropped-pkt-1-day** **ds-dropped-pkt-15-min** **ds-dropped-pkt-1-day**	(Optional) Number of events where upstream packets were dropped in a 15-minute or 1-day period. • GOS 15-minute thresholds are in the range 0-1000000000. • GOS 1-day thresholds are in the range 0-1000000000000.
us-octets-15-min **us-octets-1-day** **ds-octets-15-min** **ds-octets-1-day**	(Optional) Number of of upstream, or downstream, octets received in a 15-minute or 1-day period. • GOS 15-minute thresholds are in the range 0-1000000000. • GOS 1-day thresholds are in the range 0-1000000000000.
us-total-pkt-15-min **us-total-pkt-1-day** **ds-total-pkt-15-min** **ds-total-pkt-1-day**	(Optional) Number of upstream, or downstream, packets received, including bad, broadcast, and multicast packets in a 15-minute or 1-day period. • GOS 15-minute thresholds are in the range 0-1000000000. • GOS 1-day thresholds are in the range 0-1000000000000.
us-bcast-pkt-15-min **us-bcast-pkt-1-day** **ds-bcast-pkt-15-min** **ds-bcast-pkt-1-day**	(Optional) Number of upstream, or downstream, good packets received that were directed to the broadcast address in a 15-minute or 1-day period. • GOS 15-minute thresholds are in the range 0-1000000000. • GOS 1-day thresholds are in the range 0-1000000000000.
us-mcast-pkt-15-min **us-mcast-pkt-1-day** **ds-mcast-pkt-15-min** **ds-mcast-pkt-1-day**	(Optional) Number of upstream, or downstream, good packets received that were directed to a multicast address in a 15-minute or 1-day period. • GOS 15-minute thresholds are in the range 0-1000000000. • GOS 1-day thresholds are in the range 0-1000000000000.

us-crc-err-15-min **us-crc-err-1-day** **ds-crc-err-15-min** **ds-crc-err-1-day**	(Optional) Number of upstream, or downstream, packets received, between 64-1518 octets, with a bad FCS in a 15-minute or 1-day period. • GOS 15-minute thresholds are in the range 0-1000000000. • GOS 1-day thresholds are in the range 0-1000000000000.
us-oversz-pkt-15-min **us-oversz-pkt-1-day** **ds-oversz-pkt-15-min** **ds-oversz-pkt-1-day**	(Optional) Number of upstream, or downstream, packets received that were longer than 1518 octets in a 15-minute or 1-day period. • GOS 15-minute thresholds are in the range 0-1000000000. • GOS 1-day thresholds are in the range 0-1000000000000.
us-undersz-pkt-15-min **us-undersz-pkt-1-day** **ds-undersz-pkt-15-min** **ds-undersz-pkt-1-day**	(Optional) Number of upstream, or downstream, packets received that were less than 64 octets long in a 15-minute or 1-day period. • GOS 15-minute thresholds are in the range 0-1000000000. • GOS 1-day thresholds are in the range 0-1000000000000.
us-64-pkt-15-min **us-64-pkt-1-day** **ds-64-pkt-15-min** **ds-64-pkt-1-day**	(Optional) Number of upstream, or downstream, received packets (including bad packets) that were 64 octets long in a 15-minute or 1-day period. • GOS 15-minute thresholds are in the range 0-1000000000. • GOS 1-day thresholds are in the range 0-1000000000000.

us-65to127-pkt-15-min **us-65to127-pkt-1-day** **ds-65to127-pkt-15-min** **ds-65to127-pkt-1-day**	(Optional) Number of upstream, or downstream, received packets (including bad packets) that were 65-127 octets in a 15-minute or 1-day period. • GOS 15-minute thresholds are in the range 0-1000000000. • GOS 1-day thresholds are in the range 0-1000000000000.
us-128to255-pkt-15-min **us-128to255-pkt-1-day** **ds-128to255-pkt-15-min** **ds-128to255-pkt-1-day**	(Optional) Number of upstream, or downstream, received packets (including bad packets) that were 128-255 octets in a 15-minute or 1-day period. • GOS 15-minute thresholds are in the range 0-1000000000. • GOS 1-day thresholds are in the range 0-1000000000000.
us-256to511-pkt-15-min **us-256to511-pkt-1-day** **ds-256to511-pkt-15-min** **ds-256to511-pkt-1-day**	(Optional) Number of upstream, or downstream, received packets (including bad packets) that were 256-511 octets in a 15-minute or 1-day period. • GOS 15-minute thresholds are in the range 0-1000000000. • GOS 1-day thresholds are in the range 0-1000000000000.
us-512to1023-pkt-15-min **us-512to1023-pkt-1-day** **ds-512to1023-pkt-15-min** **ds-512to1023-pkt-1-day**	(Optional) Number of upstream, or downstream, received packets (including bad packets) that were 512-1023 octets in a 15-minute or 1-day period. • GOS 15-minute thresholds are in the range 0-1000000000. • GOS 1-day thresholds are in the range 0-1000000000000.

us-1024to1518-pkt-15-min **us-1024to1518-pkt-1-day** **ds-1024to1518-pkt-15-min** **ds-1024to1518-pkt-1-day**	(Optional) Number of upstream, or downstream, received packets (including bad packets) that were 1024-1518 octets in a 15-minute or 1-day period. • GOS 15-minute thresholds are in the range 0-1000000000. • GOS 1-day thresholds are in the range 0-1000000000000.

create ont-profile

(GPON applications only) Creates an ONT profile that describes the configuration of an ONT. By default, the E7 has already defined standard profiles (indexes 101 and above) for a series of Calix ONTs.

Syntax:

```
create ont-profile <p-name> vendor-id <v-id> [model|pots-ports|fast-
eth-ports|gig-eth-ports|hpna-ports|t1-ports|vid-ports|hot-vid-
ports|eth-oam-capable|convert-mcast-capable|residential-gw-
ports|full-bridge-ports|default-to-rg-mode]
```

Parameters:

p-name	Name of the ONT profile. This is a text string.
v-id	Vendor ID for ONT profile. This is a text string.
model	(Optional) Model for ONT profile.
pots-ports	(Optional) Number of POTS ports. This is a numeric value in the range 0-8.
fast-eth-ports	(Optional) Number of Fast Ethernet ports. This is a numeric value in the range 0-8.
gig-eth-ports	(Optional) Number of Gigabit Ethernet ports. This is a numeric value in the range 0-8.
hpna-ports	(Optional) Number of HPNA Ethernet ports. This is a numeric value in the range 0-8.
t1-ports	(Optional) Number of T1 ports. This is a numeric value in the range 0-8.
vid-ports	(Optional) Number of RF video ports. This is a numeric value in the range 0-8.
hot-vid-ports	(Optional) Number of hot RF video ports. This is a numeric value in the range 0-8.
eth-oam-capable	(Optional) ONT capability of Ethernet OAM. Valid values: no, yes.
convert-mcast-capable	(Optional) ONT capability of converting multicast to unicast. Valid values: no, yes.
residential-gw-ports	(Optional) Number of Residential Gateway Virtual ports. This is a numeric value in the range 0-8.
full-bridge-ports	(Optional) Number of Full Bridge Virtual ports. This is a numeric value in the range 0-8.

default-to-rg-mode	(Optional) ONT should default to Residential Gateway Mode. Valid values are: no, yes.

create ont-pwe3-profile

(GPON applications only) Creates a profile that specifies the TDM protocol for the ONTs PWE3 services.

Syntax:

```
create ont-pwe3-profile <p-name> tdm-mode <e1|t1>
```

Parameters:

p-name	Name of the ONT PWE3 profile. This is a text string.
tdm-mode	(Optional) TDM protocol mode. Valid values: e1, t1.

create ont-pwe3-svc-gos

(GPON applications only) Creates an ONT PWE3 service grade-of-service (GoS) profile, allowing you to specify reporting thresholds for certain monitored attributes of an ONT PWE3 service.

Syntax:

```
create ont-pwe3-svc-gos <gos index> [missing-pkts*|misorder-
usable*|misorder-drop*|buffer-err*|malformed-pkts*|stray-pkts*|rmt-
loss*|tdm-lbit-sent*|es*|ses*|uas*]
```

Parameters:

gos index	A numeric index value, uniquely identifying the ONT PWE3 service GOS profile object within the system. Index values 1-10.
missing-pkts-15-min **missing-pkts-1-day**	Number of missing packets in a 15-minute or 1-day period (range 0-1000000000 with default = 65 or 0-1000000000000 with default = 6240, respectively).
misorder-usable-15-min **misorder-usable-1-day**	Number of misordered, but usable packets in a 15-minute or 1-day period (range 0-1000000000 with default = 65 or 0-1000000000000 with default = 6240, respectively).
misorder-drop-15-min **misorder-drop-1-day**	Number of misordered, dropped packets in a 15-minute or 1-day period (range 0-1000000000 with default = 65 or 0-1000000000000 with default = 6240, respectively).
buffer-err-15-min **buffer-err-1-day**	Number of buffer over/underruns in a 15-minute or 1-day period (range 0-1000000000 with default = 65 or 0-1000000000000 with default = 6240, respectively).
malformed-pkts-15-min **malformed-pkts-1-day**	Number of malformed packets in a 15-minute or 1-day period (range 0-1000000000 with default = 65 or 0-1000000000000 with default = 6240, respectively).
stray-pkts-15-min **stray-pkts-1-day**	Number of stray packets in a 15-minute or 1-day period (range 0-1000000000 with default = 65 or 0-1000000000000 with default = 6240, respectively).
rmt-loss-15-min **rmt-loss-1-day**	Number of remote packet losses in a 15-minute or 1-day period (range 0-1000000000 with default = 65 or 0-1000000000000 with default = 6240, respectively).

tdm-lbit-sent-15-min **tdm-lbit-sent-1-day**	Number of TDM L-bit packets sent in a 15-minute or 1-day period (range 0-1000000000 with default = 65 or 0-1000000000000 with default = 6240, respectively).
es-15-min **es-1-day**	Number of errored seconds in a 15-minute or 1-day period (range 0-1000000000 with default = 65 or 0-1000000000000 with default = 6240, respectively).
ses-15-min **ses-1-day**	Number of severely errored seconds in a 15-minute or 1-day period (range 0-1000000000 with default = 65 or 0-1000000000000 with default = 6240, respectively).
uas-15-min **uas-1-day**	Number of unavailable seconds in a 15-minute or 1-day period (range 0-1000000000 with default = 65 or 0-1000000000000 with default = 6240, respectively).

create ont-t1-gos

(GPON applications only) Creates an ONT T1 grade-of-service (GOS) profile. GOS profiles are always referenced by a unique index number assigned using this command. A profile can be assigned to a specified ethernet port by using the "**set ont-t1-port * gos ***" command.

Syntax:

```
create ont-t1-gos <gos index> [es-*|ses-*|bes-*|uas-*|css-*]
```

Parameters:

gos index	A numeric index value, uniquely identifying the ONT Ethernet port GOS profile object within the system. Index values 1-10.
es-15-min	(Optional) Number of errored seconds in a 15-minute period. Default = 65.
es-1-day	(Optional) Number of errored seconds in a 1-day period. This is a numeric value (range 0-1000000000000). Default = 58500.
ses-15-min	(Optional) Number of severely-errored seconds in a 15-minute period (range 0-1000000000). Default = 10.
ses-1-day	(Optional) Number of severely-errored seconds in a 1-day period. This is a numeric value (range 0-1000000000000). Default = 9000.
bes-15-min	(Optional) Number of bursty errored seconds in a 15-minute period (range 0-1000000000). Default = 10.
bes-1-day	(Optional) Number of bursty-errored seconds in a 1-day period. This is a numeric value (range 0-1000000000000). Default = 9000.
uas-15-min	(Optional) Number of unavailable seconds in a 15-minute period (range 0-1000000000). Default = 10.
uas-1-day	(Optional) Number of unavailable seconds in a 1-day period. This is a numeric value (range 0-1000000000000). Default = 9000.
css-15-min	(Optional) Number of controlled-slip seconds in a 15-minute period (range 0-1000000000). Default = 1.
css-1-day	(Optional) Number of controlled-slip seconds in a 1-day period. This is a numeric value (range 0-1000000000000). Default = 900.

create policy-map

Creates a policy map. A newly created policy map is "empty" of content. To make the policy map useful, add individual policies to the map with the "*add policy* (on page 58)" command.

Policy maps are lists of QoS-related actions to take on packets that match certain criteria. The matching criteria is specified by a classification map.

Syntax:

```
create policy-map <p-map name>
```

Parameters:

p-map name	Name of policy map. This is a text string.

create pon-us-cos-prof

(E7 only)

Creates a PON Upstream Class of Service (CoS) Profile that describes the per-ONT upstream classification.

Syntax:

```
create pon-us-cos-prof <name> [cos-type|prio|cir-bw|pir-bw]
```

Parameters:

name	Name of PON upstream class of service profile. This is a text string.
cos-type	Forwarding type for CoS. Valid values are: expedited, assured, best-effort.
prio	PON COS queue to use. This is a numeric value in the range 1-4 (default: 1).
cir-bw	Committed Information Rate (CIR) Bandwidth (Mb). This is a numeric value in the range 0-1200 Mb, or aggregated. (default: aggregated).
pir-bw	Peak Information Rate (PIR) Bandwidth (Mb). This is a numeric value in the range 0-1200 Mb, aggregated (default: aggregated).

create pppoe-profile

Creates a PPPoE profile.

Syntax:

```
create pppoe-profile <name> [mode|stale-timeout|disc-
timeout|allowed-bng-1|allowed-bng-2|allowed-bng-3|allowed-bng-4]
```

Parameters:

name	Name of PPPoE profile. This is a text string.
mode	PPPoE mode. Valid values: auto, relay, snoop.
stale-timeout	Stale timeout (seconds). This is a numeric value in the range 10-300 (default: 300).
disc-timeout	Discovery timeout (seconds). This is a numeric value in the range 1-30 (default: 3).
allowed-bng-1	Allowed BNG MAC address or OUI. Allowed BNGs are MAC addresses, hexadecimal digits with optional colons. Alternately, the keyword "none" indicates that all BNG MACs are allowed.
allowed-bng-2	Allowed BNG MAC address or OUI. Allowed BNGs are MAC addresses, hexadecimal digits with optional colons. Alternately, the keyword "none" indicates that all BNG MACs are allowed.
allowed-bng-3	Allowed BNG MAC address or OUI. Allowed BNGs are MAC addresses, hexadecimal digits with optional colons. Alternately, the keyword "none" indicates that all BNG MACs are allowed.
allowed-bng-4	Allowed BNG MAC address or OUI. Allowed BNGs are MAC addresses, hexadecimal digits with optional colons. Alternately, the keyword "none" indicates that all BNG MACs are allowed.

create rg-mgmt-profile

Creates an RG management profile.

Syntax:

```
create rg-mgmt-profile <name> [acs-url <url> username <u-name>
password <pswd>|mgmt-mode|outer-vlan|inner-vlan|p-bit|bw-profile]
```

Parameters:

name	Name of RG management profile. This is a text string.
url	IP address of Auto-Configuration Server (ACS). This is a text string.
u-name	The username the ONT uses to login to the ACS. This is a text string.
pswd	The password the ONT uses to login to the ACS. This is a text string.
mgmt-mode	Management mode of the Residential Gateway. Valid values: in-band, out-of-band.
outer-vlan	TR-069 management VLAN (outer tag if double tagged).
inner-vlan	TR-069 management VLAN (inner tag if double tagged).
p-bit	TR-069 management VLAN P-bit.
bw-profile	Name of bandwidth profile to use.

create shelf

(E7-2 modular chassis only)

Creates the provisioning for a shelf in an E7 modular chassis system. For the E7 to support this command, the **modular-chassis enabled** option must be configured in the **set system** command.

Syntax:

```
create shelf <s-id> [backplane-link|power-monitor-mode|stacking-
port-1|stacking-port-2|serial-number|admin-state]
```

Parameters:

s-id	Shelf number. This is an index value, a numeric identifier that uniquely identifies this object within the system. Index values go from 1-10.
backplane-link	(Optional) Ethernet ports used for inter-card communication. Valid values: none, 10g-a, 10g-b, 20g.
power-monitor-mode	(Optional) Power monitoring mode. Valid values: a, b, both, none.
stacking-port-1	(Optional) Name of the first Ethernet port for stacking. Ethernet ports are specified by shelf index, card, port type and port number. For example: 1/2/x1. Applicable values for the port type are "g" to indicate Gigabit Ethernet, or "x" to indicate 10-Gigabit Ethernet. Alternatively, "none" can be used to indicate that not stacking port is specified.
stacking-port-2	(Optional) Name of the second Ethernet port for stacking. Ethernet ports are specified by shelf index, card, port type and port number. For example: 1/2/x1. Applicable values for the port type are "g" to indicate Gigabit Ethernet, or "x" to indicate 10-Gigabit Ethernet. Alternatively, "none" can be used to indicate that not stacking port is specified.
serial-number	(Optional) Serial number of the shelf being provisioned. Serial numbers are non-negative values. Alternatively, the keyword "none" indicates that the serial number is unspecified.
admin-state	(Optional) Admin state of the shelf. Valid values: enabled, no-alarms.

create sip-gw-profile

Creates a SIP profile that defines a SIP service configuration locally.

Syntax:

```
create sip-gw-profile <p-name> proxy-server <p-address> [proxy-
server-port|proxy-server-secondary|proxy-server-port-secondary|dns-
primary|dns-secondary|rtp-port|rtp-codec|packet-rate|silence-
suppression|rtp-codec-2dord|packet-rate-2ndord|silence-suppression-
2ndord|rtp-codec-3rd|packet-rate-3rdord|silence-suppression-
3rdord|t1-timer|t2-timer|registration-period|distinctive-ring-
prefix|call-waiting-prefix|out-of-band-dtmf|local-hook-flash|rtp-
dscp|rtp-eth-qos|domain|country-code|release-timer|call-pickup-
code|switch-type]
```

Parameters:

p-name	Name of the SIP profile. This is a text string.
p-address	IP address or hostname of the SIP proxy server of the SIP server or outbound proxy SIP server. If the primary path or server is disrupted, the ONT or VDSL2 card will resolve to a pre-provisioned secondary server without the need for DNS. Note: A DNS server is required if this parameter value is a Fully-Qualified Domain Name (FQDN) of the SIP server. In R2.4 and higher, the FQDN is used in both the DNS and SIP request. Customers using DNS must set domain=IP to continue using an IP address for SIP requests. Note: It should be noted that T-series ONTs requires the proxy server and register server to be set to the same value. When the proxy server is specified, OMCI will set both the proxy server and register server. The P-series ONTs will ignore attributes it does not understand. This is a text string.
proxy-server-port	UDP port for proxy server. This is a numeric value in the range 0-65535 (default: 5060).

proxy-server-secondary	IP address of the secondary SIP proxy server, or outbound proxy SIP server. If the primary path or server is disrupted, the SIP client remains connected, as long as the secondary proxy functions correctly. When the secondary proxy detects a failure or is disabled, the SIP client will again try to switch back to the primary SIP proxy. Note: Not supported on the T-Series ONTs.
proxy-server-port-secondary	UDP port for secondary proxy server. This is a numeric value in the range 0-65535 (default: 5060).
dns-primary	IP address or hostname of primary DNS server. This is an IP address in "dotted quad" format: "192.168.1.100". Alternately, "none" can be used to reset the value to "0.0.0.0"
dns-secondary	IP address or hostname of secondary DNS server. This is an IP address in "dotted quad" format: "192.168.1.100". Alternately, "none" can be used to reset the value to "0.0.0.0"
rtp-port	RTP UDP port port number. This is a numeric value in the range 49152-65535 (default: 49152).
rtp-codec	The Realtime Transport Protocol (RTP) code to use. • **a-law** algorithm is commonly used in Europe. • **u-law** (mu-law or µ-law) algorithm is commonly used in the USA and Japan. • **g723** (T-series only) G723 encoding • **g729** (T-series only) G729 encoding
packet-rate	(xDSL or T-series only) The expected RTP packet rate sent by the ONT (packets/msec). This is a numeric value in the range 10-30 (default: 10).
silence-suppression	Whether to enable Silence Suppression first-order priority codec. Valid values: enabled, disabled
rtp-codec-2ndord	The Realtime Transport Protocol (RTP) code to use. • **a-law** algorithm is commonly used in Europe. • **u-law** (mu-law or µ-law) algorithm is commonly used in the USA and Japan. • **g723** (T-series only) G723 encoding • **g729** (T-series only) G729 encoding
packet-rate-2ndord	(xDSL or T-series only) The expected RTP packet rate sent by the ONT (packets/msec). This is a numeric value in the range 10-30 (default: 10).
silence-suppression-2ndord	Whether to enable Silence Suppression second-order priority codec. Valid values: enabled, disabled

rtp-codec-3rdord	The Realtime Transport Protocol (RTP) code to use. • **a-law** algorithm is commonly used in Europe. • **u-law** (mu-law or µ-law) algorithm is commonly used in the USA and Japan. • **g723** (T-series only) G723 encoding • **g729** (T-series only) G729 encoding
packet-rate-3rdord	(xDSL or T-series only) The expected RTP packet rate sent by the ONT (packets/msec). This is a numeric value in the range 10-30 (default: 10).
silence-suppression-3ordrd	Whether to enable Silence Suppression third-order priority codec. Valid values: enabled, disabled
t1-timer	T1 and T2 are SIP timers (msec). T1 is an estimate of the round trip time, the client will start to retransmit an INVITE transaction at T1 and then double the time for each subsequent retransmission. This is a numeric value in the range 100-1500 (default: 500).
t2-timer	T1 and T2 are SIP timers (msec). T2 is the maximum retransmit interval for non-INVITE requests and INVITE responses. These will rarely change. This is a numeric value in the range 1-5 (default: 4).
registration-period	Duration of the SIP registration request (seconds). This is a numeric value in the range 60-86400 (default: 3600).

distinctive-ring-prefix	Distinctive ring prefix is an identifier used in the Alert-Info header field (up to 36 characters). The E7 acts as the media gateway to support different ring cadences generated from the softswitch in real time. Assigning distinctive ring patterns to specific incoming numbers for a specific VoIP port must be configured on the softswitch. Important: The case-sensitive name must match the Distinctive Ringing text string used by the softswitch. The softswitch sends an INVITE to the E7 with the header Alter-Info field, for example: AlertInfo = <xxx://xxx.xx.xx/xxx/Bellcore-dr1> The string after last forward slash (/) is parsed as the ring ID. When a line is in ring state, the ring cadence is used based on the Alert-Info header in INVITE message. The cycle that is defined by the ring cadence index is repeated until the line leaves the ring state. This is a text string.
call-waiting-prefix	Call-waiting ring prefix. This is a text string.
out-of-band-dtmf	Out-of-band Dual-Tone Multi-Frequency (DTMF) mode. • Select Info to relay DTMF tones as SIP INFO messages. • Select rfc2833 to relay DTMF tones according to RFC 2833. (Only supported on GigaCenter ONTs.) • Select none to not relay DTMF tones.
local-hook-flash	Defines where hook-flash control resides. • When enabled (selected), the local User Agent will consume the hook-flash and provide the service locally. • When disabled (unselected), then the hook-flash is passed to the Softswitch for processing.

rtp-dscp	The DiffServ Code Point (DSCP) value for traffic using this SIP profile. Valid values: • **0-63** - DSCP for RTP packets • **cs0** - DSCP CS0 (0) • **cs1** - DSCP CS1 (8) • **af11** - DSCP AF11 (10) • **af12** - DSCP AF12 (12) • **af13** - DSCP AF13 (14) • **cs2** - DSCP CS2 (16) • **af21** - DSCP AF21 (18) • **af22** - DSCP AF22 (20) • **af23** - DSCP AF23 (22) • **cs3** - DSCP CS3 (24) • **af31** - DSCP AF31 (26) • **af32** - DSCP AF32 (28) • **af33** - DSCP AF32 (30) • **cs4** - DSCP CS4 (32) • **af41** - DSCP AF41 (34) • **af42** - DSCP AF41 (36) • **af43** - DSCP AF43 (38) • **cs5** - DSCP CS5 (40) • **ef** - DSCP EF (46) • **cs6** - DSCP CS6 (48) • **cs7** - DSCP CS7 (56)
rtp-eth-qos	Ethernet QoS for RTP packets override. This is a numeric value in the range 0-7 (default: 6).

domain	Allows you to specify an internet type domain address. Alternatively, "none" can be used for no domain name. If present, the domain is used to populate the SIP destination addresses; the “to” and “request uri” fields. To use IP in SIP request, set and IP address. If not present, the proxy server IP is used in these fields. Example: • Domain: “empty” • Proxy-server: 10.0.20.10 • Generated by software: • SIP to: sip:7663339@10.0.20.10 • SIP request URI: sip:7663339@10.0.20.10:5060 Example: • Domain: mytelco.com • Proxy-server: 10.0.20.10 • Generated by software: • SIP to: sip:7663339@mytelco.com • SIP request URI: sip:7663339@mytelco.com:5060 This is a 1-63 character text sting. Alternatively, "none" can be used for no domain name.

country-code	E.164 Country code designator (Protocol Country Variant profile). This attribute specifies the country code where the service is being deployed. This code selects country specific tone settings, line interfaces, line levels and line frequencies. Currently supported values include the following: • North America: 1 (GPON and xDSL) • Italy: 39 (xDSL only) • Switzerland: 41 (GPON only) • United Kingdom: 44 (GPON only) • Sweden: 46 (GPON only) • Poland: 48 (GPON only) • Brazil: 55 (GPON only) • Australia: 61 (GPON only) • New Zealand: 64 (GPON only) • Ukraine: 380 (GPON only) • ETSI: 9000 (GPON only) **Note:** All ONTs using this profile will reset if country-code is modified. **Note:** Country codes are not currently supported on T-series ONTs or P-series 700GX ONTs.
release-timer	Specifies the amount of time it takes to terminate a call after an on-hook is detected. This is a numeric value in the range 1-20.
call-pickup-code	Call pickup code.

switch-type	• Populates the Softswitch attribute of the SIP agent configuration data ME with the value provided by the Switch Type attribute of the SIP gateway profile. zte • Unreserved URI's will be escaped. • Only request URI is used to find the SIP line when request is received by the SIP User Agent. huaw (Huawei) • The # shall be transmitted in the SIP Invite instead of escape quoted with %23. • Request URI and URI in the header can be used to find the sip line. • UA profile on subscribe message (RFC 6080) is supported. syla, ERIC, CS2K, BELL • The # is escape-quote (%23) in the SIP Invite. • Request URI and URI in the header can be used to find the SIP line. • None for supported switch types that are not in the list. Valid values: none, zte, huaw, syla, eric, cs2k, bell
RTP Port	Identifies the starting RTP Port range for the SIP RTP path. Valid values: 49152 - 65535

create sip-rmt-cfg-profile

(E7 only) Creates a SIP remote configuration profile used by the SIP service on an ONT voice port that defines a network host from which SIP configuration data can be retrieved by the service.

Syntax:

```
create sip-rmt-cfg-profile <p-name> primary-server <p-address>
primary-filename <p-file> [secondary-server <s-address>|secondary-
filename <s-file>]
```

Parameters:

p-name	Name of the SIP profile. This is a text string.
p-address	IP address or hostname of the primary SIP configuration server. This is a text string.
p-file	Name of the SIP configuration file on the primary server. This is a text string.
s-address	(Optional) IP address or hostname of the secondary SIP configuration server. This is a text string.
s-file	(Optional) Name of the SIP configuration file on the secondary server. This is a text string.

*create snmp community **

Creates an SNMP community.

Syntax:

```
create snmp community <community name> [admin-state|type]
```

(The community name is typically "public".)

Parameters:

community name	Name of SNMP community. This is a text string. The community name is typically "public".
admin-state	Admin state of SNMP community. Valid values: enabled, disabled.
type	Access level. Valid values: read-only, read-write.

create snmp trap-dest

Creates an SNMP trap destination where alarms and events will be sent. Traps can be sent using either version 2c or version 3 of the SNMP protocol.

Syntax:

For SNMPv3:

```
create snmp trap-dest <trap-dest ID> host <ip address> v3-user <user
name> [message-type|port|admin-state]
```

(The IP address is typically that of the CMS server.)

For SNMPv2c:

```
create snmp trap-dest <trap-dest ID> host <ip address> v2c-community
<community name> [message-type|port|admin-state]
```

(The community name is typically "public". The IP address is typically that of the CMS server.)

Parameters:

trap-dest ID	Numeric identifier index of the SNMP trap destination, uniquely identifying this object within the system. Index values start with 1.
ip address	IP address of trap destination. This is an IP address in "dotted quad" format: "192.168.1.100". Alternatively, "none" can be used to reset the value to "0.0.0.0." This value is typically the CMS server.
user name	Name of SNMPv3 user. This is a text string.
community name	Name of SNMPv2c-community. This is a text string. The community name is typically "public".
message-type	Message type to send to SNMP trap destination. Valid values are: trap, inform.
port	SNMP trap destination port (default is 162). This is an TCP or UDP port number (range 1-65535).
admin-state	Admin state of SNMP trap destination Valid values are: enabled, disabled.

create snmp user * access

Creates a SNMPv3 user with a specified user name and access level.

Syntax:

```
create snmp user <user name> access <nosecurity|auth-
unencrypted|auth-encrypted>
```

Parameters:

user name	SNMPv3 user name. This is a text string.
nosecurity	Creates an SNMPv3 user that does not use any security features (no authentication or encryption). Users created with the "nosecurity" security level have neither of the following permissions: • authenticate incoming packets nor • generate packets than can be authenticated by the receiving management entity SNMP requests destined for this type of user are only processed if they are unencrypted.
auth-unencrypted	Creates an SNMPv3 user that uses authentication, but not encryption. For a user of this type: • Incoming messages are only processed if they can be authenticated. • Outgoing messages are generated in a manner that allows them to be authenticated by the receiving management system.
auth-encrypted	Creates an SNMPv3 user that uses all of SNMPv3's security (both authenticated and encrypted transactions). For a user of this type: • Incoming messages are only processed if they are encrypted and can be authenticated. • Outgoing messages are encrypted and include the credentials that allow the receiving management system to authenticate the request.

create svc-match-list

Creates a match list, where you can then add an ordered collection of matching rules to associate with a service tag action. The match list defines how the ONT classifies subscriber traffic to determine the service in which it belongs. A match list can contain both “tagged” and “untagged” match rules, up to 12 tagged rules and up to 16 untagged rules for each ONT Ethernet port.

- **Untagged match rules** can match on the following:
  - A portion of the source MAC address as indicated by the Source MAC and Source MAC Mask attributes of a video Set-Top box.
  - The Ethertype can also be specified at the egress Ethernet port interface to distinguish video and high-speed internet traffic on untagged interfaces.
  - The VPI and VCI values used by the subscriber's ADSL modem.
  - If no Source Mac value is available, as in data traffic, you can use the system default match list "all-untagged," to match all untagged traffic.
- **Tagged match rules** can match on any combination of the outer tag VLAN-ID and P-bit values.

Syntax:

```
create svc-match-list <list name>
```

create svc-tag-action

Creates a service VLAN tag action for packets that match certain criteria. Applying service tag actions when provisioning a service on an ONT port or VDSL2 port, performs the following two actions:

- **Classification –** the service match lists are for matching and classifying traffic into services.
- **Marking –** the service tag actions are for marking the traffic with the appropriate VLAN and P-bit required by the service.

Service-tag actions are applied to subscriber service provisioning as follows:

- Video and data services provisioning on an ONT Ethernet port or xDSL port includes a reference to a service-tag action.
- Voice services provisioning on an ONT POTS port or VDSL voice port implicitly references a Voice Service IP Host that includes a reference to a service-tag action.

Syntax:

```
create svc-tag-action <name> type <add-2-tags|add-and-change> outer
<VLAN-ID> inner <VLAN-ID> [svc-match-list <l-name> use-p-bit|derive-
p-bit|untagged-p-bit|use-inner-p-bit]

create svc-tag-action <name> type <add-tag|change-tag> outer
<VLAN_ID|use-svc-vlan> [svc-match-list <l-name> use-p-bit|derive-p-
bit|untagged-p-bit|use-inner-p-bit]
```

Parameters:

name	Descriptive name of service tag action. This is a text string.

type	Specifies the tag action to occur. Valid values: • **add-tag** adds a single outer tag to the matched traffic. Can be applied to tagged and untagged traffic. (E7 only) Not supported for Residential Gateway (RG) interface services. Supported for Full Bridge (FB) interface services. • **add-2-tags** adds an inner and an outer tag to the matched traffic.* Can be applied to untagged traffic, only. (E7 only) Not supported for FB or RG interface services. • **add-and-change** addsan outer tag to the matched traffic and changes the inner tag. Can be applied to tagged traffic, only. (E7 only) Supported for RG interface services. Not supported for FB interface services. • **change-tag** changes the outer tag. Can be applied to tagged traffic, only. (E7 only) Supported for FB or RG interface services.
outer	The VLAN (or VLAN ID) to use for the new outer tag. The specified VLAN must already be provisioned in the system. • **1-4093** specified value • **use-svc-vlan** uses the VLAN ID specified in an Ethernet service object
inner	The VLAN (or VLAN ID) to use for the new outer tag. The specified VLAN must already be provisioned in the system. **Note:** This parameter only applies if the selected action is "Add 2 Tags" or "Add and Change Tag." • **1-4093** specifies the value. • **use-svc-vlan** uses the VLAN ID specified in an Ethernet service object.
svc-match-list	Name of service match list to use, previously created. This is a text string.

derive-p-bit	Derive P-bit from a CoS queue or layer-3 priority map. • **cos-1** uses the low P-bit from CoS 1. • **cos-2** uses the low P-bit from CoS 2. • **cos-3** uses the low P-bit from CoS 3. • **cos-4** uses the low P-bit from CoS 4. • **13-prio** maps a layer-3 priority into a P-bit, using interface DSCP or IP precedence map.
use-p-bit	The P-bit value to use for the outer tag. • **0-7** specifies the value. • **copy** honors the incoming P-bit value on the matched tag, and passes the existing P-bit value upstream.
untagged-p-bit	(E7 GPON only) When promoting, the P-bit value to use for untagged frames. This is a numeric value in the range 0-7.
use-inner-p-bit	(E7 GPON only) The P-bit value to use for the inner tag. • **0-7** specifies the value. • **preserve** uses the P-bit from the matched traffic. • **same-as-outer** uses the same P-bit treatment as specified for the outer tag.

*To properly process ingress double tags, the GE network interface (uplink) must be configured as a Trunk role.

create syslog-server * host *

Defines a Syslog server for the system, which can receive system notifications of various types.

Syntax:

```
create syslog-server <index> host <h-name> [description|alarm-
facility|event-facility|security-facility|tca-facility|dbchange-
facility|admin-state]
```

Parameters:

index	Index of Syslog server that identifies this object within the system. The allowed range is 1 to 4.
h-name	Hostname or IP address of Syslog server. This is a hostname or an IP address in "dotted quad" format. For example, "192.168.1.100".
description	(Optional) Description of the Syslog server. This is a text string.
alarm-facility	(Optional) Syslog facility level to use for alarms. Valid values are: none, local0, local1, local2, local3, local4, local5, local6, local7.
event-facility	(Optional) Syslog facility level to use for events. Valid values are: none, local0, local1, local2, local3, local4, local5, local6, local7.
security-facility	(Optional) Syslog facility level to use for security events. Valid values are: none, local0, local1, local2, local3, local4, local5, local6, local7.
tca-facility	(Optional) Syslog facility level to use for TCAs. Valid values are: none, local0, local1, local2, local3, local4, local5, local6, local7.
dbchange-facility	(Optional) Syslog facility level to use for database changes. Valid values are: none, local0, local1, local2, local3, local4, local5, local6, local7.
admin-state	Admin state of Syslog server. Valid values are: enabled disabled.

create t1-pwe3-profile

(E7 only) Creates a T1 port PWE3 profile that specifies how a T1 port interacts with the remote endpoint of the pseudo-wire.

Syntax:

```
create t1-pwe3-profile <p-name> [clock-timing|jitter-buf-depth|rtp-
headers|rtp-mode|rtp-payload-type|sat-packet-size]
```

Parameters:

p-name	Name of the T1 port PWE3 profile. This is a text string.
clock-timing	Clock timing mode. Valid values: adaptive, differential, loopback (recovered from T1). Default = adaptive.
jitter-buf-depth	Jitter buffer in microseconds. This is a numeric value in the range 1000-250000. Default = 1500.
rtp-headers	Whether to enable RTP headers on packets. Valid values: enabled, disabled. Default = disabled.
rtp-mode	Clock source mode to use for RTP. Valid values: differential, absolute. Default = absolute.
rtp-payload-type	Payload type to use for RTP. Valid values: 1-127.
sat-packet-size	SAToP service-type. This is a numeric value in the range 80-1450. Default = 192.

create tag-action

Creates a VLAN tag actions (transformation) for packets entering the specified Edge link interface.

- For ingress traffic (entering the interface), a tag action is applied on specified Ethernet frames.
- For egress traffic (transmitted from the interface), an opposite tag action is applied to Ethernet frames as specified for the ingress traffic.

Note: When you create a tag-action, the interface automatically becomes a member of the VLAN specified in the tag-action. Tag-actions can only be applied to interfaces with a role of Edge.

Note: If multiple tag actions are specified, the tag action with the most specific criteria takes precedent.

Syntax:

- To add a tag to all packets on an interface:

```
create tag-action add-tag <vlan ID> interface <interface name>
```

- To add a tag only to the packets that match specific criteria on an interface, append one of the following to the command above:

```
match-pbit <pbit value>
match-tag <vlan ID>
match-tag <vlan ID> match-pbit <pbit value>
```

Note: Using match-pbit criterion without using match-tag criterion will match only 802.1P packets (reserved VLAN 0).

- To add an outer tag and an inner tag to untagged traffic on an interface:

```
create tag-action add-2-tags outer <vlan id> inner <vlan id> interface
<interface name> match-untagged
```

- To change the outermost tag on packets that match a specific VLAN ID.

```
create tag-action change-tag <vlan ID> interface <interface name> match-tag
<match vlan ID>
```

- To change the tag and add an outer tag on packets that match either a specific VLAN ID or priority-tagged (P-bit) frames:

```
create tag-action add-and-change outer <vlan id> inner <vlan id> interface
<interface name> match-tag <vlan id>

create tag-action add-and-change outer <vlan id> inner <vlan id> interface
<interface name> match-prio-tag p-bit any
```

Parameters:

vlan ID	VLAN name or ID. VLANs can be specified by name or by numeric VLAN ID (range 2-4094).
interface name	Name of interface. This is a text string. • **For E7**, the name is designated as card/port (for example, 1/g8 designates card 1, port GE-8; and 2/x1 designates card 2, port 10GE-1. • **For E-series**, the name is designated as port (for example, g9 designates the port GE-9; and x1 designates port 10GE-1.
pbit value	P-bit value (range 0-7) that specifies the VLAN priority value to match. Alternately, if "any" is used or the parameter is not specified, the P-bit value is not considered.

create tdm-gw-profile

Creates a TDM voice gateway profile.

Syntax:

```
create tdm-gw-profile <p-name> server-ip <s-address> [packetization-
rate|rtp-dscp|rtp-eth-qos|dhcp-filter]
```

Parameters:

p-name	Name of TDM gateway profile.
s-address	IP address of TDM gateway server. This is a text string.
packetization-rate	Packetization rate in msec sent by the ONT. Valid values: 10, 20.
rtp-dscp	DSCP for RTP packets. Valid values: • **0-63** - DSCP for RTP packets • **cs0** - DSCP CS0 (0) • **cs1** - DSCP CS1 (8) • **af11** - DSCP AF11 (10) • **af12** - DSCP AF12 (12) • **af13** - DSCP AF13 (14) • **cs2** - DSCP CS2 (16) • **af21** - DSCP AF21 (18) • **af22** - DSCP AF22 (20) • **af23** - DSCP AF23 (22) • **cs3** - DSCP CS3 (24) • **af31** - DSCP AF31 (26) • **af32** - DSCP AF32 (28) • **af33** - DSCP AF32 (30) • **cs4** - DSCP CS4 (32) • **af41** - DSCP AF41 (34) • **af42** - DSCP AF41 (36) • **af43** - DSCP AF43 (38) • **cs5** - DSCP CS5 (40) • **ef** - DSCP EF (46) • **cs6** - DSCP CS6 (48) • **cs7** - DSCP CS7 (56)
rtp-eth-qos	Ethernet QoS for TRP packets. Valid values: 0-7.
dhcp-filter	Whether to use the server IP address as the DHCP offer filter. When enabled, if the associated IP-host is using DHCP, then the DHCP offer from the specific server will be accepted. Valid values: enabled, disabled.

create user * type

Creates a user with the administrative privileges that correspond to the specified type.

Note: The system can support up to five CLI sessions, concurrently.

Syntax:

```
create user <user name> type <admin|provision|read-only>
```

Parameters:

user name	User name. This is a text string restricted to letters, numbers, the underbar (_), plus sign (+), dash (-) and dot (.)
admin	Creates a user with the following administrative privileges: • Issue provisioning commands • Manage users and sessions • Perform software upgrades • Administer the database
provision	Creates a user with the following provisioning privileges: • Configure all services • Perform system administration functions with the exception of: Software upgrades or Database backup/restore
read-only	Creates a user with read-only privileges. These users are intended as short-lived "guest" accounts as they cannot change provisioning or alter the operation of login sessions.

create vlan

Creates a service VLAN.

Syntax

```
create vlan <vlan ID> [name|mac-learning|mac-forced-forwarding|ip-source-verify|pon-hairpin|tlan|igmp-mode|igmp-profile|igmp-p-bit|dhcp-mode|dhcp-svc-prof|ae-ont-discovery|pppoe-profile|eth-access-id-prof|gpon-access-id-prof|option82]
```

Parameters:

vlan ID	Name of a VLAN, a numeric VLAN ID (1 to 4093), or a range of numeric VLAN IDs specified by a hypen (for example, 100-200).
name	Name of VLAN. This is a text string.
mac-learning	Controls MAC learning. Valid values: enabled, disabled.
mac-forced-forwarding	Whether to enable MAC forced forwarding on VLAN (PON only). Valid values: enabled disabled.
ip-source-verify	Whether to enable IP source verification. Valid values: enabled disabled.
pon-hairpin	Whether to enable PON hairpinning. Valid values: enabled disabled.
tlan	Whether to enable PON transparent LAN service. Valid values: enabled, disabled.
igmp-mode	IGMP mode for the VLAN. Valid values: snoop-suppress, proxy, flood. Valid values: 0-7
igmp-profile	Name of the IGMP profile to associate with the VLAN. This is a text string.
igmp-p-bit	The P-bit value for IGMP traffic that passes through the system, allowing the traffic type to be treated differently as it passes through the network.
dhcp-mode	Provides the option to disable or enable DHCP snoop or DHCP proxy. Valid values: none, snoop, proxy
dhcp-svc-profile	Name of the DHCP Proxy Service Profile, required for the configuration of DHCP Proxy on the client-side VLAN. Text string.

ae-ont-discovery	Whether the E7 sends an event to CMS whenever a new AE ONT is discovered. Valid values: enabled, disabled.
pppoe-profile	Name of PPPoE profile to use. This is a text string.
eth-access-id-prof	For Option 82, name of the Access Identifier Profile for Ethernet. Text string.
gpon-access-id-prof	For Option 82, name of the Access Identifier Profile for GPON. Text string.
option82	Whether to enable Option 82/LDRA at the VLAN level, assuming it is enabled at the global level. Valid values: enabled, disabled.

create vlan-ip-host

Creates a VLAN IP Host Profile.

Syntax:

```
create vlan-ip-host <name> [vlan|ip|netmask|gateway]
```

Parameters:

name	Name of profile. This is a text string.
vlan	VLAN ID of the server-side VLAN used in the DHCP Proxy configuration.
ip	IP address for the DHCP Proxy Agent. This should be in the same subnet as the upstream edge router.
netmask	Subnet mask required for the network.
gateway	Next hop gateway. For example, the IP address of the upstream edge router.

*create vlan-monitor * interface * vlan **

Creates a VLAN monitor for collecting statistics for a specified VLAN on a specified Ethernet interface.

Syntax:

```
create vlan-monitor <monitor index> interface <interface name> vlan
<VLAN ID> count-type <c-type>
```

Parameters:

monitor index	Index of VLAN monitor. This is a numeric value (range 1 to 30).
interface name	Name of an interface or a range of Ethernet or VDSL2 interfaces specified by a hyphen (for example, 1/g3-1/g8 for E7). This is a text string. Note: LAG interfaces are not supported in a VLAN monitor.
vlan ID	Name of a VLAN, or numeric VLAN ID to specify as part of the VLAN monitor. (1 to 4093).
count-type	Type of counts for the VLAN monitor function. Valid values: packets, bytes, both

delete backup

Deletes the current backup, removing the current database backup.

Syntax:

```
delete backup
```

Parameters:

none

delete bw-profile

Deletes a bandwidth profile.

Syntax:

```
delete bw-profile <p-name>
```

Parameters:

p-name	Name of the bandwidth profile. This is a text string.

delete card

(E7 only) Deletes a card, even if Ethernet ports or interfaces are non-default or referenced elsewhere.

Syntax:

```
delete card <slot> [forced]
```

Parameters:

slot	Slot number of card. This is an index value, a numeric identifier that uniquely identifies this object within the system. Index values start with 1. **Note:** If the E7 system is set to Modular-Chassis mode, the card location is indicated with a shelf/card location. For example, to delete the card 1 in shelf 2, use the following command: **`delete card 2/1`**. For E7-20 SCP cards, indicate a or b. For example, to delete the SCP-A card, use the following command: **`delete card a`**.
forced	Deletes the card, even if ports are non-default or services exist.

*delete class-map **

Deletes a specified classification map, if it does not contain any rules.

Syntax:

```
delete class-map <c-map name>
```

Parameters:

c-map name	Name of classification map. This is a text string.

*delete cos-queue-cfg **

Deletes a class of service (COS) queue configuration.

Syntax:

```
delete cos-queue-cfg <queue name>
```

Parameters:

queue name	Name of COS queue configuration. This is a text string.

delete dhcp lease

Deletes a specified DHCP lease.

Syntax:

```
delete dhcp lease [gpon-port|interface|dsl-bond-interface|ont-
port|vlan|mac|ip]
```

Parameters:

gpon-port	Deletes the DHCP lease for a GPON port specified by card/olt-port. For example, 2/4.
interface	Ethernet or LAG interface. Ethernet interfaces are specified by card/Eth port and LAG interfaces are specified by name.
dsl-bond-interface	Deletes a DHCP lease for a specified DSL-bonded
ont-port	Deletes the DHCP lease for a specified ONT port indicated by ont-id/ont-port, or ont-id only. For ont-port: f=fast-eth, g=gig-eth, h=hpna-eth, r=video-rf, R=video-hot-rf, t=t1, p=pots. For example, 10001/g1.
vlan	Deletes the DHCP lease for a VLAN specified by name or by numeric VLAN ID, which ranges from 2-4093.
mac	Deletes the DHCP lease for a MAC address specified by six hexadecimal digits in the range 0-FF, optionally separated by colons.
ip	Deletes the DHCP lease with the IP address in "dotted quad" format: "192.168.1.100". Alternately, "none" can be used to reset the value to "0.0.0.0".

delete dial-plan

Deletes a dial plan, if it does not contain any rules. See *remove rule* (on page 364).

Syntax:

```
delete dial-plan <name>
```

Parameters:

name	Name of dial plan. This is a text string.

delete dscp-map

Deletes a specified DSCP map that allows mapping of layer 3 DSCP bits into layer 2 priority bits.

Syntax:

```
delete dscp-map <name>
```

Parameters:

name	Name of DSCP map. This is a text string.

delete dsl-bond-interface

(VDSL2 applications only) Deletes a specified DSL bonded interface. Any existing bond interface port must first be deleted (**`set dsl-port <port-id> basic dsl-bond-interface none`**), before deleting the interface is allowed. See set dsl-If ports are members of the bond

Syntax:

```
delete dsl-bond-interface <interface name>
```

Parameters:

interface name	Name of interface. This is a text string. • **For E-series**, the name is designated as 1/name. • **For E7**, the name is designated as card/name. • **For E7-2 modular chassis**, the name is designated at shelf/card/name.

delete dsl-port-gos

(VDSL2 applications only) Deletes an DSL port grade-of-service (GOS) profile. A GOS profile can only be deleted if no DSL ports reference it. Also see *create dsl-port-gos* (on page 119).

Syntax:

```
delete dsl-port-gos <gos index>
```

Parameters:

gos index	Numeric value of the index of the DSL port GOS profile, uniquely identifying the object within the system. Index values start with 1.

delete dsl-template

(VDSL2 applications only) Deletes the specified DSL port template.

Syntax:

```
delete dsl-template <name>
```

Parameters:

name	Name of the DSL port template. This is a text string.

*delete erps-domain **

Deletes a specified ERPS domain.

If you delete an ERPS domain from an E7 without first disabling the ports configured with the ERPS domain, a forwarding loop may potentially be introduced to the system. Calix recommends using the **`disable erps-domain`** command to disable the Ethernet ports containing the ERPS domain before deleting the ERPS domain from the system.

Syntax:

```
delete erps-domain <domain name>
```

Parameters:

domain name	Name of ERPS domain. This is a text string.

delete eth-gos *

Deletes an Ethernet grade-of-service (GOS) profile. A GOS profile can only be deleted if no Ethernet ports reference it. Also see *create eth-gos* (on page 127).

Syntax:

```
delete eth-gos <gos index>
```

Parameters:

gos index	Numeric value of the index of the Ethernet port GOS profile, uniquely identifying the object within the system. Index values start with 1.

delete eth-mirror

Deletes the Ethernet mirror and the sources for the mirror.

Syntax:

```
delete eth-mirror
```

Parameters:

none

delete eth-sec-profile

Deletes the Ethernet security profile from the system.

Syntax:

```
delete eth-sec-profile
```

Parameters:

none

delete ffp-group

(E7 GPON only) Deletes a Fast Facility Protection (FFP) group for Type B PON protection.

Syntax:

```
delete ffp-group <name>
```

Parameters:

name	Name of the FFP group. This is a text string up to 32 characters. For the delete operation to succeed, ensure that the protecting port in the FFP group is OOS.

delete frame-measure-profile

(E7 only) Deletes an Ethernet OAM frame measurement profile.

Syntax:

```
delete frame-measure-profile <id>
```

Parameters:

id	A numeric index value uniquely identifying the Ethernet OAM frame measurement profile. The system default profile has the index value of 1. Any additional profiles can use an index value of 2-20.

delete g8032-ring

Deletes a specified G.8032v2 ring.

If you delete a G.8032v2 ring from an E7 without first disabling the ports configured with the ring, a forwarding loop may potentially be introduced to the system. Calix recommends using the **`disable g8032-ring`** command to disable the Ethernet ports assigned to the G.8032v2 ring before deleting the G.8032v2 ring from the system.

Syntax:

```
delete g8032-ring <name>
```

Parameters:

name	Assigned name of a G.8032v2 ring. This is a text string.

delete h248-gw

Deletes a profile that specifies the H.248 gateway properties for the VDSL2 H.248 gateway services.

Syntax:

```
delete h248-gw <gw-name>
```

Parameters:

gw-name	Name of the H.248 Gateway. This is a text string. Card number/h.248 gateway name. For example, 1/name.

delete h248-gw-profile

Deletes an H.248 Gateway profile.

Syntax:

```
delete h248-gw-profile <p-name>
```

Parameters:

p-name	Name of the H.248 Gateway profile. This is a text string.

delete igmp-profile

Deletes the IGMP profile from the system.

Syntax:

```
delete igmp-profile <p-name>
```

Parameters:

p-name	Name of the IGMP profile. This is a text string.

*delete interface **

Deletes a specified link aggregation group (LAG) interface, if it does not contain ports.

Ethernet ports and the associated Ethernet interfaces always exist and can only be modified. LAG interfaces and their association with Ethernet ports can be created, deleted, and modified.

Syntax:

```
delete interface <interface name>
```

Parameters:

interface name	Name of interface. This is a text string. **Note:** The name is case sensitive.

delete ip-host

(Unsupported for E7-20) Deletes a VDSL2 line card IP host.

Syntax:

```
delete ip-host <name>
```

Parameters:

name	Identifies a line card IP host by shelf/card/ip-host name.

delete ip-precedence-map

Deletes an IP precedence map that allows mapping of layer 3 IP Precedence bits into layer 2 priority bits.

Syntax:

```
delete ip-precedence-map <name>
```

Parameters:

name	Name of IP Precedence map. This is a text string.

delete l2cp-filter

(E7 only)

Deletes a specified layer-2 control protocol (L2CP) filter.

Syntax:

```
delete l2cp-filter <name>
```

Parameters:

interface name	Name of the filter. This is a text string.

delete mcast-map

Deletes a multicast address map.

Syntax:

```
delete mcast-map <index>
```

Parameters:

index	A numeric index value, uniquely identifying the multicast address map. Index values start with 1.

delete mcast-profile

Deletes an Ethernet multicast profile.

Syntax:

```
delete mcast-profile <p-name>
```

Parameters:

p-name	Name of the Ethernet multicast profile. This is a text string.

delete mcast-white-list

Deletes a multicast white list.

Syntax:

```
delete mcast-white-list <index>
```

Parameters:

index	A numeric index value, uniquely identifying the multicast white list. Index values start with 1.

delete meg

(E7 only) Deletes a specified maintenance entity group.

Syntax:

```
delete meg <m-name>
```

Parameters:

m-name	Name of maintenance entity group.

delete mgcp-profile

(E7 only) Deletes the specified MGCP gateway profile.

Syntax:

```
delete mgcp-profile <p-name>
```

Parameters:

p-name	Deletes the specified MGCP gateway profile. This is a text string.

delete mvr-profile

Deletes a multicast VLAN registration profile.

Syntax:

```
delete mvr-profile <p-name>
```

Parameters:

p-name	Name of the multicast VLAN registration profile. This is a text string.

*delete netconf session **

Terminates the specified session, making it available for use again.

- The system can support a total of 15 web interface and CMS sessions running concurrently.
- The Netconf interface has a 30-minute timeout, which cannot be turned off.
- The web browser interface has an inactivity timer of ~30 minutes.

Syntax:

```
delete netconf session <session ID>
```

Parameters:

session ID	Numeric value of the session number, uniquely identifying the object within the system. Index values start with 1.

delete ont

(GPON applications only) Deletes an ONT from the configured system.

Syntax:

```
delete ont <ont ID> [forced]
```

Parameters:

ont ID	ONTs are specified by logical ID, an integer in the range 1-64000000, inclusive.
forced	Deletes the ONT, even if ports are non-default or services exist.

delete ont-eth-gos

(GPON applications only) Deletes an Ethernet grade-of-service (GOS) profile. A GOS profile can only be deleted if no Ethernet ports reference it.

Syntax:

```
delete ont-eth-gos <gos index>
```

Parameters:

gos index	A numeric index value, uniquely identifying the ONT Ethernet GOS profile object within the system. Index values start with 1.

delete ont-profile

(GPON applications only) Deletes an ONT profile.

Syntax:

```
delete ont-profile <p-name>
```

Parameters:

p-name	Name of the ONT profile. This is a text string.

delete ont-pwe3-profile

(GPON applications only) Deletes the specified ONT PWE3 profile.

Syntax:

```
delete ont-pwe3-profile <p-name>
```

Parameters:

p-name	Name of the ONT PWE3 profile. This is a text string.

delete ont-pwe3-svc-gos

(GPON applications only) Deletes an ONT PWE3 grade-of-service (GOS) profile. GOS profiles are always referenced by a unique index number assigned using this command. A GOS profile can only be deleted if no ONT PWE3 service reference it.

Syntax:

```
delete ont-pwe3-svc-gos <gos index>
```

Parameters:

gos index	A numeric index value, uniquely identifying the ONT Ethernet port GOS profile object within the system. Index values 1-10.

delete ont-sw-data

(GPON applications only) Deletes ONT image data from a system GPON card.

Syntax:

```
delete ont-sw-data vendor <vendor-id> [system-version
<version>|model <ONT-model>|product <ONT-product-name>]
```

Parameters:

vendor	For a set of ONTs. This is a text string.
system-version	If the operator does not specify target then implicitly target is taken to be the active system. If the active and standby system have same version then only the active system can benefit from deletion. Valid values: the version # of the active system or the version # of the alternate system.
model	For one or more ONT models. This is a text string.
product	For specific groups of ONT models. This is a text string.

delete ont-t1-gos

(GPON applications only) Deletes an ONT T1 grade-of-service (GOS) profile. GOS profiles are always referenced by a unique index number assigned using this command. A profile can be assigned to a specified ethernet port by using the "**set ont-t1-port * gos ***" command.

Syntax:

```
delete ont-t1-gos <gos index> [es-*|ses-*|bes-*|uas-*|css-*]
```

Parameters:

gos index	A numeric index value, uniquely identifying the ONT Ethernet port GOS profile object within the system. Index values 1-10.

delete policy-map

Deletes a policy map, if it does not contain any policies.

Syntax:

```
delete policy-map <p-map name>
```

Parameters:

p-map name	Name of policy map. This is a text string.

delete pon-us-cos-prof

(E7 only)

Deletes the specified PON Upstream Class of Service (CoS) Profile that describes the per-ONT upstream classification.

Syntax:

```
delete pon-us-cos-prof <p-name>
```

Parameters:

p-name	Name of PON upstream class of service profile. This is a text string.

delete pppoe-profile

Deletes the specified PPPoE profile.

Syntax:

```
delete pppoe-profile <name>
```

Parameters:

name	Name of PPPoE profile. This is a text string.

delete pppoe sessions

Deletes PPPoE sessions on an xDSL interface, or DSL-bond interface, or ONT port with a specified session ID.

Syntax:

```
delete pppoe sessions interface <intfc-name> id <ses-id>
delete pppoe sessions dsl-bond-interface <intfc-name> id <ses-id>
delete pppoe sessions ont-port <ont-id/ont-port>
```

Parameters:

ses-id	Session ID of session to delete. Valid values: 1-65534.
intfc-name	(Unsupported for E7-20) Interface of session to delete. This is a text string.
ont-id/ont-port	(E7 only) ONT Ethernet port of session to delete.

delete rg-mgmt-profile

Deletes an RG management profile.

Syntax:

```
delete rg-mgmt-profile <name>
```

Parameters:

name	Name of RG management profile. This is a text string.

*delete session **

Terminates the specified session, logging the user out and making the session available for use again.

Syntax:

```
delete session <session ID>
```

Parameters:

session ID	Numeric value of the session number, uniquely identifying the object within the system. Index values start with 1.

delete shelf

(E7-2 only) Deletes a shelf from an E7 modular chassis system. Alternatively, you can force the deletion of a shelf from a system, even if it is referenced by subtended objects. For the E7 to support this command, the **modular-chassis enabled** option must be configured in the **set system** command.

Syntax:

```
delete shelf <s-id>
delete shelf <s-id> forced
```

Parameters:

s-id	Shelf number. This is an index value, a numeric identifier that uniquely identifies this object within the system. Index values start with 1.

delete sip-gw-profile

Deletes the specified SIP gateway profile.

Syntax:

```
delete sip-gw-profile <p-name>
```

Parameters:

p-name	Deletes the specified SIP gateway profile. This is a text string.

delete sip-rmt-cfg-profile

(E7 only) Deletes a SIP remote configuration profile.

Syntax:

```
delete sip-rmt-config-profile <p-name>
```

Parameters:

p-name	Name of the SIP remote configuration profile. This is a text string.

delete snmp community *

Deletes an SNMP community. Requests from this community are no longer processed.

Syntax:

```
delete snmp community <community name>
```

Parameters:

community name	Name of SNMP community name. This is a text string.

delete snmp trap-dest *

Deletes an SNMP trap destination. Deleting a trap destination prevents SNMP traps from being sent to the specified host. Consequently, that host is not notified whenever a system event occurs or an alarm is asserted or cleared.

Syntax:

```
delete snmp trap-dest <trap-dest ID>
```

Parameters:

trap-dest ID	Numeric value of the index of the SNMP trap destination, uniquely identifying the object within the system. Index values start with 1.

delete snmp user *

Deletes an SNMPv3 user, if no trap destination specifies the user for use in traps. SNMP messages addressed to this user are no longer processed.

Syntax:

```
delete snmp user <user name>
```

Parameters:

user name	SNMPv3 user name. This is a text string.

delete svc-match-list

Deletes a service match list.

Syntax:

```
delete svc-match-list <list name>
```

delete svc-tag-action

Deletes a service VLAN tag action for packets that match certain criteria.

Syntax:

```
delete svc-tag-action <name>
```

Parameters:

name	Descriptive name of the service tag action. This is a text string.

delete syslog-server

Deletes a specified Syslog server.

Syntax:

```
delete syslog-server <index>
```

Parameters:

index	Index of Syslog server that identifies this object within the system. The allowed range is 1 to 4.

delete t1-pwe3-profile

(E7 only) Deletes the specified T1 port PWE3 profile.

Syntax:

```
delete t1-pwe3-profile <p-name>
```

Parameters:

p-name	Name of the T1 port PWE3 profile. This is a text string.

delete tag-action *

Deletes a VLAN tag action. When a tag action is created, the system assigns it a unique number. When deleting a tag-action, use this number to identify it.

Syntax:

```
delete tag-action <tag-action index>
```

Parameters:

tag-action index	Numeric value of the index of the tag action, uniquely identifying the object within the system. Index values start with 1.

delete tdm-gw-profile

Deletes a TDM Gateway profile.

Syntax:

```
delete tdm-gw-profile <p-name>
```

Parameters:

p-name	Name of the TDM Gateway profile. This is a text string.

delete upgrade

Removes alternate software and stops the pending or in-progress upgrade.

Syntax:

```
(E7 only) delete upgrade card <slot>

delete upgrade system
```

Parameters:

slot	Slot number of card to upgrade. This is an index value. **Note:** If the E7 system is set to Modular-Chassis mode, the card location is indicated with a shelf/card location. For example, to upgrade card 1 in shelf 2, use the following command: **`upgrade card 2/1`**.

*delete user **

Deletes a user from the system database.

Syntax:

```
delete user <user name>
```

Parameters:

user name	User name. This is a text string.

*delete vlan **

Deletes a specified service VLAN, if it is not referenced by the following:

- Tag action
- Service tag action
- ONT Ethernet Service
- ONT IP host
- Interfaces that are members of the VLAN

Syntax:

```
delete vlan <vlan ID>
```

Parameters:

vlan ID	Name of a VLAN, a numeric VLAN ID (1 to 4093), or a range of numeric VLAN IDs specified by a hyphen (for example, 100-200).

*delete vlan-monitor **

Deletes VLAN monitor.

Syntax:

```
delete vlan-monitor <monitor index>
```

Parameters:

monitor index	Index of VLAN monitor. This is a numeric value (range 1-30).

dig

Uses the system's provisioned DNS server to resolve the IP address for the specified hostname.

Syntax:

```
dig <host ID>
```

Parameters:

host ID	Hostname or IP address. This is a text string.

disable craft-fe

Disables the specified craft Fast Ethernet interface located on the E-Series.

Syntax:

```
disable craft-fe [front|rear]
```

- If the system is an E7-20, the rear craft port location is indicated with a rear/craft-fe location.

  disable craft-fe rear-A

  disable craft-fe rear-b

Parameters:

front	Disables the craft Fast Ethernet interface located on the E7 front panel. **Note:** If the E7 system is set to Modular-Chassis mode, the craft port location is indicated with a shelf/craft-fe location. For example, to disable the front craft-fe in shelf 2, use the following command: **disable craft-fe 2/front**.
rear	Disables the wire-wrap craft Fast Ethernet interface located on the E7 back panel. **Note:** If the E7 system is set to Modular-Chassis mode, the craft port location is indicated with a shelf/craft-fe location. For example, to disable the rear craft-fe in shelf 2, use the following command: **disable craft-fe 2/rear**.

disable dsl-bond-interface

(VDSL2 applications only) Disables a specified DSL bonded interface, preventing it from carrying traffic.

Syntax:

```
disable dsl-bond-interface <interface name>
```

Parameters:

interface name	Name of interface. This is a text string. • **For E7**, the name is designated as card/name. • **For E7-2 modular chassis**, the name is designated at shelf/card/name.

disable dsl-port

(VDSL2 applications only) Disables the specified DSL port.

Syntax:

```
disable dsl-port <port>
```

Parameters:

port	• **For E-series**, DSL ports are specified by card (1), port type, and port number. For example: 1/v1. • **For stand-alone E7-2**, DSL ports are specified by card, port type, and port number. For example: 2/v1. • **For modular chassis E7-2**, DSL ports are specified by shelf, card, port type, and port number. For example: 1/2/v4.

disable dsl-test-tone

(VDSL2 applications only) Disables an in-progress Mechanized Loop Testing (MLT) Trace Tone that interoperates with TollGrade's LoopCare software and allows service provider outside plant field technicians the ability to generate an audible tone on a VDSL2 POTS / Combo line as a diagnostic to identify a specific subscriber pair.

Syntax:

```
disable dsl-test-tone dsl-port <port-id>
```

Parameters:

port-id	xDSL port. • For E-series systems, DSL ports are specified by 1/port. • For E7-2 standalone systems, DSL ports are specified by card/port. • For E7-2 modular chassis systems, DSL ports are specified by shelf/card/port.

*disable env-pin **

Disables an environmental pin. Also see "Environmental Alarms" in the appropriate product Installation Guide.

Syntax:

```
disable env-pin <env-pin ID>
```

Parameters:

env-pin ID	Pin number. This is an index value, a numeric identifier that uniquely identifies this object within the system. • Valid values for E7: OUT, AL1-AL7. • Valid values for E-series: OUT, AL1-AL3.

*disable erps-domain **

Disables the specified ERPS domain, allowing its attributes to then be modified. Use the **`enable erps-domain`** command to return a modified domain to service.

Syntax:

```
disable erps-domain <domain name>
```

Parameters:

domain name	Name of ERPS domain. This is a text string.

disable eth-mirror

Disables the Ethernet mirror and stops sending the source traffic to the mirror destination.

Syntax:

```
disable eth-mirror
```

Parameters:

None

disable eth-oam-cfg

(E7 only) Disables the Ethernet Operation and Maintenance (OAM).

Syntax:

```
disable eth-oam-cfg
```

Parameters:

none

*disable eth-port **

Disables a specified Ethernet port, preventing it from carrying traffic. Also see set eth-port.

Syntax:

```
disable eth-port <port ID>
```

Parameters:

port ID	• **For E7**, Ethernet ports are specified by card, port type, and port number. For example: 1/g1. • **For E7-2 modular chassis systems**, Ethernet ports are specified by shelf/card/port. • **For E-series**, Ethernet ports are specified by port type and port number. For example: g1. Permitted values for the port type are "g" (for Gigabit Ethernet) or "x" (for 10-Gigabit Ethernet).

disable g8032-ring

Disables the specified G.8032v2 ring, allowing its attributes to then be modified. Use the **`enable g8032-ring`** command to return a modified domain to service.

Syntax:

```
disable g8032-ring <name>
```

Parameters:

name	Assigned name of the G.8032v2 ring. This is a text string.

disable gpon-port

(GPON applications only) Disables a GPON port.

Syntax:

```
disable gpon-port <port>
```

Parameters:

port	GPON port that is specified by card number and port number, separated by a slash. For example: 1/1.

*disable interface **

Disables a specified interface, preventing it from carrying traffic.

Syntax:

```
disable interface <interface name>
```

Parameters:

interface name	Name of interface. This is a text string. **Note:** The name is case sensitive. • **For E7**, the name is designated as card/port (for example, 1/g8 designates card 1, port GE-8; 2/x1 designates card 2, port 10GE-1; port 1/v1 designates card 1, port XDSL-1. • **For E7-2 modular chassis**, the name is designated at shelf/card/port. • **For E-series**, the name is designated as port (for example, g9 designates the port GE-9; and x1 designates port 10GE-1.

disable meg

(E7 only) Disables a specified maintenance entity group.

Syntax:

```
disable meg <m-name>
```

Disables a maintenance endpoint (MEP) in a maintenance entity group (MEG).

Syntax:

```
disable meg <name> mep ont-port <port-id>
```

Disables a maintenance intermediate point (MIP).

Syntax:

```
disable meg <name> mip ont-port <port-id>
```

Parameters:

name	Name of maintenance entity group. This is a text string.
port-id	ONT port indicated by ont-id/ont-port, or ont-id only. For ont-port: f=fast-eth, g=gig-eth, h=hpna-eth, r=video-rf, R=video-hot-rf, t=t1, p=pots. For example, 10001/g1.

disable mgmt-cfg

Disables remote access to the CLI through the system management interface. Also see Configuring the In-Band Management Interface.

Sytnax:

```
disable mgmt-cfg
```

Parameters:

none

disable mgmt-ge

Disables the front panel Management-GE SFP ports on a Vectoring Control Processor (VCP).

Sytnax:

```
disable mgmt-ge
```

Parameters:

none

disable ntp

Disables the NTP client. This action allows the system time to drift away from a reference source that is known to be reliable. This is not recommended. Also see Performing Initial System Turn-Up and Set-Up.

Syntax:

```
disable ntp
```

Parameters:

none

disable ont

(GPON applications only) Disables an ONT, preventing it from carrying traffic.

Syntax:

```
disable ont <ont ID>
```

Parameters:

ont ID	ONTs are specified by logical ID, an integer in the range 1-64000000, inclusive.

disable ont-port

(GPON applications only) Disables the specified service from the indicated ONT port.

Syntax:

```
disable ont-port <ont port ID> [eth-svc|pwe3-svc|mgcp-svc|sip-
svc|tdm-gw-svc|h248-gw-svc]
```

Parameters:

ont port ID	ONT port. ONT ports are specified by ONT logical ID and port number. The port number is prefixed by a "port identifing letter": g=Gigabit Ethernet, h=HPNA Ethernet, r=video RF, R=video Hot RF, d=DS-1, p=POTS, G=res-gw, F=full-bridge. Example: 10001/p2.
eth-svc	Removes the Ethernet service from the specified ONT port.
pwe3-svc	Removes the PWE3 service from the specified ONT port.
mgcp-svc	Removes the MGCP gateway service from the specified ONT voice port.
sip-svc	Removes the SIP service from the specified ONT voice port.
tdm-gw-svc	Removes the TDM Gateway service from the specified ONT voice port.
h248-gw-svc	Removes the H.248 Gateway service from the specified ONT voice port.

disable pots-port

(Unsupported for E7-20) Disables the specified POTS port, and specified service.

Syntax:

```
disable pots-port <port> [h248-gw-svc|sip-svc|tdm-gw-svc]
```

Parameters:

port	• **For E-series**, POTS ports are specified by port number. For example: 4. • **For stand-alone E7-2**, POTS ports are specified by card and port number. For example: 2/1. • **For modular chassis E7-2**, POTS ports are specified by shelf, card, and port number. For example: 1/2/4.
h248-gw-svc	Disables H.248 gateway service on the specified POTS port.
sip-svc	Disables SIP service on the specified POTS port.
tdm-gw-svc	Disables TDM Gateway service on the specified POTS port.

disable rogue-ont-detection

(GPON applications only) Disables the feature that detects faulty ONTs on a PON that transmit optical power in upstream timeslots, where no ONT is assigned to transmit (quiet timeslot), and then automatically removes these "rogue" ONTs from operation. This detection and quarantine behavior quickly eliminates the rogue operation of faulty ONTs that are causing upstream optical collisions and affecting services for other ONTs on the PON.

Syntax:

```
disable rogue-ont-detection pon-port <gpon-port>
```

Parameters:

gpon-port	• **For stand-alone E7-2**, GPON ports are specified by card and port number. For example: 2/1. • **For modular chassis E7-2**, GPON ports are specified by shelf, card, and port number. For example: 1/2/4.

disable rstp

Disables the Rapid Spanning-Tree protocol (RSTP).

Syntax:

```
disable rstp
```

Parameters:

none

disable session

Disables a session with the specified attribute.

Syntax:

```
disable session [alarm-notif|event-notif|pager|tca-notif|timeout]
```

Parameters:

alarm-notif	Disables the default behavior of displaying notifications for each alarm that is asserted and cleared. This action could be useful if the system has a lot of alarm activity that you do not need to see immediately. To re-enable the alarm notification, use the "enable session alarm-notif" command.
event-notif	Disables the default behavior of displaying notifications for each event that happens. This action could be useful if the system has a lot of event activity that you do not need to see immediately. To re-enable the event notification, use the "enable session event-notif" command.
pager	Disables the session pager, allowing output that consists of multiple screens to scroll off of the screen, rather than paging through the output. This action is useful in some situations, such as capturing the output of a command with a terminal that has a large save buffer. To re-enable paging on the output, use the "enable session pager" command.
tca-notif	Disables the default behavior of displaying threshold crossing alerts, as they occur. This setting could be useful if the system is has a lot of TCA activity that you do not need to see immediately. To re-enable the event notification, use the "enable session tca-notif" command.
timeout	Disables the default behavior of logging out the current session after five minutes of inactivity. This setting is useful for collecting debuffing information, yet, it should be used sparingly. A session could become stranded if you forget which terminal window it was in, causing the session to be unavailable for other users.

disable snmp

Disables an SNMP community and no longer processes requests from this community.

Disables an SNMP trap destination and prevents SNMP traps from being sent to the specified host. Consequently, the host is not notified whenever a system event occurs or an alarm is asserted or cleared.

Disables an SNMPv3 user.

Syntax:

```
disable snmp community <community name>
disable snmp trap-dest <trap-dest ID>
disable snmp user <user name>
```

Parameters:

community name	Name of SNMP community name. This is a text string.
trap-dest ID	Numeric value of the index of the SNMP trap destination, uniquely identifying the object within the system. Index values start with 1.
user name	SNMPv3 user name. This is a text string.

disable syslog-server

Disables a specified Syslog server. Disabling a trap destination prevents SNMP traps from being sent to the specified host. Consequently, that host is not notified whenever a system event occurs or an alarm is asserted or cleared.

Syntax:

```
disable syslog-server <index>
```

Parameters:

index	Index of Syslog server that identifies this object within the system. The allowed range is 1 to 4.

disable timing

(E7-20 only) Disables the E7 timing subsystem.

Note: This command is not supported for E7 modular chassis. Use the **`set shelf`** command.

Syntax:

```
disable timing [source]
```

Parameters:

source	Timing source to disable. Valid values: bits-a, bits-b.

*disable user **

Disables the specified user, no longer allowing a log in. Also see *set user* (on page 554).

Syntax:

```
disable user <user name>
```

Parameters:

user name	User name. This is a text string.

disable vcc-port

Disables a Vectoring Control Connector (VCC) port on a VCP or VDSL2 r2 card.

Syntax:

```
disable vcc-port <card/port>
```

Parameters:

card/port	• **For E7-2 standalone systems**, Ethernet ports are specified by card, port type, and port number. For example: 1/vcc1. • **For E7-2 modular chassis systems**, Ethernet ports are specified by shelf/card/port.

*disable vlan-monitor **

Disables the VLAN monitor and stops the collection of statistics.

Syntax:

```
disable vlan-monitor <monitor index>
```

Parameters:

monitor index	Index of VLAN monitor. This is a numeric value (range 1-30).

download ont-release

(GPON applications only) Downloads ONT software from E7 memory to ONT memory. See "Performing an ONT-Only Firmware Upgrade" in the *Calix E7/E-Series Software Upgrade Guide* for the sequence of commands to use.

Syntax:

```
download ont-release [vendor|model|product|serial-number|release-
name]
```

Parameters:

vendor	(Optional) ONT vendor ID. This is a text string.
model	You can download and activate new firmware on a subset of ONTs by entering the Model mask for one or more ONT models. This is a text string.
product	You can download and activate new firmware on a subset of ONTs by entering the Product code for specific groups of ONT models. This is a text string.
release-name	(For mass-ONT upgrades) Critical—leave all fields blank except for Release Name, if required. If releases for P-Series and T-Series or GigaCenter ONTs are present in the system simultaneously, enter the desired ONT release name.
serial-number	You can download and activate new firmware on a subset of ONTs by entering the serial number for a single ONT.

enable card

(E7 only) Enables a line card, allowing it to provide service and ensure the reporting of any alarms for it and subtending objects.

Syntax:

```
enable card <slot>
```

Parameters:

slot	Slot number of card. This is an index value, a numeric identifier that uniquely identifies this object within the system. Index values start with 1. **Note:** If the E7 system is set to Modular-Chassis mode, the card location is indicated with a shelf/card location. For example, to enable the card 1 in shelf 2, use the following command: **`enable card 2/1`**. For E7-20 SCP cards, indicate a or b. For example, to enable the SCP-A card, use the following command: **`enable card a`**.

enable craft-fe

Enables the specified craft Fast Ethernet interface located on the E7. Also see Configuring the E7 Management Interface.

Syntax:

```
enable craft-fe [rear|front]
```

- If the system is an E7-20, the rear craft port location is indicated with a rear/craft-fe location.

  enable craft-fe rear-A

  enable craft-fe rear-b

Parameters:

front	Enables the craft Fast Ethernet interface located on the E7 front panel. **Note:** If the E7 system is set to Modular-Chassis mode, the craft port location is indicated with a shelf/craft-fe location. For example, to enable the front craft-fe in shelf 2, use the following command: **enable craft-fe 2/front**.
rear	Enables the craft Fast Ethernet interface located on the E7 back panel. **Note:** If the E7 system is set to Modular-Chassis mode, the craft port location is indicated with a shelf/craft-fe location. For example, to enable the rear craft-fe in shelf 2, use the following command: **enable craft-fe 2/rear**.

enable dsl-bond-interface

(VDSL2 applications only) Enables a specified DSL bonded interface, allowing it to carry traffic.

Syntax:

```
enable dsl-bond-interface <interface name>
```

Parameters:

interface name	Name of interface. This is a text string. • **For E7**, the name is designated as card/name. • **For E7-2 modular chassis**, the name is designated at shelf/card/name.

enable dsl-port

(VDSL2 applications only) Enables the specified DSL port.

Syntax:

```
enable dsl-port <port>
```

Parameters:

port	• **For E-series**, DSL ports are specified by card (1), port type, and port number. For example: 1/v1. • **For stand-alone E7-2**, DSL ports are specified by card, port type, and port number. For example: 2/v1. • **For modular chassis E7-2**, DSL ports are specified by shelf, card, port type, and port number. For example: 1/2/v4.

enable dsl-test-tone

(VDSL2 applications only) Mechanized Loop Testing (MLT) Trace Tone interoperates with TollGrade's LoopCare software and allows service provider outside plant field technicians the ability to generate an audible tone on a VDSL2 POTS / Combo line as a diagnostic to identify a specific subscriber pair. The Trace Tone is initiated by the technician through the Tollgrade IVR system that commands the access equipment to 'buzz' the line.

Syntax:

```
enable dsl-test-tone dsl-port <port-id>
[timeout|frequency|cadence|power-lvl]
```

Parameters:

port-id	xDSL port. • For E-series systems, DSL ports are specified by 1/port. • For E7-2 standalone systems, DSL ports are specified by card/port. • For E7-2 modular chassis systems, DSL ports are specified by shelf/card/port.
timeout	Test timer duration to prevent the tone from being erroneously left on. Valid values: 0-4294967295 Default = 300 seconds
frequency	DSL trace tone frequency. Valid values: 400, 700, 1000, 1500 Default = 1000 Hz
cadence	Pulse of the MLT trace tone. Interruptions per second (ips) Valid values: continuous ‡, 0-ips, 3-ips Default = continuous
power-lvl	Power level of the trace tone. Valid values: 0-dbm, 1-dbm

enable env-pin *

Enables an environmental pin. Also see *set env-pin* (on page 432) and the *Calix E7 Installation Guide*.

Syntax:

```
enable env-pin <env-pin ID>
```

Parameters:

env-pin ID	Pin number. This is an index value, a numeric identifier that uniquely identifies this object within the system. • Valid values for E7: OUT, AL1-AL7.

*enable erps-domain **

Enables a specified ERPS domain. To change any attributes on an ERPS domain, it must be disabled. This command is the easiest way to return a modified domain to service.

Syntax:

```
enable erps-domain <domain name>
```

Parameters:

domain name	Name of ERPS domain. This is a text string.

enable eth-mirror

Enables the Ethernet mirror and restarts the sending of traffic.

Syntax:

```
enable eth-mirror
```

Parameters:

none

enable eth-oam-cfg

(E7 only) Enables the Ethernet Operation and Maintenance (OAM).

Syntax:

```
enable eth-oam-cfg
```

Parameters:

none

*enable eth-port **

Enables a specified Ethernet port, allowing it to carry traffic. Also see set eth-port.

Syntax:

```
enable eth-port <port ID>
```

Parameters:

port ID	• **For E7**, Ethernet ports are specified by card, port type, and port number. For example: 1/g1. • **For E7-2 modular chassis systems**, Ethernet ports are specified by shelf/card/port. • **For E-series**, Ethernet ports are specified by port type and port number. For example: g1. Permitted values for the port type are "g" (for Gigabit Ethernet) or "x" (for 10-Gigabit Ethernet).

enable g8032-ring

Enables a specified G.8032v2 ring. This command is the easiest way to return a modified domain to service.

Syntax:

```
enable g8032-ring <name>
```

Parameters:

name	Assigned name of the G.8032v2 ring. This is a text string.

enable gpon-port

(E7 only) Enables a GPON port, allowing it to carry traffic.

Syntax:

```
enable gpon-port <port>
```

Parameters:

port	GPON port that is specified by card number and port number, separated by a slash. For example: 1/1.

*enable interface **

Enables a specified interface, allowing it to carry traffic. Also see set interface.

Syntax:

```
enable interface <interface name>
```

Parameters:

interface name	Name of interface. This is a text string. **Note:** The name is case sensitive. • **For E7**, the name is designated as card/port (for example, 1/g8 designates card 1, port GE-8; 2/x1 designates card 2, port 10GE-1; port 1/v1 designates card 1, port XDSL-1. • **For E7-2 modular chassis**, the name is designated at shelf/card/port. • **For E-series**, the name is designated as port (for example, g9 designates the port GE-9; and x1 designates port 10GE-1.

enable meg

(E7 only) Enables a specified maintenance entity group. Also see *set meg* (on page 478).

Syntax:

```
enable meg <m-name>
```

Enables a maintenance endpoint (MEP) in a maintenance entity group (MEG).

Syntax:

```
enable meg <name> mep ont-port <port-id>
```

Enables a maintenance intermediate point (MIP).

Syntax:

```
enable meg <name> mip ont-port <port-id>
```

Parameters:

name	Name of maintenance entity group. This is a text string.
port-id	ONT port indicated by ont-id/ont-port, or ont-id only. For ont-port: f=fast-eth, g=gig-eth, h=hpna-eth, r=video-rf, R=video-hot-rf, t=t1, p=pots. For example, 10001/g1.

enable mgmt-cfg

Enables remote access to the CLI through the system management interface. Also see Configuring the In-Band Management Interface.

Syntax:

```
enable mgmt-cfg
```

Parameters:

none

enable mgmt-ge

Enables the front panel Management-GE SFP ports on a Vectoring Control Processor (VCP).

Sytnax:

```
enable mgmt-ge
```

Parameters:

none

enable ntp

Enables the NTP client, allowing the E7 to obtain time from a reference server.

Syntax:

```
enable ntp
```

Parameters:

none

enable ont

(GPON applications only) Enables an ONT, allowing it to carry traffic.

Syntax:

```
enable ont <ont ID>
```

Parameters:

ont ID	ONTs are specified by logical ID, an integer in the range 1-64000000, inclusive.

enable ont-port

(GPON applications only) Enables the specified service on the indicated ONT port.

Syntax:

```
enable ont-port <ont port ID> [eth-svc|pwe3-svc|mgcp-svc|sip-
svc|tdm-gw-svc|h248-gw-svc]
```

Parameters:

ont port ID	ONT port. ONT ports are specified by ONT logical ID and port number. The port number is prefixed by a "port identifing letter": g=Gigabit Ethernet, h=HPNA Ethernet, r=video RF, R=video Hot RF, d=DS-1, p=POTS. Example: 10001/p2.
eth-svc	Enables the Ethernet service from the specified ONT port.
pwe3-svc	Enables the PWE3 service from the specified ONT port.
mgcp-svc	Enables the MGCP gateway service from the specified ONT port.
sip-svc	Enables the SIP service from the specified ONT port.
tdm-gw-svc	Enables the TDM Gateway service from the specified ONT port.
h248-gw-svc	Enables the H.248 Gateway service from the specified ONT port.

enable pots-port

(Unsupported for E7-20) Enables the specified POTS port, and specified service.

Syntax:

```
enable pots-port <port> [h248-gw-svc|sip-svc|tdm-gw-svc]
```

Parameters:

port	• **For E-series**, POTS ports are specified by port number. For example: 4. • **For stand-alone E7-2**, POTS ports are specified by card and port number. For example: 2/1. • **For modular chassis E7-2**, POTS ports are specified by shelf, card, and port number. For example: 1/2/4.
h248-gw-svc	Enables H.248 gateway service on the specified POTS port.
sip-svc	Enables SIP service on the specified POTS port.
tdm-gw-svc	Enables TDM Gateway service on the specified POTS port.

enable rogue-ont-detection

(GPON applications only) Enables the feature that detects faulty ONTs on a PON that transmit optical power in upstream timeslots, where no ONT is assigned to transmit (quiet timeslot), and then automatically removes these "rogue" ONTs from operation. This detection and quarantine behavior quickly eliminates the rogue operation of faulty ONTs that are causing upstream optical collisions and affecting services for other ONTs on the PON.

Syntax:

```
enable rogue-ont-detection pon-port <gpon-port>
```

Parameters:

gpon-port	• **For stand-alone E7-2**, GPON ports are specified by card and port number. For example: 2/1. • **For modular chassis E7-2**, GPON ports are specified by shelf, card, and port number. For example: 1/2/4.

enable rstp

Enables the Rapid Spanning-Tree protocol (RSTP).

Syntax:

```
enable rstp
```

Parameters:

none

enable session

Enables a session with the specified attribute.

Syntax:

```
enable session [alarm-notif|event-notif|pager|tca-notif|timeout]
```

Parameters:

alarm-notif	Enables a notification that is displayed on the screen every time an alarm is asserted or cleared. To turn off this notification, use the "disable session alarm-notif" command.
event-notif	Enables a notification that is displayed on the screen every time an event happens. To turn off this notification, use the "disable session event-notif" command.
pager	Enables one-page-at-a-time output for commands whose output would scroll off the edge of the screen. This setting allows you to scroll through multiple screens of output by pressing the space bar.
tca-notif	Enables a notification that is displayed on the screen every time threshold-crossing alert happens. To turn off this notification, use the "disable session tca-notif" command.
timeout	Enables an automatic timeout for the current session after five minutes of inactivity. To disable the inactivity timeout, use the "disable session timeout" command.

enable shelf

(E7-2 only) Enables the specified shelf in an E7 modular chassis system. For the E7 to support this command, the **modular-chassis enabled** option must be configured in the **set system** command.

Syntax:

```
enable shelf <s-id>
```

Parameters:

s-id	Shelf number. This is an index value, a numeric identifier that uniquely identifies this object within the system. Index values start with 1.

*enable snmp community **

Enables an SNMP community and processes requests from this community.

Syntax:

```
enable snmp community <community name>
```

Parameters:

community name	Name of SNMP community name. This is a text string.

*enable snmp trap-dest **

Enables an SNMP trap destination, allowing the SNMP trap to be sent to the specified host whenever a system event happens or an alarm is asserted or cleared.

Syntax:

```
enable snmp trap-dest <trap-dest ID>
```

Parameters:

trap-dest ID	Numeric value for the index of the SNMP trap destination, uniquely identifying the object within the system. Index values start with 1.

*enable snmp user **

Enables an SNMPv3 user.

Syntax:

```
enable snmp user <user name>
```

Parameters:

user name	SNMPv3 user name. This is a text string.

enable syslog-server

Enables a specified Syslog server. When a trap destination is enabled, an SNMP trap is sent to the specified host whenever a system event happens or an alarm is asserted or cleared.

Syntax:

```
enable syslog-server <index>
```

Parameters:

index	Index of Syslog server that identifies this object within the system. The allowed range is 1 to 4.

enable timing

(E7-20 only)

Enables the timing subsystem.

Note: This command is not supported for E7 modular chassis. Use the **set shelf** command.

Syntax:

```
enable timing [source]
```

Parameters:

source	Timing source to enable. Valid values: bits-a, bits-b.

enable user *

Enables the specified user, allowing log in permissions. Also see *set user* (on page 554).

Note: The system can support up to five CLI sessions concurrently.

Syntax:

```
enable user <user name>
```

Parameters:

user name	User name. This is a text string.

enable vcc-port

Enables a Vectoring Control Connector (VCC) port on a VCP or VDSL2 r2 card.

Syntax:

```
enable vcc-port <card/port>
```

Parameters:

card/port	• **For E7-2 standalone systems**, Ethernet ports are specified by card, port type, and port number. For example: 1/vcc1. • **For E7-2 modular chassis systems**, Ethernet ports are specified by shelf/card/port.

*enable vlan-monitor **

Enables the VLAN monitor, clears the existing statistics, and then resumes collection.

Syntax:

```
enable vlan-monitor <monitor index>
```

Parameters:

monitor index	Index of VLAN monitor. This is a numeric value (range 1-30).

exit

Ends a command line interface (CLI) session by logging out and freeing the session for other users. Similar to the **`logout`** command.

Syntax:

```
exit
```

Parameters:

none

extract backup to-host

Transfers the captured database file to an external system. The backup file is sent through the FTP protocol, so the receiving system must also be running an FTP server to receive it.

Syntax:

```
extract backup to-host <server ID> user <user name> [directory-path
<path>]
```

Example:

```
extract backup to-host 192.168.1.1 user jsmith directory-path
/e_series
```

Parameters:

server ID	IP address of backup server. This is an IP address in "dotted quad" format: "192.168.1.100". Alternatively, "none" can be used to reset the value to "0.0.0.0."
user name	Username on backup server. This is a text string.
directory-path	(Optional) Path to backup directory server. This is a text string. If you do not specify a directory path, the extracted files are placed in the home directory associated with the remote user.

extract diagnostics

Extracts diagnostic information from a system, card, or shelf (E7 Modular Chassis only). The diagnostics are sent through the FTP protocol so the receiving system must also be running an FTP server to receive it.

For modular chassis systems, Snapshot/Extract extracts the database as well as the system log files from both cards of the Modular Chassis Controller (MCC) shelf. It will not extract any log files from the Modular Chassis Expansion (MCE) shelves. Extract Diagnostics extracts any core dump files from any line cards in the Modular Chassis, as well as extract system log files from every shelf in the modular chassis.

Syntax:

```
extract diagnostics system to-host <server-name> user <username>
[directory-path|log-file-name]

extract diagnostics shelf <s-number> to-host <server-name> user
<username> [directory-path|log-file-name]

extract diagnostics card <slot> to-host <server-name> user
<username> [directory-path|log-file-name]
```

Parameters:

slot	(E7 only) Slot number of the card. This is an index value, a numeric identifier that uniquely identifies this object within the system. Index values start with 1.
s-number	(E7 only) Shelf number in the E7-2 Modular Chassis system. This is an index value, a numeric identifier that uniquely identifies this object within the system. Index values start with 1.
server-name	IP address of server. This is an IP address in "dotted quad" format: "192.168.1.100". Alternatively, "none" can be used to reset the value to "0.0.0.0."
username	Username on the server. This is a text string.
directory-path *	(Optional) Directory path on server (*). This is a text string. If you do not specify a directory path, the extracted files are placed in the home directory associated with the remote user.
log-file-name	(Optional) Name for the log file archive. This is a text string.

ffp show status

(E7 GPON only) Shows status information for Fast Facility Protection (FFP) groups.

Syntax:

```
ffp show status
```

flush mac-table

(GPON only) Deletes the MAC addresses learned on GPON ONT GE or FB ports, for the entire ONT or for the selected port.

Syntax:

```
flush mac-table ont <ONT ID>
flush mac-table ont-port <ONT ID>/<port number>
```

*force dot1x-**

Forces the specified interface or ONT port to a specific 802.1x state.

Syntax:

```
dot1x-dsl-bond <intfc-name> reauthenticate
dot1x-interface <intfc-name> reauthenticate
dot1x-ont-port <port-id> reauthenticate
```

Parameters:

user name	User name. This is a text string.
dot1x-dsl-bond	Forces the DSL-bonded interface to reauthenticate.
dot1x-interface	Forces the interface to reauthenticate.
dot1x-ont-port	Forces the ONT port to reauthenticate.

help

Shows hints on how to use the command line interface (CLI). This command describes the basic techniques for using the CLI interactive help and command completion features.

Syntax:

```
help
```

Parameters:

none

load backup from-host

Retrieves a previously archived database backup file, loading it into the E7 from an external system. The E7 retrieves the backup file through the SFTP protocol, so the server must provide SFTP access.

Syntax:

```
load backup from-host <server ID> user <user name> file-path <path>
```

Example:

```
load backup from-host 192.168.1.1 user jsmith file-path
/e_series/LAB_2010-08-01_14_35_02.provdb
```

Note: When restoring an E7 backup database file from a Windows-based server, use a forward slash (/) as a path separation character when working with FTP application operations. The E7 interprets any backslash in the path string as part of the filename.

Parameters:

server ID	IP address of backup server. This is an IP address in "dotted quad" format: "192.168.1.100." Alternatively, "none" can be used to reset the value to "0.0.0.0."
user name	Username on backup server. This is a text string.
file-path	Path to backup file server. This is a text string.

logout

Ends a CLI session by logging out and freeing the session for other users. Similar to the **exit** command.

Syntax:

```
logout
```

Parameters:

none

*ping **

Pings another host. This command attempts to send a 5 ICMP ECHO request to the specified host.

Syntax:

```
ping <host ID>
```

Parameters:

host ID	Hostname or IP address. This is a text string.

quit

Ends a command line interface (CLI) session, freeing it for other users.

Syntax:

```
quit
```

Parameters:

none

reboot

Restarts the system or a line card, using the current software version.

Syntax:

```
reboot
reboot card <slot> (for standalone systems)
reboot card <shelf/card> (for modular chassis systems)
reboot system
```

Parameters:

none

*remove class-rule * from-map **

Removes a specified rule from a specified classification map.

Syntax:

```
remove class-rule <rule index> from-map <c-map name>
```

Parameters:

rule index	A numeric value for the index of a rule in a classification map. This index value uniquely identifies the object within the system. Index values start with 1.
c-map name	Name of classification map. This is a text string.

remove dot1x-auth-server

Removes an 802.1x authentication server from the system.

Syntax:

```
remove dot1x-auth-server <priority>
```

Parameters:

priority	The priority order in which the radius servers are accessed. The server is identified by its configured priority. The allowed range is 1 to 100.

remove dot1x-acct-server

Removes an 802.1x accounting server from the system.

Syntax:

```
remove dot1x-acct-server <priority>
```

Parameters:

priority	The priority order in which the radius servers are accessed. The server is identified by its configured priority. The allowed range is 1 to 100.

remove dsl-coefficient

(VDSL2 applications only) Deletes the DSL VoIP coefficient file from the VDSL2 flash memory.

Syntax:

```
remove dsl-coefficient
```

remove dsl-config

(VDSL2 applications only) Removes DSL VoIP configuration file that is applied on the system.

Syntax:

```
remove dsl-config config-name <instance>
```

Parameters:

instance	A configuration name instance that is mapped to a retrieved DSL VoIP Configuration file. This is a text string. Valid values: voip-1, voip-2, voip-3, voip-4.

remove dsl-port * from-eth-mirror

(VDSL2 applications only) Removes a source from the Ethernet mirror.

Syntax:

```
remove dsl-port <port ID> from-eth-mirror
```

Parameters:

port ID	• **For stand-alone E7-2**, DSL ports are specified by card, port type, and port number. For example: 1/v1. • **For modular chassis E7-2**, DSL ports are specified by shelf, card, port type, and port number. For example: 1/2/v4. • **For E-series**, DSL ports are specified by port number. Permitted values for the port type are "g" (for Gigabit Ethernet) or "x" (for 10-Gigabit Ethernet). For example: v1.

*remove erps-domain * from-vlan **

Removes a specified ERPS domain from a specified VLAN membership.

Syntax:

```
remove erps-domain <domain name> from-vlan <vlan ID>
```

Parameters:

domain name	Name of ERPS domain. This is a text string.
vlan ID	Name of VLAN (or VLAN ID). VLANs can be specified by name or by numeric VLAN ID (range 2-4093).

*remove eth-port * from-eth-mirror*

Removes a source from the Ethernet mirror.

Syntax:

```
remove eth-port <port ID> from-eth-mirror
```

Example E7 command that removes a port from the mirror:

```
remove eth-port 1/g4 from-eth-mirror
```

Example E-series command that removes a port from the mirror:

```
remove eth-port g4 from-eth-mirror
```

Parameters:

port ID	• **For E7**, Ethernet ports are specified by card, port type, and port number. For example: 1/g1. • **For modular chassis E7-2**, Ethernet ports are specified by shelf, card, port type, and port number. For example: 1/1/g1. • **For E-series**, Ethernet ports are specified by port type and port number. For example: g1. Permitted values for the port type are "g" (for Gigabit Ethernet) or "x" (for 10-Gigabit Ethernet).

remove eth-svc

Removes Ethernet service from a DSL bonded interface, a DSL port, or an ONT port.

Syntax:

```
remove eth-svc <s-name> from-dsl-bond-interface <b-intfc>
remove eth-svc <s-name> from-interface <dsl-intfc>
remove eth-svc <s-name> from-ont-port <ONT E-port>
```

Parameters:

s-name	Name of ONT Ethernet service. This is a number or text string.
b-intfc	DSL bonded interface, indicated as shelf/card/DSL bonded interface name.
dsl-intfc	DSL port, indicated as shelf/card/dsl-port.
ONT E-port	ONT port (ont-id/ont-port). In ont-port: f=fast-eth, g=gig-eth, h=hpna-eth. Example, 10001/g1.

remove g8032-ring

Removes a specified G.8032v2 ring from a specified VLAN membership.

Syntax:

```
remove 8032-ring <name> from-vlan <vlan ID>
```

Parameters:

name	Assigned name of the G.8032v2 ring. This is a text string.
vlan ID	Name of VLAN (or VLAN ID). VLANs can be specified by name or by numeric VLAN ID (range 2-4093).

*remove gpon-port * from-eth-mirror*

(GPON applications only) Removes a source from the Ethernet mirror.

Syntax:

```
remove gpon-port <port ID> from-eth-mirror
```

Example command that removes a port from the mirror:

```
remove gpon-port 1/4 from-eth-mirror
```

Parameters:

port ID	• **For E7**, GPON ports are specified by card and port number. For example: 1/2. • **For modular chassis E7-2**, GPON ports are specified by shelf, card, and port number. For example: 1/2/4.

remove h248-gw-svc

Removes the H.248 service from an ONT port, or a VDSL2 line card POTS port.

Syntax:

```
remove h248-gw-svc from-ont-port <ont-port>
remove h248-gw-svc from-pots-port <vdsl-port>
```

Parameters:

ONT-port	ONT T1 ports are specified by ONT logical ID and port number. The port number is prefixed by a "port identifying letter": g=Gigabit Ethernet, h=HPNA Ethernet, r=video RF, R=video Hot RF, d=DS-1, p=POTS. Example: 10001/p2.
vdsl-port	VDSL2 Linecard POTS ports are specified by shelf (if modular chassis), card, and POTS port.

*remove interface * from-vlan **

Removes a specified interface from a specified VLAN membership.

Syntax:

```
remove interface <interface name> from-vlan <vlan ID>
```

Parameters:

interface name	Name of an interface or a range of Ethernet interfaces specified by a hyphen. This is a text string. • For an E7 example, 1/g3-1/g8. • For an E-series example, g1-g3.
vlan ID	Name of a VLAN, a numeric VLAN ID (2 to 4093), or a range of numeric VLAN IDs specified by a hypen (for example, 100-200).

remove mcast-white-list

Removes multicast white list from a video service.

Syntax:

```
remove mcast-white-list <list-name> to-interface <vdsl interface>
eth-svc <service>

remove mcast-white-list <list-name> to-ont-port <ont port> eth-svc
<service>

remove mcast-white-list <list-name> to-dsl-bond-interface <vdsl
interface> eth-svc <service>
```

Parameters:

list-name	Name of multicast white list. This is a text string.
vdsl interface	For E-series systems, DSL ports are specified by 1/port. For E7-2 standalone systems, DSL ports are specified by card/port. For E7-2 modular chassis systems, DSL ports are specified by shelf/card/port.
ont port	ONT ports are specified by ONT logical ID and port number. The port number is prefixed by a "port identifying letter": g=Gigabit Ethernet, h=HPNA Ethernet, r=video RF, R=video Hot RF, d=DS-1, p=POTS. Example: 10001/p2.
service	Name of service to add to the specified ONT port. This is a number or text string.

remove mep

(E7 only) Removes a maintenance endpoint (MEP) from a maintenance entity group (MEG).

Syntax:

For ONT Ethernet ports:

```
remove mep ont-port <port-id> from-meg <name>
```

For ONT POTS ports:

```
remove mep ont <ont-id> ip-host <sip|tdm-gw|h248|mgcp|pwe3> from-meg
<name>
```

Parameters:

name	Name of maintenance entity group. This is a text string.
port-id	For ONT Ethernet ports only: ONT port indicated by ont-id/ont-port, or ont-id only. For ont-port: f=fast-eth, g=gig-eth, h=hpna-eth, r=video-rf, R=video-hot-rf, t=t1, p=pots. For example, 10001/g1.
ont-id	For ONT POTS ports only: Selects the ONT IP host. Valid options: sip, tdm-gw, h248, mgcp, pwe3.
ip-host	For ONT POTS ports only: Selects the ONT IP host. Valid options: sip, tdm-gw, h248, mgcp, pwe3.

remove mgcp-svc

(E7 only) Removes the MGCP gateway service from an ONT POTs port.

Syntax:

```
remove mgcp-gw-svc from-ont-port <ONT-POTS port>
```

Parameters:

ONT-POTS port	ONT ports are specified by ONT logical ID and port number. The port number is prefixed by a "port identifying letter": g=Gigabit Ethernet, h=HPNA Ethernet, r=video RF, R=video Hot RF, d=DS-1, p=POTS. Example: 10001/p2.

remove mip ont-port

(GPON applications only) Removes a maintenance intermediate point (MIP) from a maintenance entity group (MEG).

Syntax:

```
remove mip ont-port <port-id> from-meg <name>
```

Parameters:

name	Name of maintenance entity group. This is a text string.
port-id	ONT port indicated by ont-id/ont-port, or ont-id only. For ont-port: f=fast-eth, g=gig-eth, h=hpna-eth, r=video-rf, R=video-hot-rf, t=t1, p=pots. For example, 10001/g1.

remove ont

(GPON applications only) Removes an ONT from the quarantine list, by specified characteristic.

Syntax:

```
remove ont <ont-id> from-quarantine

remove ont serial-number <ont-serial> from-quarantine

remove ont serial-number <ont-serial> vendor-id <v-id> from-
quarantine
```

Parameters:

ont-id	Logical ID for an ONT, an integer in the range 1-64000000, inclusive.
ont-serial	Serial number specified for an ONT, a hexadecimal integer. The serial number is the only identifier guaranteed to exist for both provisioned and unprovisioned ONTs.
v-id	Overrides the default Vendor ID (CXNT). This is a text string.

remove ont-config

(GPON applications only) Deletes all configuration files for the specified type.

Syntax:

```
remove ont-config vendor <vendor ID> instance <index>
[model|product]
```

Parameters:

vendor ID	ONT vendor ID. This is a text string of 4 alphanumeric characters.
index	Logical index of ONT grouping. Valid values: 0-255, or 2 alphanumeric characters.
model	(Optional) ONT model. This is a text string of 16 characters, maximum.
product	(Optional) ONT product name. Valid values: 2 alphanumeric characters.

remove ont-pon-us-cos

(GPON applications only) Removes an ONT PON upstream Class of Service (CoS) from an ONT.

Syntax:

```
remove ont-pon-us-cos <user-id> from-ont <ont-id>
```

Parameters:

user-id	Name of ONT PON Cos. Valid values: user-1, user-2, user-3, user-4.
ont-id	ONTs are specified by logical ID, an integer in the range 1-64000000, inclusive.

remove ont-port

(GPON applications only) Removes an ONT port from either a Residential Gateway interface or a Full Bridge interface.

Syntax:

```
remove ont-port <ont-port> from-res-gw
remove ont-port <ont-port> from-full-bridge
```

Parameters:

ont-port	ONT ports are specified by ONT logical ID and port number. The port number is prefixed by a "port identifing letter": g=Gigabit Ethernet, h=HPNA Ethernet, r=video RF, R=video Hot RF, d=DS-1, p=POTS, G=res-gw, F=full-bridge. Example: 10001/p2

remove policy

Removes a policy from a policy map.

Policy maps are lists of QoS-related actions to take on packets that match certain criteria. The matching criteria is specified by a classification map.

Syntax:

```
remove policy <policy index> from-map <p-map name>
```

Parameters:

policy index	Numeric value for the index of a policy in a map. This index value uniquely identifies the object within the system. Index values start with 1.
p-map name	Name of policy map. This is a text string.

remove pwe3-svc

(E7 only) Removes a PWE3 service from an ONT T1 port.

Syntax:

```
remove pwe3-svc from-ont-port <ONT T1-port>
```

Parameters:

ONT T1-port	ONT T1 ports are specified by ONT logical ID and port number. The port number is prefixed by a "port identifying letter": g=Gigabit Ethernet, h=HPNA Ethernet, r=video RF, R=video Hot RF, d=DS-1, p=POTS. Example: 10001/p2.

remove radius-acct-server

Removes a RADIUS accounting server from the system.

Syntax:

```
remove radius-acct-server <priority>
```

Parameters:

priority	Priority value of the RADIUS server. The allowed range is 1 to 100.

remove radius-auth-server

Removes a RADIUS authentication server from the system.

Syntax:

```
remove radius-auth-server <priority>
```

Parameters:

priority	Priority value of the RADIUS server. The allowed range is 1 to 100.

remove range * from-mcast-map

Removes the indicated multicast address range from the specified multicast address map.

Syntax:

```
remove range <index> from-mcast-map <m-name>
```

Parameters:

m-name	Name of multicast address map. This is a text string.
index	Index of multicast address range in map. This is a numeric index value that uniquely identifies this object within the system. Index values start with 1.

remove range * from-mcast-white-list

Removes a multicast white list range from a multicast white list.

Also see:

create mcast-white-list (on page 152)
add mcast-white-list (on page 50)

Syntax:

```
remove range from-mcast-white-list <list-name>
```

Parameters:

list-name	Name of multicast address map. This is a text string.

remove remote-mep

(E7 only) Removes a remote maintenance endpoint to a maintenance entity group.

Syntax:

```
remove remote-mep id <endpoint-id> from-meg <name>
```

Parameters:

endpoint-id	Ethernet OAM maintenance endpoint. This is a numeric value. Valid range: 1-8191.
name	Name of the maintenance entity group. This is a text string.

remove rule

Removes a rule from a dial plan.

Syntax:

```
remove rule <index> from-dial-plan <p-name>
```

Parameters:

index	Index of dial plan rule. Valid values: 1-30.
p-name	Name of dial plan map. This is a text string.

remove sip-svc

Removes SIP service from an ONT POTS port, or a VDSL2 linecard POTS port.

Syntax:

```
remove sip-svc from-ont-port <ONT POTS-port>
remove sip-svc from-pots-port <POTS-port>
```

Parameters:

ONT POTS-port	ONT ports are specified by ONT logical ID and port number. The port number is prefixed by a "port identifying letter": g=Gigabit Ethernet, h=HPNA Ethernet, r=video RF, R=video Hot RF, d=DS-1, p=POTS. Example: 10001/p2.
POTS-port	VDSL2 Linecard POTS ports are specified by shelf (if modular chassis), card, and POTS port.

remove static-ip-entry

Removes a static address from an Ethernet service on a specified DSL bonded interface, a DSL interface, or an ONT port.

Syntax:

```
remove static-ip-entry <index> from-dsl-bond-interface <dsl-intfc>
eth-svc <s-name>
remove static-ip-entry <index> from-interface <dsl-intfc> eth-svc
<s-name>
remove static-ip-entry <index> from-ont-port <p-id> eth-svc <s-name>
```

Parameters:

index	Index value of the static address on an ONT Ethernet service. Valid values 1-4.
dsl-intfc	DSL port specified by shelf/card/dsl-port.
p-id	ONT port specified by ONT logical ID and port number. The port number is prefixed by a "port identifying letter": g=Gigabit Ethernet, h=HPNA Ethernet, r=video RF, R=video Hot RF, d=DS-1, p=POTS. For example, 10001/p2.
s-name	Name of service for the ONT port.

remove static-mcast-src

Removes an interface or ERPS domain static multicast source from a VLAN.

Syntax:

```
remove static-mcast-src interface <i-id> from-vlan <vlan-id>

remove static-mcast-src erps-domain <d-id> from-vlan <vlan-id>
```

Parameters:

i-id	Name of an interface or a range of Ethernet interfaces specified by a hyphen. This is a text string. • For an E7 example, 1/g3-1/g8. • For an E-series example, g1-g3.
vlan-id	Name of a VLAN, a numeric VLAN ID (2 to 4093), or a range of numeric VLAN IDs specified by a hyphen (for example, 100-200).
d-id	Name of ERPS domain. This is a text string.

remove tagged-rule

Removes a tagged rule from a match list (access-control list).

Syntax:

```
remove tagged-rule <r-index> from-svc-match-list <list>
```

Parameters:

r-index	Index of rule in the service match list. This is an index value, a numeric identifier that uniquely identifies this object within the system. Index values 1-12.
list	Name of the service match list. This is a text string.

remove tdm-gw-svc

Removes TDM Gateway service from an ONT POTS port, or a VDSL2 linecard POTS port.

Syntax:

```
remove tdm-gw-svc from-ont-port <ONT POTS-port>
remove tdm-gw-svc from-pots-port <Lc POTS-port>
```

Parameters:

ONT POTS-port	ONT ports are specified by ONT logical ID and port number. The port number is prefixed by a "port identifying letter": g=Gigabit Ethernet, h=HPNA Ethernet, r=video RF, R=video Hot RF, d=DS-1, p=POTS. Example: 10001/p2.
Lc POTS-port	VDSL2 Linecard POTS ports are specified by shelf (if modular chassis), card, POTS port.

remove untagged-rule

Removes an untagged rule from a match list (access-control list).

Syntax:

```
remove untagged-rule <r-index> from-svc-match-list <list>
```

Parameters:

r-index	Index of rule in a service match list. This is an index value, a numeric identifier that uniquely identifies this object within the system. Index values 1-16.
list	Name of service match list. This is a text string.

remove vlan * from-mvr-profile

Removes the indicated VLAN from the specified multicast VLAN registration profile.

Syntax:

```
remove vlan <vlan-id> from-mvr-profile <p-name>
```

Parameters:

vlan-id	Name of a VLAN, a numeric VLAN ID (2 to 4093 except for 1002-1005 which are reserved for E7 operation), or a range of numeric VLAN IDs specified by a hyphen (for example, 100-200).
p-name	Name of multicast VLAN registration profile. This is a text string.

reset card

(E7 only) Resets a line card. The card will only be reset if the committed version is more recent than what is currently running on that card, unless the forced option is part of the command. A reset does not change the default (committed) software. This command is useful for testing out an alternate version of software. If the card is reset through other means, such as a power cycle, it will load and run the previously specified default software. Also see *upgrade card* (on page 708).

Note: This command does not change the default (committed) software for the card. See *commit* * (on page 105).

Syntax:

```
reset card <slot> version <version ID> [forced]
```

Parameters:

slot	Slot number of card. This is an index value, a numeric identifier that uniquely identifies this object within the system. Index values start with 1. **Note:** If the E7 system is set to Modular-Chassis mode, the card location is indicated with a shelf/card location. For example, to reset card 1 in shelf 2, use the following command: **`reset card 2/1`**.
version ID	Software version. This is a software version identifier of the form "a.b.c.d."
forced	The reset is performed unconditionally on the system, even if the currently running software is more recent than the specified version. The default software does not change.

reset database

Resets the database to default provisioning by deleting **all** user provisioning and replacing it with a default database. This command could be helpful when you are removing a E7 unit or card from service and placing it back into inventory. Use the **`keep-craft-fe`** version of the command to keep the configuration of enabled craft-fe interfaces and the global access settings.

Calix strongly recommends that you be physically present when performing this operation.

CAUTION! Performing a Reset Database action *replaces all provisioning to default values*. This includes disabling the CLI telnet and setting the IP address back to the default (192.168.1.2) and setting the HTTP to secure, requiring https:// in the login.

Warning: Calix strongly recommends that you back up the configuration file before restoring the default configuration.

Syntax:

```
reset database
reset database keep-craft-fe
reset database card <slot>
```

Parameters:

slot	(E7 only) Slot number of card. This is an index value, a numeric identifier that uniquely identifies this object within the system. Index values start with 1. **Note:** If the E7 system is set to Modular-Chassis mode, the card location is indicated with a shelf/card location. For example, to reset card 1 in shelf 2, use the following command: **`reset card 2/1`**.

reset ont

(GPON applications only) Reboots the specified ONT, causing it to restart, re-range, and be discovered.

Syntax:

```
reset ont <ONT ID> [forced]
reset ont <ONT ID> rg-restore-defaults
reset ont serial-number <serial number> [forced]
reset ont serial-number <serial number> rg-restore-defaults
reset ont serial-number <serial number> sip-restore-defaults
reset ont serial-number <serial number> vendor-id <v-id> [forced]
reset ont serial-number <serial number> vendor-id <v-id> rg-restore-
defaults
```

Parameters:

ONT ID	Reset ONT specified by logical ID, an integer in the range 1-64000000, inclusive.
serial number	Reset ONT with specified serial number (hexadecimal). This is a numeric value.
forced	Force ONT to reset, even if not automatic.
rg-restore-defaults	Reset Residential GateWay to defaults with the specified ONT ID or serial number.
sip-restore-defaults	Reset SIP configuration to defaults with the specified ONT ID or serial number.
v-id	Override the default vendor ID (CXNK). This is a text string.

reset system version

Attempts to reset an E7 system. The system will only be reset if the committed version is more recent than what is currently running on that system, unless one of the options is part of the command. A reset does not change the default (committed) software. This command is useful for testing out an alternate version of software. If the system is reset through other means, such as a power cycle, it will load and run the previously specified default software.

Syntax:

```
reset system version <version ID> [forced|no-file-check|forced no-file-check]
```

Parameters:

version ID	Software version. This is a software version identifier of the form "a.b.c.d."
forced	Resets an E7 system. The reset is performed unconditionally on the system, even if the currently running software is more recent than the specified version. The default software does not change.
no-file-check	Resets an E7 system without performing any file corruption checks on the software version specified.
forced no-file-check	Resets an E7 system, even if the currently running software is more recent than the specified version. Also, no file corruption checks are performed. The default software does not change.

restart ont-port

(Only applies to GPON configurations with P-series ONTs) Restarts a SIP service on Calix P-series ONTs, causing it to re-read the remote configuration.

Syntax:

```
restart ont-port <p-id> sip-svc
```

Parameters:

p-id	ONT port specified by ONT logical ID and port number. The port number is prefixed by a "port identifying letter": g=Gigabit Ethernet, h=HPNA Ethernet, r=video RF, R=video Hot RF, d=DS-1, p=POTS. For example, 10001/p2.

restart sip-rmt-cfg-profile

(E7-20 only) Restarts services using a specified SIP remote configuration profile, causing it to re-read the remote configuration.

Syntax:

```
restart sip-rmt-config-profile <p-name> services
```

Parameters:

p-name	Name of SIP remote configuration profile. This is a text string.

restart web

Restarts provisioned web services.

Syntax:

```
restart web
```

Parameters:

none

retrieve dsl-coefficient

(VDSL2 applications only) Retrieves a DSL coefficient file from a remote file server, and then places it in FLASH on the E7 system.

Also see:

apply dsl-coefficient (on page 78)
remove dsl-coefficient (on page 339)
cancel dsl-coefficient (on page 82)
show dsl-coefficient (on page 578)

Syntax:

```
retrieve dsl-coefficient server <server ID> user <user name> file-
path <path> [forced]
```

Parameters:

server ID	IP address of upgrade server. This is an IP address in "dotted quad" format: "192.168.1.100." Alternatively, "none" can be used to reset the value to "0.0.0.0."
user name	Username on file server. This is a text string.
file-path	Path to DSL VoIP coefficient file on the server. This is a text string.

retrieve dsl-config

(VDSL2 applications only) Retrieves a DSL VoIP configuration file from a remote file server, and then places it in the FLASH on the E7 system.

Syntax:

```
retrieve dsl-config server <server ID> user <user name> file-path
<path> version <version> config-name <instance> [forced]
```

Parameters:

server ID	IP address of upgrade server. This is an IP address in "dotted quad" format: "192.168.1.100." Alternatively, "none" can be used to reset the value to "0.0.0.0."
user name	Username on file server. This is a text string.
file-path	Path to DSL VoIP configuration file on the server. This is a text string.
version	ONT configuration file version. This is a text string.
instance	Logical instance grouping. Valid values: • voip-1 = instance for VoIP (1) • voip-2 = instance for VoIP (2) • voip-3 = instance for VoIP (3) • voip-4 = instance for VoIP (4)

retrieve ont-config

(GPON applications only) Retrieves an ONT configuration file from a remote file server, and then places it in the E7 and ONT memory.

Syntax:

```
retrieve ont-config server <server ID> user <user name> file-path
<path> vendor <vendor ID> version <ONT version> instance <index>
[model|product]

Password to the server
```

Parameters:

server ID	IP address of upgrade server. This is an IP address in "dotted quad" format: "192.168.1.100." Alternatively, "none" can be used to reset the value to "0.0.0.0."
user name	Username on file server. This is a text string.
file-path	Path to ONT configuration file on the server. This is a text string.
vendor ID	ONT vendor ID. This is a text string.
ONT version	ONT configuration file version. This is a text string.
index	Logical index of ONT grouping. Valid values: 2-255 for the logical indes of ONT grouping, or: • voip-1 = instance for VoIP (9) • voip-2 = instance for VoIP (10) • voip-3 = instance for VoIP (11) • voip-4 = instance for VoIP (12) • voip-5 = instance for VoIP (13) • voip-6 = instance for VoIP (14) • voip-7 = instance for VoIP (15) • voip-8 = instance for VoIP (16) • rg-1 = instance for RG (17) • rg-2 = instance for RG (18) • rg-3 = instance for RG (19) • rg-4 = instance for RG (20) • rg-5 = instance for RG (21) • rg-6 = instance for RG (22) • rg-7 = instance for RG (23) • rg-8 = instance for RG (24)
model	ONT model. This is a text string of 16 characters, maximum.

product	ONT product name. Valid values: 1-65535, or two alphanumeric characters.

retrieve ont-release

(GPON applications only) Retrieves an ONT image from a remote system, and then places it in the E7.

Syntax:

```
retrieve ont-release <ont-pkg> server <server ID> user <user name>
password <pswd> directory-path <path> [force|download]
```

Parameters:

ont-pkg	Name of ONT package. You must enter the release name exactly as it appears in the manifestONT.xml file within the release folder. This is a text string.
server ID	IP address of upgrade server. This is an IP address in "dotted quad" format: "192.168.1.100." Alternatively, "none" can be used to reset the value to "0.0.0.0."
user name	Username on upgrade server. This is a text string.
password	Password for the file server. This is a text string.
directory-path	Path name of the ONT release folder in the firmware home directory. This is a text string.
force	Forces the retrieval of the ONT image to the E7, even if that version is already present on the E7.
download	Downloads the ONT image immediately to the ONT memory.

revert *

Reverts a system or E7 line card to a specified software version using the following sequence:

- Changes the default software.
- Resets the system so the specified software is loaded and runs.

When the command is used for an ONT release, the ONT reverts to the previously committed ONT software. No ONT software version is specified.

This command is useful to recover the system, card, or ONT if an upgrade results in undesirable behavior.

Syntax for E7:

```
revert [system|card] version <version ID>

revert ont-release [delete]
```

Syntax for E-series:

```
revert system version <version ID>
```

Parameters:

system	Reverts to previously committed software and database on the system.
card	(E7 only) Reverts to software and database on the specified card. Valid values: Slot number of card shelf/card.
version ID	Software version. This is a software version identifier of the form "a.b.c.d."
ont-release	(E7 only) Reverts to previously committed ONT software.
delete	Removes the ONT release images from the E7 memory.

set access-identifier-profile

Sets the global DHCPv4 L2 Relay Agent (Option 82) and Lightweight DHCPv6 Relay Agent (LDRA) features attributes.

Syntax:

```
set access-identifier-profile <name> remote-id [<user defined format
string>|calix-format|calix-format-2|fsan-serial-number|mac-
addr|subscriber-id|tr101-format|none]

set access-identifier-profile <name> circuit-id [<user defined
format string>|calix-format|calix-format-2|fsan-serial-number|mac-
addr|subscriber-id|tr101-format|none]
```

Parameters:

name	Name of the DHCP Option 82 profile to use. • *eth-system-default* is used by xDSL and GE ports • *gpon-system-default* is used by GPON ONT ports • <*custom-name-string*> is used for custom profiles that may be created, up to 18 additional profiles beyond the system defaults
remote-id	Format type for DHCP Option 82 remote ID and LDRA remote-ID.
circuit-id	Format type for DHCP Option 82 remote ID and LDRA interface-ID.
<user defined string>	A string of tags and characters used to define a custom format for the remote or circuit ID. A maximum string size of 63 characters is supported. For complete details, see the E7 Series (E7 OS) GPON or xDSL Applications Guide.
subscriber-id	Use the subscriber ID as the format type for the DHCP Option 82 remote ID.
fsan-serial-number	Use the FSAN serial number as the format type for the DHCP Option 82 remote ID.

mac-addr	Use the MAC Address (for DOCSIS provisioning) of the port so that the ONT MAC is presented to the DHCP server to validate that the subscriber CPE is connected to a valid ONT virtual Cable Modem (vCM). See the *Calix Open Link Cable vCMTS Command-Line Interface (CLI) Reference Guide* and *Calix Open Link Cable vCMTS SNMP Management Guide* for more information.
calix-format	Upstream (client to server) DHCP packets captured on Untrusted interfaces, will have the Option 82 Relay Agent information inserted in the following format: • For xDSL and GE ports:<system-ID> eth <shelf>/<slot>/<port>:<Vlan-Id>[-<Vlan-Id>] • For GPON ONT ports: <shelf>/<slot>/<port>/<OntID>/<Ontport>:<Vlan-Id>[-<Vlan-Id>]
calix-format-2	Information inserted in the following format: • For xDSL and GE ports: <system-ID>:<shelf>/<slot>/<port> • For GPON ONT ports: <system-ID>:<shelf>/<slot>/<port>/<OntID>/<Ontport>/
tr101-format	Upstream (client to server) DHCP packets captured on Untrusted interfaces, will have the following Option 82 Relay Agent information inserted in the following format: • For xDSL and GE ports:<system-ID> iftype <shelf>/<slot>/tr101port<port>:<cetag> The TR-101 iftype should be either "eth" or "atm" (must be all lower case). The TR-101 cetag should be one of 3 formats: :vpi.vci for DSL lines/groups that are trained in ATM mode (tagged or untagged) :ce-vlan-id for tagged subscribers that are either PTM DSL lines/groups or ONT Null for untagged subscribers that are either PTM DSL lines/groups or ONT • For GPON ONT ports: <shelf>/<slot>/<port>/<OntID><Ontport>:<cetag>[-<tag-Id>]

none	No content inserted

set avo-cfg

(GPON applications only) Set attributes for system analog video overlay configuration.

Syntax:

```
set avo-cfg rfg-only|auto-gain-control|omi-level|low-signal-
threshold
```

Parameters:

rfog-only	Enforces RFoG compliance for only Calix 725GE ONTs on an E7-system basis. Valid values: enabled, disabled.
auto-gain-control	Automatic gain control. Valid values: enabled, disabled.
omi-level	Optical modulation index level (%). This is a numeric value in the range 3.0 to 4.0 (default: 3.5).
low-signal-threshold	Low signal threshold (dBm). This is a numeric value in the range –6 to –13 (default: -6).

set backup

Sets backup attributes.

Syntax:

```
set backup xfer-proto <protocol> port <port ID>
```

Parameters:

xfer-proto	File transfer protocol setting for backups. Valid values are: ftp, sftp, pasv-ftp.
port ID	Set the file transfer port number. Valid values are: numerical value or default: ftp=21, sftp=22).

set bw-profile

Sets attributes for a bandwidth profile that defines the upstream and downstream bandwidth. Bandwidth profiles are applied to an Ethernet service. They define the committed (minimum), peak (maximum), and burst data rates for the service.

Syntax:

```
set bw-profile <p-name> [upstream-cir|upstream-pir|downstream-
pir|upstream-cbs|upstream-pbs|downstream-pbs]
```

Parameters:

p-name	Name of the bandwidth profile. This is a text string.
upstream-cir	Committed information rate for upstream traffic. This is a numeric value in the range 1-2048 Kb/s in 64K increments. Use "m" suffix for Mb/s or "g" for Gb/s in whole number increments. Default = 0 kbps.
upstream-pir	Peak information rate for upstream traffic. This is a numeric value in the range 1-2048 Kb/s in 64K increments. Use "m" suffix for Mb/s or "g" for Gb/s in whole number increments. Default = 0 kbps.
downstream-pir	Peak information rate for downstream traffic. This is a numeric value in the range 1-2048 Kb/s in 64K increments. Use "m" suffix for Mb/s or "g" for Gb/s in whole number increments. Default = 0 kbps.
upstream-cbs	Committed burst size for upstream traffic. This is a numeric value in the range 4-16000 Kb/s. Use "m" suffix for Mb/s in whole number increments.
upstream-pbs	Peak burst size for upstream traffic. This is a numeric value in the range 4-16000 Kb/s. Use "m" suffix for Mb/s in whole number increments.
downstream-pbs	Peak burst size for downstream traffic. This is a numeric value in the range 4-16000 Kb/s. Use "m" suffix for Mb/s in whole number increments.

set card

Sets the line card attributes.

(E7 only) Syntax:

```
set card <slot> [controller|admin-state|type]
```

(VDSL2 only) Syntax:

```
set card <card> vectoring-mode <none|blv|dlv-master|dlv-slave|slv>
```

Parameters:

slot	Slot number of card. This is an index value, a numeric identifier that uniquely identifies this object within the system. Index values start with 1. **Note:** If the E7 system is set to Modular-Chassis mode, the card location is indicated with a shelf/card location. For example, to set the attributes of the card 1 in shelf 2, use the following command: **`set card 2/1`**. For E7-20 SCP cards, indicate a or b. For example, to set the attributes of the SCP-A card, use the following command: **`set card a`**.
controller	(Optional) Whether system can select card to become controller. Valid values: enabled, disabled.
admin-state	(Optional) Admin state of card. Valid values: enabled, disabled.
type	Allows you to change the provisioned card type on card arrival. Valid values: gpon-4, gpon-8, gpon-4r2, vdsl2-48c, vdsl2-48d.
vectoring-mode	Selects the Vectoring Mode for the card. • **blv** sets the card for Board-Level Vectoring mode *E7-2 VDSL2 r2 cards only:* • **dlv-master** sets the card for Dual-Level Master mode • **dlv-slave** sets the card for Dual-Level Slave mode • **slv** sets the card for System-Level Vectoring mode, requiring an external Vectoring Controller Processor in the configuration.

set card-dsl-port

Sets the vectoring attributes for a range of xDSL ports on a card.

Syntax:

```
set card-dsl-port <card/port> to <card/port> join-vectoring-grp|ds-vectoring|us-vectoring|admin-state
set card <card> vectoring-mode <none|blv|dlv-master|dlv-slave|slv>
```

Parameters:

card/port	Slot number of card and port number of xDSL port. **Note:** If the E7 system is set to Modular-Chassis mode, the card location is indicated with a shelf/card location.
join-vectoring-grp	Whether the specified range of xDSL ports are added to the vectoring group. Valid values: yes, no.
ds-vectoring **us-vectoring**	Whether the vectoring is applied in the upstream and downstream directions. Calix recommends that vectoring be set the same for both upstream and downstream directions, either both enabled or both disabled. Valid values: enabled, disabled.
admin-state	Admin state of port. Valid values: enabled, disabled.
vectoring-mode	Selects the Vectoring Mode for the card. • **blv** sets the card for Board-Level Vectoring mode • **dlv-master** sets the card for Dual-Level Master mode • **dlv-slave** sets the card for Dual-Level Slave mode • **slv** sets the card for System-Level Vectoring mode, requiring an external Vectoring Controller Processor in the configuration.

*set class-map **

Sets attributes of a classification map that contains one or more class rules specifying some criteria against which to identify packets. The class map can specify that packets must match all rules in order to be selected, or can match any rule. Policy map objects use a classification map to select packets and perform some action.

Syntax:

```
set class-map <c-map name> option [name|match-type]
```

Parameters:

c-map name	Current name of classification map. This is a text string.
name	New name for classification map. This is a text string.
match-type	Match type. Valid values are: any, all. • **all** results in a map that contains a "match all" criteria. That is, a traffic packet will match the class map criteria if it matches all of the rules in the map. • **any** results in a map that contains a "match any" criteria. That is, a traffic packet will match the class map criteria if it matches any of the rules in the map.

set cos-queue-cfg *

Sets the attributes of a Creates a Class of service (CoS) queue configuration, where you specify a set of eight queues that are applied to one or more Ethernet ports for the purpose of egress shaping. Currently, there is a direct mapping between a VLAN tag's P-bit value and the queues.

Syntax:

```
set cos-queue-cfg <queue name> queue-*-*|port-rate|port-burst-size
```

Parameters:

queue name	Name of COS queue. This is a text string.
queue-1-rate	(Optional) Shaping rate for queue 1. Shaping rates are specified in Mbits/s. Alternatively, the keyword "unshaped" indicates that shaping should not be done on this queue.
queue-1-min-bw	(Optional) Minimum bandwidth for queue 1. Minimum bandwidth is specified in Mbits/s. Alternatively, the keyword "none" indicates that this queue has no minimum bandwidth.
queue-2-rate	(Optional) Shaping rate for queue 2. Shaping rates are specified in Mbits/s. Alternatively, the keyword "unshaped" indicates that shaping should not be done on this queue.
queue-2-min-bw	(Optional) Minimum bandwidth for queue 2. Minimum bandwidth is specified in Mbits/s. Alternatively, the keyword "none" indicates that this queue has no minimum bandwidth.
queue-3-rate	(Optional) Shaping rate for queue 3. Shaping rates are specified in Mbits/s. Alternatively, the keyword "unshaped" indicates that shaping should not be done on this queue.
queue-3-min-bw	(Optional) Minimum bandwidth for queue 3. Minimum bandwidth is specified in Mbits/s. Alternatively, the keyword "none" indicates that this queue has no minimum bandwidth.
queue-4-rate	(Optional) Shaping rate for queue 4. Shaping rates are specified in Mbits/s. Alternatively, the keyword "unshaped" indicates that shaping should not be done on this queue.

queue-4-min-bw	(Optional) Minimum bandwidth for queue 4. Minimum bandwidth is specified in Mbits/s. Alternatively, the keyword "none" indicates that this queue has no minimum bandwidth.
queue-5-rate	(Optional) Shaping rate for queue 5. Shaping rates are specified in Mbits/s. Alternatively, the keyword "unshaped" indicates that shaping should not be done on this queue.
queue-5-min-bw	(Optional) Minimum bandwidth for queue 5. Minimum bandwidth is specified in Mbits/s. Alternatively, the keyword "none" indicates that this queue has no minimum bandwidth.
queue-6-rate	(Optional) Shaping rate for queue 6. Shaping rates are specified in Mbits/s. Alternatively, the keyword "unshaped" indicates that shaping should not be done on this queue.
queue-6-min-bw	(Optional) Minimum bandwidth for queue 6. Minimum bandwidth is specified in Mbits/s. Alternatively, the keyword "none" indicates that this queue has no minimum bandwidth.
queue-7-rate	(Optional) Shaping rate for queue 7. Shaping rates are specified in Mbits/s. Alternatively, the keyword "unshaped" indicates that shaping should not be done on this queue.
queue-7-min-bw	(Optional) Minimum bandwidth for queue 7. Minimum bandwidth is specified in Mbits/s. Alternatively, the keyword "none" indicates that this queue has no minimum bandwidth.
queue-8-rate	(Optional) Shaping rate for queue 8. Shaping rates are specified in Mbits/s. Alternatively, the keyword "unshaped" indicates that shaping should not be done on this queue.
queue-8-min-bw	(Optional) Minimum bandwidth for queue 8. Minimum bandwidth is specified in Mbits/s. Alternatively, the keyword "none" indicates that this queue has no minimum bandwidth.
port-rate	Aggregate shaping rate for the port, specified in Mbps. The allowed range is 1–10000. Alternately, select none to indicate that shaping should not be done.

port-burst-size	Aggregate burst size for port, specified in Kbits. The allowed range is 1 to 128000. Alternately, select auto to automatically calculate the burst size.

set craft-fe

Sets attributes on the craft Fast Ethernet port located on the E7 front panel or the rear panel.

These attributes include basic network information and configuration for the built-in DHCP server. Also see Configuring the Front Craft Ethernet Port and Configuring the Rear Craft Ethernet Port.

Syntax:

```
set craft-fe front [ip|netmask|dhcp-server|dhcp-ip-start|dhci-ip-
end|dhcp-dflt-gw|admin-state]

craft-fe rear [ip|netmask|dhcp-server|dhcp-ip-start|dhci-ip-
end|dhcp-dflt-gw|admin-state]
```

- If the E7 system is set to Modular-Chassis mode, the craft port location is indicated with a shelf/craft-fe location.
  - For example, to set the attributes of the front and rear craft-fe in shelf 2:

    set craft-fe 2/front

    set craft-fe 2/rear
- If the system is an E7-20, the rear craft port location is indicated with a rear/craft-fe location.
  - For example, to set the attributes of the rear craft-fe ports:

    set craft-fe rear-A

    set craft-fe rear-b

Parameters:

ip	(Optional) IP address of craft interface. This is an IP address in "dotted quad" format: "192.168.1.100." Alternatively, "none" can be used to reset the value to "0.0.0.0."
netmask	(Optional) Netmask of craft interface. This is an IP address in "dotted quad" format: "192.168.1.100". Alternatively, "none" can be used to reset the value to "0.0.0.0."
dhcp-server	(Optional) Enable or disable DHCP server. Valid values are: enabled, disabled.
dhcp-ip-start	(Optional) Start address for DHCP clients. This is an IP address in "dotted quad" format: "192.168.1.100". Alternatively, "none" can be used to reset the value to "0.0.0.0."

dhcp-ip-end	(Optional) End address for DHCP client. This is an IP address in "dotted quad" format: "192.168.1.100". Alternatively, "none" can be used to reset the value to "0.0.0.0."
dhcp-dflt-gw	(Optional) Set as DHCP Default Gateway. Valid values are: yes, no.
admin-state	(Optional) Admin state of craft Fast Ethernet interface. Valid values are: enabled, disabled.

set hcp-cfg

Sets system-wide DHCP configuration attributes.

Syntax:

```
set dhcp-cfg [option-82|option-82-policy]
```

Parameters:

option-82	Enable or disable DHCP Option 82 / LDRA. Valid values: enabled, disabled.
option-82-policy	Action to take for DHCP Option 82 on ingress packets. Valid values: drop, overwrite.

set dial-plan

Sets attributes for a voice dial plan.

Syntax:

```
set dial-plan <p-name> [rule|name|digit-short-timer|digit-long-
timer]
```

Parameters:

p-name	Name of dial plan. This is a text string.
rule	Index of rule in dial plan (1-30). Additionally, you can set the attributes of the rule **pattern**. Valid tokens: • ^ Required to match from the start of the dial string • | Required vertical bar (pipe key) as a rule-separating character at the end of each rule in the dial plan • [a-b] Square brackets are used to define options or sub-ranges of allowable digits • {n} Curly brackets are used to define the number of of allowed digits in a string (range match length). Applies only to variable directly preceding it. • * Wild card match - Matches on a variable number of digits • T Variable digit timeout • S Star key on the handset - applies to Vertical Service Codes • c Confirmation tone is played after star code is executed • r Recall tone is played during call forwarding sequence • d Dial tone is played during a call forwarding sequence • , (Comma) Outside dial tone is played if preceded by a 9 • n no local disconnect • # Pound indicator • b /*Must immediately follow '#'*/ Note: The Maximum Network Dial Plan Table size is 100 rows x 28 (2800 bytes). A rule cannot exceed 28 bytes (or characters), because a rule must fit in a single row. The required "|" character at the end of each rule limits the rule to 27 characters. A rule is not allowed to overlap rows.
name	New name for dial plan.
digit-short-timer	Digit short timer, in seconds. Valid values: 1-16.
digit-long-timer	Digit long timer, in seconds. Valid values: 4-20.

set dot1x-cfg

Sets system-wide 802.1x configuration.

Syntax:

```
set dot1x-cfg fallback-policy [deny|permit] interim-updates
[enable|disable] interim-period <period>
```

Parameters:

fallback-policy	802.1x authentication fallback policy. When communication with an authentication server fails, a "fallback" configuration on the authenticator determines the 802.1X authentication behavior. **deny:** Behaves as if the supplicants fail authentication. **permit:** Behaves as if the supplicants are authenticated.
interim-updates	802.1x accounting server interim updates enable/disable.
interim-period	802.1x accounting server interim period in seconds.

set dot1x-profile

Modifies an 802.1x profile that specifies the attributes for the access port when the E-Series is acting as the 802.1x authenticator. The profile is then assigned to the subscriber port before adding an Ethernet service.

Syntax:

```
set dot1x-profile <name> [name|reauth-period|quiet-period|reauth-
timer|max-retries|svr-timeout|retrans-timer]
```

Parameters:

name	Name of Ethernet security profile. This is a text string.
name	New name for the 802.1x profile.
reauth-period	Whether to enable the reauthorization period. The allowed options: enabled, disabled.
quiet-period	Quiet period in seconds. This is the HELD timer, which on expiry, the EAPOL-Request may be sent to a supplicant by the authenticator when the authentication has not been successful on an 802.1X enabled port. The allowed range is 1-65535.
reauth-timer	Reauthorization timer in seconds. This can also be set by the authentication server and takes precedence over the local value. The allowed range is 1-65535.
max-retries	Maximum number of retries. These are authentication attempts before logging a failure of authentication in the system. The "quiet" period is imposed before attempting any more retries after the maximum allowed retries are reached. The allowed range is 1 to 10.
svr-timeout	The allowed range is 1 to 300.
retrans-timer	Retransmit timer in seconds. This is EAPoL packet retransmit timer used by authenticator to retransmit an EAP Request on failure to see a response from the supplicant in the given interval. The retransmit count before indicating a failure to transmit is 3 and this is not configurable. The allowed range is 1-65535.

set dot1x-auth-server

Modifies an 802.1x authentication server configured to the E-Series system for secure network access. You can also configure attributes for the authenticator (E-Series) parameters, using the 802.1x profile.

Syntax:

```
set dot1x-auth-server <priority> [secret|host|port|timeout|retries]
```

Parameters:

priority	The priority order in which the radius servers are accessed. The server is identified by its configured priority. The allowed range is 1 to 100.
secret	The "shared secret" for the E7 and the 802.1x server. This string must match the string configured in the 802.1x server.
host	IP address of the RADIUS server. This is in IPv4 "dotted quad" format: "192.168.1.100".
port	Port number for the RADIUS server. This is a TCP or UDP port number. The allowed range is 1-65535.
timeout	Timeout duration for 802.1x server in seconds. The allowed range is 1-3.
retries	Number of retries for the 802.1x server. These are authentication attempts before logging a failure of authentication in the system. The "quiet" period (specified in the 802.1x profile) is imposed before attempting any more retries after the maximum allowed retries are reached. The allowed range is 1-10.

set dot1x-acct-server

Modifies an 802.1x accounting server configured to the E-Series system.

Syntax:

```
set dot1x-acct-server <priority> [secret|host|port|timeout|retries]
```

Parameters:

priority	The priority order in which the radius servers are accessed. The server is identified by its configured priority. The allowed range is 1 to 100.
secret	The "shared secret" for the E7 and the 802.1x server. This string must match the string configured in the 802.1x server.
host	IP address of the RADIUS server. This is in IPv4 "dotted quad" format: "192.168.1.100". This may be the same address used for the authentication server as long as the port number (below) is unique.
port	Port number for the RADIUS server. This is a TCP or UDP port number. The allowed range is 1-65535.
timeout	Timeout duration for 802.1x server in seconds. The allowed range is 1-3.
retries	Number of retries for the 802.1x server. These are attempts before logging a failure in the system. The "quiet" period (specified in the 802.1x profile) is imposed before attempting any more retries after the maximum allowed retries are reached. The allowed range is 1-10.

set dscp-map

Sets attributes for a DSCP map that allows mapping of layer 3 DSCP bits into layer 2 priority bits.

Syntax:

```
set dscp-map <name>
[default|cs0|af11|af12|af13|af21|af22|af23|cs3|af31|af41|ef|cs6|cs7]
```

Parameters:

name	Name of DSCP map. This is a text string.
default	P-bit value for DSCP default (0). This is a numeric value in the range 0-7 (default: 0).
be	P-bit value for DSCP BE (0). This is a numeric value in the range 0-7 (default: 0).
cs0	P-bit value for DSCP CS0 (0). This is a numeric value in the range 0-7 (default: 0).
af11	P-bit value for DSCP AF11 (10). This is a numeric value in the range 0-7 (default: 0).
af12	P-bit value for DSCP AF12 (12). This is a numeric value in the range 0-7 (default: 0).
af13	P-bit value for DSCP AF13 (14). This is a numeric value in the range 0-7 (default: 0).
af21	P-bit value for DSCP AF21 (18). This is a numeric value in the range 0-7 (default: 0).
af22	P-bit value for DSCP AF22 (20). This is a numeric value in the range 0-7 (default: 0).
af23	P-bit value for DSCP AF23 (22). This is a numeric value in the range 0-7 (default: 0).
cs3	P-bit value for DSCP CS3 (24). This is a numeric value in the range 0-7 (default: 0).
af31	P-bit value for DSCP AF31 (26). This is a numeric value in the range 0-7 (default: 0).
af41	P-bit value for DSCP AF41 (34). This is a numeric value in the range 0-7 (default: 0).
ef	P-bit value for DSCP EF (46). This is a numeric value in the range 0-7 (default: 0).

cs6	P-bit value for DSCP CS6 (48). This is a numeric value in the range 0-7 (default: 0).
cs7	P-bit value for DSCP CS7 (56). This is a numeric value in the range 0-7 (default: 0).

set dsl-bond-interface

(VDSL2 applications only) Sets attributes of a DSL-bond interface.

Syntax:

```
set dsl-bond-interface <intfc-name> [eth-svc|description|subscriber-
id|dscp-p-bit-map|ip-prec-p-bit-map|eth-sec-profile|immediate-
leave|ds-min-rate|us-min-rate|force-dot1x|admin-state]
```

Parameters:

intfc-name	• For E7-2 standalone systems, DSL bonded interfaces are specified by card/interface name. • For E7-2 modular chassis systems, DSL bonded interfaces are specified by shelf/card/interface name.
name	Sets a new name for the DSL bonded interface. This is a text string.
eth-svc	Sets the following attributes for Ethernet services on a xDSL bonded interface. • name • bw-profile • svc-tag-action • outer-vlan • inner-vlan • mcast-profile • description • admin-state
description	Description of the DSL bonded interface. This is a text string.
subscriber-id	Subscriber ID. This is a text string.
dscp-p-bit-map	Name of DSCP to p-bit map to use on ingress. This is a text string.
ip-prec-p-bit-map	Name of IP-precedence to P-bit map to use on ingress. This is a text string.
eth-sec-profile	Name of the security profile to use. This is a text string.
immediate-leave	Enable or disable IGMP immediate leave. Valid values: enabled, disabled, use-vlan-setting.
ds-min-rate	Downstream minimum rate Kb/s, or use "m" suffix for Mb/s. Valid values: 1-512000, none.

us-min-rate	Upstream minimum rate Kb/s, or use "m" suffix for Mb/s. Valid values: 1-512000.
force-dot1x	(Optional) An 802.1x supplicant attribute to force the supplicant to be unauthorized or authorized until the force attribute is set to none. Valid values: none, authorized, unauthorized.
admin-state	Admin state of the port. Valid values: enabled, disabled.

set dsl-port * advanced

(VDSL2 applications only) Sets advanced attributes of an xDSL port.

Syntax:

```
set dsl-port <port> advanced [ptm-override|ds-rate-adapt-mode|us-
rate-adapt-mode|ds-downshift-adapt-margin|ds-upshift-adapt-
margin|us-downshift-adapt-margin|us-upshift-adapt-margin|ds-
downshift-adapt-time|ds-upshift-adapt-time|us-downshift-adapt-
time|us-upshift-adapt-time|ds-enhanced-inp|us-enhanced-inp|ds-ginp-
minetr|us-ginp-minetr|ds-ginp-maxndr|us-ginp-maxndr|ds-ginp-
delaymax|us-ginp-delaymax|ds-ginp-inpmin-shine|us-ginp-inpmin-
shine|ds-ginp-shineratio|us-ginp-shineratio|ds-ginp-inpmin-rein|us-
ginp-inpmin-rein|ds-ginp-iat-rein|us-ginp-iat-rein|atm-header-
compress]
```

Parameters:

port	• For E-series systems, DSL ports are specified by 1/port. • For E7-2 standalone systems, DSL ports are specified by card/port. • For E7-2 modular chassis systems, DSL ports are specified by shelf/card/port.
ptm-override	PTM override mode for DSL port. Valid values: auto, atm, ptm.
ds-rate-adapt-mode **us-rate-adapt-mode**	Downstream or upstream rate adaptation mode for DSL port. Valid values: init, dynamic.
ds-downshift-adapt-margin **us-downshift-adapt-margin**	Downstream or upstream downshift rate adaptation margin (dB, in .1 dB increments). This is a numeric value 0.0-31.0 (default: 9.0).
ds-upshift-adapt-margin **us-upshift-adapt-margin**	Downstream or upstream upshift rate adaptation margin (dB, in .1 dB increments). This is a numeric value in the range (0.0-31.0 default: 3.0).
ds-downshift-adapt-time **us-downshift-adapt-time**	Downstream or upstream downshift rate adaptation time (sec). This is a numeric value in the range 0-16383 (default: 60).
ds-upshift-adapt-time **us-upshift-adapt-time**	Downstream or upstream upshift rate adaptation time (sec). This is a numeric value in the range 0-16383 (default: 60).
ds-enhanced-inp **us-enhanced-inp**	Downstream or upstream enhanced impulse noise protection mode. Valid values: none, phyr, phyr-fixed.

ds-ginp-minetr **us-ginp-minetr**	Downstream or upstream minimum effective throughput (Kbps, in 1 Kbps increments). This is a numeric value in the range 32-512000 (default: 32).
ds-ginp-maxndr **us-ginp-maxndr**	Downstream or upstream maximum net data rate (Kbps, in 1 Kbps increments). This is a numeric value in the range 32-512000 (default: 128000).
ds-ginp-delaymax **us-ginp-delaymax**	Downstream or upstream maximum allowed delay for retransmission. (ms, in 1 ms increments). This is a numeric value in the range 1-63 (default: 20).
ds-ginp-inpmin-shine **us-ginp-inpmin-shine**	Downstream or upstream minimum impulse noise protection against SHINE (symbols). This is a numeric value in the range 0-63 (default: 4).
ds-ginp-shineratio **us-ginp-shineratio**	Downstream or upstream SHINE Ratio (NDR, in .001 increments). This is a numeric value in the range 0.000-0.100 (default: 0.010).
ds-ginp-inpmin-rein **us-ginp-inpmin-rein**	Downstream or upstream minimum impulse noise protection against REIN (symbols). This is a numeric value in the range 0-7 (default: 0).
ds-ginp-iat-rein **us-ginp-iat-rein**	Downstream or upstream REIN inter-arrival time (Hz). Valid values: 100, 120.
atm-header-compress	ATM header compression Valid values are: enabled, disabled.

set dsl-port * basic

(VDSL2 applications only) Sets the basic attributes of a DSL port.

Syntax:

```
set dsl-port <port> basic [dsl-bond-interface|service-type|path-
latency|fallback-vpi|fallback-vci|vdsl-profile|report-events|power-
save|power-save-timeout|description|ds-min-rate|ds-max-rate|us-min-
rate|us-max-rate|dsl-gos|eth-gos|ds-min-inp|us-min-inp|ds-intrlv-
max-latency|us-intrlv-max-latency|ds-min-snr|ds-max-snr|ds-target-
snr|us-min-snr|us-max-snr|us-target-snr|admin-state]
```

Parameters:

port	• For E-series systems, DSL ports are specified by 1/port. • For E7-2 standalone systems, DSL ports are specified by card/port. • For E7-2 modular chassis systems, DSL ports are specified by shelf/card/port.
dsl-bond-interface	Name of DSL bonded interface of which to add this port as a member. This is a text string.
service-type	Service type for DSL port. Valid values: auto, mm mm2+ t1.413, g.dmt, g.lite, adsl2, adsl2+, readsl2, annexm, vdsl2, vdsl2mm.
path-latency	Path latency for DSL port. Valid values are: fast interleaved.
fallback-vpi	Fallback VPI for DSL port. This is a numeric value in the range (0-255 default: 0).
fallback-vci	Fallback VCI for DSL port. This is a numeric value in the range 32-65535 (default: 35).
vdsl-profile	VDSL profile for DSL port. Valid values: auto, 8a, 8b, 8c, 8d, 12a, 12b, 17a
report-events	Report events for DSL port. Valid values: enabled, disabled.
power-save	Enables the xDSL port power save feature. Valid values: enabled, disabled.
power-save-timeout	Configures the amount of time in minutes before the xDSL port enters power save mode after the AC power is interrupted. Valid values: 0-480.
description	Description of DSL port. This is a text string.

ds-min-rate **us-min-rate**	Minimum downstream or upstream rate for DSL port (Kb/s, or use "m" suffix for Mb/s). This is a numeric value in the range 0-512000 (default: 384).
ds-max-rate **us-max-rate**	Maximum downstream or upstream rate for DSL port (Kb/s, or use "m" suffix for Mb/s). This is a numeric value in the range 64-512000 (default: 100000).
dsl-gos	Index of DSL GOS profile to use. This is an index value, a numeric identifier that uniquely identifies this object within the system. Index values start with 1.
eth-gos	Index of Ethernet GOS profile to use. This is an index value, a numeric identifier that uniquely identifies this object within the system. Index values start with 1.
ds-min-inp **us-min-inp**	Minimum downstream or upstream impulse noise protection. Valid values: 0, 0.5, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16.
ds-intrlv-max-latency **us-intrlv-max-latency**	Downstream or upstream interleave maximum latency (msec). This is an integer value 1-63. Alternatively, the keyword "auto" indicates that the interleave latency is automatically determined by the system.
ds-min-snr **us-min-snr**	Minimum downstream or upstream SNR margin (dB, in .1 dB increments). This is a decimal value in the range 0.0-31.0.
ds-max-snr **us-max-snr**	Maximum downstream or upstream SNR margin (dB, in .1 dB increments). This is a decimal value in the range 0.0-31.0.
ds-target-snr **us-target-snr**	Target downstream or upstream SNR margin (dB, in .1 dB increments). This is a decimal value in the range 0.0-31.0.
admin-state	Admin state of the port. Valid values: enabled, disabled.

set dsl-port * defaults

(VDSL2 applications only) Sets DSL port attributes back to default values.

Syntax:

```
set dsl-port <port>
```

Parameters:

port	• For E-series systems, DSL ports are specified by port. • For E7-2 standalone systems, DSL ports are specified by card/port. • For E7-2 modular chassis systems, DSL ports are specified by shelf/card/port.

set dsl-port * psd

(VDSL2 applications only) Sets the power spectral density attributes of a DSL port.

Syntax:

```
set dsl-port <port> psd [mask|upbo-band-*-*|upbo-k10|dpbo-bp-*|dpbo-
esel|dpbo-escm-*|dpbo-mus|dpbo-fmin|dpbo-fmax|rfi-band-*|gap-band-
*|ds-vectoring|us-vectoring|join-vectoring-grp]
```

Parameters:

port	• For E-series systems, DSL ports are specified by port. • For E7-2 standalone systems, DSL ports are specified by card/port. • For E7-2 modular chassis systems, DSL ports are specified by shelf/card/port.

mask	Power spectral density mask. A PSD limit mask describes how the xDSL port and modem (CPE) will cap power across the range of transmit frequencies. By changing the PSD limit mask, a particular transmission scheme can be shaped so as to coexist with different underlying technologies (e.g. POTS or ISDN) on the same wire pair. In addition, you can select a VDSL QAM PSD mask. Developed by Calix in cooperation with Broadcom, this limit mask is compatible with QAM-based VDSL, which was widely deployed by older NextLevel Communications (NLC) systems and known as Classic VDSL. With this limit mask, both VDSL2 and VDSL1 QAM technologies can coexist in the same copper loop binder group. Valid values: • a-nus0 (VDSL2, Annex A, POTS compatibility, do not use band US0) • a-eu-32, a-eu-36, a-eu-40, a-eu-44, a-eu-48, a-eu-52, a-eu-56, a-eu-60, a-eu-64, a-eu-128, (VDSL2, Annex A, POTS compatibility, end US0 on subcarrier specified) • a-adlu-32, a-adlu-36, a-adlu-40, a-adlu-44, a-adlu-48, a-adlu-52, a-adlu-56, a-adlu-60, a-adlu-64, a-adlu-128, (VDSL2, Annex A, All Digital, end US0 on subcarrier specified) • b8-1, b8-4 (VDSL2, Annex B, 12 MHz, US0 as in ADSL2+ annex A) • b8-2, b8-6 (VDSL2, Annex B, 12 MHz, US0 as in ADSL2+ annex B) • b8-3, b8-7 (VDSL2, Annex B, 12 MHz, does not use US0) • b8-5 (VDSL2, Annex B, 12 MHz, US0 as in ADSL2/2+ annex M) • b8-6 (VDSL2, Annex B, 12 MHz, US0 as in ADSL2+ annex B) • b8-8, b8-9, b8-10 (VDSL2, Annex B, 17 MHz, does not use US0) • b8-11 (VDSL2, Annex B, 17 MHz, US0 as in ADSL2+ annex A) • b8-12 (VDSL2, Annex B, 17 MHz, US0 as in ADSL2+ annex B) • b7-1 (VDSL2, Annex B, 7 MHz, US0 as in ADSL2+ annex A) • b7-2, b7-4 (VDSL2, Annex B, 8.8 MHz, US0 as in ADSL2/2+ annex M) • b7-3 (VDSL2, Annex B, 12 MHz, US0 as in ADSL2/2+ annex M) • b7-5 (VDSL2, Annex B, 12 MHz, US0 as in ADSL2+ annex A) • b7-6 (VDSL2, Annex B, 12 MHz, US0 as in ADSL2/2+ annex M) • b7-7 (VDSL2, Annex B, 17.6 MHz, does not use US0) • b7-9 (VDSL2, Annex B, 17.6 MHz, US0 as in ADSL2+ annex A) • c-138-co (VDSL2, Annex C, 12 MHz, DS1 breaks at 138 kHz, type: co) • c-276-co (VDSL2, Annex C, 12 MHz, DS1 breaks at 276 kHz, type: co) • c-vdsl1-qam-compatible (Calix-specific mask. Allows VDSL2 to coexist in the same binder as VDSL1 QAM.)

upbo-band-*-*	Upstream PBO in the specified band (1-4) and reference PSD parameter (a, b) in dBm/Hz. This is a numeric value in the range 40.00-80.95 (default 40.00).
upbo-kl0	Upstream PBO electrical length, in dB. This is a numeric value in the range 0.0-128.0 (default: no-force).
dpbo-bp-*	Specified downstream PBO breakpoint (1-16), subcarrier index (spaced at 4.3125 kHz) and PSD mask level, in dBm/Hz. Index is an integer value in the range 1-69560. PSD is a decimal value in the range 0.0--127.5. Alternatively, the keyword "unused"indicates that this breakpoint is not to be used for this port.
dpbo-esel	Downstream PBO, exchange-to cabinet electrical length, in dB. This is a numeric value in the range 0.0-255.5 (default: 0.0).
dpbo-escm-*	Downstream PBO, for specified exchange-side cable model parameter (a, b, or c) in dB. This is a numeric value in the range -1.0-1.5.
dpbo-mus	Downstream PBO, minimum usable receive PSD mask, in dBm/Hz. This is a numeric value in the range 0.0-127.5 (default: 0.0).
dpbo-fmin	Downstream PBO minimum subcarrier index. This is a numeric value in the range 0-2048 (default: 0).
dpbo-fmax	Downstream PBO maximum subcarrier index. This is a numeric value in the range 32-6956 (default: 6956).
rfi-band-*	Specified RFI band (1-16) frequency range, in kHz. This is a range of integers (separated by a dash with ranges of 0-1000000. Alternatively, the keyword "unused" indicates that this band is not to be used for this port.
gap-band-*	Specified gap band (1-4) frequency range, in kHz. This is a range of integers (separated by a dash with ranges of 0-1000000. Alternatively, the keyword "unused" indicates that this band is not to be used for this port.
ds-vectoring	Whether to enable downstream vectoring. Calix recommends that vectoring be enabled or disabled for both upstream and downstream.

us-vectoring	Whether to enable upstream vectoring. Calix recommends that vectoring be enabled or disabled for both upstream and downstream.
join-vectoring-grp	Whether the port is added to the vectoring group. Valid values: yes, no.

set dsl-port-gos

(VDSL2 applications only) Sets attributes of a DSL port grade-of-service (GOS) profile. A grade-of-service profile allows users to specify reporting thresholds for certain monitored attributes of a DSL port. Any time a particular count exceeds the specified theshold within a certain period (either 15 minutes or one day), a threshold crossing alert is generated.

GOS profiles are always referenced by a unique index number assigned using this command. A profile can be assigned to a specified DSL port by using the "**`set dsl-port * basic dsl-gos *`**" command.

Syntax:

```
set dsl-port-gos <gos index> [cv-c|cv-cfe*|fec-c*|fec-cfe*|fec-
l*|fec-lfe*|es-l*|es-lfe*|ses-l*|ses-lfe*|loss-l*|loss-lfe*|uas-
l*|uas-lfe*|init-l*|linit-l*|crc*|cv*]
```

Parameters:

gos index	A numeric index value, uniquely identifying the DSL port GOS profile object within the system. Index values start with 1.
cv-c-15-min **cv-c-1-day**	(Optional) Number of code violations (channel) in a 15-minute or 1-day period. GOS thresholds are in the range of 0-1000000000 and 0-1000000000000, respectively.
cv-cfe-15-min **cv-cfe-1-day**	(Optional) Number of code violations (channel far end) in a 15-minute or 1-day period. GOS thresholds are in the range of 0-1000000000 and 0-1000000000000, respectively.
fec-c-15-min **fec-c-1-day**	(Optional) Number of forward error corrections (channel) in a 15-minute or 1-day period.GOS thresholds are in the range of 0-1000000000 and 0-1000000000000, respectively.
fec-cfe-15-min **fec-cfe-1-day**	(Optional) Number of forward error corrections (channel far end) in a 15-minute or 1-day period. GOS thresholds are in the range of 0-1000000000 and 0-1000000000000, respectively.
fec-l-15-min **fec-l-1-day**	(Optional) Number of forward error corrections (line) in a 15-minute or 1-day period.GOS thresholds are in the range of 0-1000000000 and 0-1000000000000, respectively.

fec-lfe-15-min **fec-lfe-1-day**	(Optional) Number of forward error corrections (line far end) in a 15-minute or 1-day period.GOS thresholds are in the range of 0-1000000000 and 0-1000000000000, respectively.
es-l-15-min **es-l-1-day**	(Optional) Number of errored seconds (line) in a 15-minute or 1-day period. GOS thresholds are in the range of 0-1000000000 and 0-1000000000000, respectively.
es-lfe-15-min **es-lfe-1-day**	(Optional) Number of errored seconds (line far end) in a 15-minute or 1-day period.GOS thresholds are in the range of 0-1000000000 and 0-1000000000000, respectively.
ses-l-15-min **ses-l-1-day**	(Optional) Number of severely errored seconds (line) in a 15-minute or 1-day period.GOS thresholds are in the range of 0-1000000000 and 0-1000000000000, respectively.
ses-lfe-15-min **ses-lfe-1-day**	(Optional) Number of severely errored seconds (line far end) in a 15-minute or 1-day period. GOS thresholds are in the range of 0-1000000000 and 0-1000000000000, respectively.
loss-l-15-min **loss-l-1-day**	(Optional) Number of loss of signal seconds (line) in a 15-minute or 1-day period.GOS thresholds are in the range of 0-1000000000 and 0-1000000000000, respectively.
loss-lfe-15-min **loss-lfe-1-day**	(Optional) Number of loss of signal seconds (line far end) in a 15-minute or 1-day period. GOS thresholds are in the range of 0-1000000000 and 0-1000000000000, respectively.
uas-l-15-min **uas-l-1-day**	(Optional) Number of unavailable seconds (line) in a 15-minute or 1-day period. GOS thresholds are in the range of 0-1000000000 and 0-1000000000000, respectively.
uas-lfe-15-min **uas-lfe-1-day**	(Optional) Number of unavailable seconds (line far end) in a 15-minute or 1-day period. GOS thresholds are in the range of 0-1000000000 and 0-1000000000000, respectively.
init-l-15-min **init-l-1-day**	(Optional) Number of full initializations (line) in a 15-minute or 1-day period. GOS thresholds are in the range of 0-1000000000 and 0-1000000000000, respectively.

linit-l-15-min **linit-l-1-day**	(Optional) Number of failed full initializations (line) in a 15-minute or 1-day period. GOS thresholds are in the range of 0-1000000000 and 0-1000000000000, respectively.
crc-15-min **crc-1-day**	(Optional) Number of CRC errors in a 15-minute or 1-day period. GOS thresholds are in the range of 0-1000000000 and 0-1000000000000, respectively.
cv-15-min **cv-1-day**	(Optional) Number of coding violations in a 15-minute or 1-day period. GOS thresholds are in the range of 0-1000000000 and 0-1000000000000, respectively.

set dsl-template * advanced

(VDSL2 applications only) Sets advanced parameters in a DSL port template.

Syntax:

```
set dsl-template <name> name <new-name>

set dsl-template <name> advanced [ptm-override|ds-rate-adapt-
mode|us-rate-adapt-mode|ds-downshift-adapt-margin|ds-upshift-adapt-
margin|us-downshift-adapt-margin|us-upshift-adapt-margin|ds-
downshift-adapt-time|ds-upshift-adapt-time|us-downshift-adapt-
time|us-upshift-adapt-time|ds-enhanced-inp|us-enhanced-inp|ds-ginp-
minetr|us-ginp-minetr|ds-ginp-maxndr|us-ginp-maxndr|ds-ginp-
delaymax|us-ginp-delaymax|ds-ginp-inpmin-shine|us-ginp-inpmin-
shine|ds-ginp-shineratio|us-ginp-shineratio|ds-ginp-inpmin-rein|us-
ginp-inpmin-rein|ds-ginp-iat-rein|us-ginp-iat-rein|atm-header-
compress]
```

Parameters:

ptm-override	PTM override mode for DSL port. Valid values: auto, atm, ptm.
ds-rate-adapt-mode **us-rate-adapt-mode**	Downstream or upstream rate adaptation mode for DSL port. Valid values: init, dynamic.
ds-downshift-adapt-margin **us-downshift-adapt-margin**	Downstream or upstream downshift rate adaptation margin (dB, in .1 dB increments). This is a numeric value 0.0-31.0 (default: 9.0).
ds-upshift-adapt-margin **us-upshift-adapt-margin**	Downstream or upstream upshift rate adaptation margin (dB, in .1 dB increments). This is a numeric value in the range (0.0-31.0 default: 3.0).
ds-downshift-adapt-time **us-downshift-adapt-time**	Downstream or upstream downshift rate adaptation time (sec). This is a numeric value in the range 0-16383 (default: 60).
ds-upshift-adapt-time **us-upshift-adapt-time**	Downstream or upstream upshift rate adaptation time (sec). This is a numeric value in the range 0-16383 (default: 60).
ds-enhanced-inp **us-enhanced-inp**	Downstream or upstream enhanced impulse noise protection mode. Valid values: none, g.inp, phyr, phyr-fixed.
ds-ginp-minetr **us-ginp-minetr**	Downstream or upstream minimum effective throughput (Kbps, in 1 Kbps increments). This is a numeric value in the range 32-512000 (default: 32).

ds-ginp-maxndr **us-ginp-maxndr**	Downstream or upstream maximum net data rate (Kbps, in 1 Kbps increments). This is a numeric value in the range 32-512000 (default: 128000).
ds-ginp-delaymax **us-ginp-delaymax**	Downstream or upstream maximum allowed delay for retransmission. (ms, in 1 ms increments). This is a numeric value in the range 1-63 (default: 20).
ds-ginp-inpmin-shine **us-ginp-inpmin-shine**	Downstream or upstream minimum impulse noise protection against SHINE (symbols). This is a numeric value in the range 0-63 (default: 4).
ds-ginp-shineratio **us-ginp-shineratio**	Downstream or upstream SHINE Ratio (NDR, in .001 increments). This is a numeric value in the range 0.000-0.100 (default: 0.010).
ds-ginp-inpmin-rein **us-ginp-inpmin-rein**	Downstream or upstream minimum impulse noise protection against REIN (symbols). This is a numeric value in the range 0-7 (default: 0).
ds-ginp-iat-rein **us-ginp-iat-rein**	Downstream or upstream REIN inter-arrival time (Hz). Valid values: 100, 120.
atm-header-compress	ATM header compression Valid values are: enabled, disabled.

set dsl-template * basic

(VDSL2 applications only) Sets basic parameters in a DSL port template.

Syntax:

```
set dsl-template <name> name <new-name>

set dsl-template <name> basic [dsl-bond-interface|service-type|path-
latency|fallback-vpi|fallback-vci|vdsl-profile|report-events|power-
save|power-save-timeout|description|ds-min-rate|ds-max-rate|us-min-
rate|us-max-rate|dsl-gos|eth-gos|ds-min-inp|us-min-inp|ds-intrlv-
max-latency|us-intrlv-max-latency|ds-min-snr|ds-max-snr|ds-target-
snr|us-min-snr|us-max-snr|us-target-snr|admin-state]
```

Parameters:

dsl-bond-interface	Name of DSL bonded interface of which to add this port as a member. This is a text string.

service-type	Service type for DSL port. Valid values: auto, mm mm2+ t1.413, g.dmt, g.lite, adsl2, adsl2+, readsl2, annexm, vdsl2, vdsl2mm. Service type for DSL port. Valid values: auto: ADSL1/2/2+/VDSL2, North America, POTS mm: ADSL1 multi-mode, North America, POTS mm2+: ADSL1/2/2+ multi-mode, North America, POTS t1.413: ANSI T1.413, North America, POTS g.dmt: G.DMT, Annex-A, North America, POTS g.lite: G.Lite, North America, POTS adsl2: ADSL2, Annex-A, North America, POTS adsl2+: ADSL2/ReADSL2/ADSL2+, North America, POTS adsl2/2+: ADSL2/ADSL2+, North America, POTS readsl2: ADSL2/ReADSL2 (Annex-L), North America, POTS annexm: ADSL1/2/2+/Annex-M, North America, POTS vdsl2: VDSL2 (all annexes) vdsl2mm: ADSL2/2+/VDSL2 multi-mode, North America, POTS auto-isdn: ADSL1/2/2+/VDSL2, Europe, ISDN mm-isdn: ADSL1 multi-mode, Europe, ISDN mm2+-isdn: ADSL1/2/2+ multi-mode, Europe, ISDN etsi: ETSI TS 101 388, Europe, ISDN g.dmt-isdn: G.DMT, Annex-B, Europe, ISDN adsl2-isdn: ADSL2, Annex-B, Europe, ISDN adsl2+-isdn: ADSL2+, Annex-B, Europe, ISDN vdsl2mm-isdn: ADSL2/2+/VDSL2 multi-mode, Europe, ISDN

path-latency	Path latency for DSL port. Valid values are: fast interleaved.
fallback-vpi	Fallback VPI for DSL port. This is a numeric value in the range (0-255 default: 0).
fallback-vci	Fallback VCI for DSL port. This is a numeric value in the range 32-65535 (default: 35).
vdsl-profile	VDSL profile for DSL port. Valid values: auto, 8a, 8b, 8c, 8d, 12a, 12b, 17a
report-events	Report events for DSL port. Valid values: enabled, disabled.
power-save	Enables the xDSL port power save feature. Valid values: enabled, disabled.
power-save-timeout	Configures the amount of time in minutes before the xDSL port enters power save mode after the AC power is interrupted. Valid values: 0-480.
description	Description of DSL port. This is a text string.
ds-min-rate **us-min-rate**	Minimum downstream or upstream rate for DSL port (Kb/s, or use "m" suffix for Mb/s). This is a numeric value in the range 0-512000 (default: 384).
ds-max-rate **us-max-rate**	Maximum downstream or upstream rate for DSL port (Kb/s, or use "m" suffix for Mb/s). This is a numeric value in the range 64-512000 (default: 100000).
dsl-gos	Index of DSL GOS profile to use. This is an index value, a numeric identifier that uniquely identifies this object within the system. Index values start with 1.
eth-gos	Index of Ethernet GOS profile to use. This is an index value, a numeric identifier that uniquely identifies this object within the system. Index values start with 1.
ds-min-inp **us-min-inp**	Minimum downstream or upstream impulse noise protection. Valid values: 0, 0.5, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16.
ds-intrlv-max-latency **us-intrlv-max-latency**	Downstream or upstream interleave maximum latency (msec). This is an integer value 1-63. Alternatively, the keyword "auto" indicates that the interleave latency is automatically determined by the system.

ds-min-snr **us-min-snr**	Minimum downstream or upstream SNR margin (dB, in .1 dB increments). This is a decimal value in the range 0.0-31.0.
ds-max-snr **us-max-snr**	Maximum downstream or upstream SNR margin (dB, in .1 dB increments). This is a decimal value in the range 0.0-31.0.
ds-target-snr **us-target-snr**	Target downstream or upstream SNR margin (dB, in .1 dB increments). This is a decimal value in the range 0.0-31.0.
admin-state	Admin state of the port. Valid values: enabled, disabled.

set dsl-template * psd

(VDSL2 applications only) Sets power spectral density parameters in a DSL port template.

Syntax:

```
set dsl-template <name> name <new-name>

set dsl-template <name> psd [mask|upbo-band-*-*|upbo-k10|dpbo-bp-
*|dpbo-esel|dpbo-escm-*|dpbo-mus|dpbo-fmin|dpbo-fmax|rfi-band-*|gap-
band-*|ds-vectoring|us-vectoring|dsl-vectoring-grp]
```

Parameters:

name	Name of DSL port template.
new-name	New name of DSL port template.

mask	Power spectral density mask. Valid values: • a-nus0 (VDSL2, Annex A, POTS compatibility, do not use band US0) • a-eu-32, a-eu-36, a-eu-40, a-eu-44, a-eu-48, a-eu-52, a-eu-56, a-eu-60, a-eu-64, a-eu-128, (VDSL2, Annex A, POTS compatibility, end US0 on subcarrier specified) • a-adlu-32, a-adlu-36, a-adlu-40, a-adlu-44, a-adlu-48, a-adlu-52, a-adlu-56, a-adlu-60, a-adlu-64, a-adlu-128, (VDSL2, Annex A, All Digital, end US0 on subcarrier specified) • b8-1, b8-4 (VDSL2, Annex B, 12 MHz, US0 as in ADSL2+ annex A) • b8-2, b8-6 (VDSL2, Annex B, 12 MHz, US0 as in ADSL2+ annex B) • b8-3, b8-7 (VDSL2, Annex B, 12 MHz, does not use US0) • b8-5 (VDSL2, Annex B, 12 MHz, US0 as in ADSL2/2+ annex M) • b8-6 (VDSL2, Annex B, 12 MHz, US0 as in ADSL2+ annex B) • b8-8, b8-9, b8-10 (VDSL2, Annex B, 17 MHz, does not use US0) • b8-11 (VDSL2, Annex B, 17 MHz, US0 as in ADSL2+ annex A) • b8-12 (VDSL2, Annex B, 17 MHz, US0 as in ADSL2+ annex B) • b7-1 (VDSL2, Annex B, 7 MHz, US0 as in ADSL2+ annex A) • b7-2, b7-4 (VDSL2, Annex B, 8.8 MHz, US0 as in ADSL2/2+ annex M) • b7-3 (VDSL2, Annex B, 12 MHz, US0 as in ADSL2/2+ annex M) • b7-5 (VDSL2, Annex B, 12 MHz, US0 as in ADSL2+ annex A) • b7-6 (VDSL2, Annex B, 12 MHz, US0 as in ADSL2/2+ annex M) • b7-7 (VDSL2, Annex B, 17.6 MHz, does not use US0) • b7-9 (VDSL2, Annex B, 17.6 MHz, US0 as in ADSL2+ annex A) • c-138-co (VDSL2, Annex C, 12 MHz, DS1 breaks at 138 kHz, type: co) • c-276-co (VDSL2, Annex C, 12 MHz, DS1 breaks at 276 kHz, type: co) • vdsl1-qam-compatible (Calix-specific mask. Allows VDSL2 to coexist in the same binder as VDSL1 QAM.)
upbo-band-*-*	Upstream PBO in the specified band (1-4) and reference PSD parameter (a, b) in dBm/Hz. This is a numeric value in the range 40.00-80.95 (default 40.00).
upbo-kl0	Upstream PBO electrical length, in dB. This is a numeric value in the range 0.0-128.0 (default: no-force).

dpbo-bp-*	Specifies a list of up to 16 breakpoints that define the Power Spectral Density Limit Mask being used at the exchange site (reference G.997.1, section 7.3.1.2.13, DPBOEPSD). For example, if the exchange site is using ADSL2+, Annex-A, non-overlapped, these breakpoints should be set to match the diagram in G.992.5, section A.1.3, figure A.2/G.992.5. Each breakpoint is defined by a frequency:psd pair, where frequency is in kHz and psd is in dBm/Hz. The system rounds the input values to the nearest subcarrier (spaced at 4.3125 kHz). The power will be rounded to the nearest 0.5 dBm/Hz. Alternatively, the keyword "unused"indicates that this breakpoint is not to be used for this port.
dpbo-esel	Downstream PBO, exchange-to cabinet electrical length, in dB. This is a numeric value in the range 0.0-255.5 (default: 0.0).
dpbo-escm-*	Downstream PBO, for specified exchange-side cable model parameter (a, b, or c) in dB. This is a numeric value in the range -1.0-1.5.
dpbo-mus	Downstream PBO, minimum usable receive PSD mask, in dBm/Hz). This is a numeric value in the range 0.0--127.5 (default: 0.0).
dpbo-fmin	Downstream PBO minimum subcarrier index. This is a numeric value in the range 0-2048 (default: 0).
dpbo-fmax	Downstream PBO maximum subcarrier index. This is a numeric value in the range 32-6956 (default: 6956).
rfi-band-*	Specifies the start-stop frequencies (in KHz) for RFI bands 1 to 16 where each frequency is an integer and has a resolution of 1 kHz. These frequencies define the limits of a low-power band. The system converts the input values to the closest encompassing DMT subcarrier pair (i.e. multiples of 4.3125 kHz). The default value is 0 (unused). This is a range of integers is separated by a dash with ranges of 0-1000000. Alternatively, the keyword "unused" indicates that this band is not to be used for this port.

gap-band-*	A GAP band is entered as a start-stop frequency pair where each frequency is an integer and has a resolution of 1 kHz. These frequencies define the limits of a no-power band. The system converts the input values to the closest encompassing DMT subcarrier pair (i.e. multiples of 4.3125 kHz). The default value is 0 (unused). This is a range of integers is separated by a dash with ranges of 0-1000000. Alternatively, the keyword "unused" indicates that this band is not to be used for this port.
ds-vectoring	Whether to enable downstream vectoring.
us-vectoring	Whether to enable upstream vectoring.
dsl-vectoring-grp	Vectoring group selection.

set dsl-vectoring-group

(VDSL2 applications only) Sets parameters in a DSL vectoring group.

Syntax:

```
set dsl-vectoring-group <name> [psd-mask <mask>]
```

Parameters:

name	Name of DSL vectoring group.
mask	Power spectral density mask. Valid values: • a-nus0 (VDSL2, Annex A, POTS compatibility, do not use band US0) • a-eu-32, a-eu-36, a-eu-40, a-eu-44, a-eu-48, a-eu-52, a-eu-56, a-eu-60, a-eu-64, a-eu-128, (VDSL2, Annex A, POTS compatibility, end US0 on subcarrier specified) • a-adlu-32, a-adlu-36, a-adlu-40, a-adlu-44, a-adlu-48, a-adlu-52, a-adlu-56, a-adlu-60, a-adlu-64, a-adlu-128, (VDSL2, Annex A, All Digital, end US0 on subcarrier specified) • b8-1, b8-4 (VDSL2, Annex B, 12 MHz, US0 as in ADSL2+ annex A) • b8-2, b8-6 (VDSL2, Annex B, 12 MHz, US0 as in ADSL2+ annex B) • b8-3, b8-7 (VDSL2, Annex B, 12 MHz, does not use US0) • b8-5 (VDSL2, Annex B, 12 MHz, US0 as in ADSL2/2+ annex M) • b8-6 (VDSL2, Annex B, 12 MHz, US0 as in ADSL2+ annex B) • b8-8, b8-9, b8-10 (VDSL2, Annex B, 17 MHz, does not use US0) • b8-11 (VDSL2, Annex B, 17 MHz, US0 as in ADSL2+ annex A) • b8-12 (VDSL2, Annex B, 17 MHz, US0 as in ADSL2+ annex B) • b7-1 (VDSL2, Annex B, 7 MHz, US0 as in ADSL2+ annex A) • b7-2, b7-4 (VDSL2, Annex B, 8.8 MHz, US0 as in ADSL2/2+ annex M) • b7-3 (VDSL2, Annex B, 12 MHz, US0 as in ADSL2/2+ annex M) • b7-5 (VDSL2, Annex B, 12 MHz, US0 as in ADSL2+ annex A) • b7-6 (VDSL2, Annex B, 12 MHz, US0 as in ADSL2/2+ annex M) • b7-7 (VDSL2, Annex B, 17.6 MHz, does not use US0) • b7-9 (VDSL2, Annex B, 17.6 MHz, US0 as in ADSL2+ annex A) • c-138-co (VDSL2, Annex C, 12 MHz, DS1 breaks at 138 kHz, type: co) • c-276-co (VDSL2, Annex C, 12 MHz, DS1 breaks at 276 kHz, type: co) • c-vdsl1-qam-compatible (Calix-specific mask. Allows VDSL2 to coexist in the same binder as VDSL1 QAM.)

set env-pin *

Sets attributes of an environmental pin. The E7 supports eight external alarm input/output (I/O) positions via wire wrap pins located on the E7 rear panel. The eight external alarm positions include seven inputs and one output position.

Alarm Inputs (AL1 to AL7): You can configure the alarm input positions to interface with up to (7) external input sources for E7, or up to (3) external input sources for E-series, typically for environmental alarm conditions. The input alarm contacts are Normally Open (default), and close when an alarm condition occurs. You can configure the alarm type and severity for each input from the E7 user interfaces.

Alarm Output (OUT): You can configure the E-Series alarm output position to interface with external office alarm systems such as lights or horns. The output alarm contacts are Normally Open (default).

Fixed Output Alarms (CR, MJ, MN): The E7-20 also supports three fixed output alarms for Critical, Major, and Minor level alarms.

See the specific Calix Installation Guide for a description on how to wire the alarm input/output positions.

Syntax:

```
set env-pin <env-pin ID> option [polarity|alarm-
type|aco|severity|admin-state]
```

Example command that configures alarm input 5 as a critical alarm relay:

```
set env-pin al5 severity critical polarity closed
```

Example command that configures alarm input 6 as a critical low-temp alarm input:

```
set env-pin al6 alarm-type low-temp severity critical polarity open
```

Note: Type ? after alarm-type in CLI to view the different input alarm types.

Parameters:

env-pin ID	Pin number. This is an index value, a numeric identifier that uniquely identifies this object within the system. • Valid values for E7-2: out, al1-al7. • Valid values for E7-20: out, al1-al7, min, maj, cri. • Valid values for E-series: out, al1-al3.
polarity	Pin polarity. Valid values are: open, closed.

alarm-type	Alarm type for this pin. Valid values are: none, compress-fail, air-cond-fail, air-dryer-fail, battery-discharge, battery-fail, central-pwr-fail, commerc-pwr-fail, cooling-fan-fail, engine-fail, engine-oper, explosive-gas, fire-detector-fail, fire, flood, fuse-fail, generator-fail, high-airflow, high-humidity, high-temp, high-water, intrusion, low-battery-volt, low-cable-press, low-fuel, low-humidity, low-temp, low-water, misc, off-normal, open-door, poer, power-a-fail, power-b-fail, pump-fail, rect-fail, rect-high-volt, rect-low-volt, security, smoke, thermal, toxic-gas ventilation-fail.
aco	Whether ACO affects this pin. Valid values: enabled, disabled.
severity	Severity. Valid values are: info, warning, minor, major, critical.
mode	Whether the pin is active only at a specified severity, or at the specified severity and higher. Valid values are: exact, threshold.
admin-state	Admin state for pin. Valid values are: enabled, disabled.

set erps-domain *

Sets attributes of an existing ERPS domain. To change any attributes on an ERPS domain, it must be disabled. See *disable erps-domain* * (on page 268) and *enable erps-domain* * (on page 298) commands.

When changing the role between nodes, follow these steps, waiting briefly between steps 1-4 to allow the system to stabilize:

1. Disable the Secondary ERPS link on the Master node.
2. Change one of the Transit nodes to the Master role.
3. Change the old Master node to a Transit role.
4. Re-enable the disconnected ERPS ring port.
5. Wait for the changes to settle on a node and the ERPS to stabilize

Note: When changing the role on multiple nodes, wait for the changes to settle on a node and the ERPS to stabilize before changing the role on the next node.

Syntax:

```
set erps-domain <domain name> role pri-interface|sec-interface
interface-1|interface-2 ctrl-vlan [health-msg-freq|recovery-msg-
freq|leave-suppression|topology-monitor|admin-status]
```

Parameters:

domain name	Name of ERPS domain. This is a text string.
role	Role of this system in ERPS domain. Valid values are: master, transit.
pri-interface	Name of interface to use as primary (master only). This is a text string.
sec-interface	Name of interface to use as secondary (master only). This is a text string.
interface-1	Name of the first interface to the ring (transit only). This is a text string.
interface-2	Name of the second interface to the ring (transit only). This is a text string.
ctrl-vlan	ID of control VLAN. This is a numeric value (range 2-4093).
health-msg-freq	(Optional) If master, health message freqency (seconds). This is a numeric value (range 1-180).

recovery-msg-freq	(Optional) If master, limit for recovery message frequency (seconds). This is a numeric value (range 1-180).
leave-suppression	(Optional) Suppresses IGMP Query message on the ring when the last subscriber leaves the channel. Valid values: enabled, disabled.
topology-monitor	Collects topology information about the ERPS domain. Valid values are: enabled, disabled. Each E7 node may be configured to collect topology information via messages sent around an ERPS ring via the command set erps-domain <domain name> topology-monitor enabled. Issue the command "show erps-domain <domain name> topology" to report the E7 node's view of the ring. Each element in this array provides information about a single port, its neighbor ERPS port on the same system, and its neighbor ERPS port on the other end of the physical link. Note that if the ring is fragmented (i.e., there are two or more breaks in the ring), a node will show only its fragmented view of the ring.
admin-status	(Optional) Admin status of ERPS domain. Valid values: enabled, disabled.

*set eth-gos **

Sets attributes of an Ethernet grade-of-service profile.

Syntax:

```
set eth-gos <gos index> option [disc-frames-15-min|disc-frames-1-day|err-
frames-15-min|err-frames-1-day]
```

Parameters:

gos index	Numeric value for index of Ethernet GOS profile, uniquely identifying the object within the system. Index values start with 1.
disc-frames-15-min	Number of discarded frames in a 15 min. period. This is a numeric value (range 0-1000000000).
disc-frames-1-day	Number of discarded frames in a 1-day period. This is a numeric value (range 0-1000000000000).
err-frames-15-min	Number of errored frames in a 15 min. period. This is a numeric value (range 0-1000000000).
err-frames-1-day	Number of errored frames in a 1-day period. This is a numeric value (range 0-1000000000000).

*set eth-mirror admin-state **

Sets the admin-state attribute for the Ethernet mirror.

- Disabling the eth-mirror stops sending the source traffic to the mirror destination.
- Enabling the eth-mirror restarts the sending of traffic.

Syntax:

```
set eth-mirror admin-state <state>
```

Parameters:

state	Admin state of Ethernet mirror. Valid values are: enabled, disabled.

set eth-oam

(E7 only) Sets attributes for the Ethernet OAM continuity check (cc), loop back (lb), or link trace (lt).

Syntax:

```
set eth-oam-cc [sender-id|port-status|interface-status]
set eth-oam-lb [sender-id|data-status]
set eth-oam-lt [sender-id]
```

Parameters:

sender-id	(Optional) Enables check sender ID. Valid values are: enabled, disabled.
port-status	(Optional) Enables port status. Valid values are: enabled, disabled.
interface-status	(Optional) Enables interface status. Valid values are: enabled, disabled.
data-status	(Optional) Enables data status. Valid values are: enabled, disabled.

set eth-oam-cfg

(E7 only) Sets attributes for the Ethernet OAM configuration.

Syntax:

```
set eth-oam-cfg [sender-id|admin-state]
```

Parameters:

sender-id	(Optional) Type of information to use as Ethernet OAM sender ID. Valid values: none, chassis, management, both.
admin-state	(Optional) Admin state of the Ethernet OAM. Valid values: enabled, disabled.

set eth-port *

Sets attributes for an Ethernet port. Ethernet ports and the associated Ethernet interfaces always exist and can only be modified. LAG interfaces and their association with Ethernet ports can be created, deleted, and modified.

The physical characteristics of the underlying ports include:

- Speed
- Duplex setting
- Interface type

ETH-Port names:

- g(port number) = Gigabit Ethernet Ports (GE)
- x(port number) = 10Gigabit Ethernet Ports (10GE)

Configuration guidelines

- A port is always a member of exactly one interface, even when it is being used in a standalone manner.
- A port interface can be either assigned to the Ethernet interface associated with the port, or assigned to an existing LAG interface.
- The interface provisioning (for example, VLAN membership) applies to the port when the interface is assigned to the port.

Before starting

Before starting the configuration process, check that the following conditions are met:

- The class map and class rules are configured.
- The policy map and policies are configured.
- The Ethernet or LAG interface is configured.
- The Ethernet port grade-of-service (GoS) profile is created.
- The class-of-service (CoS) profiles is created.

Syntax:

```
set eth-port <port ID> [speed|duplex|flow-ctrl|lldp-
mode|interface|eth-gos|cos-queue-cfg|bcast-max-rate|unk-mcast-max-
rate|dlf-max-rate|lacp-priority|lacp-timeout|admin-state]
```

Parameters:

port ID	• **For E7**, Ethernet ports are specified by card, port type, and port number. For example: 1/g1. • **For E7-2 modular chassis systems**, Ethernet ports are specified by shelf/card/port. • **For E-series**, Ethernet ports are specified by port type and port number. For example: g1. Permitted values for the port type are "g" (for Gigabit Ethernet) or "x" (for 10-Gigabit Ethernet).
speed	(Optional) Data rate of port (bits/s). Valid values are: auto, module-rate (native speed of pluggable module), 10mbps, 100mbps, 1gbps, 2.5gbps, 10gbps. Data rate of port (bits/s). Auto setting: • If the link supports auto-negotiation, the link partners auto-negotiate the speed while advertising the duplex and flow control parameters specified. • If the link does NOT support auto-negotiation, the setting is for the fastest rate that the module can support. Module-rate is for SFP+ ports, which supports both 10GE and 1GE modules. The bit rate of the installed module is forced as the port speed. No auto-negotiation takes place with this setting. Module rate is not supported for XFP ports. Fixed speed setting forces the speed to the value specified. Note: See the configuration guidelines above for the forced speed setting supported for various ports.
duplex	Duplex mode for the port. Valid values: half, full, auto (auto-negotiate duplex mode). Half-duplex uses Carrier Sense Multiple Access (CSMA) to detect collisions and recover from them. Full-duplex transmits and receives at the same time. Auto setting: • If the link is auto-negotiated, the duplex attribute is negotiated with the link partner. • If the link speed is forced to a set value, full duplex is the default.

flow-ctrl	Flow control for port. Valid values: rx-tx, rx-pause, tx-pause, auto (automatically negotiated flow-control), none. Applies back pressure to a transmitter that is outrunning the receiver's capacity to process incoming data. tx-pause sends pause packets to the partner link, when needed. rx-pause honors the partner link's pause packets and stops transmitting, when asked. tx-rx sends pause packets and honors the partner link's pause packets. none does not send pause packets and does not honor the partner link's pause packets. Auto setting: • If the link is auto-negotiated, the pause attribute is negotiated with the partner link. • If the link speed is forced to a set value, tx-rx is the default.
lldp-mode	Link Layer Discovery Protocol (LLDP) mode for the port. Valid values: disabled, enabled.
interface	(Optional) Name of interface. This is a text string.
eth-gos	(Optional) Name of grade of service (GOS) profile to use. This is a text string.
cos-queue-cfg	(Optional) Name of cost of service (CoS) queue configuration to use. This is a text string.
bcast-max-rate	(Optional) Maximum rate to use for the broadcast traffic (packets/second). Valid values are disabled, 0-16383999. Use "k" and "m" to multiply the rate.
unk-mcast-max-rate	(Optional) Maximum rate for unknown multicast traffic (packets/second). Valid values are 0-16,383,999. Use "k" and "m" to multiply rate.

dlf-max-rate	(Optional) Ingress maximum rate for unknown unicast or destination lookup failure (DLF) traffic (packets/seconds). Valid values are 0-16,383,999. Use "k" and "m" to multiply the rate. DLF applies to unicast packets where the bridges lookup the destination MAC address in their learning tables and cannot find it (a lookup miss) thus floods the packet to the broadcast domain until the packet hits a bridge that knows (learned) the destination MAC address or the packet is received by the destination device.
lacp-priority	(Optional) Priority when the port is used in a LAG. Valid range: 0-65535.
lacp-timeout	Timeout for LACP. Valid values: short, long.
admin-state	(Optional) Admin state of port. Valid values are: enabled, no-alarms, disabled.

set eth-sec-profile

Sets attributes of an Ethernet security profile to apply to ONT Ethernet ports or xDSL interfaces.

Syntax:

```
set eth-sec-profile <name> [src-mac-limit|src-mac-age|dhcp-lease-
limit|upstrm-bcast-mcast-limit|l2cp-filter|dos-attack-
detection|allow-ip-v6|dot1x-profile]
```

Parameters:

name	Name of Ethernet security profile. This is a text string.
src-mac-limit	Number of unique MAC addresses allowed on a subscriber port. The allowed range is 0-255.
src-mac-age	Maximum age for source MAC addresses, in seconds. The allowed range is 60-86400.
dhcp-lease-limit	Number of DHCP leases allowed. The allowed range is 1 to16.
upstrm-bcast-mcast-limit	Maximum packet rate for upstream broadcast/multicst traffic (Kb/s). The allowed range is 0 to 10240.
l2cp-filter	Layer-2 control protocol filter. This is a text string.
dos-attack-detection	Whether to enable or disable DOS attack detection.
allow-ip-v6	Whether to enable or disable IPv6 traffic.
dot1x-profile	Name of 802.1x profile to use that specifies the attributes for the access port when the E-Series is acting as the 802.1x authenticator

set eth-svc-name

Changes the name of a specified Ethernet service.

Syntax:

```
set eth-svc-name <svc-name> name <new-name>
```

Parameters:

svc-name	Name of an Ethernet service. This is a text string.
new-name	New name for the specified Ethernet service.

set fantray admin-state

(E7 only) Sets whether fantray-related alarms are allowed. This has no effect on the physical operation of the fantray.

Syntax:

```
set fantray admin-state [enabled|no-alarms]
```

Parameters:

enabled	Allows fantray-related alarms.
no-alarms	Suppresses fantray-related alarms.

set frame-measure-profile

(E7 only) Set attributes for an Ethernet OAM frame measurement profile.

Syntax:

```
set frame-measure-profile <id> [delay-rate|loss-rate|loss-
measurement-type|max-ne-loss-alm|max-ne-loss-alm-clr|avg-ne-loss-
alm|avg-ne-loss-alm-clr|max-fe-loss-alm|max-fe-loss-alm-clr|avg-fe-
loss-alm|avg-fe-loss-alm-clr|max-rt-dly-alm|max-rt-dly-alm-clr|avt-
rt-dly-alm|avg-rt-dly-alm-clr|max-rt-dly-var-alm|max-rt-dly-var-alm-
clr|avg-rt-dly-var-alm|avg-rt-dly-var-alm-clr]
```

Parameters:

id	A numeric index value uniquely identifying the Ethernet OAM frame measurement profile. The system default profile has the index value of 1. Any additional profiles can use an index value of 2-20.
delay-rate	Frame delay measurement sampling rate. Valid values: 1sec, 10sec.
loss-rate	Frame loss measurement sampling rate. Valid values: 1sec, 10sec.
loss-measurement-type	Frame loss measurement type. Valid values: single-ended, dual-ended.
max-ne-loss-alm	Alarm threshold for maximum near-end loss ratio. This is a numeric value. Valid range: 0.0000-100.0000.
max-ne-loss-alm-clr	Alarm-clearing threshold for the maximum near-end loss ratio. This is a numeric value. Valid range: 0.0000-100.0000.
avg-ne-loss-alm	Alarm threshold for the average near-end loss ratio. This is a numeric value. Valid range: 0.0000-100.0000.
avg-ne-loss-alm-clr	Alarm-clearing threshold for the average near-end loss ratio. This is a numeric value. Valid range: 0.0000-100.0000.
max-fe-loss-alm	Alarm threshold for the maximum far-end loss ratio. This is a numeric value. Valid range: 0.0000-100.0000.
max-fe-loss-alm-clr	Alarm-clearing threshold for the maximum far-end loss ratio. This is a numeric value. Valid range: 0.0000-100.0000.
avg-fe-loss-alm	Alarm threshold for average far-end loss ratio. Valid range: 0.0000-100.0000.

avg-fe-loss-alm-clr	Alarm-clearing threshold for average far-end loss ratio This is a numeric value. Valid range: 0.0000-100.0000.
max-rt-dly-alm	Alarm threshold for average round-trip delay (microseconds). This is a numeric value. Valid range: 0-100000.
max-rt-dly-alm-clr	Alarm-clearing threshold for the maximum delay (microseconds). This is a numeric value. Valid range: 0-10000.
avg-rt-dly-alm	Alarm threshold for the average delay (microseconds). This is a numeric value. Valid range: 0-100000.
avg-rt-dly-alm-clr	Alarm-clearing threshold for average round-trip delay (microseconds). This is a numeric value. Valid range: 0-100000.
max-rt-dly-var-alm	Alarm-clearing threshold for maximum round-trip delay variation (microseconds). This is a numeric value. Valid range: 0-100000.
max-rt-dly-var-alm-clr	Alarm-clearing threshold for the maximum near-end delay (variation (microseconds). This is a numeric value. Valid range: 0-100000.
avg-rt-dly-var-alm	Alarm threshold for average round-trip delay variation (microseconds). This is a numeric value. Valid range 0-100000.
avg-rt-dly-var-alm-clr	Alarm-clearing threshold for the average round-trip delay variation (microseconds). This is a numeric value. Valid range 0-100000.

set g8032-ring

Sets node attributes for a G.8032v2 transport ring.

Syntax:

```
set g8032-ring <r-name> ring-id <r-id> interface-1 <intf-1>
interface-2 <intf-2> ctrl-vlan <c-vlan-id> [mel|revertive|wtr-
time|guard-time|holdoff-time|description|admin-status]
```

Parameters:

r-name	Name assigned to the G.8032v2 ring. This is a text string.
r-id	Sets the ring instance ring ID. The ring ID is inserted in the R-APS source MAC address in the 6th octet as a debug aid. This is a text string. Valid values: 1-239.
intf-1	The card/port that specifies the interface to use as interface-1 of the ring. This is a text string.
intf-2	The card/port that specifies the interface to use as interface-1 of the ring. This is a text string.
c-vlan-id	Sets the control VLAN for the ring instance. The control VLAN assigned to the G.8032v2 ring instance passes Ring Automatic Protection Switching (R-APS) packets between all nodes on the ring, allowing them to communicate. This is a numeric value (range 2-4093).
mel	For the control VLAN, sets the ring instance maintenance entity to be inserted into R-APS control messages. **Note:** When configuring SOAM on a ring for Connectivity Fault Management (CFM), the Maintenance Entity Level parameter must be set higher than the MEG level of the CCM frames generated by the ring ports. Valid values: 0-7.

revertive	Sets the ring instance revertive/non-revertive mode. Default mode is revertive. When enabled, the ring reverts after the signal failure condition, causing a ring switch clears. The traffic resumes use of the recovered ring link only after the RPL blocks the traffic. When disabled, the ring does not revert after the signal failure condition causing a ring switch clears. The traffic remains blocked on the recovered link and unblocked on the RPL. Valid values are: enabled, disabled.
wtr-time	Sets the ring instance wait to restore time. This timer determines how long to wait before reverting the ring after a signal failure condition is removed, where the ring is configured to operate in a revertive mode. Valid values: 1-12 minutes.
guard-time	Sets the ring instance guard time to block out of date R-APS control messages during a topology change. The guard time prevents unnecessary state changes. Valid values: 10–2000 milli-seconds (ms), in 10 ms steps.
holdoff-time	Sets the ring instance hold off time. Hold off timers are used by the link layer on the node to filter out intermittent link failures (this is to prevent bouncing of the ring). A fault is only reported to the ring protection controller on the node if the timer expires. Valid values: 0–10000 ms, in 100 ms steps.
description	Sets the ring instance description field. This is a text string up to 255 characters.
admin-status	Admin status of the ring instance. Valid values are: enabled, disabled.

set g8032-ring-interface

Sets attributes for a G.8032v2 transport ring interface.

Syntax:

```
set g8032-ring-interface <i-name> rpl-mode <mode>
```

Parameters:

i-name	The ring-name/port that specifies the interface of the ring to modify. This is a text string.
mode	Ring Protection Link (RPL) mode for each interface. Only one interface on one node in a G.8032v2 ring can be designated as owner or neighbor. • **owner** - the node responsible for blocking Ethernet data frames at one end of the RPL to prevent loops from occurring • **neighbor** - (adjacent to the RPL owner)—the node responsible for blocking its end of the RPL • **none** - All other nodes in the ring that are not blocking

set gpon-port

(GPON applications only) Sets attributes for a GPON port.

Syntax:

```
set gpon-port <port> [description|split-horizon-fwd|dyn-bw-
allocation|eth-gos|optical-monitoring|sdber-rate|low-tx-opt-pwr-ne-
thresh|high-tx-opt-pwr-ne-thresh|admin-state]
```

Parameters:

port	GPON port is specified by card number and port number. For example, 1/1.
description	Descriptive name of the GPON port for later identification. This is a text string with a 31-character limit.
split-horizon-fwd	Whether the GPON port allows split-horizon forwarding. Valid values: enabled, disabled.
dyn-bw-allocation	Whether the to allow dynamic bandwidth allocation on this GPON port. Valid values: enabled disabled.
eth-gos	Index of Ethernet Grade of Service (GoS) profile to use. This is a text string. Valid values: 1-10.
optical-monitoring	Whether the GPON port allows optical monitoring. Valid values: enabled disabled.
sdber-rate	GPON port downstream Signal Degraded Error Rate (SDBER) defined in 10-n. Valid values: 2-9.
low-tx-opt-pwr-ne-thresh	Low Threshold for an NE transmit optical power alarm. This is a numeric value in the range -16.0 to 10.0.
high-tx-opt-pwr-ne-thresh	High Threshold for an NE transmit optical power alarm. This is a numeric value in the range -16.0 to 10.0.
upstream-fec	Method for correcting upstream errors over a single-path optical transmission line Forward Error Correction (FEC). Valid values: enabled, disabled, auto. **auto** setting enables FEC automatically when a C+ GPON Optical Interface Module (OIM) is inserted into the GPON port socket.

downstream-fec	Method for correcting downstream errors over a single-path optical transmission line Forward Error Correction (FEC). Valid values: enabled, disabled, auto. **auto** setting enables FEC automatically when a C+ GPON Optical Interface Module (OIM) is inserted into the GPON port socket.
aes	Valid values: enabled, disabled.
admin-state	Admin state of GPON port. Valid values: enabled, disabled.

set h248-gw

Sets the parameters of a profile that specifies the H.248 gateway properties for the VDSL2 H.248 gateway services.

Syntax:

```
set h248-gw <gw-name> [h248-gw-profile <p-name>|ip-host <h-
name>|admin-state]
```

Parameters:

gw-name	Name of the H.248 Gateway. This is a text string.Card number/h.248 gateway name. For example, 1/name.
admin-state	Administrative status for the gateway. Valid options: enabled, disabled.
p-name	Name of the H.248 gateway profile. This is a text string.
h-name	Name of the line card IP Host. This is a text string.

set h248-gw-profile

Sets attributes for an H.248 Gateway profile.

Syntax:

```
set h248-gw-profile <p-name> [rtp-base-port|pri-gw-controller|sec-
gw-controller|sec-switch-type|term-prefix|ephemeral-term-id|esa-
mode|rtp-mode|rtp-codec|packet-rate]
```

Parameters:

p-name	Name of the H.248 Gateway profile. This is a text string.
rtp-base-port	(Optional) Base port number for RTP packets. Valid range: 0-65535.
pri-gw-controller	(Optional) IP address or hostname of the primary H.248 gateway controller (softswitch). This is a text string.
sec-gw-controller	(Optional) IP address or hostname of the secondary H.248 gateway controller (softswitch). This is a text string.
sec-switch-type	(Optional) Type of voice soft switch. Valid values: • **h248-ansi-generic** - softswitch type set to H.248 ANSI Generic • **none** - softswitch type not specified • **cs-2000** - Nortel Communication Server 2000 • **cs-1500** - Nortel Communication Server 1500 • **metaswitch** - Metaswitch softswitches • **sonus** - Sonus softswitches • **genband-g2** - GENBAND G2 Compact Gateway • **genband-g9** - GENBAND G9 Converged Gateway • **taqua** - Taqua softswitches
term-prefix	(Optional) Prefix string to use for terminations. This is a text string.
ephemeral-term-id	(Optional) ID to use for ephemeral terminations. This is a text string.
esa-mode	Whether to enable the ESA mode.
rtp-codec	RTP code to use. Valid values: u-law, a-law.
packet-rate	Packet rate (packets/msec). Valid values: 10, 20.

set igmp-profile

Sets attributes of an IGMP profile.

Syntax:

```
create igmp-profile <p-name> [name|immediate-leave|robustness-
retries|last-memb-query-count|last-memb-query-intrvl|router-
learning-mode|router-solicit-top-chg|query-interval|query-resp-
interval|startup-query-interval|startup-query-count|proxy-ip|host-
port-purge-time|router_port-purge-time]
```

Parameters:

p-name	Name of the IGMP profile. This is a text string.
immediate-leave	(Optional) Whether Immediate Leave is enabled which omits checks to see if there are other hosts interested in the multicast group. Valid values: enabled, disabled.
robustness-retries	(Optional) Number of retries for IGMP group -specific queries (range 1-10).
last-memb-query-count	Number of group-specific queries, in milliseconds (range 1-8, default is 2).
last-memb-query-intrvl	(Optional) Time to wait in milliseconds for responses to group-specific queries (range 100-5000).
router-learning-mode	(Optional) Method used for learning multicast routers. Valid values: static, static-dynamic.
router-solicit-top-chg	(Optional) Whether to enable router solicitation on topology change. Valid values: enabled, disabled.
query-interval	(Optional) Time interval in seconds between general queries (range 10-1000). Note: Calix recommends setting (or leaving) the IGMP Query Interval value for the video VLAN to 60 seconds (default).
query-resp-interval	Time to wait in seconds for responses to general queries (range 5-60).
startup-query-interval	Time interval in seconds between general queries (range 2-1000).
startup-query-count	Time in seconds between general queries during startup (range 1-10). Alternately, the keyword "auto" indicates that the count will automatically be one-quarter of the "query-count" value.

proxy-ip	IP address to use when in proxy mode. This is an IP address in "dotted quad" format. For example: "192.168.1.100". Alternately, "none" can be used to reset the value to "0.0.0.0".
host-port-purge-time	Purge time in seconds for host ports (range 130-3600).
router-port-purge-time	Purge time in seconds for router ports (range 6-600).

set interface * (Ethernet Ports Association)

Sets attributes for an interface. Interfaces are logical objects that represent the service-related attributes of a network interface. Ethernet ports and the associated Ethernet interfaces always exist and can only be modified. LAG interfaces and their association with Ethernet ports can be created, deleted, and modified.

A link aggregation group (LAG) interface may be associated with a single Ethernet port or may group several ports into a single entity, known as a LAG. This grouping of ports allows more bandwidth in a network than a single Fast Ethernet link can provide.

Individual interfaces can also participate in Rapid Spanning Tree Protocol (RSTP). See Configuring RSTP Settings.

By default, every Ethernet port and associated Trunk or Edge interface on the E-Series is a member of VLAN 1, the Native VLAN. The Native VLAN is available to pass any untagged traffic or traffic that does not match any of the tagging criteria. You can provision an Ethernet interface to use a different existing VLAN as the Native VLAN.

Note: If you are configuring the E-Series for in-band management, create a VLAN dedicated to management traffic. Do not put management traffic on the Native VLAN (default is VLAN 1).

Interface Names

- Interfaces are designated by:
  - E7-2 stand-alone, E7-20: card/eth-port (or card/LAG-name if a LAG interface)
  - E-series: eth-port (or LAG-name if a LAG interface)
  - E7-2 modular chassis controller: shelf/card/eth-port (or shelf/card/LAG-name if a LAG interface)
- Ethernet interfaces (Non-LAG related interfaces) share the same name as the Eth-ports:
  - g(port number) = GE(port number)
  - x(port number) = 10GE(port number)
- LAG interfaces are named at the time of creation

Interface roles

Trunk: A port connecting to other equipment belonging to the service provider or to another service domain with consistent VLAN tagging levels. These ports may also be referred to as Network ports or Provider ports in industry standards. These ports support outer VLAN tag plus MAC switching.

Examples of trunk ports are 10G ERPS transport ports and GE uplinks. Trunk ports can be configured for link aggregation, RSTP, or ERPS.

Edge: A port facing customer equipment or facing reduced functionality devices, alternative administrative domains, or managed CPE. Generally, this E-Series Ethernet port interface is where all classification is first performed on ingress traffic (if customer facing). The E-Series Ethernet interface is also expected to add, replace, or remove one or more VLAN tags on edge traffic. ERPs, RSTP, and LAG networking protocols are supported.

Examples of an edge port would include GE ports to managed CPE, a GE/10GE port to external equipment which may use different tagging levels, or GPON ports.

Access: A port facing untrusted customer equipment or other devices serving subscribers. Generally, this port interface is where individual subscriber services are defined and enforced (bandwidth limits, security, multicast profiles). Networking protocols are not supported.

Examples of an access port would be point-to-point connections to subscribers or other devices serving subscribers.

Interface role configuration guidelines

	Trunk	Edge	Access
E-series	X	X	X
E7-2	X	X	X
E7-2 MCC	X	X	X
E7-2 MCE			X
E7-20 SCP	X	X	
E7-20 GE-24			X
ONT Ethernet Port			X
Tag Actions		X	X
Native VLAN / Security	X	X	
Networking Protocol (RSTP, ERPS*, LAG)	X	X	

*Edge interfaces do NOT support ERPS protocol.

Configuration guidelines

Follow these guidelines when configuring an Ethernet port interface or LAG interface:

- An Ethernet interface always exists, cannot be deleted, can be modified, and is associated with a specific companion Ethernet port (GE or 10GE).
- A LAG interface can be created, deleted, and modified.
- The ports that comprise a LAG can be on the same line card or on two different line cards in the E7 same shelf, but, must be of the same module type. For example, either all XFP or all SFP+.
- A port is always a member of exactly one interface, even when it is being used in a standalone manner.

- You can configure only one of the following attributes on a given VLAN on a given interface:
  - Trunk interfaces:
    - VLAN member
    - Native VLAN
  - Edge interfaces:
    - VLAN member
    - Tag-action
    - Native VLAN
  - Access interfaces:
    - VLAN member
    - Tag-action
- Trunk and Edge interfaces are always associated with at least one VLAN, through the native VLAN attribute (VLAN 1, by default). Access interfaces do not support a Native VLAN, however, tag actions can be used to assign untagged traffic to a VLAN ID.
- All network connections (ERPS, RSTP, LAG, DHCP servers, multicast routers, IGMP-enabled video servers, network-facing routers) are made on Trunk or Edge interfaces, only.
- Edge interfaces can only use single-tag actions when DHCP Snooping is enabled on the service VLAN. Calix recommends that uplink interfaces, use the Trunk role.
- Interfaces can be associated with additional VLANs through memberships or tag-actions.
- If an Ethernet uplink Edge interface with tag actions (for double-tagged traffic) is on the same card as Ethernet downlink Edge interfaces (that are members of the outer VLAN), ingress double-tagged traffic from the downlink ports will not flow upstream, resulting in a service interruption. As a workaround, for this application, ensure that one of the following configurations are used:
  - The Ethernet uplink Edge port is on a different card than downlink Edge ports.
  - Ethernet downlink ports are configured with the Trunk interface role.

  Note: For this application, if active/standby LAG is used for the uplink, you must ensure that Ethernet downlink ports are configured with the Trunk role.
- When a VLAN has DHCP snooping and Option 82 relay enabled, an Ethernet interface can be directly added to the VLAN membership, but using a tag action to associate an Ethernet interface to such a VLAN is not supported.
- BPDU Guard and RSTP cannot be enabled on an interface, simultaneously.
- For Policy maps:
  - For Trunk interfaces, any policy map assignment is allowed.

  - For Edge and Access interfaces, if a policy map contains a two-tag classification, the edge or access link must have a tag-action that adds the outer tag being matched by the class rule.
- For an RSTP network, Calix recommends setting the following parameters as shown:
  - The VLAN IGMP Mode = snoop-suppress or proxy
  - The IGMP profile Router Learning Mode = static-dynamic
  - The IGMP profile Router Solicit On Topology Change = Y (enabled)
  - The interface NOT be designated as a static router port through the VLAN membership.
- The Interface Quality Audit (IQA) function periodically checks the number of File Check Sequence (FCS) errors received as a percentage of total frames received on an interface. An interface that exceeds the provisioned thresholds can be set to generate an alarm, switch traffic to an alternate path, or force the interface to an OOS state where operator intervention is required to bring the interface to an operational state by manually disabling the interface, and then re-enabling the interface.

Before starting

Before starting the configuration process, check that the following conditions are met:

The policy map that you want to associate to the interface is already created.

Syntax:

```
set interface <interface name> [eth-svc|role|description|subscriber-
id|native-vlan|mtu|rstp-active|rstp-prio|rstp-path-cost|rstp-bpdu-
mac|rstp-edge|bpdu-guard|immediate-leave|ingress-policy-map|split-
horizon-fwd|lacp-role|lacp-hash-method|lacp-min-ports|lacp-max-
ports|lacp-system-priority|lag-cross-card|lag-cross-card-
revert|trusted|ethertype|iqa-mode|iqa-polling-interval|iqa-error-
threshold|iqa-polling-window|iqa-error-interval-count|iqa-interval-
min-frames|admin-state]
```

Example command that creates a LAG interface:

```
set interface "MyLAG" role trunk description "LAG to 3750"
```

Parameters:

interface name	Name of LAG interface, or designation of interface. **Note:** The name is case sensitive. • For E7-2 standalone systems, Ethernet port associated interfaces are specified by card/port. • For E7-2 modular chassis systems, Ethernet port associated interfaces are specified by shelf/card/port.

eth-svc	Sets attributes for a service on a DSL interface. • bw-profile • svc-tag • outer-vlan • inner-vlan • mcast-profile • description • admin-state
role	(Optional) Role of interface. Valid values are: • Trunk and edge are supported on E7-2 standalone, E7 modular chassis controller, E7-20 SCP cards, and E-series. • Access is supported on E7-2 standalone, E7 modular chassis controller, E7 modular chassis expansion cards, E7-20 line cards, and E-series. E7-2 and E7 Modular Chassis Controller and E-series: • Default for 10G = trunk link Default for 1G = edge link E7-20 and E7 Modular Chassis Expansion: • Default for 10G = access link Default for 1G = access link
description	(Optional) Description of this interface. This is a text string.
subscriber-id	(Optional) Subscriber index. This is a text string.
native-vlan	(Optional) Native VLAN for untagged user traffic on this interface. VLANs can be specified by name or by numeric VLAN ID. Supported for trunk and edge interfaces, only. To forward untagged traffic on E7 Ethernet ports with an access interface, an add-tag action must be applied to untagged frames, assigning the traffic to a designated VLAN. VLANs can specified by name or by numeric VLAN ID (range 1-4093).
mtu	(Optional) Maximum Transmission Unit size (bytes). This is a numeric value (range 1500-9000).

rstp-active	(Optional) Interface is running RSTP. The E7 supports port-level RSTP. Therefore, ensure the far-end device is configured similarly (port-level RSTP) and not using VLAN-level RSTP. • RSTP (enabled) is only supported for trunk and edge interfaces. • RSTP (tunneled) is supported for all interface roles. • RSTP and BPDU Guard cannot be enabled on an interface, simultaneously. • For Modular Chassis systems, RSTP is only supported on MCC shelf interfaces. • For E7-20 systems, RSTP is only supported on SCP interfaces. • For cross-card LAG interfaces, RSTP is not supported and must be disabled in order to configure a cross-card LAG. Valid values: enabled, disabled, tunneled (should only be used when setting up TLAN service tunneling of RSTP BPDUs).
rstp-prio	(Optional) STP priority of this port. Valid values: 0, 16, 32, 48, 64, 80, 96, 112, 128, 144, 160, 176, 192, 208, 224, 240.
rstp-path-cost	(Optional) Spanning tree protocol (STP) path cost is the cost of transmitting a frame on to a network through that port. It is assigned according to the speed of the bridge. The slower the media, the higher the cost. This is a numeric value (range 0-200000000).
rstp-bpdu-mac	(Optional) MAC for rapid spanning tree protocol (RSTP) bridge protocol data units (BPDUs). Valid values: 1d, 1ad. • **1d** results in the C7 transmitting BPDUs with a DA of 01:80:C2:00:00:00. Use this selection when the C7 is connected to an 802.1d compliant switch with redundant link. • **1ad** results in the C7 transmitting BPDUs with a DA of 01:80:C2:00:00:08. Use this selection when the C7 is connected to an 802.1ad compliant switch with redundant link.
rstp-edge	(Optional) Enables or disables the RSTP automatic edge link mode. Valid values: enable, disable.

bpdu-guard	Enables or disable BPDU guard mode. When enabled, this prevents the participation of an interface in a spanning tree. When the interface receives a BPDU, it is put into a disabled state where an operator must manually disable, and then re-enable the interface to put the interface back into service. Valid values: enabled disabled.
immediate-leave	Enable or disable IGMP immediate leave. Valid values: enabled, disabled, use-vlan-setting.
ingress-policy-map	(Optional) Name of policy map used on ingress. This is a text string.
split-horizon-fwd	(Optional) Enable or disable split-horizon forwarding on this Edge interface of a standalone E7-2 or modular chassis controller shelf. (The Split Horizon Forwarding is not supported on the E7-20 system.) The default is "Enabled" or "Y" and should only be disabled when setting up TLAN service between multiple edge or access ports on the same E7. When Split-horizon forwarding is enabled on an edge port, traffic from that port will only route to trunk links. The Split-horizon forwarding flag has no effect on trunk links. Examples of an edge port would include GE ports to managed CPE, a GE/10GE port to external equipment which may use different tagging levels, or GPON ports. By default, E7 edge ports have the split horizon feature enabled which isolates port traffic from other edge ports within the same E7 line card.
lag-mode	• **lacp-enable** - This means that the LACP protocol is used to control the LAG ports. It is required for an Active/Standby LAG, or for any LAG that might have standby ports • **manual** - The LACP protocol is not used. Therefore, if a port is added to the LAG, it is automatically made an active link when the port is enabled. This is also known as a static LAG.
lacp-role	Role for this end of the LAG. Valid values: active, passive. • Active control mode actively initiates the LACP negotiations on a link. • Passive mode does not initiate LACP negotiations, but will respond.

lacp-hash-method	(Optional) (Valid for LAG interfaces only.) Individual traffic flows will only use a single link in the link aggregation group. The link used for each packet is based on a hash algorithm. The default and recommended value is src-dst-mac. Valid values: src-mac, dst-mac, src-dst-mac.
lacp-tunnel	(Optional) Tunnel or drop LACP packets on this LAG interface.
lacp-min-ports	(LAG only) Minimum number of ports required for LAG activation. When the number of active ports falls below this value, the group is taken out of service. • When two LAGs are used with RSTP node protection, the system switches LAG operation to the other LAG. • For active-standby cross-card LAGs, the system switches the LAG operation to the ports on the standby card.
lacp-max-ports	(LAG only) Maximum number of active ports participating in the LAG. • For single-card LAGs, the ports added to the LAG that exceed this value are designated as standby ports and come online when an active LAG port fails. • For active/standby cross-card LAGs, this value indicates the number of ports on each card, assuming that there are an equal number of active and standby ports in the LAG. You cannot add more than this number of ports from any one card. The limit is 4. For Active/Active LAGs, this value indicates the total number of ports in the LAG where all available ports must be active, so you cannot add more than the Max ports. The limit is 8.

lacp-system-priority	(LAG only) Used between two systems connected by the LAG to determine which system should be controlling the LAG. **The lower value takes priority.** Typically, the upstream side of the LAG is configured for the LAG master (lower value). • When the LACP system-priority is changed, a 2-second downtime will occur where no traffic passes through the LAG. • When provisioning active/standby LAG, the port priority should **NOT** be provisioned to 0. • For both ends of a cross-card LAG, the LAG ports on each card must all have the same LACP Priority value for the Ethernet port parameter, and the priority values must be different between the two cards. For active-standby cross-card LAGs, priority on the active card ports must be lower than the value set for the ports on the standby card, giving the priority to the active card ports. The port priorities on each side of the LAG should be set to the same values.Valid range: 0-65535.
lag-cross-card	(LAG only) Whether LAG cross-card protection is enabled, allowing ports on two cards to be configured into a LAG: • **active-standby** - one card's ports are active and the other card's ports are standby. • **active-active** - both cards' ports are active. **Note:** This only applies to cross-card protection LAGs.
lag-cross-card-revert	((LAG only) Whether to have the LAG interface revert to the ports on the active card after a failure is found and fixed. **Note:** This only applies to active-standby cross-card protection LAGs.
trusted	Whether the interface is a trusted source of DHCP option 082 data. Valid values: Yes, No. • Ethernet interfaces used for LAG or ERPS links can only be not set to Trusted = Y. • Access interfaces can only be set to Trusted = N.

ethertype	(Optional) The Ethertype indicates the protocol being transported in the Ethernet frame. 0x8100 - IEEE 802.1Q-tagged 0x88a8 - IEEE 802.1ad provider bridging 0x9100 - Q-in-Q (double tagged) The recommended value of 0x8100 should be used for all interfaces (Ethernet and LAG).
iqa-mode	Interface quality audit mode. Valid values: no-audit, alarm-only, protocol-action, disable-interface.
iqa-polling-interval	Number of seconds between interface quality audits. This is a numeric value 1-60.
iqa-error-threshold	Interface quality audit error threshold for an interval (errored packets per million). This is a numeric value 1-100000.
iqa-polling-window	Number of interface quality audit intervals to consider for failure determination. This is a numeric value 10-60.
iqa-error-interval-count	Number of failed audit quality intervals that will indicate interface failure. This is a numeric value 1-60.
iqa-interval-min-frames	Minimum number of frames in interval to be valid for interface quality audit. This is a numeric value 1-2147483647.
admin-state	(Optional) Admin state of the port. Valid values: enabled, disabled.

set interface * (DSL Ports Association)

(VDSL2 applications only) Sets attributes for a DSL port associated interface. Interfaces are logical objects that represent the service-related attributes of a network interface. DSL ports and the associated DSL interfaces always exist and can only be modified.

Interface Names

- Interfaces are designated as follows:
  - by dsl-port for E-series
  - by card/dsl-port for standalone E7-2
  - by shelf/card/dsl-port for modular chassis E7-2
- Interface
- DSL interfaces share the same name as the DSL ports:
  - v(port number) = XDSL(port number)

Interface roles

Access: A port facing untrusted customer equipment or other devices serving subscribers. Generally, this port interface is where individual subscriber services are defined and enforced (bandwidth limits, security, multicast profiles). Networking protocols are not supported.

Examples of an access port would be point-to-point connections to subscribers or other devices serving subscribers.

Interface role configuration guidelines

	Access
E-series	X
E7-2	X
E7-2 MCC	X
E7-2 MCE	X
ONT Ethernet Port	X
Tag Actions	X
Native VLAN / Security	
Networking Protocol (RSTP, ERPS, LAG)	

Syntax:

```
set interface <dsl-port> [eth-svc|description|subscriber-
id|immediate-leave|dscp-p-bit-map|ip-prec-p-bit-map|lag-mode|lacp-
tunnel|eth-sec-profile|force-dot1x|admin-state]
```

Parameters:

dsl-port	DSL port associated interfaces are specified by the following formats: • For E-series systems, port • For E7-2 standalone systems, card/port • For E7-2 modular chassis systems, shelf/card/port
eth-svc	Sets attributes for a service on a DSL interface.
description	(Optional) Description of this interface. This is a text string.
subscriber-id	Subscriber ID. This is a text string.
immediate-leave	(Optional) Enable or disable IGMP immediate leave. Valid values: enabled, disabled, use-vlan-setting.
dscp-p-bit-map	(Optional) Name of DSCP to P-bit map to use on ingress. This is a text string.
ip-prec-p-bit-map	(Optional) Name of IP-precedence to P-bit map to use on ingress. This is a text string.
lag-mode	(Optional) LAG Mode. Valid values: lacp, manual.
lacp-tunnel	(Optional) Tunnel or drop LACP packets on this interface.
eth-sec-profile	(Optional) Name of Security Profile to use. This is a text string.
force-dot1x	(Optional) An 802.1x supplicant attribute to force the supplicant to be unauthorized or authorized until the force attribute is set to none. Valid values: none, authorized, unauthorized.
admin-state	(Optional) Admin state of the port. Valid values: enabled, disabled.

set ip-host

(Unsupported on E7-20) Sets attributes for a VDSL2 line card IP host so it can serve as an endpoint for services such as VoIP. In addition to IP address information, an IP host also has VLAN configuration parameters so that traffic can be switched onto appropriate layer 2 network.

Syntax:

```
set ip-host <name> [outer-vlan|host-config|static-ip|static-
netmask|static-gw|host-name]
```

Parameters:

name	Identifies a line card IP host by shelf/card/ip-host name.
outer-vlan	Outer VLAN ID. Valid values: 1-4093.
host-config	(Optional) Protocol to use for obtaining IP host configuration. • If the host-config is set to **dhcp**, the addresses for static-ip, static-netmask, and static-gw parameters are ignored, yet preserved. • If the host-config is set to **static**, you must also enter the addresses for static-ip, static-netmask, and static-gw parameters. • If the host-config is set to **no-ip** (PWE3 only), no IP address is specified.
static-ip	(Optional) IP address to use for static configuration.
static-netmask	(Optional) IP netmask to use for static configuration.
static-gw	(Optional) IP address of default gateway to use for static configuration.
host-name	Host-name that will be transmitted in DHCP Option 81.
ping	Whether to respond to ping messages. Valid values: enabled, disabled.
traceroute	Whether to respond to traceroute messages. Valid values: enabled, disabled.

dsl-config-file-instance	A configuration name instance is mapped to a retrieved DSL Configuration file, whose contents will be applied to all DSL ports on the VDSL2 card. The configuration name specified in the IP Host must match the configuration name specified in the Retrieve/Apply DSL Configuration File operation. A configuration name is specified by instance number alone or by "voip-<1 through 4>." • voip-1 - Instance for VoIP (1) • voip-2 - Instance for VoIP (2) • voip-3 - Instance for VoIP (3) • voip-4 - Instance for VoIP (4) Valid values: None, voip1-4, enter value

set ip-precedence-map

Sets attributes to an IP precedence map that allows mapping of layer 3 IP Precedence bits into layer 2 priority bits.

Syntax:

```
set ip-precedence-map <name> [ip-precedence-0|ip-precedence-1|ip-
precedence-2|ip-precedence-3|ip-precedence-4|ip-precedence-5|ip-
precedence-6|ip-precedence-7]
```

Parameters:

name	Name of IP Precedence map. This is a text string.
ip-precedence-0	P-bit value for IP precedence 0. This is a numeric value in the range 0-7 (default: 0).
ip-precedence-1	P-bit value for IP precedence 1. This is a numeric value in the range 0-7 (default: 0).
ip-precedence-2	P-bit value for IP precedence 2. This is a numeric value in the range 0-7 (default: 0).
ip-precedence-3	P-bit value for IP precedence 3. This is a numeric value in the range 0-7 (default: 0).
ip-precedence-4	P-bit value for IP precedence 4. This is a numeric value in the range 0-7 (default: 0).
ip-precedence-5	P-bit value for IP precedence 5. This is a numeric value in the range 0-7 (default: 0).
ip-precedence-6	P-bit value for IP precedence 6. This is a numeric value in the range 0-7 (default: 0).
ip-precedence-7	P-bit value for IP precedence 7. This is a numeric value in the range 0-7 (default: 0).

set l2cp-filter

(E7 only)

Sets Layer 2 Control Protocol (L2CP) handling (tunnel, discard) on GPON ONT Ethernet interfaces and VLANs on the interface. The L2CP filtering is an MEF-driven requirement for business services that use BPDU tunneling. The L2CP feature supports per subscriber port configuration options to pass or discard the following L2CP protocols:

- Bridge Block of protocol frames with destination MAC addresses 0x0180c2000000 through 0x0180c200000f.
- GARP Block of protocol frames with destination MAC addresses 0x0180c2000020 through 0x0180c200002f.
- All LANs Bridge Management Group protocol frames with destination MAC address 0x0180c2000010.

Syntax:

```
set l2cp-filter <name> [range-1-action|range-2-action|range-3-
action]
```

Parameters:

name	Name of the layer-2 control protocol filter. This is a text string.
range-1-action	(Optional) Action for layer-2 control protocol packets in range 1. Valid values: discard, tunnel.
range-2-action	(Optional) Action for layer-2 control protocol packets in range 2. Valid values: discard, tunnel.
range-3-action	(Optional) Action for layer-2 control protocol packets in range 3. Valid values: discard, tunnel.

set mcast-map

Sets attributes of the specified multicast map.

Syntax:

```
set mcast-map <map-name> name <new-name>
set mcast-map <map-name> range <index> mcast <address>
```

Parameters:

map-name	Current name of multicast address map. This is a text string.
new-name	New name for multicast address map. This is a text string.
index	Index of multicast address range. Valid values 1-8.
address	Multicast address or range. This is a range of multicast group addresses in dotted quad" format, separated by a dash: "224.0.0.1-224.0.0.100".

set mcast-map * range * mcast

Sets the attributes of an existing multicast address range.

Syntax:

```
set mcast-map <m-name> range <index> mcast <m-range>
```

Parameters:

m-name	Name of multicast address map. This is a text string.
index	Index of multicast address range in map. This is a numeric index value that uniquely identifies this object within the system. Index values start with 1.
m-range	Range of multicast group addresses to add to the specified multicast address map. In dotted quad" format, separated by a dash. For example, "224.0.0.1-224.0.0.100".

set mcast-profile

Sets the attributes of an Ethernet multicast profile.

Syntax:

```
set mcast-profile <p-name> [max-strms|query-interval|convert-
mcast|mcast-map|mvr-profile]
```

Parameters:

p-name	Name of the bandwidth profile. This is a text string.
max-strms	Maximum number of multicast streams (range 1-128).
query-interval	Query interval of upstream querier in seconds (range 10-3600).
convert-mcast	Whether to convert multicast packets to unicast. Valid values: enabled, disabled.
mcast-map	Name of multicast address map. This is a text string.
mvr-profile	Name of MVR profile. This is a text string.

set mcast-white-list

Allows attribute modification of an existing multicast white list.

Syntax:

```
set mcast-white-list <list-name> range <r-id> mcast <address> name
<new-name>
```

Parameters:

list-name	Name of existing multicast white list. This is a text string.
r-id	Index of a multicast white list address range.
address	Range of multicast group addresses to add to the specified multicast white list. In dotted quad" format, separated by a dash. For example, "224.0.0.1-224.0.0.100".
new-name	New name of multicast white list. This is a text string.

set meg

(E7 only) Sets attributes for an Ethernet Operation and Maintenance (OAM) maintenance entity group (MEG).

Syntax:

```
set meg <group> [mep|mip|name|vlan|level|meg-id-format|ccm-
interval|auto-discover|auto-discovery-timeout|min-cc-defect|alarm-
time|alarm-reset-period]
```

Parameters:

group	Name of the maintenance entity group. This is a text string.
mep ont <ont-id> ip-host	Sets attributes for a maintenance endpoint on an ONT. Valid values: 1-64000000. Sets IP host associated to the maintenance endpoint. Valid values: sip, tdm-gw, h248, mgcp, pwe3. • **direction** = MEP direction (up, down) • **ccm-ltm-priority** = CCM LTM priority (0-7) • **continuity-check** (enabled, disabled) • **frame-measure-profile** = Index of frame measurement profile (1-20) • **delay-loss-mac** = MAC address for delay/loss measurement (x:x:x:x:x:x, auto) • **delay-measurement** = Frame delay measurement (enabled, disabled) • **loss-measurement** = Frame loss measurement (enabled, disabled) • **admin-state** = Admin state of port (enabled, disabled)
mep ont-port	Sets attributes for an ONT port associated to a maintenence endpoint specified by ont-id/ont-port. In ont-port: f=fast-eth, g=gig-eth, h=hpna-eth. • **direction** = MEP direction (up, down) • **ccm-ltm-priority** = CCM LTM priority (0-7) • **continuity-check** (enabled, disabled) • **frame-measure-profile** = Index of frame measurement profile (1-20) • **delay-loss-mac** = MAC address for delay/loss measurement (x:x:x:x:x:x, auto) • **delay-measurement** = Frame delay measurement (enabled, disabled) • **loss-measurement** = Frame loss measurement (enabled, disabled) • **admin-state** = Admin state of port (enabled, disabled)
mip ont-port	Sets attributes for a maintenance entity point specified by ont-id/ont-port = ONT port associated to maintenance. In ont-port: f=fast-eth, g=gig-eth, h=hpna-eth. • admin-state: enabled, disabled

name	New name of maintenance entity group. This is a text string.
vlan-id	Name of VLAN (or VLAN ID). VLANs can be specified by name or by numeric VLAN ID. Valid range: 1-4093. • **name** = new name of MEG • **level** = MEG level (0-7) • **meg-id-format** = Maintenance Entity Group ID (8021ag-maid 45 characters, y1731 13 characters) • **ccm-interval** = Continuity check send interval (none, 1sec, 10sec, 1min, 10min) • **auto-discover** = Auto-discovery of remote MEPs (enabled, disabled) • **auto-discovery-timeout** = Remote MEP auto-discovery (3.5-10.0) timeout, in seconds • **min-cc-defect** = Minimum continutity check fault required to raise an alarm (non, rdi: alarm remote defect indications, mac: alarm MAC sstatus defects, remote: alarm remote MEP defects, error: alarm receipt of CCM with incorrect time interval, xcon: alarm cross-connect defects) • **alarm-time** = Time that a defect must be present before an alarm is raised, in seconds (0.0-10.0) • **alarm-reset-period** = Time to wait after clearing an alarm before raising a lower priority alarm, in seconds (0.0-10.0)
m-level	MEG Level. This is a numeric value. Valid range: 0-7.
meg-id-format	MEG ID format. Valid values: 8021ag-maid, y1731.
ccm-interval	The interval for sending a continuity check. Valid values: none, 3.333-ms, 10-ms, 100-ms, 1-sec, 10-sec, 1-min, 10-min.
auto-discover	Auto-discovery of remote MEPs. Valid values: enabled, disabled.
auto-discovery-timeout	Remote MEP auto-discovery timeout. This is a numeric value. Valid range: 3.5-10.0.
min-cc-defect	(Optional) Minimum continuity check fault required to raise an alarm. Valid values: • **none** = do not alarm continuity check defects • **rdi** = alarm remote defect indications • **mac** = alarm MAC status defects • **remote** = alarm remote MEP defects • **error** = alarm receipt of CCM with incorrect time interval • **xcon** = alarm cross-connect defects
alarm-time	Time that a defect must be present before an alarm is raised (seconds). This is a numeric value. Value range: 0.0-10.0.
alarm-reset-period	Time to wait after clearing an alarm before raising a lower priority alarm. This is a numeric value. Valid range: 0.0-20.0.

set mgcp-profile

(E7 only) Sets attributes of a MGCP media gateway profile used by the MGCP service on a POTS port.

Syntax:

```
set mgcp-profile <p-name>  [pri-gw-controller|sec-gw-
controller|term-prefix|retry-timeout|restart-delay|flash-hook-
persist|on-hook-persist|off-hook-persist]
```

Parameters:

p-name	Name of the SIP profile. This is a text string.
pri-gw-controller	IP address or hostname of primary MGCP gateway controller. This is an IP address in "dotted quad" format: "192.168.1.100". Alternately, "none" can be used to reset the value to "0.0.0.0"
sec-gw-controller	IP address or hostname of secondary MGCP gateway controller. This is an IP address in "dotted quad" format: "192.168.1.100". Alternately, "none" can be used to reset the value to "0.0.0.0"
retry-timeout	Retry timeout (seconds). This is a numeric value in the range 4-50 (default: 30).
restart-delay	Restart delay (seconds). This is a numeric value in the range 1-600 (default: 1).
flash-hook-persist	Persist flash hook events. Valid values are: enabled disabled.
on-hook-persist	Persist on hook events. Valid values are: enabled disabled.
off-hook-persist	Persist off hook events. Valid values are: enabled disabled.

set mgmt-cfg

Sets the attributes of the system management interface. Also see Configuring the In-Band Management Interface.

Note: To unset any of the in-band management parameters, first issue the **`disable mgmt-cfg`** command.

Syntax:

```
set mgmt-cfg [vlan|ip|netmask|admin-state]
```

Parameters:

vlan	ID of management VLAN. This is a numeric value (range 2-4093). **Note:** Calix strongly recommends that you use a dedicated VLAN for management traffic. Using the Native VLAN for management traffic is not recommended.
ip	IP address for management interface. This is an IP address in "dotted quad" format: "192.168.1.100". Alternatively, "none" can be used to reset the value to "0.0.0.0."
netmask	Netmask for management interface. This is an IP address in "dotted quad" format: "192.168.1.100". Alternatively, "none" can be used to reset the value to "0.0.0.0."
admin-state	Enable or disable management IP interface. Valid values are: enabled, disabled.

set mgmt-ge

Sets attributes for the front panel Management-GE SFP ports on a Vectoring Control Processor (VCP).

Syntax:

```
set mgmt-ge [ip|netmask|admin-state]
```

Parameters:

ip	• IP address for the Management-GE. Valid values: valid IP address.
netmask	Subnet mask required for the network. Valid values: valid netmask.
admin-state	Optional) Admin state of port. Valid values are: enabled, disabled.

set mvr-profile

Renames a multicast VLAN registration profile or sets attributes for the specified multicast VLAN registration VLAN.

Syntax:

```
set mvr-profile <p-name> name <new-name>

set mvr-profile <p-name> vlan <vlan-id> [mcast-range-1|mcast-range-
2|mcast-range-3|mcast-range-4]
```

Parameters:

p-name	Name of multicast VLAN registration. This is a text string.
new-name	New name for multicast VLAN registration. This is a text string.
vlan-id	Name of a VLAN, a numeric VLAN ID (2 to 4093 except for 1002-1005 which are reserved for E7 operation), or a range of numeric VLAN IDs specified by a hyphen (for example, 100-200).
mcast-range-1	A range of multicast group addresses in dotted quad" format, separated by a dash. For example, "224.0.0.1-224.0.0.100".
mcast-range-2	A range of multicast group addresses in dotted quad" format, separated by a dash. For example, "224.0.0.1-224.0.0.100".
mcast-range-3	A range of multicast group addresses in dotted quad" format, separated by a dash. For example, "224.0.0.1-224.0.0.100".
mcast-range-4	A range of multicast group addresses in dotted quad" format, separated by a dash. For example, "224.0.0.1-224.0.0.100".

set ntp

Designates the NTP servers that the E-Series uses as a reference time source. The local time on the E-Series is set using a priority stratum of the NTP server clocks specified for server1, server2, and server3.

Syntax:

```
set ntp [server1|server2|server3|admin-state]
```

Parameters:

server1	NTP server. This is either a hostname or an IP address in "dotted quad" format: "192.168.1.100." Alternatively, "none" can be used to reset the value to "0.0.0.0."
server2	NTP server. This is either a hostname or an IP address in "dotted quad" format: "192.168.1.100." Alternatively, "none" can be used to reset the value to "0.0.0.0."
server3	NTP server. This is either a hostname or an IP address in "dotted quad" format: "192.168.1.100." Alternatively, "none" can be used to reset the value to "0.0.0.0."
admin-state	Admin state of NTP client. Valid values are: enabled, disabled.

set ont

(GPON applications only) Sets the attributes of an ONT.

Syntax:

```
set ont <ont ID> [battery-present|ip-host|ont-pon-cos|rf-
avo|profile|serial-number|reg-id|subscriber-id|description|ont-pwe3-
profile|pon-port|sdber-rate|admin-state|low-rx-opt-pwr-ne-
thresh|high-rx-opt-pwr-ne-thresh]
```

Parameters:

ont-id	Identifies ONT by a global ID (range 1-64000000). For example, 10001.
battery-present	Configures whether the ONT Battery Alarm is set to disabled, where any existing battery-related alarm will be cleared for that ONT and no battery-related alarms will be declared. The list of battery-related alarms includes "Battery Missing", "Battery Failure" and "Battery Low". Valid values: enabled, disabled. By default, the system will continue to monitor for battery backup (enabled).

ip-host	Configures an ONT to have an IP address so it can serve as an endpoint for services such as VoIP. In addition to IP address information, an ONT IP host also has VLAN configuration parameters so that traffic can be switched onto the appropriate layer 2 network. Valid options: **sip**, **tdm-gw**, **h248**, **mgcp**, **pwe3**. Each option has the following valid options: **svc-tag-action**, **outer-vlan**, **inner-vlan**, **host-config** (protocol to use for obtaining IP host configuration), **static-ip** (IP address to use for static configuration), **static-netmask** (IP netmask to use for static configuration), **static-gw** (IP address of default gateway to use for static configuration), and **host-name** for (H.248 and MGCP only), **ping** and **traceroute** (whether to respond to such messages) **config-file-instance** (for SIP only). • If the host-config is set to **dhcp**, the addresses for static-ip, static-netmask, and static-gw parameters are ignored, yet preserved. • If the host-config is set to **static**, you must also enter the addresses for static-ip, static-netmask, and static-gw parameters. • If the host-config is set to **no-ip** (PWE3 only), no IP address is specified. The host-name that will be transmitted in DHCP Option 81 is only supported for H.248 and MGCP.
ont-pon-cos	Name of ONT PON Cos to select from up to 4 previously-created PON Upstream CoS profiles, and map them to a Calix GE ONT. Valid values: user-1, user-2, user-3, user-4. • **pon-us-cos-profile** is the name of the PON upstream CoS profile to use. This is a text string.
rf-avo	Sets attributes for analog video overlay on an ONT. Valid options: rf-return-path with valid options: enabled, disabled, force-us-on, allow-long-bursts.
profile	Name of the ONT profile. This is a text string.
serial-number	(Optional) ONT serial number. This is a hexadecimal value.
reg-id	(Optional) ONT registration ID. This is a 1-10 alpha-numeric character text string.

subscriber-id	(Optional) ONT subscriber ID. This is a 1-63 character text string.
description	(Optional) ONT description. This is a 1-47 character text string.
ont-pwe3-profile	(Optional) Name of ONT PWE3 profile. This is a text string.
pon-port	(Optional) Unlinks the specified ONT indicated by the physical location of the ONT. Valid option: none to unlink this ONT from the current physical location.
sdber-rate	ONT upstream Signal Degraded Error Rate (SDBER) defined in 10-n. Valid values: 2-9.
admin-state	(Optional) Admin status of ONT. Valid values: enabled, no-alarms (enable ONT and suppress alarms), disabled.
low-rx-opt-pwr-ne-thresh	Low Threshold for an NE received optical power alarm. This is a numeric value in the range -30.0 to -7.0.
high-rx-opt-pwr-ne-thresh	High Threshold for an NE received optical power alarm. This is a numeric value in the range -30.0 to -7.0.

set ont-eth-gos

(GPON applications only) Creates an Ethernet grade-of-service (GOS) profile. GOS profiles are always referenced by a unique index number assigned using this command. A profile can be assigned to a specified ethernet port by using the **"set eth-port * eth-gos *"** command.

Syntax:

```
set ont-eth-gos <gos index> [fcs-frames*|excess-coll*|late-
coll*|long-frame*|rx-overflow*|tx-overflow*|single-coll*|multi-
coll*|sqe-count*|deferred-tx*|mac-tx*|carrier-sense-err*|alignment-
err*|mac-rx*]
```

Parameters:

gos index	A numeric index value, uniquely identifying the ONT Ethernet GOS profile object within the system. Index values start with 1.
fcs-err-15-min **fcs-err-1-day**	(Optional) Number of frames that failed FCS, but had an integral # of octets in a 15-minute or 1-day period. • GOS 15-minute thresholds are in the range 0-1000000000. • GOS 1-day thresholds are in the range 0-1000000000000.
excess-coll-15-min **excess-coll-1-day**	(Optional) Number of transmission failures due to excess collisions in a 15-minute or 1-day period. • GOS 15-minute thresholds are in the range 0-1000000000. • GOS 1-day thresholds are in the range 0-1000000000000.
late-coll-15-min **late-coll-1-day**	(Optional) Number of times collision is detected late in the process of frame transmission in a 15-minute or 1-day period. • GOS 15-minute thresholds are in the range 0-1000000000. • GOS 1-day thresholds are in the range 0-1000000000000.

long-frame-15-min **long-frame-1-day**	(Optional) Number of frames that are too-long in a 15-minute or 1-day period. • GOS 15-minute thresholds are in the range 0-1000000000. • GOS 1-day thresholds are in the range 0-1000000000000.
rx-overflow-15-min **rx-overflow-1-day**	(Optional) Number of Rx buffer overflows in a 15-minute or 1-day period. • GOS 15-minute thresholds are in the range 0-1000000000. • GOS 1-day thresholds are in the range 0-1000000000000.
tx-overflow-15-min **tx-overflow-1-day**	(Optional) Number of TX buffer overflows in a 15-minute or 1-day period. • GOS 15-minute thresholds are in the range 0-1000000000. • GOS 1-day thresholds are in the range 0-1000000000000.
single-coll-15-min **single-coll-1-day**	(Optional) Number of successful transmission that had one collision in a 15-minute or 1-day period. GOS 15-minute thresholds are in the range 0-1000000000.
	(Optional) Number of successful transmission that had one collision in a 1-day period. GOS 1-day thresholds are in the range 0-1000000000000.
multi-coll-15-min **multi-coll-1-day**	(Optional) Number of successful transmission that had multiple collisions in a 15-minute or 1-day period. • GOS 15-minute thresholds are in the range 0-1000000000. • GOS 1-day thresholds are in the range 0-1000000000000.
sqe-count-15-min **sqe-count-1-day**	(Optional) Number of SQE TEST ERROR messages generated by PLS sublayer in a 15-minute or 1-day period. • GOS 15-minute thresholds are in the range 0-1000000000. • GOS 1-day thresholds are in the range 0-1000000000000.

deferred-tx-15-min **deferred-tx-1-day**	(Optional) Number of transmissions deferred because medium was busy in a 15-minute or 1-day period. • GOS 15-minute thresholds are in the range 0-1000000000. • GOS 1-day thresholds are in the range 0-1000000000000.
mac-tx-15-min **mac-tx-1-day**	(Optional) Number of frames not transmitted due to internal MAC sublayer error in a 15-minute or 1-day period. • GOS 15-minute thresholds are in the range 0-1000000000. • GOS 1-day thresholds are in the range 0-1000000000000.
carrier-sense-err-15-min **carrier-sense-err-1-day**	(Optional) Number of transmission attempts in which carrier sense was lost or not asserted in a 15-minute or 1-day period. • GOS 15-minute thresholds are in the range 0-1000000000. • GOS 1-day thresholds are in the range 0-1000000000000.
alignment-err-15-min **alignment-err-1-day**	(Optional) Number of frames that failed FCS and did not have an integral number of octets in a 15-minute or 1-day period. • GOS 15-minute thresholds are in the range 0-1000000000. • GOS 1-day thresholds are in the range 0-1000000000000.
max-rx-15-min **max-rx-1-day**	(Optional) Number of frames not received due to internal MAC sublayer error in a 15-minute or 1-day period. • GOS 15-minute thresholds are in the range 0-1000000000. • GOS 1-day thresholds are in the range 0-1000000000000.

us-dropped-pkt-15-min **us-dropped-pkt-1-day** **ds-dropped-pkt-15-min** **ds-dropped-pkt-1-day**	(Optional) Number of events where upstream packets were dropped in a 15-minute or 1-day period. • GOS 15-minute thresholds are in the range 0-1000000000. • GOS 1-day thresholds are in the range 0-1000000000000.
us-octets-15-min **us-octets-1-day** **ds-octets-15-min** **ds-octets-1-day**	(Optional) Number of of upstream, or downstream, octets received in a 15-minute or 1-day period. • GOS 15-minute thresholds are in the range 0-1000000000. • GOS 1-day thresholds are in the range 0-1000000000000.
us-total-pkt-15-min **us-total-pkt-1-day** **ds-total-pkt-15-min** **ds-total-pkt-1-day**	(Optional) Number of upstream, or downstream, packets received, including bad, broadcast, and multicast packets in a 15-minute or 1-day period. • GOS 15-minute thresholds are in the range 0-1000000000. • GOS 1-day thresholds are in the range 0-1000000000000.
us-bcast-pkt-15-min **us-bcast-pkt-1-day** **ds-bcast-pkt-15-min** **ds-bcast-pkt-1-day**	(Optional) Number of upstream, or downstream, good packets received that were directed to the broadcast address in a 15-minute or 1-day period. • GOS 15-minute thresholds are in the range 0-1000000000. • GOS 1-day thresholds are in the range 0-1000000000000.
us-mcast-pkt-15-min **us-mcast-pkt-1-day** **ds-mcast-pkt-15-min** **ds-mcast-pkt-1-day**	(Optional) Number of upstream, or downstream, good packets received that were directed to a multicast address in a 15-minute or 1-day period. • GOS 15-minute thresholds are in the range 0-1000000000. • GOS 1-day thresholds are in the range 0-1000000000000.

us-crc-err-15-min **us-crc-err-1-day** **ds-crc-err-15-min** **ds-crc-err-1-day**	(Optional) Number of upstream, or downstream, packets received, between 64-1518 octets, with a bad FCS in a 15-minute or 1-day period. • GOS 15-minute thresholds are in the range 0-1000000000. • GOS 1-day thresholds are in the range 0-1000000000000.
us-oversz-pkt-15-min **us-oversz-pkt-1-day** **ds-oversz-pkt-15-min** **ds-oversz-pkt-1-day**	(Optional) Number of upstream, or downstream, packets received that were longer than 1518 octets in a 15-minute or 1-day period. • GOS 15-minute thresholds are in the range 0-1000000000. • GOS 1-day thresholds are in the range 0-1000000000000.
us-undersz-pkt-15-min **us-undersz-pkt-1-day** **ds-undersz-pkt-15-min** **ds-undersz-pkt-1-day**	(Optional) Number of upstream, or downstream, packets received that were less than 64 octets long in a 15-minute or 1-day period. • GOS 15-minute thresholds are in the range 0-1000000000. • GOS 1-day thresholds are in the range 0-1000000000000.
us-64-pkt-15-min **us-64-pkt-1-day** **ds-64-pkt-15-min** **ds-64-pkt-1-day**	(Optional) Number of upstream, or downstream, received packets (including bad packets) that were 64 octets long in a 15-minute or 1-day period. • GOS 15-minute thresholds are in the range 0-1000000000. • GOS 1-day thresholds are in the range 0-1000000000000.

us-65to127-pkt-15-min **us-65to127-pkt-1-day** **ds-65to127-pkt-15-min** **ds-65to127-pkt-1-day**	(Optional) Number of upstream, or downstream, received packets (including bad packets) that were 65-127 octets in a 15-minute or 1-day period. • GOS 15-minute thresholds are in the range 0-1000000000. • GOS 1-day thresholds are in the range 0-1000000000000.
us-128to255-pkt-15-min **us-128to255-pkt-1-day** **ds-128to255-pkt-15-min** **ds-128to255-pkt-1-day**	(Optional) Number of upstream, or downstream, received packets (including bad packets) that were 128-255 octets in a 15-minute or 1-day period. • GOS 15-minute thresholds are in the range 0-1000000000. • GOS 1-day thresholds are in the range 0-1000000000000.
us-256to511-pkt-15-min **us-256to511-pkt-1-day** **ds-256to511-pkt-15-min** **ds-256to511-pkt-1-day**	(Optional) Number of upstream, or downstream, received packets (including bad packets) that were 256-511 octets in a 15-minute or 1-day period. • GOS 15-minute thresholds are in the range 0-1000000000. • GOS 1-day thresholds are in the range 0-1000000000000.
us-512to1023-pkt-15-min **us-512to1023-pkt-1-day** **ds-512to1023-pkt-15-min** **ds-512to1023-pkt-1-day**	(Optional) Number of upstream, or downstream, received packets (including bad packets) that were 512-1023 octets in a 15-minute or 1-day period. • GOS 15-minute thresholds are in the range 0-1000000000. • GOS 1-day thresholds are in the range 0-1000000000000.

us-1024to1518-pkt-15-min **us-1024to1518-pkt-1-day** **ds-1024to1518-pkt-15-min** **ds-1024to1518-pkt-1-day**	(Optional) Number of upstream, or downstream, received packets (including bad packets) that were 1024-1518 octets in a 15-minute or 1-day period. • GOS 15-minute thresholds are in the range 0-1000000000. • GOS 1-day thresholds are in the range 0-1000000000000.

set ont-port

(GPON applications only) Sets the attributes for a service on an ONT port.

Syntax:

```
set ont-port <port> [eth-svc|mgcp-svc|h248-gw-svc|pwe3-svc|sip-
svc|tdm-gw-svc|subscriber-id|description|speed|duplex|802.3ah-
events|802.3ah-lb-accept|eth-sec-profile|ont-eth-gos|force-
dot1x|ont-t1-gos|line-code|line-length|line-length-metric|loopback-
mode|in-band-loopback|impedance|disable-on-batt|signal-type|system-
rx-loss|system-tx-loss|mgmt-mode|wan-protocol|static-ip|static-
netmask|static-gw|pppoe-username|pppoe-password|dscp-p-bit-
map|instance|rg-mgmt-profile|tr69-eth-svc|outer-vlan|inner-
vlan|admin-state|dhcp-limit-override|remote-access-time|primary-dns-
server|secondary-dns-server]
```

Parameters:

port	ONT ports are specified by ONT logical ID, port type, and port number. The port type is indicated by a single character: g=Gigabit Ethernet, h=HPNA Ethernet, r=video RF, R=video Hot RF, d=DS-1, t=t1, p=POTS, G=res-gw, F=full-bridge. For example: 25/p2 = the second POTS port on ONT 25.
eth-svc	Indicating an Ethernet service (data or video) for the ONT port and the name of the service. • **bw-profile** (Name of bandwidth profile to use. This is a text string) • **svc-tag-action** (Name of ONT tag action. This is a text string.) • **outer-vlan** (Outer tag VLAN ID. VLAN is specified by a numeric VLAN ID, which ranges from 1-4093. Alternately, "none" indicates that no VLAN ID is specified by this service.) • **inner-vlan** (Inner tag VLAN ID. VLAN is specified by a numeric VLAN ID, which ranges from 1-4093. Alternately, "none" indicates that no VLAN ID is specified by this service.) • **mcast-profile** (Name of multicast profile. This is a text string.) • **description** (Description of Ethernet service. This is a text string.) • **pon-cos** (ONT PON upstream Class of Service. Valid values: derived, user-1, user-2, user-3, user-4, cos-1, cos-2, cos-3, cos-4, fixed.) • **admin-state** (Admin state of ONT service. Valid values: enabled, disabled.)
h248-gw-svc	Sets attributes for H.248 gateway service. • **h248-profile** (Name of MGCP profile to use.) • **termination-id** (H.248 termination ID.) • **admin-state** (Admin state of ONT service. Valid values: enabled, disabled.)

mgcp-svc	Sets attributes for MGCP gateway service. • **mgcp-profile** (Name of profile to use.) • **gr-303** (GR-303 signaling. Valid values: enabled, disabled.) • **admin-state** (Admin state of ONT service. Valid values: enabled, disabled.)
pwe3-svc	Indicating a pseudo-wire service (T1) for the ONT port. • **t1-pwe3-profile** (Name of profile to use.) • **transport-type** (Transport type for pseudo-wire. Valid values: udp, mef.) • **local-port** (Local UDP port to use: 1024-65534) • **remote-ip** (IP address of the remote end of the pseudo-wire. This is an IP address in "dotted quad" format: "192.168.1.100". Alternatively, "none" can be used to reset the value to "0.0.0.0") • **remote-port** (UDP port at the remote of of the pseudo-wire. This is an TCP or UDP port number. Valid range: 0-65535.) • **ecid** (Emulated circuit ID values: 1-1048575) • **remote-ecid** (Remote emulated circuit ID values: 1-1048575) • **remote-mac** (MAC address of the remote end of the pseudo-wire) • **ont-pwe3-svc-gos** (Index of ONT PWE3 Service GOS profile to use: 1-10) • **outer-vlan** (Outer tag VLAN ID. VLAN is specified by a numeric VLAN ID, which ranges from 1-4093. Alternately, "none" indicates that no VLAN ID is specified by this service.) • **inner-vlan** (Inner tag VLAN ID. VLAN is specified by a numeric VLAN ID, which ranges from 1-4093. Alternately, "none" indicates that no VLAN ID is specified by this service.) • **admin-state** (Admin state of ONT service. Valid values: enabled, disabled.)

sip-svc	Indicating a SIP voice service (POTS) for the ONT port. • **sip-rmt-cfg-profile** (Name of SIP remote configuration profile to use.) • **sip-gw-profile** (Name of SIP gateway profile to use.) • **user** (Username) • **password** (User password) • **uri** (This is the Universal Resource Indicator of the port. If a local URI is "aaa@bbb", "aaa" is the telephone number configured, and "bbb" is the domain name of the SIP server configured. SIP for messages sent to an IP address/domain name, or for messages sent to addresses represented as telephone numbers.) • **sip-rmt-cfg-override** (Whether the SIP configuration file overrides the local provisioning. Valid values: enabled, disabled.) • **call-waiting** (Valid values: enabled, disabled.) • **caller-id** (Valid values: enabled, disabled.) • **three-way-calling** (Valid values: enabled, disabled.) • **t38-fax-relay** (Valid values: enabled, disabled.) • **dial-plan** (Name of plan to use.) • **admin-state** (Admin state of ONT service. Valid values: enabled, disabled.) • **direct-connect** (Warm-line or hot-line phone number. Valid values: maximum 15 characters.) • **direct-connect-timer** (Warm-line or hot-line timer value in seconds. Valid values: 0-35) • **msg-waiting-indicator** (Valid values: enabled, disabled.)
tdm-gw-svc	Indicating a TDM Gateway voice service (POTS) for the ONT port. • **ip-host** (Name of linecard IP Host to use.) • **tdm-gw-profile** (Name of profile to use.) • **crv** (Call Reference Value Access Identifier identifies the CRV (circuit) address of a subscriber line in a GR-303 interface group. Enter this CRV number for this subscriber line, as provisioned on the Calix C7 gateway interface group (case sensitive). For example, **N1-1-IG1-224.** Cross-Connect DS0 Ports to GR-303 Interface Group CRVs Call Reference Values (CRVs) are used to build translation tables on the Class 5 switch that map remote connections to internal circuits at the switch.) • **admin-state** (Admin state of ONT service. Valid values: enabled, disabled.)
subscriber-id	Index or name of subscriber. This is a text string.
description	(Optional) Description of ONT port service. This is a text string.
speed	(Ethernet port only) Data rate of Ethernet port in Mb/s. Valid values: auto, 10, 100, 1000.
duplex	(Ethernet port only) Duplex mode for Ethernet port. Valid values: duplex, half-duplex.

802.3ah-events	(Ethernet port only) 802.3ah link events must be enabled, along with 802.3ah-lb-accept, before you can initiate an OAM 802.3ah loopback test. Valid values: enabled, disabled.
802.3ah-lb-accept	(Ethernet port only) 802.3ah loopback accept must be enabled, along with 802.3ah-events, before you can initiate an OAM 802.3ah loopback test. Valid values: enabled, disabled.
eth-sec-profile	(Ethernet port only) Name of security profile to use. This is a text string.
ont-eth-gos	(Ethernet port only) Index of ONT Ethernet GOS profile to use for port.
dscp-p-bit-map	(Ethernet port only) Name of DSCP to p-bit map use on ingress. This is a text string.
dhcp-limit-override	(Ethernet port only) For DOCSIS provisioning (with the Calix Compass: Open Link Cable vCMTS) to allow an override of the DHCP Lease Limit specified in a security profile applied to a port. This allows the same security profile to be reused and also allows the required DOCSIS provisioning where the lease limit is specified individually on the port on which the new service will be added. See the *Calix Open Link Cable vCMTS Command-Line Interface (CLI) Reference Guide* and *Calix Open Link Cable vCMTS SNMP Management Guide* for more information. Valid values: none, no limit, 0-255.
force-dot1x	(Ethernet port only) An 802.1x supplicant attribute to force the supplicant to be unauthorized or authorized until the force attribute is set to none. Valid values: none, authorized, unauthorized.
ont-T1-gos	(T1 port only) Index of ONT T1 GOS profile to use for port.
line-code	(T1 port only) T1 line code. Valid values: b8zso (B8ZSo line code), ami (AMI line code).
line-length	(T1 port only) T1 line length in feet. Valid values: up to - 110, 220, 330, 440, 550, 660.
line-length-metric	(T1 port only) T1 line length in meters. Valid values: up to - 33.528, 67.056, 100.584, 134.112, 167.64, 201.168.
loopback-mode	(T1 port only) T1 loopback mode. Valid values: none, payload, equipment.

in-band-loopback	Enable in-band mode. Valid values: enabled, disabled.
impedance	Impedance value for T1/E1 in ohms.
disable-on-batt	Port operational state when battery power takes place on power outage. Valid values: enabled, disabled.
mgmt-mode	(Home Gateway only) Management Mode of RG port. Valid values are: native, external.
wan-protocol	(Home Gateway only) WAN Protocol for RG Port in Native Mgmt Mode. Valid values are: dhcp, static, pppoe.
static-ip	(Home Gateway only) Static IP Address for RG port in Native Mode. This is an IP address in "dotted quad" format: "192.168.1.100". Alternately, "none" can be used to reset the value to "0.0.0.0".
static-netmask	(Home Gateway only) IP netmask for RG port in Native Mode. This is an IP address in "dotted quad" format: "192.168.1.100". Alternately, "none" can be used to reset the value to "0.0.0.0".
static-gw	(Home Gateway only) IP address of default gateway for RG port in Native Mode. This is an IP address in "dotted quad" format: "192.168.1.100". Alternately, "none" can be used to reset the value to "0.0.0.0".
pppoe-username	(Home Gateway only) PPPoE User Name for RG port in Native Mode. This is a text string.
pppoe-password	(Home Gateway only) PPPoE Password for RG port in Native Mode. This is a text string.
instance	(Home Gateway only) Logical index of ONT grouping. Valid values: none, rg-1 (17) through rg-8 (24).
rg-mgmt-profile	(Home Gateway only) Name of RG management profile. This is a text string.
tr69-eth-svc	(Home Gateway only) Name or index of eth-svc for inband TR69 mgmt. This is a text string.
outer-vlan	(Home Gateway only) Out-of-band TR-69 outer VLAN for 1:1. VLANs is specified by numeric VLAN ID, which ranges from 1-4093. Alternately, "none" indicates that no VLAN ID is specified by this service.
inner-vlan	(Home Gateway only) Out-of-band TR-69 inner VLAN for 1:1. VLANs is specified by numeric VLAN ID, which ranges from 1-4093. Alternately, "none" indicates that no VLAN ID is specified by this service.

remote-access-time	(Home Gateway only) RG web interface remote access time. Valid values: 0-1440 minutes.
primary-dns-server	(Home Gateway only) Primary DNS server IP.
secondary-dns-server	(Home Gateway only) Secondary DNS server IP.
signal-type	(Voice port only) Signal type for POTS line. Valid values: loop-start, ground-start.
system-rx-loss	(Voice port only) System receive (rx) loss plan for POTS (voice) line. Valid values: • **GR-909** loss plan (less attenuation of -2 dB – higher signal level) is more compatible with GR-303 type phone systems. • **ANSI** loss plan (more attenuation of -3 dB – lower signal level) is more compatible with American VoIP type phone systems. • **ETSI-pstn** loss plan (more attenuation of -4 dB - lowest signal level) is more compatible with European VoIP type phone systems. • **Manual** loss plan allows you to set the receive gain from the range -12.0 to 6.0 dB.
system-tx-loss	(Voice port only) System transmit (tx) loss plan for POTS (voice) line. Valid values: • **GR-909** loss plan (less attenuation of -2 dB – higher signal level) is more compatible with GR-303 type phone systems. • **ANSI** loss plan (more attenuation of -3 dB – lower signal level) is more compatible with American VoIP type phone systems. • **ETSI-pstn** loss plan (more attenuation of -4 dB - lowest signal level) is more compatible with European VoIP type phone systems. • **Manual** loss plan allows you to set the transmit gain from the range -12.0 to 6.0 dB.
receive-gain	(Voice port only) Receive gain for a voice port. This attribute is in effect only when the System Rx Loss Plan is set to manual. Valid range is -12.0 - 6.0 dB.
transmit-gain	(Voice port only) Transmit gain for a voice port. Valid range is -12.0 - 6.0 dB.
POTs Holdover Time	(Voice port only for P-Series GE only) To comply with the National Fire Alarm and Signaling Code standard (NFPA-72), the period that a POTS voltage is held up when there is a loss of communications with the central station, when set. Valid range is 0 - 120. A value of "0" effectively disables the timer.
Loss of Switch	(Voice port only P-Series GE only) To comply with the National Fire Alarm and Signaling Code standard (NFPA-72), the state of the POTS holdover timer. Valid values: enabled, disabled.
admin-state	(Optional) Admin state of ONT service. Valid values: enabled, disabled.

set ont-profile

(GPON applications only) Sets attributes of an ONT profile.

Syntax:

```
set ont-profile <p-name> vendor-id <v-id> [model|pots-ports|fast-
eth-ports|gig-eth-ports|hpna-ports|t1-ports|vid-ports|hot-vid-
ports|eth-oam-capable|convert-mcast-capable|residential-gw-
ports|full-bridge-ports|default-to-rg-mode]
```

Parameters:

p-name	Name of the ONT profile. This is a text string.
name	New name for ONT profile. This is a text string.
vender-id	Vendor ID for ONT profile. This is a text string.
model	(Optional) Model for ONT profile.
pots-ports	(Optional) Number of POTS ports. This is a numeric value in the range 0-8.
fast-eth-ports	(Optional) Number of Fast Ethernet ports. This is a numeric value in the range 0-8.
gig-eth-ports	(Optional) Number of Gigabit Ethernet ports. This is a numeric value in the range 0-8.
hpna-ports	(Optional) Number of HPNA Ethernet ports. This is a numeric value in the range 0-8.
t1-ports	(Optional) Number of T1 ports. This is a numeric value in the range 0-8.
vid-ports	(Optional) Number of RF video ports. This is a numeric value in the range 0-8.
hot-vid-ports	(Optional) Number of hot RF video ports. This is a numeric value in the range 0-8.
eth-oam-capable	(Optional) ONT capability of Ethernet OAM. Valid values: no, yes.
convert-mcast-capable	(Optional) ONT capability of converting multicast to unicast. Valid values: no, yes.
residential-gw-ports	(Optional) Number of Residential Gateway Virtual ports. This is a numeric value in the range 0-8.
full-bridge-ports	(Optional) Number of Full Bridge Virtual ports. This is a numeric value in the range 0-8.

default-to-rg-mode	(Optional) ONT should default to Residential Gateway Mode. Valid values are: no, yes.

set ont-pwe3-profile

(GPON applications only) Sets attributes for an ONT PWE3 profile.

Syntax:

```
create ont-pwe3-profile <p-name> [name|tdm-mode]
```

Parameters:

p-name	Name of the ONT PWE3 profile. This is a text string.
name	(Optional) The new name for the PWE3 profile. This is a text string.
tdm-mode	(Optional) TDM mode. Valid values: e1, t1.

set ont-pwe3-svc-gos

(GPON applications only) Sets the attributes of an ONT PWE3 service grade-of-service (GoS) profile.

Syntax:

```
set ont-pwe3-svc-gos <gos index> [missing-pkts*|misorder-
usable*|misorder-drop*|buffer-err*|malformed-pkts*|stray-pkts*|rmt-
loss*|tdm-lbit-sent*|es*|ses*|uas*]
```

Parameters:

gos index	A numeric index value, uniquely identifying the ONT PWE3 service GOS profile object within the system. Index values 1-10.
missing-pkts-15-min	Number of missing packets in a 15-minute period (range 0-1000000000).
missing-pkts-1-day	Number of missing packets in a 1-day period (range 0-1000000000000).
misorder-usable-15-min	Number of misordered, but usable packets in a 15-minute period (range 0-1000000000).
misorder-usable-1-day	Number of misordered, but usable packets in a 1-day period (range 0-1000000000000).
misorder-drop-15-min	Number of misordered, dropped packets in a 15-minute period (range 0-1000000000).
misorder-drop-1-day	Number of misordered, dropped packets in a 1-day period (range 0-1000000000000).
buffer-err-15-min	Number of buffer over/underruns in a 15-minute period (range 0-1000000000).
buffer-err-1-day	Number of buffer over/underruns in a 15-minute period (range 0-1000000000000).
malformed-pkts-15-min	Number of malformed packets in a 15-minute period (range 0-1000000000).
malformed-pkts-1-day	Number of malformed packets in a 1-day period (range 0-1000000000000).
stray-pkts-15-min	Number of stray packets in a 15-minute period (range 0-1000000000).
stray-pkts-1-day	Number of stray packets in a 1-day period (range 0-1000000000000).

rmt-loss-15-min	Number of remote packet losses in a 15-minute period (range 0-1000000000).
rmt-loss-1-day	Number of remote packet losses in a 1-day period (range 0-1000000000000).
tdm-lbit-sent-15-min	Number of TDM L-bit packets sent in a 15-minute period (range 0-1000000000).
tdm-lbit-sent-1-day	Number of TDM L-bit packets sent in a 1-day period (range 0-1000000000000).
es-15-min	Number of errored seconds in a 15-minute period (range 0-1000000000).
es-1-day	Number of errored seconds in a 1-day period (range 0-1000000000000).
ses-15-min	Number of severely errored seconds in a 15-minute period (range 0-1000000000).
ses-1-day	Number of severely errored seconds in a 1-day period (range 0-1000000000000).
uas-15-min	Number of unavailable seconds in a 15-minute period (range 0-1000000000).
uas-1-day	Number of unavailable seconds in a 1-day period (range 0-1000000000000).

set ont-t1-gos

(GPON applications only) Sets an ONT T1 grade-of-service (GOS) profile. GOS profiles are always referenced by a unique index number assigned using this command.

Syntax:

```
set ont-t1-gos <gos index> [es-*|ses-*|bes-*|uas-*|css-*]
```

Parameters:

gos index	A numeric index value, uniquely identifying the ONT Ethernet port GOS profile object within the system. Index values 1-10.
es-15-min	Number of errored seconds in a 15-minute period.
es-1-day	Number of errored seconds in a 1-day period. This is a numeric value (range 0-1000000000000).
ses-15-min	Number of severely errored seconds in a 15-minute period (range 0-1000000000).
ses-1-day	Number of severely errored seconds in a 1-day period. This is a numeric value (range 0-1000000000000).
bes-15-min	Number of bursty errored seconds in a 15-minute period (range 0-1000000000).
bes-1-day	Number of bursty errored seconds in a 1-day period. This is a numeric value (range 0-1000000000000).
uas-15-min	Number of unavailable seconds in a 15-minute period (range 0-1000000000).
uas-1-day	Number of unavailable seconds in a 1-day period. This is a numeric value (range 0-1000000000000).
css-15-min	Number of controlled slip seconds in a 15-minute period (range 0-1000000000).
css-1-day	Number of controlled slip seconds in a 1-day period. This is a numeric value (range 0-1000000000000).

set password

Starts the process of changing a user's password. The system prompts for the current password, a new password, and then requests the new password again for confirmation. This command can be used by all levels of users.

Syntax:

```
set password
```

Parameters:

none

set policy

Sets attributes of a policy.

Policy maps are lists of QoS-related actions to take on packets that match certain criteria. The matching criteria is specified by a classification map.

Syntax:

```
set policy <policy index> map <p-map name> option [class-map|set-
pbit|rate-limit|max-burst-size]
```

Parameters:

policy index	Numeric value for index of policy in map, uniquely identifying the object within the system. Index values 1-255.
p-map name	Name of policy map. This is a text string.
class-map	Name of classification map. This is a text string.
set-pbit	VLAN priority value. P-bit values are in the range 0-7. Alternatively, "none" means the P-bit value is not set. If this parameter is not specified, "none" is the default behavior.
rate-limit	Max ingress rate (megabits/s). This is a numeric value.
max-burst-size	Max burst size (kilobits or megabits). This is a numeric value.

set policy-map

Renames a policy map.

Policy maps are lists of QoS-related actions to take on packets that match certain criteria. The matching criteria is specified by a classification map

Syntax:

```
set policy-map <p-map name> name <new name>
```

Parameters:

p-map name	Name of policy map. This is a text string.
new name	New name of policy map. This is a text string.

set pon-cos-cfg

(E7 only)

Sets global PON port class of service (COS) configuration.

Each GPON port provides four classes of service for forwarding traffic. Traffic is placed in a class based on the P-bit value in the VLAN tag. Since there are 8 possible P-bit values, there is not a one-to-one mapping between P-bit values and the classes of service. The configuration for each class defines the P-bit values that will be included in the class, and the forwarding type. The configurations described here apply to all GPON ports in the system. The rates and scheduling priority within each class are not defined here. These values can be adjusted for each class on each port.

Syntax:

```
set pon-cos-cfg <cos*-type|cos*-low-p-bit|cos*-high-p-bit>
```

Parameters:

cos1-type	(Optional) Forwarding type for CoS 1. Valid values: expedited, assured, best-effort, none. "None" indicates no forwarding (CoS is unused).
cos1-low-p-bit	(Optional) Low bit value for CoS 1. Valid values: 0-7 or none. "None" is the default behavior and indicates the P-bit value is not set.
cos1-high-P-bit	(Optional) High P-bit value for CoS 1. Valid values: 0-7 or none. "None" is the default behavior and indicates the P-bit value is not set.
cos2-type	(Optional) Forwarding type for CoS 2. Valid values: expedited, assured, best-effort, none. "None" indicates no forwarding (CoS is unused).
cos2-low-p-bit	(Optional) Low bit value for CoS 2. Valid values: 0-7 or none. "None" is the default behavior and indicates the P-bit value is not set.
cos2-high-P-bit	(Optional) High P-bit value for CoS 2. Valid values: 0-7 or none. "None" is the default behavior and indicates the P-bit value is not set.
cos3-type	(Optional) Forwarding type for CoS 3. Valid values: expedited, assured, best-effort, none. "None" indicates no forwarding (CoS is unused).
cos3-low-p-bit	(Optional) Low bit value for CoS 3. Valid values: 0-7 or none. "None" is the default behavior and indicates the P-bit value is not set.

cos3-high-p-bit	(Optional) High P-bit value for CoS 3. Valid values: 0-7 or none. "None" is the default behavior and indicates the P-bit value is not set.
cos4-type	(Optional) Forwarding type for CoS 4. Valid values: expedited, assured, best-effort, none. "None" indicates no forwarding (CoS is unused).
cos4-low-p-bit	(Optional) Low bit value for CoS 4. Valid values: 0-7 or none. "None" is the default behavior and indicates the P-bit value is not set.
cos4-high-p-bit	(Optional) High P-bit value for CoS 4. Valid values: 0-7 or none. "None" is the default behavior and indicates the P-bit value is not set.

set pon-us-cos-prof

(E7 only)

Sets attributes of a PON Upstream Class of Service (CoS) Profile that describes the per-ONT upstream classification.

Syntax:

```
set pon-us-cos-prof <p-name> [name|cos-type|prio|cir-bw|pir-bw]
```

Parameters:

p-name	Name of PON upstream class of service profile. This is a text string.
name	New name of PON upstream class of service profile. This is a text string.
cos-type	Forwarding type for CoS. Valid values are: expedited assured best-effort.
prio	PON COS queue to use. This is a numeric value in the range 1-4 (default: 1).
cir-bw	Committed Information Rate (CIR) Bandwidth (Mb). This is a numeric value in the range 0-1200 Mb, or aggregated. (default: aggregated).
pir-bw	Peak Information Rate (PIR) Bandwidth (Mb). This is a numeric value in the range 0-1200 Mb, aggregated (default: aggregated).

set pots-port

(E7-20 not supported) Sets attributes for a POTS port.

Syntax:

```
set pots-port <p-port> [h248-gw-svc|sip-svc|tdm-gw-svc|subscriber-
id|description|signal-type|system-rx-loss|system-tx-loss|disable-on-
batt|admin-state]
```

Parameters:

p-port	POTS port specified. • For E7-2, shelf (if modular chassis), card number, and port number, separated by a slash. For example, 1/1. • For E-series, port number. For example, 4.
h248-gw-svc	Sets attributes for H.248 service on POTS ports. • **h248-gw** (name of service) • **termination-id** (H.248 termination ID) • **admin-state** (Valid values: enabled, disabled)
sip-svc	Sets attributes for SIP service on POTS ports. • **ip-host** (name of linecard IP Host) • **sip-gw-profile** (name of SIP gateway profile) • **user** (user name) • **password** (user password) • **uri** (universal resource identifier for SIP service) • **call-waiting** (Valid values: enabled, disabled) • **caller-id** (Valid values: enabled, disabled) • **three-way-calling** (Valid values: enabled, disabled) • **t38-fax-relay** (Not supported for VDLS2 services.) • **dial-plan** (name of dial plan) • **direct-connect** (Warm-line or hot-line phone number, maximum 15 characters.) • **direct-connect-timer** (Warm-line or hot-line timer value in seconds. Valid values: 0-35) • **admin-state** (Valid values: enabled, disabled)
tdm-gw-svc	Sets attributes for TDM gateway service. • **ip-host** (name of linecard IP Host) • **tdm-gw-profile** (name of TDM gateway profile) • **crv** (call reference value string) • **admin-state** (Valid values: enabled, disabled)
subscriber-id	Subscriber ID. This is a text string.
description	Description of this port. This is a text string.
signal-type	Signal type for POTS line. Valid values: loop-start.

system-rx-loss	System receive loss plan for POTS line. Valid values: • **GR-909** loss plan (less attenuation of -2 dB – higher signal level) is more compatible with GR-303 type phone systems. • **ANSI** loss plan (more attenuation of -3 dB – lower signal level) is more compatible with American VoIP type phone systems. • **ETSI-pstn** loss plan (more attenuation of -4 dB - lowest signal level) is more compatible with European VoIP type phone systems. • **Manual** loss plan allows you to set the receive gain from the range -12.0 to 6.0 dB.
system-tx-loss	System transmit loss plan for POTS line. Valid values: • **GR-909** loss plan (less attenuation of -2 dB – higher signal level) is more compatible with GR-303 type phone systems. • **ANSI** loss plan (more attenuation of -3 dB – lower signal level) is more compatible with American VoIP type phone systems. • **ETSI-pstn** loss plan (more attenuation of -4 dB - lowest signal level) is more compatible with European VoIP type phone systems. • **Manual** loss plan allows you to set the transmit gain from the range -12.0 to 6.0 dB.
impedance	Impedance value for line in ohms. Valid values: 600, 900.
disable-on-batt	Conserve power when on battery. Valid values: yes, no.
admin-state	Admin state of port. Valid values: enabled, no-alarms, disabled.
receive-gain	Receive gain. Valid range is -12 to 6 dB.
transmit-gain	Transmit gain. Valid range is -12 to 6 dB.

set power

(E7 only)

Sets whether to monitor one power source, both power sources, or neither.

- For the E7-20 system, this command can set only the power monitoring mode for a specified power zone.
- For the E7 modular chassis system, this command is not supported. Instead, use the **set shelf** command to show the power monitoring attributes for an MC shelf.

Syntax:

```
(E7-20 only) set power-zone <index> monitor-mode <monitor-mode>
[admin-state]

(E7-2 stand-alone only) set power monitor-mode <monitor-mode>

(E7-2 modular chassis only) set shelf <s-number> power [monitor-
mode]
```

Parameters:

index	Index of power zone for E7-20. Valid values: 1,2,3.
monitor-mode	Power monitoring mode. Valid values: a, b, both, none.
admin-state	Admin state of the power or power zone for E7-20. Valid values: enabled, no-alarms.

set pppoe-profile

Sets attributes of a specified PPPoE profile.

Syntax:

```
set pppoe-profile <name> [mode|stale-timeout|disc-timeout|allowed-
bng-1|allowed-bng-2|allowed-bng-3|allowed-bng-4]
```

Parameters:

name	Name of PPPoE profile. This is a text string.
mode	PPPoE mode. Valid values: auto, iwf, relay, snoop.
stale-timeout	Stale timeout (seconds). This is a numeric value in the range 10-300 (default: 10).
disc-timeout	Disconnect timeout (seconds). This is a numeric value in the range 10-300 (default: 10).
allowed-bng-1	Allowed BNG MAC address or OUI. Allowed BNGs are MAC addresses, hexadecimal digits with optional colons. Alternately, the keyword "none" indicates that all BNG MACs are allowed.
allowed-bng-2	Allowed BNG MAC address or OUI. Allowed BNGs are MAC addresses, hexadecimal digits with optional colons. Alternately, the keyword "none" indicates that all BNG MACs are allowed.
allowed-bng-3	Allowed BNG MAC address or OUI. Allowed BNGs are MAC addresses, hexadecimal digits with optional colons. Alternately, the keyword "none" indicates that all BNG MACs are allowed.
allowed-bng-4	Allowed BNG MAC address or OUI. Allowed BNGs are MAC addresses, hexadecimal digits with optional colons. Alternately, the keyword "none" indicates that all BNG MACs are allowed.

set radius-acct-server

Sets a RADIUS accounting server to the system.

Syntax:

```
set radius-acct-server <priority> [host|secret>|port]
```

Parameters:

priority	The priority order in which the radius servers are accessed. The allowed range is 1 to 100.
host	(Optional) Hostname or IP address of the RADIUS server. This is in "dotted quad" format: "192.168.1.100". Alternately, "none" can be used to reset the value to "0.0.0.0".
secret	(Optional) The "shared secret" for the E7 and the RADIUS server. This is a text string. From 1 to 16 ASCII characters. This string must match the string configured in the RADIUS server.
port	(Optional) port number for the RADIUS server. This is an TCP or UDP port number. The allowed range is 1 to 65535.

set radius-auth-server

Set attributes for a RADIUS authentication server.

Syntax:

```
set radius-auth-server <priority> [host|secret|port]
```

Parameters:

priority	The priority order in which the radius servers are accessed. The allowed range is 1 to 100.
host	(Optional) Hostname or IP address of the RADIUS server. This is in "dotted quad" format: "192.168.1.100". Alternately, "none" can be used to reset the value to "0.0.0.0".
secret	(Optional) The "shared secret" for the E7 and the RADIUS server. This is a text string. From 1 to 16 ASCII characters. This string must match the string configured in the RADIUS server.
port	(Optional) Hostname or IP address of RADIUS server. This is an TCP or UDP port number. The allowed range is 1 to 65535.

set radius-cfg

Sets attributes for the RADIUS client. The system's RADIUS client allows authentication and accounting of administrative access via a centralized user database.

Syntax:

```
set radius-cfg [request-timeout|retries|deadtime]
```

Parameters:

request-timeout	(Optional) Number of seconds to wait for a response from the RADIUS server before retransmitting or aborting. The allowed range is 1 to 30. Default is 3 seconds.
retries	(Optional) The number of times the client tries to access the primary RADIUS server before it resubmits the request to the secondary RADIUS server or aborts. The allowed range is 1 to 10. Default is 3 retries.
deadtime	(Optional) When a server fails to respond to a request, the RADIUS client marks it as "dead" by remembering the time of the last failed request. Subsequent RADIUS operations will not be sent to that server until the provisioned "deadtime" value has elapsed. The allowed range is 1 to 1000. Default is 5 minutes.

set remote-diag

Sets attributes for the ONT remote diagnostic access.

Syntax:

```
set remote-diag ont <ont-id>|<none>
set remote-diag ip <address>|<none>
set remote-diag netmask <ip-netmask>
```

Parameters:

ont-id	ONT index. The allowed range is 1 to 64000000.
address	IP address for the ONT.
ip-netmask	IP netmask for the ONT.
none	Either no ONT or no IP address is required for the diagnostic access.

set rg-mgmt-profile

Sets the attributes to an RG management profile.

Syntax:

```
set rg-mgmnt-profile <name> acs-url <url> username <u-name> password
<pswd>  [mgmt-mode|outer-vlan|inner-vlan|p-bit|bw-profile]
```

Parameters:

name	Name of RG management profile. This is a text string.
url	IP address of Auto-Configuration Server (ACS). This is a text string.
u-name	The username the ONT uses to login to the ACS. This is a text string.
pswd	The password the ONT uses to login to the ACS. This is a text string.
mgmt-mode	Management mode of the Residential Gateway. Valid values: in-band, out-of-band.
outer-vlan	TR-069 management VLAN (outer tag if double tagged).
inner-vlan	TR-069 management VLAN (inner tag if double tagged).
p-bit	TR-069 management VLAN P-bit.
bw-profile	Name of bandwidth profile to use.

set rstp

Sets configuration attributes of the Rapid Spanning Tree Protocol. The max-age, hello-time, and fwd-delay values have a small range of valid values. The parameters are interdependent, which further constrains their values. The relationships are as follows:

max-age ≥ (2 * fwd-delay – 1) and max-age ≤ (2 * hello-time +1)

hello-time ≤ (max-age – 2) / 2

fwd-delay ≥ (max-age + 2) / 2

Syntax:

```
set rstp option [bridge-prio|max-age|hello-time|fwd-delay|node-
protection|node-prot-role|node-prot-id|node-prot-erps-domain|admin-
state]
```

Parameters:

bridge-prio	Bridge priority is used in determining the root switch, root port, and designated port. The switch with the highest priority (lowest numeric value) becomes the RSTP root switch. If all switches have the same priority, the switch with the lowest MAC address becomes the root switch. The allowed range is 0 to 61440. The lower the numeric value you assign, the higher the priority for this bridge. Bridge Priority determines the root bridge, which in turn determines Hello Time, Max Age and Forwarding Delay. Valid values are: 0, 4096, 8192, 12288, 16384, 20480, 24576, 28672, 32768, 36864, 40960, 45056, 49152, 53248, 57344, 61440.
max-age	This is the maximum time (in seconds) a switch can wait without receiving a BPDU before attempting to reconfigure. All switch ports (except for designated ports) should receive BPDUs at regular intervals. Any port that ages out RSTP information (provided in the last BPDU) becomes the designated port for the attached network. If it is a root port, a new root port is selected from among the switch ports attached to the network. This is a numeric value (range 6-40).

hello-time	This is the time interval in seconds between Bridge Protocol Data Units (BPDU) configuration message generations by the root switch. This is a numeric value (range 1-2).
fwd-delay	This is the maximum time (in seconds) a switch waits before changing states. This delay is required because every switch must receive information about topology changes before it starts to forward frames. In addition, each port needs time to listen for conflicting information that would make it return to a blocking state; otherwise, temporary data loops might result. As a general rule: 2 * (Forward Delay - 1) ³ Max Age ³ 2 * (Hello Time + 1) This is a numeric value (range 4-30).
node-protection	Enable/Disable node protection. Valid values are: enabled, disabled.
node-prot-role	Sets whether the port is designated as secondary (blocking) or primary (forwarding - active). Valid values are: primary, secondary.
node-prot-id	ID to use in BPDUs. This is a text string.
node-prot-erps-domain	Name of the ERPS domain to use in node protection. Valid values: none, or a text string.
admin-state	Admin state of RSTP group. Valid values are: enabled, disabled.

set session

Sets attributes of the current CLI session. Also see *disable session* (on page 284), and *enable session* (on page 314).

Syntax:

```
set session [pager|timeout|alarm-notif|event-notif|tca-notif]
```

Parameters:

pager	Enable or disable the pager. Valid values are: enabled, disabled.
timeout	Enable or disable session inactivity timeout. Valid values are: enabled, disabled.
alarm-notif	Display or suppress alarm notifications. Valid values are: enabled, disabled.
event-notif	Display or suppress event notifications. Valid values are: enabled, disabled.
tca-notif	Display or suppress TCA notifications Valid values are: enabled, disabled.

set shelf

(E7-2 modular chassis only) Sets the attributes for a shelf in an E7 modular chassis system. For the E7 to support this command, the **modular-chassis enabled** option must be configured in the **set system** command.

Syntax:

```
set shelf <s-id> [backplane-link|timing|power monitor-mode|stacking-port-1|stacking-port-2|serial-number|admin-state]
```

Parameters:

s-id	Shelf number. This is an index value, a numeric identifier that uniquely identifies this object within the system. Index values start with 1.
backplane-link	(Optional) Ethernet ports used for inter-card communication. Valid values: none, 10g-a, 10g-b, 20g.
timing	(Optional) Sets timing subsystem attributes. • **source:** Admin status for timing source. Valid values: bits-a, bits-b. • **src-type:** Sets timing source attributes. Valid values: e1, t1. • **bits-output-type:** Sets the type of BITS timing output. Valid values: e1, t1. • **src-protection:** Type of timing source protection. Valid values: default, revertive, non-revertive, simplex (no source protection). • **admin-state:** Admin status for timing subsystem. Valid values: enabled, disabled.
power monitor-mode	(Optional) Sets whether to monitor one power source, both power sources, or neither. Valid values: a, b, both, none.
stacking-port-1	(Optional) Name of the first Ethernet port for stacking. Ethernet ports are specified by shelf index, card, port type and port number. For example: 1/2/x1. Applicable values for the port type are "g" to indicate Gigabit Ethernet, or "x" to indicate 10-Gigabit Ethernet. Alternatively, "none" can be used to indicate that not stacking port is specified.
stacking-port-2	(Optional) Name of the second Ethernet port for stacking. Ethernet ports are specified by shelf index, card, port type and port number. For example: 1/2/x1. Applicable values for the port type are "g" to indicate Gigabit Ethernet, or "x" to indicate 10-Gigabit Ethernet. Alternatively, "none" can be used to indicate that not stacking port is specified.

serial-number	(Optional) Sets the serial number on a pre-provisioned shelfthe shelf. Serial numbers are non-negative values. Alternatively, the keyword "none" indicates that the serial number is unspecified.
admin-state	(Optional) Admin state of the shelf. Valid values: enabled, no-alarms.

set sip-gw-profile

Sets the attributes of a SIP profile that defines a SIP service configuration locally.

Syntax:

```
set sip-gw-profile <p-name> proxy-server <p-address> [proxy-server-
port|proxy-server-secondary|proxy-server-port-secondary|dns-
primary|dns-secondary|rtp-port|rtp-codec|packet-rate|silence-
suppression|rtp-codec-2dord|packet-rate-2ndord|silence-suppression-
2ndord|rtp-codec-3rd|packet-rate-3rdord|silence-suppression-
3rdord|t1-timer|t2-timer|registration-period|distinctive-ring-
prefix|call-waiting-prefix|out-of-band-dtmf|local-hook-flash|rtp-
dscp|rtp-eth-qos|domain|country-code|release-timer|call-pickup-
code|switch-type]
```

Parameters:

p-name	Name of the SIP profile. This is a text string.
p-address	IP address or hostname of the SIP proxy server of the SIP server or outbound proxy SIP server. If the primary path or server is disrupted, the ONT or VDSL2 card will resolve to a pre-provisioned secondary server without the need for DNS. Note: A DNS server is required if this parameter value is a Fully-Qualified Domain Name (FQDN) of the SIP server. In R2.4 and higher, the FQDN is used in both the DNS and SIP request. Customers using DNS must set domain=IP to continue using an IP address for SIP requests. Note: It should be noted that T-series ONTs requires the proxy server and register server to be set to the same value. When the proxy server is specified, OMCI will set both the proxy server and register server. The P-series ONTs will ignore attributes it does not understand. This is a text string.
proxy-server-port	UDP port for proxy server. This is a numeric value in the range 0-65535 (default: 5060).

proxy-server-secondary	IP address of the secondary SIP proxy server, or outbound proxy SIP server. If the primary path or server is disrupted, the SIP client remains connected, as long as the secondary proxy functions correctly. When the secondary proxy detects a failure or is disabled, the SIP client will again try to switch back to the primary SIP proxy. Note: Not supported on the T-Series ONTs.
proxy-server-port-secondary	UDP port for secondary proxy server. This is a numeric value in the range 0-65535 (default: 5060).
dns-primary	IP address or hostname of primary DNS server. This is an IP address in "dotted quad" format: "192.168.1.100". Alternately, "none" can be used to reset the value to "0.0.0.0"
dns-secondary	IP address or hostname of secondary DNS server. This is an IP address in "dotted quad" format: "192.168.1.100". Alternately, "none" can be used to reset the value to "0.0.0.0"
rtp-port	RTP UDP port port number. This is a numeric value in the range 49152-65535 (default: 49152).
rtp-codec	The Realtime Transport Protocol (RTP) code to use. • **a-law** algorithm is commonly used in Europe. • **u-law** (mu-law or µ-law) algorithm is commonly used in the USA and Japan. • **g723** (T-series only) G723 encoding • **g729** (T-series only) G729 encoding
packet-rate	(xDSL or T-series only) The expected RTP packet rate sent by the ONT (packets/msec). This is a numeric value in the range 10-30 (default: 10).
silence-suppression	Whether to enable Silence Suppression first-order priority codec. Valid values: enabled, disabled
rtp-codec-2ndord	The Realtime Transport Protocol (RTP) code to use. • **a-law** algorithm is commonly used in Europe. • **u-law** (mu-law or µ-law) algorithm is commonly used in the USA and Japan. • **g723** (T-series only) G723 encoding • **g729** (T-series only) G729 encoding
packet-rate-2ndord	(xDSL or T-series only) The expected RTP packet rate sent by the ONT (packets/msec). This is a numeric value in the range 10-30 (default: 10).
silence-suppression-2ndord	Whether to enable Silence Suppression second-order priority codec. Valid values: enabled, disabled

rtp-codec-3rdord	The Realtime Transport Protocol (RTP) code to use. • **a-law** algorithm is commonly used in Europe. • **u-law** (mu-law or µ-law) algorithm is commonly used in the USA and Japan. • **g723** (T-series only) G723 encoding • **g729** (T-series only) G729 encoding
packet-rate-3rdord	(xDSL or T-series only) The expected RTP packet rate sent by the ONT (packets/msec). This is a numeric value in the range 10-30 (default: 10).
silence-suppression-3ordrd	Whether to enable Silence Suppression third-order priority codec. Valid values: enabled, disabled
t1-timer	T1 and T2 are SIP timers (msec). T1 is an estimate of the round trip time, the client will start to retransmit an INVITE transaction at T1 and then double the time for each subsequent retransmission. This is a numeric value in the range 100-1500 (default: 500).
t2-timer	T1 and T2 are SIP timers (msec). T2 is the maximum retransmit interval for non-INVITE requests and INVITE responses. These will rarely change. This is a numeric value in the range 1-5 (default: 4).
registration-period	Duration of the SIP registration request (seconds). This is a numeric value in the range 60-86400 (default: 3600).

distinctive-ring-prefix	Distinctive ring prefix is an identifier used in the Alert-Info header field (up to 36 characters). The E7 acts as the media gateway to support different ring cadences generated from the softswitch in real time. Assigning distinctive ring patterns to specific incoming numbers for a specific VoIP port must be configured on the softswitch. Important: The case-sensitive name must match the Distinctive Ringing text string used by the softswitch. The softswitch sends an INVITE to the E7 with the header Alter-Info field, for example: AlertInfo = <xxx://xxx.xx.xx/xxx/Bellcore-dr1> The string after last forward slash (/) is parsed as the ring ID. When a line is in ring state, the ring cadence is used based on the Alert-Info header in INVITE message. The cycle that is defined by the ring cadence index is repeated until the line leaves the ring state. This is a text string.
call-waiting-prefix	Call-waiting ring prefix. This is a text string.
out-of-band-dtmf	Out-of-band Dual-Tone Multi-Frequency (DTMF) mode. • Select Info to relay DTMF tones as SIP INFO messages. • Select rfc2833 to relay DTMF tones according to RFC 2833. (Only supported on GigaCenter ONTs.) • Select none to not relay DTMF tones.
local-hook-flash	Defines where hook-flash control resides. • When enabled (selected), the local User Agent will consume the hook-flash and provide the service locally. • When disabled (unselected), then the hook-flash is passed to the Softswitch for processing.

rtp-dscp	The DiffServ Code Point (DSCP) value for traffic using this SIP profile. Valid values: • **0-63** - DSCP for RTP packets • **cs0** - DSCP CS0 (0) • **cs1** - DSCP CS1 (8) • **af11** - DSCP AF11 (10) • **af12** - DSCP AF12 (12) • **af13** - DSCP AF13 (14) • **cs2** - DSCP CS2 (16) • **af21** - DSCP AF21 (18) • **af22** - DSCP AF22 (20) • **af23** - DSCP AF23 (22) • **cs3** - DSCP CS3 (24) • **af31** - DSCP AF31 (26) • **af32** - DSCP AF32 (28) • **af33** - DSCP AF32 (30) • **cs4** - DSCP CS4 (32) • **af41** - DSCP AF41 (34) • **af42** - DSCP AF41 (36) • **af43** - DSCP AF43 (38) • **cs5** - DSCP CS5 (40) • **ef** - DSCP EF (46) • **cs6** - DSCP CS6 (48) • **cs7** - DSCP CS7 (56)
rtp-eth-qos	Ethernet QoS for RTP packets override. This is a numeric value in the range 0-7 (default: 6).

domain	Allows you to specify an internet type domain address. Alternatively, "none" can be used for no domain name. If present, the domain is used to populate the SIP destination addresses; the “to” and “request uri” fields. To use IP in SIP request, set and IP address. If not present, the proxy server IP is used in these fields. Example: • Domain: “empty” • Proxy-server: 10.0.20.10 • Generated by software: • SIP to: sip:7663339@10.0.20.10 • SIP request URI: sip:7663339@10.0.20.10:5060 Example: • Domain: mytelco.com • Proxy-server: 10.0.20.10 • Generated by software: • SIP to: sip:7663339@mytelco.com • SIP request URI: sip:7663339@mytelco.com:5060 This is a 1-63 character text sting. Alternatively, "none" can be used for no domain name.

country-code	E.164 Country code designator (Protocol Country Variant profile). This attribute specifies the country code where the service is being deployed. This code selects country specific tone settings, line interfaces, line levels and line frequencies. Currently supported values include the following: • North America: 1 (GPON and xDSL) • Italy: 39 (xDSL only) • Switzerland: 41 (GPON only) • United Kingdom: 44 (GPON only) • Sweden: 46 (GPON only) • Poland: 48 (GPON only) • Brazil: 55 (GPON only) • Australia: 61 (GPON only) • New Zealand: 64 (GPON only) • Ukraine: 380 (GPON only) • ETSI: 9000 (GPON only) **Note:** All ONTs using this profile will reset if country-code is modified. **Note:** Country codes are not currently supported on T-series ONTs or P-series 700GX ONTs.
release-timer	Specifies the amount of time it takes to terminate a call after an on-hook is detected. This is a numeric value in the range 1-20.
call-pickup-code	Call pickup code.

switch-type	• Populates the Softswitch attribute of the SIP agent configuration data ME with the value provided by the Switch Type attribute of the SIP gateway profile. zte • Unreserved URI's will be escaped. • Only request URI is used to find the SIP line when request is received by the SIP User Agent. huaw (Huawei) • The # shall be transmitted in the SIP Invite instead of escape quoted with %23. • Request URI and URI in the header can be used to find the sip line. • UA profile on subscribe message (RFC 6080) is supported. syla, ERIC, CS2K, BELL • The # is escape-quote (%23) in the SIP Invite. • Request URI and URI in the header can be used to find the SIP line. • None for supported switch types that are not in the list. Valid values: none, zte, huaw, syla, eric, cs2k, bell
RTP Port	Identifies the starting RTP Port range for the SIP RTP path. Valid values: 49152 - 65535

set sip-rmt-cfg-profile

(E7 only) Sets attributes of a SIP remote configuration profile for service on an ONT voice port.

Syntax:

```
set sip-rmt-cfg-profile <p-name> [new-name|primary-server <p-
address>|primary-filename <p-file>|secondary-server <s-
address>|secondary-filename <s-file>]
```

Parameters:

p-name	Name of the SIP profile. This is a text string.
new-name	New name for the ONT SIP profile.
p-address	IP address or hostname of the primary SIP configuration server. This is a text string.
p-file	Name of the SIP configuration file on the primary server. This is a text string.
s-address	(Optional) IP address or hostname of the secondary SIP configuration server. This is a text string.
s-file	(Optional) Name of the SIP configuration file on the secondary server. This is a text string.

set snmp

Sets the following aspects of the SNMP functionality:

- An alternate port for the SNMP agent. The default is 161, which is the the standard port number defined by IANA
- Attributes for an SNMP community
- Attributes of an SNMP trap destination
- Attributes SNMP user security-level, administration state, and password

Syntax:

```
set snmp agent port <port ID>

set snmp community <community name> option [name|admin-state]

set snmp trap-dest <trap-dest ID> [host|v3-user|v2c-
community|message-type|port|admin-state]

set snmp user <user name> access [auth-encrypted|auth-
unencrypted|nosecurity
set snmp user <user name> admin-state [disabled|enabled]
set snmp user <user name> password
```

Parameter:

port ID	Alternate listen port for the SNMP agent. The default is 161, which is the standard port number defined by IANA. This is a TCP or UDP port number. Range 1-65535.
community name	Name of SNMP community. This is a text string.
name	New name of SNMP community. This is a text string.
admin-state	Admin state of SNMP community. Valid values are: enabled, disabled.
trap-dest ID	Index of SNMP trap destination. This is an index value, a numeric identifier that uniquely identifies this object within the system. Index values start with 1.
host	IP address of trap destination. This is an IP address in "dotted quad" format: "192.168.1.100." Alternatively, "none" can be used to reset the value to "0.0.0.0."
v3-user	SNMPv3 user name. This is a text string.
v2c-community	Name of SNMPv2c-community. This is a text string.

message-type	Specifies the type of outgoing messages. Valid values: trap, inform.
port	SNMP trap destination port (default is 162). This is an TCP or UDP port number (range 1-65535).
admin-state	Admin state. Valid values are: enabled, disabled.
user name	SNMPv3 user name. This is a text string.
access	Sets SNMPv3 user security-level attrubutes.
auth-encrypted	Changes an SNMPv3 user's security level to use authentication and encryption, in transactions.
auth-unencrypted	Changes an SNMPv3 user's security level to use authentication, but not encryption, in transactions.
nosecurity	Changes an SNMPv3 user's security level to not use authentication or encryption in transactions.
enabled	Enables an SNMPv3 user and any trap destination that specifies this user as the recipient.
disabled	Disables an SNMPv3 user and any trap destination that specifies this user as the recipient.
password	Starts the process of changing a user's password. The system prompts for the current password, a new password, and then requests the new password again for confirmation. This command can be used by admin and provisioning users, but not read-only users.

set span-power

(E3-48C only) Sets attributes of a remote power span.

Syntax:

```
set span-power <index> [admin-state]
```

Parameters:

Index	Index of Power Span. Valid values: 1-3.
admin-state	(Optional) Valid values: enabled, no-alarms.

set svc-match-list

Changes the name of a service match list.

Syntax:

```
set svc-match-list <list-name> name <n-name>
```

Parameters:

list-name	Name of a service match list. This is a text string.
n-name	New name for the service match list. This is a text string.

set svc-tag-action

Sets the attributes in a service VLAN tag action for packets that match certain criteria. Applying service tag actions when provisioning a service on an ONT port or VDSL2 port, performs the following two actions:

- **Classification –** the service match lists are for matching and classifying traffic into services.
- **Marking –** the service tag actions are for marking the traffic with the appropriate VLAN and P-bit required by the service.

Service-tag actions are applied to subscriber service provisioning as follows:

- Video and data services provisioning on an ONT Ethernet port or xDSL port includes a reference to a service-tag action.
- Voice services provisioning on an ONT POTS port or VDSL voice port implicitly references a Voice Service IP Host that includes a reference to a service-tag action.

Syntax for add-2-type or add-and-change:

```
set svc-tag-action <name> outer <VLAN-ID> inner <VLAN-ID> [svc-
match-list <l-name> use-p-bit|derive-p-bit|untagged-p-bit|use-inner-
p-bit]
```

Syntax for add-tag or change-tag:

```
set svc-tag-action <name> outer <VLAN_ID|use-svc-vlan> [svc-match-
list <l-name> use-p-bit|derive-p-bit|untagged-p-bit|use-inner-p-bit]
```

Parameters:

name	Descriptive name of service tag action. This is a text string.
outer	The VLAN (or VLAN ID) to use for the new outer tag. The specified VLAN must already be provisioned in the system. • **1-4093** specified value • **use-svc-vlan** uses the VLAN ID specified in an Ethernet service object
inner	The VLAN (or VLAN ID) to use for the new outer tag. The specified VLAN must already be provisioned in the system. **Note:** This parameter only applies if the selected action is "Add 2 Tags" or "Add and Change Tag." • **1-4093** specifies the value. • **use-svc-vlan** uses the VLAN ID specified in an Ethernet service object.

svc-match-list	Name of service match list to use, previously created. This is a text string.
derive-p-bit	Derive P-bit from a CoS queue or layer-3 priority map. • **cos-1** uses the low P-bit from CoS 1. • **cos-2** uses the low P-bit from CoS 2. • **cos-3** uses the low P-bit from CoS 3. • **cos-4** uses the low P-bit from CoS 4. • **l3-prio** maps a layer-3 priority into a P-bit, using interface DSCP or IP precedence map.
use-p-bit	The P-bit value to use for the outer tag. • **0-7** specifies the value. • **copy** honors the incoming P-bit value on the matched tag, and passes the existing P-bit value upstream.
untagged-p-bit	(E7 GPON only) When promoting, the P-bit value to use for untagged frames. This is a numeric value in the range 0-7.
use-inner-p-bit	(E7 GPON only) The P-bit value to use for the inner tag. • **0-7** specifies the value. • **preserve** uses the P-bit from the matched traffic. • **same-as-outer** uses the same P-bit treatment as specified for the outer tag.

*To properly process ingress double tags, the GE network interface (uplink) must be configured as a Trunk role.

set syslog-server

Sets the Syslog server attributes.

Syntax:

```
set syslog-server <index>  [host|description|alarm-facility|event-
facility|security-facility|tca-facility|dbchange-facility|admin-
state]
```

Parameters:

index	Index of Syslog server that identifies this object within the system. The allowed range is 1 to 4.
h-name	(Optional) Hostname or IP address of Syslog server. This is a hostname or an IP address in "dotted quad" format. For example, "192.168.1.100".
description	(Optional) Description of the Syslog server. This is a text string.
alarm-facility	(Optional) Syslog facility level to use for alarms. Valid values are: none, local0, local1, local2, local3, local4, local5, local6, local7.
event-facility	(Optional) Syslog facility level to use for events. Valid values are: none, local0, local1, local2, local3, local4, local5, local6, local7.
security-facility	(Optional) Syslog facility level to use for security events. Valid values are: none, local0, local1, local2, local3, local4, local5, local6, local7.
tca-facility	(Optional) Syslog facility level to use for TCAs. Valid values are: none, local0, local1, local2, local3, local4, local5, local6, local7.
dbchange-facility	(Optional) Syslog facility level to use for database changes. Valid values are: none, local0, local1, local2, local3, local4, local5, local6, local7.
admin-state	Admin state of Syslog server. Valid values are: enabled disabled.

set system

Sets E7 system attributes and various system-wide settings.

Also, the "turn-up" tool simplifies the process by providing configuration of several key system elements through a series of prompts. The "turn-up" tool appears automatically when you first log in to the E7 web interface. You can also invoke the process with the **turn-up** command.

Syntax:

```
set system [name|fileserver|location|modular-chassis|ont-dwnstrm-
shaping|ont-rougue-detect-default|ont-auto-quarantine|card-reset-
mode|user-auth-order|mgmt-gw|auto-upgrade|telnet-server|unsecured-
web|password-expiry|dns-primary|dns-secondary|first-rsrvd-
vlan|admin-state]
```

Parameters:

name	A unique name to identify the particular unit in a network (that is, a terminal identifier). This is a text string of 20 characters, including letters, numbers, and special characters: ~@#$%^&*()_+`-={}|\:;'<>?,./.
fileserver	File server used for line card auto-upgrade process. • **none** - Removes the file server provisioning. • <ip-address|hostname> - server IP address or hostname • **user** <username> - server username • **directory-path** - directory on server which contains the folder of the current E7 software release. • **password** <pswd> - password to access the file server.
location	System location. This is a text string.
card-reset-mode	(E7 only) Card reset mode for upgrades and manual resets. Valid values: all (resets all non-controller cards simultaneously), sequenced (resets non-controller cards one at a time), odd-even (resets cards in odd-numbered slots, followed by cards in even-numbered slots for E7-20).
modular-chassis	(E7-2 only) System modular chassis status. Valid values: enabled, disabled.

ont-dwnstrm-shaping	(E7 only) Whether to enable a shaping function for the 700GE and 740GE ONT on the High-Speed Internet (HSI) VLAN. Shaping is applied to provisioned rates up to 250 Mbps before reverting to policing. Valid values: enabled, disabled.
ont-rogue-detect-default	Whether to enable the Rogue Detection feature for the system. This feature detects faulty ONTs on a PON that transmit optical power in upstream timeslots, where no ONT is assigned to transmit (quiet timeslot), and then (if enabled) automatically removes these "rogue" ONTs from operation. Valid values: enabled, disabled.
ont-auto-quarantine	Whether to enable the Auto-Quarantine aspect of the Rogue Detection feature for the system. Valid values: enabled, disabled.
user-auth-order	Order to follow for user authorization. Valid values: local, local-radius, radius, radius-local, radius-if-up-else-local.
mgmt-gw	Gateway IP address for management network. This is an IP address in "dotted quad" format: "192.168.1.100." Alternatively, "none" can be used to reset the value to "0.0.0.0."
auto-upgrade	(E7 only) Auto-upgrade out-of-revision cards on arrival. Valid values: enabled, disabled.
telnet-server	Telnet server admin status. Valid values: enabled, disabled.
unsecured-web	Unsecured web access (non-SSL) admin status. Valid values: enabled, disabled.
password-expiry	Craft user password expiry, in days. This is either a numeric value (range 0-100) in days or "never".
dns-primary	IP address of primary DNS server. This is an IP address in "dotted quad" format: "192.168.1.100." Alternatively, "none" can be used to reset the value to "0.0.0.0."
dns-secondary	IP address of secondary DNS server. This is an IP address in "dotted quad" format: "192.168.1.100." Alternatively, "none" can be used to reset the value to "0.0.0.0."
first-rsvd-vlan	First reserved VLAN. This is a numeric value (range 1-4093).

admin-state	System admin status. Valid values: enabled, no-alarms.

set t1-pwe3-profile

(E7 only) Sets the attributes of a T1 port PWE3 profile.

Syntax:

```
set t1-pwe3-profile <p-name> [clock-timing|jitter-buf-depth|rtp-
headers|rtp-mode|rtp-payload-type|sat-packet-size]
```

Parameters:

p-name	Existing name of the T1 port PWE3 profile. This is a text string.
new-name	New name for the T1 port PWE3 profile. This is a text string.
clock-timing	Clock timing mode. Valid values: adaptive, differential, loopback (recovered from T1). Default = adaptive.
jitter-buf-depth	Jitter buffer in microseconds. This is a numeric value in the range 1000-250000. Default = 1500.
rtp-headers	Whether to enable RTP headers on packets. Valid values: enabled, disabled. Default = disabled.
rtp-mode	Clock source mode to use for RTP. Valid values: differential, absolute. Default = absolute.
rtp-payload-type	Payload type to use for RTP. Valid values: 1-127.
sat-packet-size	SAToP service-type. This is a numeric value in the range 80-1450. Default = 192.

set tagged-rule

Sets attributes of a service match list rule.

Syntax:

```
set tagged-rule <r-index> svc-match-list <l-name> vlan <vlan-id>
set tagged-rule <r-index> svc-match-list <l-name> p-bit <value>
```

Parameters:

r-index	Index of tagged rule in a service match list. This is an index value, a numeric identifier that uniquely identifies this object within the system. Index values start with 1 in a range of 1-12.
l-name	Name of service match list. This is a text string.
vlan	VLAN ID of outer tag (tagged match rules only). VLANs can be specified by name or by numeric VLAN ID, which ranges from 1-4095. In addition, "untagged" indicates that only untagged traffic should be matched and "ignore" indicates that the VLAN ID should not be examined.
p-bit	P-bit value of outer tag (tagged match rules only). P-bit values are in the range 0-7. Alternately "any" means the P-bit value is not considered. If this parameter is not specified, "any" is the default behavior.

set tdm-gw-profile

Sets attributes for a TDM voice Gateway profile.

Syntax:

```
set tdm-gw-profile <p-name> [name|server-ip|packetization-rate|rtp-
dscp|rtp-eth-qos|dhcp-filter]
```

Parameters:

p-name	Name of TDM gateway profile.
name	New name for the ONT TDM Gateway profile.
server-ip	IP address of TDM gateway server. This is a text string.
packetization-rate	Packetization rate in msec. Valid values: 10, 20.
rtp-dscp	DSCP for RTP packets. Valid values: • **0-63** - DSCP for RTP packets • **cs0** - DSCP CS0 (0) • **cs1** - DSCP CS1 (8) • **af11** - DSCP AF11 (10) • **af12** - DSCP AF12 (12) • **af13** - DSCP AF13 (14) • **cs2** - DSCP CS2 (16) • **af21** - DSCP AF21 (18) • **af22** - DSCP AF22 (20) • **af23** - DSCP AF23 (22) • **cs3** - DSCP CS3 (24) • **af31** - DSCP AF31 (26) • **af32** - DSCP AF32 (28) • **af33** - DSCP AF32 (30) • **cs4** - DSCP CS4 (32) • **af41** - DSCP AF41 (34) • **af42** - DSCP AF41 (36) • **af43** - DSCP AF43 (38) • **cs5** - DSCP CS5 (40) • **ef** - DSCP EF (46) • **cs6** - DSCP CS6 (48) • **cs7** - DSCP CS7 (56)
rtp-eth-qos	Ethernet QoS for TRP packets. Valid values: 0-7.
dhcp-filter	Whether to use the server IP address as the DHCP offer filter. When enabled, if the associated IP-host is using DHCP, then the DHCP offer from the specific server will be accepted. Valid values: enabled, disabled.

set time

Sets E-Series new system time.

Syntax:

```
set time <YYYY/MM/DD:HH:MM>
```

Parameters:

YYYY/MM/DD:HH:MM	System time identification where YYYY = four-digit year, MM = two-digit month, DD = two-digit day, HH = two-digit hour, MM = two-digit minutes. This is a text string. The hours and minutes may be omitted.

*set timezone **

Sets the system timezone.

Syntax:

```
set timezone <timezone name>
```

Parameters:

timezone name	Timezone. This is a text string.

set timing

(E7-20 only) Sets timing subsystem or source attributes.

Syntax:

```
set timing [src-type|bits-output-type|src-protection|admin-state]

set timing source <bits-a|bits-b>
```

Parameters:

source	Admin status for timing source. Valid values: bits-a, bits-b.
src-type	(Optional) Sets timing source attributes. Valid values: e1, t1.
bits-output-type	(Optional) Sets the type of BITS timing output. Valid values: e1, t1.
src-protection	(Optional) Type of timing source protection. Valid values: default, revertive, non-revertive, simplex (no source protection).
admin-state	(Optional) Admin status for timing subsystem. Valid values: enabled, disabled.

set untagged-rule

Sets attributes of an untagged match list rule.

Syntax:

```
set untagged-rule <r-index> svc-match-list <l-name> src-mac <mac>

set untagged-rule <r-index> svc-match-list <l-name> src-mac-mask
<mac>

set untagged-rule <r-index> svc-match-list <l-name> ethertype <e-
type>

set untagged-rule <r-index> svc-match-list <l-name> vpi <vpi>

set untagged-rule <r-index> svc-match-list <l-name> vci <vci>
```

Parameters:

r-index	Index of untagged rule in a service match list. This is an index value, a numeric identifier that uniquely identifies this object within the system. Index values 1-16.
l-name	Name of access control list. This is a text string.
src-mac	Source MAC address (untagged match rules only). This is a MAC address: six hexadecimal digits in the range 0-FF, optionally separated by colons.
src-mac-mask	Source MAC mask (untagged match rules only). This is a MAC address: six hexadecimal digits in the range 0-FF, optionally separated by colons.
ethertype	Ethertype in VLAN tag. Valid values: • any = default • pppoe = 0x8864 • arp = 0x0806 • ipv4 = 0x0800 • ipv6 = 0x86DD
vpi	• VPI value used by the subscriber's modem (ADSL modems only). Valid values: 0-255.
vci	• VCI value used by the subscriber's modem (ADSL modems only). Valid values: 32-65535.

set upgrade

Sets upgrade attributes.

Syntax:

```
set upgrade xfer-proto <protocol> port <port ID>
```

Parameters:

protocol	Set the file transfer protocol for upgrades. Valid values are: ftp, sftp, pasv-ftp.
port ID	Set the file transfer port number. Valid values are: numerical value or default: ftp=21, sftp=22).

set user

Controls the attributes of a specified user account.

Note: The system can support up to five CLI sessions concurrently.

Syntax:

```
set user <user name> admin-state [disabled|enabled]

set user <user name> password

set user <user name> type [admin|provision|read-only]
```

Parameters:

user name	User name. This is a text string.
admin-state	Controls whether a specified user can log in.
disabled	Disables a user, no longer allowing the user to log in.
enabled	Enables a user, allowing the user to log in.
password	Starts the process of changing a user's password. The system prompts for the current password, a new password, and then requests the new password again for confirmation. Only users with administrative privileges can use this command.
type	Changes a user to have the administrative privileges specified.
admin	Creates a user with the following administrative privileges: • Issue provisioning commands • Manage users and sessions • Perform software upgrades • Administer the database
provision	Creates a user with the following provisioning privileges: • Configure all services • Perform system administration functions with the exception of: Software upgrades or Database backup/restore

read-only	Creates a user with read-only privileges. These users are intended as short-lived "guest" accounts as they cannot change provisioning or alter the operation of login sessions.

set vcc-port

Sets attributes for a Vectoring Control Connector (VCC) port on a VCP or VDSL2 r2 card.

Syntax:

```
set vcc-port <card/port> [admin-state]
```

Parameters:

card/port	• **For E7-2 standalone systems**, Ethernet ports are specified by card, port type, and port number. For example: 1/vcc1. • **For E7-2 modular chassis systems**, Ethernet ports are specified by shelf/card/port.
admin-state	Optional) Admin state of port. Valid values are: enabled, no-alarms, disabled.

set vlan

Sets the attributes of a service VLAN. Also see "VLAN Support and Service Delivery Models" in the *Calix E5-Series Engineering and Planning Guide*.

Syntax for E7:

```
set vlan <vlan ID> [name|mac-learning|mac-forced-forwarding|ip-
source-verify|pon-hairpin|tlan|igmp-mode|igmp-profile|dhcp-
snooping|ae-ont-discovery|pppoe-profile]
```

Syntax for E-series

```
set vlan <vlan ID> [name|mac-learning|mac-forced-forwarding|ip-
source-verify|igmp-mode|igmp-profile|dhcp-snooping|ae-ont-
discovery|pppoe-profile]
```

Parameters:

vlan ID	Name of a VLAN, a numeric VLAN ID (1 to 4093), or a range of numeric VLAN IDs specified by a hypen (for example, 100-200).
name	Name of VLAN. This is a text string.
mac-learning	Controls MAC learning. Valid values: enabled, disabled.
mac-forced-forwarding	(Unsupported for E7-20) Whether to enable MAC forced forwarding on VLAN (PON only). Valid values: enabled disabled.
ip-source-verify	(Unsupported for E7-20) Whether to enable IP source verification. Valid values: enabled disabled.
pon-hairpin	(E7 only) Whether to enable PON hairpinning. Valid values: enabled disabled.
tlan	(E7 only) Whether to enable PON transparent LAN service. Valid values: enabled, disabled.
igmp-mode	IGMP mode for the VLAN. Valid values: snoop-suppress, proxy, flood.
igmp-profile	Name of the IGMP profile to associate with the VLAN. This is a text string.
dhcp-snooping	Whether to enable DHCP snooping on VLAN (PON only). Valid values: enabled, disabled.
ae-ont-discovery	Whether the E7 sends an event to CMS whenever a new AE ONT is discovered. Valid values: enabled, disabled.

pppoe-profile	(Unsupported for E7-20) Name of PPPoE profile to use. This is a text string.

set vlan-ip-host

(This feature is only available for the E3-48C, E5-48, E5-48C, and E3-8G.)

Set the option for configuring the DHCP Proxy Agent IP interface. The configuration of this feature is optional to increase security with DHCPv4 messaging.

Syntax for E7:

```
set vlan-ip-host <profile> name|vlan|ip|netmask|gateway]
```

Parameters:

Name	Name of profile. Up to 32 character string.
ip	IP address for the DHCP Proxy Agent. This should be in the same subnet as the upstream edge router. This is a text string.
netmask	Subnet mask required for the network. Valid netmask.
vlan	Server-side data VLAN ID. Any valid VLAN ID.
gateway	Next hop gateway. For example, the IP address of the upstream edge router. Valid IP address.

set vlan-monitor * admin-state

Sets whether the VLAN monitor collects statistics.

Syntax:

```
set vlan-monitor <monitor index> admin-state [disabled|enabled]
```

Parameters:

monitor index	Index of VLAN monitor. This is a numeric value (range 1-30).
disabled	Disables VLAN monitor, stopping the collection of statistics.
enabled	Enables VLAN monitor, clearing the existing statistics, and resumes collection.

show access-identifier-profile

Shows only the specified or all of the system-wide DHCP option 82 profile attributes.

Syntax:

```
show access-identifier-profile [eth-system-default|gpon-system-
default]
```

Parameters:

profile name	Name of the DHCP Option 82 profile to show. • *eth-system-default* is used by xDSL and GE ports • *gpon-system-default* is used by GPON ONT ports

show alarm

Shows the current alarms, or alarms with various filters applied. By default, non-service-affecting alarms are displayed, but alarms marked "suppressed" are not. Also see, **show no-alarms** (on page 631).

Syntax:

```
show alarm [min-severity|omit|include|type|since]
```

Parameters:

min-severity	Only report alarms of this severity and greater. Valid values are: info, warning, minor, major, critical.
omit	Omit certain alarms shown by default. Valid value: non-svc-affecting.
include	Include alarms not shown by default. Valid value: suppressed.
type	Displays alarms for a specific type of system component. Valid values are: system, ntp, rstp, env-pin, eth-port, interface, erps-domain.
since	Displays alarms posted after the specified time. Valid values: date and time specified in the format YYY/MM/DD:HH:MM

show avo-cfg

(GPON applications only) Shows system analog video overlay configuration.

Syntax:

```
show avo-cfg
```

Parameters:

none

show backup

Shows one of the following states for the system backup status:

- It has a backup ready for archiving to an external system
- It has a backup ready to be activated as the current system database
- It has no backup at all

At most, there is one backup image present on the system.

Syntax:

```
show backup
```

Parameters:

none

show bw-profile

Shows information for all bandwidth profiles in the system, or information for only the specified bandwidth profile.

Syntax:

```
show bw-profile [p-name]
```

Parameters:

p-name	Name of bandwidth profile. This is a text string.

show card

(E7 only) Shows the following attributes for all or specified line cards:

- card type
- current state
- summary of active alarms
- summary of conditions
- 802.1x status

You can also show the detail of the card that includes hardware-related data (serial number, CLEI, MAC addresses). Or, you can show the card reset mode for upgrades and manual resets.

Syntax:

```
show card
show card detail
show card dot1x
show card <slot>
```

Parameters:

slot	Slot number of card. This is an index value, a numeric identifier that uniquely identifies this object within the system. Index values start with 1. **Note:** If the E7 system is set to Modular-Chassis mode, the card location is indicated with a shelf/card location. For example, to show the attributes of the card 1 in shelf 2, use the following command: **`show card 2/1`**. For E7-20 SCP cards, indicate a or b. For example, to show the attributes of the SCP-A card, use the following command: **`show card a`**.

show class-map

Shows all classification maps provisioned in the E7, or only the list of rules for a single specified classification map.

Syntax:

```
show class-map [<c-map name>]
```

Parameters:

class-map	Name of classification map. This is a text string.

show cos-queue-cfg

Shows information on all COS queue configurations, or only on the specified COS queue configuration.

Syntax:

```
show cos-queue-cfg [<queue name>]
```

Parameters:

queue name	Name of COS queue configuration. This is a text string.

show craft-fe

Shows information on all of the craft Fast Ethernet ports on the system, or only the specified craft-fe port. These ports provide craft access for local management and initial system turnup through a PC that is connected to the front panel interface. Both craft-fe ports can also be connected to the network to provide remote management.

Syntax:

```
show craft-fe [front|rear]
```

- If the system is an E7-20, the rear craft port location is indicated with a rear/craft-fe location.

  show craft-fe rear-A

  show craft-fe rear-b

Parameters:

front	Shows attributes for the craft Fast Ethernet port located on the front panel. **Note:** If the E7 system is set to Modular-Chassis mode, the craft port location is indicated with a shelf/craft-fe location. For example, to show the attributes of the front craft-fe in shelf 2, use the following command: **show craft-fe 2/front**.
rear	Shows attributes for the craft Fast Ethernet port located on the rear panel. **Note:** If the E7 system is set to Modular-Chassis mode, the craft port location is indicated with a shelf/craft-fe location. For example, to show the attributes of the rear craft-fe in shelf 2, use the following command: **show craft-fe 2/rear**.

show craft-serial

Shows attributes of the craft serial ports. The following attributes are standard for RS-232 serial ports: data rate, parity bits, and flow control technique.

Syntax:

```
show craft-serial
```

Parameters:

none

show dhcp leases

Shows all DHCP leases in the system, or only the leases specified. The leases are obtained by DHCP snooping or by manual entry.

Syntax:

```
show dhcp leases [detail|dsl-bond-interface|gpon-
port|interface|ip|mac|ont-port|vlan]
```

Parameters:

detail	Shows detailed information for all DHCP leases known to the system, or for a specified aspect of the system.
dsl-bond-interface	(Unsupported for E7-20) Show DSCP leases on a DSL bond interface, specified by shelf/card/DSL bonded nterface name. For example, 2/1/name.
gpon-port	(E7 only) Shows DHCP leases for a GPON port specified by card/olt-port. For example, 2/4.
interface	Shows DHCP leases for an Ethernet interface specified by card/eth-port, or LAG name. For eth-port: g=gig-eth, x=10gig-eth. For example, 2/g1, my-lag.
ip	Shows DHCP leases with an IP address in "dotted quad" format: "192.168.1.100". Alternately, "none" can be used to reset the value to "0.0.0.0".
mac	Shows DHCP leases for a MAC address specified by six hexadecimal digits in the range 0-FF, optionally separated by colons.
ont-port	(E7 only) Shows DHCP leases for a specified ONT port indicated by ont-id/ont-port, or ont-id only. For ont-port: f=fast-eth, g=gig-eth, h=hpna-eth, r=video-rf, R=video-hot-rf, t=t1, p=pots. For example, 10001/g1.
vlan	Shows DHCP leases for a VLAN specified by name or by numeric VLAN ID, which ranges from 2-4093.

show dhcp-cfg

Shows information on the system DHCP configuration.

Syntax:

```
show dhcp-cfg
```

Parameters:

none

show dial-plan

Shows all dial plans provisioned in the E7, or only a specified dial map, where each rule in the plan is displayed.

Syntax:

```
show dial-plan [<name>]
```

Parameters:

name	Name of dial plan. This is a text string.

show dot1x-cfg

Shows 802.1x configuration information for all servers.

Syntax:

```
show dot1x-cfg
```

Parameters:

none

show dot1x-profile

Shows information for all 802.1x profiles in the system, or information for only the specified 802.1x profile.

Syntax:

```
show dot1x-profile [name]
```

Parameters:

name	Name of 802.1x profile. This is a text string.

show dscp-map

Shows all DSCP maps, or only a specified DSCP map that allows mapping of layer 3 DSCP bits into layer 2 priority bits.

Syntax:

```
show dscp-map [name]
```

Parameters:

name	Name of DSCP map. This is a text string.

show dsl-bond-interface

(VDSL2 applications only) Shows information for all xDSL bonding interfaces, or only for specified interfaces. See **set dsl-port * basic** (on page 411) for the command options to add port members to a xDSL bonded interface.

Syntax:

```
show dsl-bond-interface [detail|dot1x|igmp-counters|vlans]
show dsl-bond-interface <intfc-name> [detail|dot1x|eth-svc|igmp-
counters|mac|mcast|members|pppoe|vlans]
```

Parameters:

intfc-name	DSL Ethernet interface. This is a text string. • For E7-2 standalone systems, DSL bonded interfaces are specified by card/port. • For E7-2 modular chassis systems, DSL bonded interfaces are specified by shelf/card/port.
detail	Shows detailed information for all DSL bonded interfaces.
dot1x	Shows 802.1x counters for a DSL bonded interface.
eth-svc	Shows all Ethernet services on a DSL bonded interface, or only a specified service. • **pppoe** = shows PPPoE discovery statistics for all Ethernet services • **name** = shows PPPoE discovery statistics or Ethernet service static IP entries for a specified Ethernet service • **static-ip-entry** = shows DSL interface Ethernet service static IP entries • Also see *show interface* (on page 602).
igmp-counters	Shows IGMP counters for all, or only a specified xDSL bonded interface.
mac	Shows the MAC addresses on the specified xDSL bonded interface.
mcast	Shows the multicast groups being forwarded on the specified xDSL bonded interface.
members	Shows DSL ports in a specified xDSL bonded interface.
pppoe	Shows the PPPoE discovery statistics for the specified xDSL bonded interface.
vlans	Shows VLANs on all, or only the specified xDSL bonded interfaces.

show dsl-coefficient

(VDSL2 applications only) Shows the DSL VoIP coefficient files.

Syntax:

```
show dsl-coefficient [card]
```

Parameters:

card	Shows all of the DSL VoIP configuration files for the specified card.

show dsl-config

(VDSL2 applications only) Shows the DSL VoIP configuration files.

Syntax:

```
show dsl-config [card]
```

Parameters:

card	Shows all of the DSL VoIP configuration files for the specified card.

show dsl-port

(VDSL2 applications only) Shows information for all of the DSL ports, only specified DSL ports, or different levels (basic, advanced, power spectral density) for all of the DSL ports, or only specified DSL ports.

Syntax:

```
show dsl-port [port]
[advanced|all|basic|inventory|psd|status|subcarriers]
```

Parameters:

port	• **For E-series**, DSL ports are specified by card (1), port type, and port number. For example: 1/v1. • **For stand-alone E7-2**, DSL ports are specified by card, port type, and port number. For example: 2/v1. • **For modular chassis E7-2**, DSL ports are specified by shelf, card, port type, and port number. For example: 1/2/v4.
advanced	Shows advanced information for all xDSL ports or only the specified port.
all	• Shows all information for all xDSL ports or only the specified port.
basic	• Shows basic information for all xDSL ports or only the specified port.
inventory	• Shows inventory information for all xDSL ports or only the specified port.
psd	• Shows power spectral density information for all xDSL ports or only the specified port.
status	• Shows current status for all xDSL ports or only the specified port.
subcarriers	• Shows subcarriers for all xDSL ports or only the specified port.

show dsl-port-gos

(VDSL2 applications only) Shows all DSL port grade-of-service (gos) profiles provisioned in the system, or a specified gos profile. A grade-of-service profile allows users to specify reporting thresholds for certain monitored attributes of a DSL port. For example, when a particular count exceeds the specified threshold within a certain period (either 15 minutes or one day), a threshold-crossing alert is generated.

Syntax:

```
show dsl-port-gos
show dsl-port-gos <gos index>
```

Parameters:

gos index	Index of DSL port GOS profile. This is an index value, a numeric identifier that uniquely identifies this object within the system. Index values start with 1.

show dsl-selt

(VDSL2 applications only) Shows all DSL SELT statistics for the system, or a specified port. Also see **test dsl-selt** (on page 696).

Syntax:

```
show dsl-selt
show dsl-selt dsl-port <port-id>
```

Parameters:

port-id	• **For E-series**, DSL ports are specified by card (1), port type, and port number. For example: 1/v1. • **For stand-alone E7-2**, DSL ports are specified by card, port type, and port number. For example: 2/v1. • **For modular chassis E7-2**, DSL ports are specified by shelf, card, port type, and port number. For example: 1/2/v4.

show dsl-template

(VDSL2 applications only) Shows attributes in a DSL port template.

Syntax:

```
show dsl-template [summary|basic|advanced|psd]
show dsl-template <name> [summary|basic|advanced|psd]
```

Parameters:

name	Name of DSL port template to show.
summary	Show summary of all DSL port templates.
basic	Show basic parameters in all DSL port templates.
advanced	Show advanced parameters in all DSL port templates.
psd	Show power spectral density parameters in all DSL port templates.

show dsl-vectoring-group

(VDSL2 applications only) Shows attributes in a DSL port template.

Syntax:

```
show dsl-vectoring-group [name]
```

Parameters:

name	DSL vector group name of DSLVectorGroup. For example: 1.

show env-pin

Shows information on all environmental pins, or only the specified environmental pin. Also see "Environmental Alarms" and the appropriate Calix Installation Guide.

Syntax:

```
show env-pin [<env-pin ID>]
```

Parameters:

env-pin ID	Pin number. This is an index value, a numeric identifier that uniquely identifies this object within the system. • Valid values for E7: OUT, AL1-AL7. • Valid values for E-series: OUT, AL1-AL3.

show erps-domain

Shows information on all ERPS (Ethernet Ring Protection Switching) domains provisioned in the E7, or on a specified ERPS domain. Also shows alarms for all ERPS domains, or only a specified ERPS domain, possibly filtered with command options.

Syntax:

```
show erps-domain
show erps-domain <domain name> [vlans|alarms|topology]
show erps-domain [domain name|vlans|alarms]
```

Parameters:

domain name	Name of ERPS domain. This is a text string.
vlans	Shows the VLANs carried on all ERPS domains, or only on the specified ERPS domain.
alarms	Shows the alarms for all ERPS domains, or only for the specified ERPS domain. • **min-severity** and greater alarms only shown. Valid values are: info, warning, minor, major, critical. • **omit** certain alarms shown by default. Valid value is: non-svc-affecting • **include** alarms not shown by default. Valid value is: suppressed.
topology	Displays topology information about the ERPS domain. Each E7 node may be configured to collect topology information via messages sent around an ERPS ring via the command **set erps-domain** <domain name> **topology-monitor enabled**. Issue the command **show erps-domain** <domain name> **topology** to report the E7 node's view of the ring. Each element in this array provides information about the following: • A single port • Its neighbor ERPS port on the same system • Its neighbor ERPS port on the other end of the physical link Note that if the ring is fragmented (i.e., there are two or more breaks in the ring), a node will show only its fragmented view of the ring.

show eth-gos

Shows all Ethernet grade-of-service (gos) profiles provisioned in the system, or a specified gos profile. A grade-of-service profile allows users to specify reporting thresholds for certain monitored attributes of an Ethernet port. For example, when a particular count exceeds the specified threshold within a certain period (either 15 minutes or one day), a threshold-crossing alert is generated.

Syntax:

```
show eth-gos
show eth-gos <gos index>
```

Parameters:

gos index	Index of Ethernet GOS profile. This is an index value, a numeric identifier that uniquely identifies this object within the system. Index values start with 1.

show eth-mirror

Shows attributes of all Ethernet mirrors. The administrative state and a list of source objects will be displayed.

Syntax:

```
show eth-mirror
```

Parameters:

none

show eth-oam

(E7 only) Shows information for the Ethernet OAM system configuration, continuity check configuration, loop back configuration, and link trace configuration.

Syntax:

```
show eth-oam-cfg [detail]
show eth-oam-cc
show eth-oam-lb
show eth-oam-lt
```

Parameters:

none

show eth-port

Shows all attributes for all Ethernet ports, or as specified through options.

Syntax:

```
show eth-port [<port ID>] [detail]

show eth-port [alarms]
```

Parameters:

port ID	• **For E7**, Ethernet ports are specified by card, port type, and port number. For example: 1/g1. • **For E-series**, Ethernet ports are specified by port type and port number. For example: g1. Permitted values for the port type are "g" (for Gigabit Ethernet) or "x" (for 10-Gigabit Ethernet). **Note:** If the E7 system is set to Modular-Chassis mode, the interface location is indicated with a shelf/card/Ethernet port location, or shelf/card/LAG name. For example, to show the attributes of the first GigE port on card 1 in shelf 2, use the following command: **`show interface 2/1/g1`**.
detail	Shows detailed attributes for all Ethernet ports, or only for a specified Ethernet port.
alarms	Shows attributes for alarms on all Ethernet ports. See *show eth-port * alarms* (on page 591) for a command that shows only particular alarm options of a specified Ethernet port.

show eth-port * alarms

Shows alarms for a specified Ethernet port.

Syntax:

```
show eth-port <port ID> alarms [min-severity|omit|include]
```

Parameters:

port ID	• **For E7**, Ethernet ports are specified by card, port type, and port number. For example: 1/g1. • **For E-series**, Ethernet ports are specified by port type and port number. For example: g1. Permitted values for the port type are "g" (for Gigabit Ethernet) or "x" (for 10-Gigabit Ethernet).
min-severity	Only report alarms of this severity and greater. Valid values are: info, warning, minor, major, critical.
omit	Omit certain alarms shown by default. Valid value: non-svc-affecting.
include	Include alarms not shown by default. Valid value: suppressed.

show eth-sec-profile

Shows all Ethernet security profiles for ONT Ethernet ports, or only the specified Ethernet security profile.

Syntax:

```
show eth-sec-profile
show eth-sec-profile <p-name>
```

Parameters:

p-name	Name of Ethernet security profile. This is a text string.

show eth-svc-name

Shows the Ethernet service member name. A service member defines how subscriber traffic is classified and marked for a particular service. A maximum of eight service member objects may be associated to a single xDSL or ONT port. Only one service member object per ONT port may have a multicast service profile assigned (video service).

Syntax:

```
show eth-svc-name [name]
```

Parameters:

name	Ethernet port service name. This is a text string.

show fantray

(E7 only) Shows attributes of the fantray, including the type, fan speed, serial number, and version information.

Syntax:

```
show fantray
```

Parameters:

none

show ffp-group

(E7 GPON only) Shows the status of a Fast Facility Protection (FFP) group.

Syntax:

```
show ffp-group <name>
show ffp-group <name> detail
```

Parameters:

name	Name of the FFP group. This is a text string up to 32 characters.

show frame-measure-profile

(E7 only) Shows the specified Ethernet OAM frame measurement profile.

Syntax:

```
show frame-measure-profile <id>
```

Parameters:

id	Index of the Ethernet OAM frame measurement profile. This is an index value, a numeric identifier that uniquely identifies this object within the system. Index values start with 1.

show g8032-ring

Shows information on a G.8032v2 ring provisioned in the E7.

Syntax:

```
show g8032-ring
show g8032-ring <name> [vlans]
show g8032-ring [name|vlans]
```

Parameters:

name	Name assigned to the G.8032v2 ring. This is a text string.
vlans	Shows the VLANs carried on the G.8032v2 ring.

show gpon-port

(GPON applications only) Shows information for all GPON ports, detailed information for all GPON ports, or information for a specified port.

Syntax:

```
show gpon-port [<port>|bandwidth|detail|igmp-
counters|mac|mcast|vlans]

show gpon-port [bandwidth|detail|igmp-counters|vlans]
```

Parameters:

port	A GPON port specified by card/olt-port. For example, 2/4.
bandwidth	Shows bandwidth usage for all GPON ports, or only the specified port.
detail	Shows the detailed information for all GPON ports, or only the specified port.
igmp-counters	Shows IGMP counters for all GPON ports or only the specified port.
mac	Shows MAC addresses on the specified GPON port.
mcast	Shows multicast groups being forwarded on a specified GPON port.
vlan	Shows information for the specified VLAN on the specified GPON port. Valid values: a numeric VLAN ID (1 to 4093) or name.
vlans	Shows information for existing VLAN associations with all GPON ports, or only the specified port.

show h248-gw

Shows properties for all, or only the specified H.248 gateway objects for the VDSL2 H.248 gateway services.

Syntax:

```
set h248-gw [<gw-name>|services]
```

Parameters:

gw-name	Name of the H.248 Gateway. This is a text string. Card number/h.248 gateway name. For example, 1/name.
services	Shows services using H.248 gateways.

show h248-gw-profile

Shows information for all H.248 Gateway profiles in the system, all services in the system using H.248 Gateway profiles, or information for a specified profile.

Syntax:

```
show h248-gw-profile [name|services]
```

Parameters:

name	Show attributes for all H.248 Gateway profiles, or the specified H.248 Gateway profile. This is a text string.
services	Show all services using H.248 gateway profiles, or only the services using the specified profile.

show igmp-profile

Shows the attributes for the E7 IGMP profile. These attributes apply to all IP multicast groups provisioned in the system.

Syntax:

```
show igmp-profile [p-name|vlans]
```

Parameters:

p-name	The name of the specific IGMP profile to show.
vlans	Shows the IGMP profile usage for all system VLANs.

show interface

Shows attributes for all Ethernet port interfaces in the system. You can also show interfaces on a specified port, or card if applicable. You can also show PPPoE discovery statistics or static IP entries on interfaces.

Note: See *show interface * alarms* (on page 604) for details on how to view current alarms on a specific interface.

Syntax:

```
show interface [i-name|alarms|detail|dot1x|ethernet|lacp|igmp-
counters|lag|vlans]

show interface <i-name> [alarms|detail|dot1x|eth-svc|igmp-
counters|lacp|mac|mcast|members|pppoe|vlan|vlans]
```

Parameters:

i-name	Shows attributes for a specific interface. You can specify the name of an LAG interface, an Ethernet port interface, and additionally for an E7, a card number, or a card/Ethernet port specification. For example, 2/g1 for E7. This is a text string. **Note:** If the E7 system is set to Modular-Chassis mode, the interface location is indicated with a shelf/card/Ethernet port location, or shelf/card/LAG name. For example, to show the attributes of the interface on the first Gig port on card 1 in shelf 2, use the following command: **`show interface 2/1/g1`**.
alarms	Shows alarms for all interfaces in the system, or only the specified interface.
detail	Shows detailed attributes for all interfaces, or only for a specified interface.

dot1x	Shows 802.1x counters for all xDSL port associated interfaces (per interface, not aggregate), or only the specified interface. **Note 1:** 802.1x counters may also be shown at the card level; however, aggregate 802.1x stats cannot be retrieved at the system level. **Note 2:** For the CLI command for 802.1x counters for GPON ONT Ethernet ports, see *show ont-port* (on page 637).
ethernet	Shows attributes for all ethernet interfaces.
ethernet detail	Shows detailed attributes for all ethernet interfaces.
eth-svc	Shows all Ethernet services on a DSL interface. • **pppoe** = shows PPPoE discovery statistics for all Ethernet services • **name** = shows PPPoE discovery statistics for a specified Ethernet service • **static-ip-entry** = shows interface Ethernet service static IP entries for the named interface • Also see *show dsl-bond-interface* (on page 577).
igmp-counters	Shows IGMP counters for all interfaces or only the specified interface.
lacp	Shows the LACP state for all LAG interfaces, or only for a specified interface.
lag	Shows attributes for all LAG (link aggregation group) interfaces.
lag detail	Shows detailed attributes for all LAG (link aggregation group) interfaces.
mac	Shows MAC addresses for a specified interface.
mcast	Shows multicast groups being forwarded on a specified interface.
members	Shows the Ethernet ports for the specified interface.
pppoe	Shows PPPoE discovery statistics for the specified interface.
vlans	Shows the VLANs carried on all interfaces, or only for a specified interface.

show interface * alarms

Shows alarms for a specified interface.

Syntax:

```
show interface <interface name> alarms [min-severity|omit|include]
```

Parameters:

interface name	Shows alarms for a specific interface. You can specify the name of an LAG interface, an Ethernet port interface, and additionally for an E7, a card number, or a card/Ethernet port specification. For example, 2/g1 for E7. This is a text string.
min-severity	Only report alarms of this severity and greater. Valid values are: info, warning, minor, major, critical.
omit	Omit certain alarms shown by default. Valid value: non-svc-affecting.
include	Include alarms not shown by default. Valid value: suppressed.

show ip-host

(Unsupported for E7-20) Shows all VDSL2 line card IP hosts, or only the specified line card IP host.

Syntax:

```
show ip-host
show ip-host <name>
```

Parameters:

name	Identifies a line card IP host by card/ip-host name.

show ip-precedence-map

Shows all IP precedence maps, or only the specifiedan IP precedence map that allows mapping of layer 3 IP Precedence bits into layer 2 priority bits.

Syntax:

```
show ip-precedence-map
show ip-precedence-map <name>
```

Parameters:

name	Name of IP Precedence map. This is a text string.

show l2cp-filter

(E7 only)

Shows information for all layer 2 Control Protocol (L2CP) filters, or information for a specified filter.

Syntax:

```
show l2cp-filter
show l2cp-filter <name>
```

Parameters:

name	Layer 2 Control Protocol (L2CP) filter name. This is a text string.

show l2cp-range

(E7 only)

Shows information for all layer 2 Control Protocol (L2CP) ranges, or information for a specified range.

Syntax:

```
show l2cp-range
show l2cp-range <index>
```

Parameters:

index	Index of layer-2 control protocol range. This is an index value. A numeric identifier that uniquely identifies this object within the system (range 1-3).

show link-trace meg

(E7 only) Allows for inspection of the following results from Ethernet OAM link trace tests. See *test link-trace meg* (on page 697).

- Ethernet OAM link trace results or summary of recent Ethernet OAM link traces on an ONT port with the specified transaction ID.
- Ethernet OAM link trace results or summary of recent Ethernet OAM link traces on a local MEP with the specified transaction ID.

Syntax:

```
show link-trace meg <name> ont-port <port-id>
show link-trace meg <name> ont-port <port-id> trans-id <lt-id>
show link-trace meg <name> ont-port <port-id> history
show link-trace meg <name> ont <ont-id> ip-host <type>
show link-trace meg <name> ont <ont-id> ip-host <type> trans-id <lt-
id>
show link-trace meg <name> ont <ont-id> ip-host <type> history
show link-trace meg <name> mep id <endpoint-id>
show link-trace meg <name> mep id <endpoint-id> trans-id <lt-id>
show link-trace meg <name> mep id <endpoint-id> history
```

Parameters:

name	Name of the maintenance entity group. This is a text string.
port-id	ONT port. ONT ports are specified by ONT logical ID and port number. The port number is prefixed by a "port identifing letter": g=Gigabit Ethernet, h=HPNA Ethernet, r=video RF, R=video Hot RF, d=DS-1, p=POTS. For example: 10001/p2.
endpoint-id	Ethernet OAM maintenance endpoints. This is a text string. Valid range: 1-8191.
lt-id	Link trace transaction ID. This is a numeric value. Valid range: 1-65535. If no transaction ID is specified, the last link trace is retrieved.
ont-id	ONTs are specified by logical ID, an integer in the range 1-64000000, inclusive.
type	Name of IP Host. Valid values are: sip, tdm-gw, h248, mgcp, pwe3.

show lldp

Shows all Link Layer Discovery Protocol (LLDP), that defines a set of information to be transmitted and received periodically on an Ethernet interface to and from connected devices. There is no requirement that a peer will share the same objects as the sender.

Syntax:

```
show lldp local
show lldp neighbor
```

Parameters:

local	Show the LLDP information for local unit.
neighbor	Show the LLDP information for neighbor objects.

show log

Shows the last 20 entries of the following logs, or as specified by one of the options.

- Alarm log records alarm assertion and clearing.
- Database change log records all provisioning activity and can be useful for identifying when a particular system change happened.
- System event log records various system activities.
- Security log records the IP address of the client host and the successful and failed login and log-out attempts to the command-line interface.
- TCA log records the threshold-crossing alerts.

Syntax:

```
show log alarm
show log dbchange
show log event
show log security
show log tca
[all|first *|from <YYYY/MM/DD:HH:MM>|from-seq * count *|last *|since
<YYYY/MM/DD:HH:MM>|from <YYYY/MM/DD:HH:MM> to <YYYY/MM/DD:HH:MM>]
```

Parameters:

all	Shows the last 500 log entries. Older entries are discarded by the system and cannot be shown by this command. Complete records can be kept by CMS, which has access to much greater storage capacity.
first *	Shows a specified number (*) of log entries, starting from the beginning of the log. This is an index value. Range = 1-500.
from	Shows alarms logged within a time range.
from-seq * count *	Shows log entries, starting at the specified sequence number (*). A sequence number is not necessarily the "position" in the alarm log. The sequence number starts at one and increases until the log is cleared. Since the log contains 500 entries, the sequence number of the first entry in the log will not match the log entry position. The count number (*) indicates the number of entries. Range = 1-500.
last *	Shows a specified number of log entries (*), starting from the end of the log. This is an index value. Range = 1-500.

since *	Shows log entries, starting with the entries that occurred at a specified time (*).
from * to *	Shows log entries that occurred between the time specified for from (*) and to (*).

show loopback meg

(E7 only) Allows for inspection of the Ethernet OAM loopback tests. See *test ucast-loopback* (on page 703) meg and *test mcast-loopback meg* (on page 699).

Syntax:

```
show loopback meg <name> ont-port <port-id>

show loopback meg <name> ont <ont-id>

show-loopback meg <name> mep id <endpoint-id>
```

Parameters:

name	Name of the maintenance entity group. This is a text string.
port-id	ONT port. ONT ports are specified by ONT logical ID and port number. The port number is prefixed by a "port indentifying letter": g=Gigabit Ethernet, h=HPNA Ethernet, r=video RF, R=video Hot RF, d=DS-1, p=POTS. For example: 10001/p2.
ont-id	ONT logical ID. Example: 10001
endpoint-id	Ethernet OAM maintenance endpoint. This is a text string. Valid range: 1-8191.

show mac

Shows all MAC addresses known by the system, or specified by one of the options.

Syntax:

```
show mac [addr *|count|on-interface *|on-interface * addr *|on-dsl-
bond-interface *|on-dsl-bond-interface * addr *|on-gpon-port *|on-
gpon-port * addr *|on-vlan *|on-vlan * addr *]
```

Parameters:

addr *	Shows MAC addresses known by the system at a specified address. The (*) indicates a MAC address: six hexadecimal digits in the range 0-FF, optionall separated by colons.
count	Shows the count of MAC table entries.
on-interface *	Shows MAC addresses on an interface of a specified name. The (*) indicates the name of the interface. This is a text string.
on-interface * addr *	Shows MAC addresses on an interface of a specified name at a specified address. The first (*) indicates the name of the interface. This is a text string. The second (*) indicates a MAC address: six hexadecimal digits in the range 0-FF, optionally separated by colons.
on-dsl-bond-interface *	(Unsupported for E7-20) Shows MAC addresses on a specified DSL port. The (*) indicates the name of the DSL port as shelf (if MC)/card/dsl-port. For example, 2/v4. This is a text string.
on-dsl-bond-interface * addr *	(Unsupported for E7-20) Shows MAC addresses on a specified DSL port. The first (*) indicates the name of the DSL port as shelf (if MC)/card/dsl-port. For example, 2/v4. The second (*) indicates a MAC address: six hexadecimal digits in the range 0-FF, optionally separated by colons.
on-gpon-port *	(E7 only) Shows MAC addresses on a specified GPON port. The (*) indicates the name of the GPON port as card/gpon-port. For example, 2/4. This is a text string.
on-gpon-port * addr *	(E7 only) Shows MAC addresses on a specified GPON port. The first (*) indicates the name of the GPON port as card/gpon-port. For example, 2/4. The second (*) indicates a MAC address: six hexadecimal digits in the range 0-FF, optionally separated by colons.

on-ont-port *	Shows MAC addresses on a specified GPON port. The (*) indicates the name of the ONT port. This information is pulled from the GPON MAC and would be aligned with its aging. The ONT aging behaviors are as follows: • P-Series ONTs do not support mac learning so the setting makes no difference. • T-Series ONTs have a set 10 minute timeout. • T7x0G ONTs support the setting. Note: The ARP age timer in the router must be set to a value less than or equal to the value set for the MAC age timer.
on-ont-port * addr *	Shows MAC addresses on a specified GPON port. The (*) indicates the name of the ONT port. The second (*) indicates a MAC address: six hexadecimal digits in the range 0-FF, optionally separated by colons. This information is pulled from the GPON MAC and would be aligned with its aging. The ONT aging behaviors are as follows: • P-Series ONTs do not support mac learning so the setting makes no difference. • T-Series ONTs have a set 10 minute timeout. • T7x0G ONTs support the setting. Note: The ARP age timer in the router must be set to a value less than or equal to the value set for the MAC age timer.
on-vlan *	Shows MAC addresses on a VLAN of a specified name or ID. The (*) indicates the name or ID of the VLAN. The numeric range = 1-4093.
on-vlan * addr *	Shows MAC addresses on a VLAN of a specified name or ID at a specified address. The first (*) indicates the name or ID of the VLAN. The numeric range = 1-4093. The second (*) indicates a MAC address: six hexadecimal digits in the range 0-FF, optionally separated by colons.

show mcast

Shows all multicast groups known by the system, or being forwarded on an interface or VLAN, and for an E7, a GPON port.

Syntax:

```
show mcast [ip *|on-interface *|on-interface * ip *|on-dsl-bond-
interface *|on-dsl-bond-interface * ip *|on-gpon-port *|on-gpon-port
* ip *|on-vlan *|on-vlan * ip *]
```

Example:

e7-20-25>show mcast

VLAN Multicast Group Interfaces, OLT Ports and ERPS Domains

---- --------------- --

25 224.0.0.5 traffic

25 224.0.0.6 traffic

25 225.1.1.1 12/g1, 13/1, traffic

25 239.255.5.3 12/g1, 13/1, traffic

Parameters:

ip *	Shows a multicast group at a specified address. The (*) indicates an IP address in "dotted quad" format: such as "192.168.1.100", or a range: two addresses separated by a dash.
on-interface *	Shows multicast groups on a specified interface. The (*) indicates the name of the interface. This is a text string.
on-interface * ip *	Shows multicast groups on a specified interface at a specified address. The first (*) indicates the name of the interface. This is a text string. The second (*) indicates an IP address in "dotted quad" format: such as "192.168.1.100", or a range: two addresses separated by a dash.
on-dsl-bond-interface *	Shows multicast groups on a specified DSL port. The (*) indicates the name of the DSL port as card/dsl-port. For example, 2/v4. This is a text string.

on-dsl-bond-inteface * ip *	Shows multicast groups on a specified DSL port at a specified address. The first (*) indicates the name of the DSL port as card/dsl-port. For example, 2/v4. The second (*) indicates an IP address in "dotted quad" format: such as "192.168.1.100", or a range: two addresses separated by a dash.
on-gpon-port *	(E7 only) Shows multicast groups on a specified GPON port. The (*) indicates the name of the GPON port as card/gpon-port. For example, 2/4. This is a text string.
on-gpon-port * ip *	(E7 only) Shows multicast groups on a specified GPON port at a specified address. The first (*) indicates the name of the GPON port as card/gpon-port. For example, 2/4. The second (*) indicates an IP address in "dotted quad" format: such as "192.168.1.100", or a range: two addresses separated by a dash.
on-vlan *	Shows multicast groups on a specified VLAN. The (*) indicates the name or ID of the VLAN. The numeric range = 1-4093.
on-vlan * ip *	Shows multicast groups on a specified VLAN at a specified address. The first (*) indicates the name or ID of the VLAN. The numeric range = 1-4093. The second (*) indicates an IP address in "dotted quad" format: such as "192.168.1.100", or a range: two addresses separated by a dash.

show mcast-map

Shows information for all multicast address maps in the system, or information for only the specified multicast address map.

Syntax:

```
show mcast-map [m-name]
```

Parameters:

m-name	Name of multicast address map. This is a text string.

show mcast-profile

Shows information for all multicast profiles in the system, or information for the specified multicast profile.

Syntax:

```
show mcast-profile [p-name]
```

Parameters:

p-name	Name of multicast profile. This is a text string.

show mcast-white-list

Shows information for all multicast white lists in the system, or information for only the specified multicast white list.

Syntax:

```
show mcast-white-list [m-name]
```

Parameters:

m-name	Name of multicast white list. This is a text string.

show meg

(E7 only) Shows information for all Ethernet OAM maintenance entity groups, or only the group specified by name or filter.

Syntax:

```
show meg [name]
show meg filter-by [vlan|level]
```

Parameters:

name	Shows attributes for the specified Ethernet OAM maintenance entity group. This is a text string.
vlan	Name of VLAN (or VLAN ID). VLANs can specified by name or by numeric VLAN ID. Valid range: 1-4093.
level	MEG Level. This is a numeric value. Valid range: 0-7.

show mep

(E7 only) Shows all Ethernet OAM maintenance endpoints (MEP), or only the specified maintenance endpoint.

Syntax:

```
show mep [detail]
show mep id <endpoint-id> [detail]
show mep ont-port <port-id> [detail]
show mep ont-port <port-id> id <endpoint-id> [detail]
show mep ont <ont-id> ip-host <h-type> [detail]
show mep meg <m-name> [detail]
show mep meg <m-name> id <endpoint-id> [detail]
show mep meg <m-name> ont-port <port-id> [detail]
show mep meg <m-name> ont-port <port-id> id <endpoint-id> [detail]
show mep meg <m-name> ont <ont-id> ip-host <h-type> [detail]
```

Parameters:

endpoint-id	Show attributes for Ethernet OAM maintenance endpoints. This is a text string. Valid range: 1-8191.
port-id	Shows information for a specified ONT port indicated by ont-id/ont-port, or ont-id only. For ont-port: f=fast-eth, g=gig-eth, h=hpna-eth, r=video-rf, R=video-hot-rf, t=t1, p=pots. For example, 10001/g1.
ont-id	Shows information for a specified ONT indicated by logical ID, an integer in the range 1-64000000, inclusive.
m-name	Name of Maintenance Entity Group (MEG). This is a text string.
h-type	Name of IP host. Valid values: sip, tdm-gw, h248, mgcp, pwe3.
detail	Shows detail for all MEPs or only for the specified group.

show mgcp-profile

(E7 only) Shows information for all MGCP Gateway profiles in the system, or information for the specified profile. Also see *create mgcp-profile* (on page 154).

Syntax:

```
show mgcp-profile [p-name]
show mgcp-profile <p-name> [services]
show mgcp-profile [services]
```

Parameters:

p-name	Show information on specified MGCP Gateway profile. This is a text string.
services	Show all services using MGCP gateway profiles, or only the services using the specified profile.

show mgmt-cfg

Displays information on the system management interface. A management interface is a virtual interface on a network-facing uplink, allowing remote management without additional physical cabling. The same physical interface is used for both management traffic and subscriber traffic. Also see Configuring the In-Band Management Interface.

Syntax:

```
show mgmt-cfg
```

Parameters:

none

show mgmt-ge

(VCP only)

Shows the attributes for the front panel Management-GE SFP ports on a Vectoring Control Processor (VCP) .

Syntax:

```
show mgmt-ge
```

show mip

(E7 only) Shows all Ethernet OAM maintenance intermediate points (MIP). Or, shows Ethernet OAM maintenance intermediate points associated with an ONT port or maintenance intermediate points for a maintenance entity group (MIG).

Syntax:

```
show mip
show mip ont-port <port-id>
show mip meg <m-name>
show mip meg <m-name> ont-port <port-id>
```

Parameters:

port-id	ONT Port. ONT ports are specified by ONT logical ID and port number. The port number is prefixed by a "port identifing letter": g=Gigabit Ethernet, h=HPNA Ethernet, d=DS-1, p=POTS. For example: 10001/g2.
m-name	Name of maintenance entity group. This is a text string.

show modular-chassis

(E7-2 only) Shows all modular chassis shelf information in the system, even any attached, uninitialized shelves waiting to be included int he the modular chassis.

Syntax:

```
show modular-chassis
```

Parameters:

None

show mrouter

Shows multicast routers known to the system.

Syntax:

```
show mrouter [detail]
```

Parameters:

None

show mvr-profile

Shows information for all multicast VLAN registration profiles in the system, or information for only the specified multicast VLAN registration profile.

Syntax:

```
show mvr-profile [p-name]
```

Parameters:

p-name	Name of multicast VLAN registration profile. This is a text string.

show netconf sessions

Displays information on the active Netconf sessions.

- The system can support a total of 15 web interface and CMS sessions running concurrently.
- The Netconf interface has a 30 minute timeout, which cannot be turned off.
- The web browser interface has an inactivity timer of ~30 minutes.

Syntax:

```
show netconf sessions
```

Parameters:

none

show no-alarms

Shows the system components for which alarms are suppressed.

Syntax:

```
show no-alarms
```

Parameters:

None

show ntp

Shows information on the NTP servers (client configuration) being used as time sources. The E-Series acts as a client, using the specified time servers for accurate time. Also see set ntp.

Syntax:

```
show ntp
```

Parameters:

none

show ont

(GPON applications only) Shows information for all ONTs in the system, detailed information for all ONTs, or information specified by the options.

Syntax:

```
show ont [count|ont-id|detail|discovered|on-gpon-
port|quarantine|reg-id|serial-number|subscriber-
id|summary|unassigned|vlans]

show ont <ont-id> [detail|ip-host|ont-pon-us-cos|phy-ports|rf-
avo|summary|vlans]

show ont discovered [detail|on-gpon-port|serial-number]
```

Parameters:

ont-id	An ONT specified by the index. For example, 10001.
count	Shows the licensed ONTs and the count of unlicensed ONTs.
detail	Shows the detailed information for all ONT or the specified ONT.
discovered	Shows serial numbers and subscriber information for ONTs present on the system, in detail, or in association with a gpon port.
on-gpon-port	Shows ONTs linked to specified GPON port. Valid value: shelf (if modular chassis)/card/port. • **real-time-data** is also an option that shows real-time data information for an ONT.
quarantine	Shows quarantined ONTs.
reg-id	Shows the ONT with the specified registration ID.
serial-number	Shows the assigned ONT with the specified serial number.
subscriber-id	Shows the ONT with the specified subscriber ID.
ip-host	Shows all IP hosts for a specified ONT, or only the specified IP hosts. Valid values: sip, tdm-gw, h248, mgcp, pwe3.
phy-ports	Shows physical Ethernet port status for an ONT.
rf-avo	Shows RF analog video overlay attributes of an ONT.

summary	Shows summary information for ONTs present on the system or the specified ONT.
unassigned	Shows unassigned ONTs present on the system.
ont-pon-us-cos	Shows the PON Upstream CoS configuration for an ONT.
vlans	Shows the VLANS on all of the ONTs or only the specified ONT.

show ont-config

(E7 only) Shows ONT configuration files for the active card, which can be either of the following type:

- RG configuration file
- SIP configuration file

Syntax:

```
show ont-config [all|instance]
```

Parameters:

all	Shows all of the ONT configuration files for the active card.
instance	Shows only the ONT configuration file that is assigned to the specified instance. Logical index of ONT grouping. Valid values: 2-255 for the logical indes of ONT grouping, or: • voip-1 = instance for VoIP (9) • voip-2 = instance for VoIP (10) • voip-3 = instance for VoIP (11) • voip-4 = instance for VoIP (12) • voip-5 = instance for VoIP (13) • voip-6 = instance for VoIP (14) • voip-7 = instance for VoIP (15) • voip-8 = instance for VoIP (16) • rg-1 = instance for RG (17) • rg-2 = instance for RG (18) • rg-3 = instance for RG (19) • rg-4 = instance for RG (20) • rg-5 = instance for RG (21) • rg-6 = instance for RG (22) • rg-7 = instance for RG (23) • rg-8 = instance for RG (24)

show ont-eth-gos

(GPON applications only) Shows information for all ONT Ethernet grade-of-service (GOS) profiles in the system, or information for the specified ONT Ethernet GOS profile.

Syntax:

```
show ont-eth-gos [gos index]
```

Parameters:

gos index	Index of ONT Ethernet GOS profile. This is a numeric index value.

show ont-port

(GPON applications only) Shows information for all ONT ports in the system, or information for the specified ONT port.

Syntax:

```
show ont-port [detail|dot1x|fast-eth|full-bridge|gig-eth|hpna-
eth|pots|res-gw|t1|video-hot-rf|video-rf|vlans]

show ont-port <port-id> [detail|dot1x|eth-svc|fast-eth|full-
bridge|gig-eth|h248-gw-svc|hpna-eth|mgcp-svc|pots|pppoe|pwe3-
svc|res-gw|sip-svc|t1|tdm-gw-svc|video-hot-rf|video-rf|vlans]

show ont-port <port-id> eth-svc [<s-name>|pppoe|static-ip-entry]
```

Parameters:

detail	Shows the detailed information for all ONT ports, or the specified port or service.
dot1x	Shows the 802.1x status for all GPON ONT Ethernet ports (per port, not aggregate), or only the specified port. **Note 1:** 802.1x counters may also be shown at the card level; however, aggregate 802.1x stats cannot be retrieved at the system level. **Note 2:** For the CLI command for 802.1x counters for xDSL port associated interfaces, see *show interface* (on page 602).
eth-svc	Shows all services on an ONT Ethernet port.
fast-eth	Shows information for all ONT Fast Ethernet ports, or the specified port only.
full-bridge	Shows detailed information for ONT Full Bridge ports.
gig-eth	Shows information for all ONT Gigabit Ethernet ports, or the specified port only.
h248-gw-svc	Shows the H.248 gateway service provisioned on an ONT POTS port.
hpna-eth	Shows information for all ONT HPNA Ethernet ports, or the specified port only.
mgcp-sv	Shows MGCP gateway service provisioned on an ONT POTS port.

pots	Shows information for all ONT POTS ports, or the specified port only.
pppoe	Shows PPPoE discovery statistics summary for the ONT port.
pwe3-svc	Shows the PWE3 service provisioned on the specified ONT T1 port.
res-gw	Shows detailed information for ONT Residential Gateway ports.
sip-svc	Shows the SIP service provisioned on the specified ONT POTS port.
t1	Shows information for all ONT T1 ports, or the specified port only.
tdm-gw-svc	Shows the TDM Gateway service provisioned on the specified ONT POTS port.
video-hot-rf	Shows information for all ONT Video Hot RF ports, or the specified port only.
video-rf	Shows information for all ONT Video RF ports, or the specified port only.
vlans	Shows VLANs on all ONT ports, or only the specified port.
ds1	Shows information for all ONT DS1 ports, or the specified port only.
port-id	Shows information for a specified ONT port indicated by ont-id/ont-port, or ont-id only. For ont-port: f=fast-eth, g=gig-eth, h=hpna-eth, r=video-rf, R=video-hot-rf, t=t1, p=pots. For example, 10001/g1.
s-name	Name of service for the ONT port.
index	Index of static IP entry. Allowed range is 1 to 16.

show ont-profile

(GPON applications only) Shows information for all ONT profiles in the system, detailed information for all ONTs, or information specified by the options.

- ONT port types are shown with the following abbreviations:

  f=fast-eth, **g**=gig-eth, **h**=hpna-eth, **r**=video-rf, **R**=video-hot-rf, **t**=t1, p=pots, **G**=residential-gateway, **F**=full-bridge

- ONT capabilities are shown with the following abbreviations:

  c=convert multicast to unicast, **e**=Ethernet OAM, **rg**=Default to Residential Gateway Mode

Syntax:

```
show ont-profile [p-name|detail]

show ont-profile <p-name> [detail]
```

Parameters:

p-name	Shows information for the specified ont-profile. This is a text string.
detail	Shows the detailed information for all ONT profiles or the specified profile.

show ont-pwe3-profile

(GPON applications only) Shows information for all ONT PWE3 profiles in the system, or only the specified ONT PWE3 profile.

Syntax:

```
show ont-profile
show ont-profile <p-name>
```

Parameters:

p-name	Shows information for the specified ONT PWE3 profile. This is a text string.

show ont-pwe3-svc-gos

(GPON applications only) Shows information for all ONT PWE3 port grade-of-service (GOS) profiles in the system, or information for the specified ONT PWE3 GOS profile.

Syntax:

```
show ont-pwe3-svc-gos [gos index]
```

Parameters:

gos index	Index of ONT PWE3 port GOS profile. This is a numeric index value.

show ont-release

(GPON applications only) Shows information on the ONT images and labels.

Syntax:

```
show ont-release [summary|system-version]
show ont-release card <card address>
```

Parameters:

card address	A GPON card, specified by the card number, or shelf/card. For example, 1/2.
summary	Summary of ONT release versions.
system-version	System software version. This is a string.

show ont-t1-gos

(GPON applications only) Shows information for all ONT T1 port grade-of-service (GOS) profiles in the system, or information for the specified ONT T1 port GOS profile.

Syntax:

```
show ont-t1-gos [gos index]
```

Parameters:

gos index	Index of ONT T1 port GOS profile. This is a numeric index value.

show pm

Shows the following performance monitoring statistics in various groups:

- Ethernet Ring Protection Switching (ERPS) domain
- Each Ethernet port
- Each DSL port (Unsupported for E7-20)
- Each ONT in the system (E7 only)
- ONT Ethernet and T1 ports in the system (E7 only)

The performance monitoring statistics are accumulated over one of the following intervals:

- Eight 1-day periods

  or

- Four days in 15-minute periods

Syntax:

```
show pm erps-domain <domain name>
show pm eth-port <port-id>
show pm dsl-port <port-id> [ethernet|line]
show pm gpon-port <port-id>
show pm ont <ont-id>
show pm ont-port <port-id> [pwe3-svc]

The following options apply to all of the above:
[1-day all|1-day bin *|1-day current|1-day last *|15-min all|15-min
bin *|15-min current|15-min last *]
```

Parameters:

domain name	Name of ERPS domain. This is a text string.
eth-port port-id	• **For stand-alone E7-2 or E7-20**, Ethernet ports are specified by card, port type, and port number. For example: 1/g1. • **For modular chassis E7-2**, Ethernet ports are specified by shelf, card, port type, and port number. For example: 1/1/g1. • **For E-series**, Ethernet ports are specified by port type and port number. For example: g1. Permitted values for the port type are "g" (for Gigabit Ethernet) or "x" (for 10-Gigabit Ethernet).

dsl-port port-id	• **For stand-alone E7-2**, DSL ports are specified by card, port type, and port number. For example: 1/v1. • **For modular chassis E7-2**, DSL ports are specified by shelf, card, port type, and port number. For example: 1/2/v4. • **For E-series**, DSL ports are specified by port type and port number. For example: v1.
ethernet	Shows DSL port Ethernet performance monitoring statistics.
line	Shows DSL port line-level performance monitoring statistics.
gpon-port port-id	GPON port specified by shelf (if MC)/card/gpon-port. For example: 1/2/4.
ont-id	ONT. This is a text string.
ont-port port-id	ONT port specified by ont-id/port-type port-number. For example: 10001/g1.
pwe3-svc	Shows information collected by ONT PWE3 services in the system.
1-day all	Shows all specified performance monitoring statistics accumulated over a 1-day period.
1-day bin *	Shows the specified 1-day period (*) of accumulated performance monitoring statistics. The periods are numbered in reverse chronological order, where 1 is the most recent period. The bin number is a numeric value (range 1-96).
1-day current	Shows performance monitoring statistics accumulated over the current 1-day period.
1-day last *	Shows performance monitoring statistics accumulated in a range of 1-day periods, starting from the current time and extending to the specified number (*) of days in the past.
15-min all	Shows all statistics accumulated over four days in 15-minute periods.
15-min bin *	Shows the specified 15-minute period (*) of accumulated performance monitoring statistics. The periods are in reverse chronological order, where 1 is the most recent period. The bin number is a numeric value (range 1-96).

15-min current	Shows performance monitoring statistics accumulated in the current 15-minute period.
15-min last *	Shows performance monitoring statistics accumulated in a range of 15-minute periods, starting from the current time and extending to the specified amount (*) of time in the past. Time intervals into the past can be specified in hours, minutes (prefixed by a :), or both. Minutes are restricted to intervals of 15 (0, 15, 30, and 45).

show policy-map

Shows all policy maps provisioned in the E7, or only a specified policy map, where each policy in the map is displayed.

Policy maps are lists of QoS-related actions to take on packets that match certain criteria. The matching criteria is specified by a classification map.

Syntax:

```
show policy-map [<p-map name>]
```

Parameters:

p-map name	Name of policy map. This is a text string.

show pon-cos-cfg

(GPON applications only) Shows the global PON port class of service (COS) configuration.

Syntax:

```
show pon-cos-cfg
```

Parameters:

None

show pon-us-cos-prof

(GPON applications only) Shows all PON upstream class of service (COS) profiles, or only the services that have an assigned PON upstream CoS profile.

Syntax:

```
show pon-us-cos-prof [services]
```

Parameters:

services	Shows services using PON upstream class of Service profiles.

show pots-port

(Unsupported for E7-20) Shows information for all of the POTS ports, or only a specified POTS port.

Syntax:

```
show pots-port
show pots-port detail
show pots-port <port> [detail|h248-gw-svc|sip-svc|tdm-gw-svc]
```

Parameters:

port	POTS port specified. • For E7-2, shelf (if modular chassis), card number, and port number, separated by a slash. For example, 1/1. • For E-series, port number. For example, 4.
detail	Shows detailed information for a PORT port.
h248-gw-svc	Shows the H.248 Gateway service on the specified POTS port.
sip-svc	Shows the SIP service on the specified POTS port.
tdm-gw-svc	Shows the TDM Gateway service on the specified POTS port.

show power

Shows the power monitoring mode for the E7 system.

- For the E7-20 system, this command can show only the power monitoring mode for a specified power zone.
- For the E7 modular chassis system, this command is not supported. Instead, use the **show shelf** command to show the power monitoring attributes for an MC shelf.

Syntax:

```
(E-Series) show power [zone]
(E7-2 modular chassis only) show shelf <s-number>
[detail|power|timing]
```

Parameters:

zone	Index of power zone for E7-20. Valid values: 1, 2, 3.
s-number	E7-2 Shelf number in a modular chassis system. Valid values: 1-10.

show pppoe sessions

Displays information for all PPPoE sessions or for sessions associated with a specifier.

Syntax:

```
show pppoe sessions [detail]
show pppoe sessions dsl-bond-interface <intfc-name> [detail|vlan
<vlan-id>]
show pppoe sessions id <ses-id> [detail]
show pppoe sessions interface <intfc-name> [detail|vlan <vlan-id>]
show pppoe sessions mac <m-add> [detail|id]
show pppoe sessions ont-port <ont-id/ont-port> [detail|vlan <vlan-
id>]
show pppoe sessions vlan <vlan-i> [detail]
```

Parameters:

detail	Shows detailed information for the PPPoE session specified.
ses-id	Shows sessions with a specific ID. Valid values: 1-65534.
intfc-name	(Unsupported for E7-20) Shows sessions on the xDSL Ethernet interface or bonded interface. This is a text string.
m-add	Shows sessions with the client MAC address. This is a MAC address: six hexadecimal digits in the range 0-FF, optionally separated by colons.
ont-id/ont-port	(E7 only) Shows sessions on and ONT Ethernet port. In ont-port: f=fast-eth, g=gig-eth, h=hpna-eth. Example: 10001/g1.
vlan-id	Shows sessions on an interface and specific VLAN. VLANs can specified by name or by numeric VLAN ID 1-4093.

show pppoe-profile

Shows all PPPoE profiles, or only the specified PPPoE profile.

Syntax:

```
show pppoe-profile
show pppoe-profile <name>
```

Parameters:

name	Name of PPPoE profile. This is a text string.

show radius-cfg

Shows the RADIUS client configuration. The system's RADIUS client allows authentication and accounting of administrative access via a centralized user database.

Syntax:

```
show radius-cfg
```

Parameters:

none

show remote-diag

Shows the ONT remote diagnostic access found for the system.

Syntax:

```
show remote-diag
```

Parameters:

none

show remote-mep

(E7 only) The commands in this topic are in two general categories:

The first category shows all remote maintenance endpoints, the maintenance endpoints in a specific maintenance entity group, or a particular remote maintenance endpoint in a specified maintenance entity group.

The second category shows the following remote maintenance endpoints (MEP) discovered by the system:

- All remote maintenance endpoints discovered by the system

  Maintenance entity groups (MEG) specified

- Remote maintenance endpoints discovered in a specified maintenance entity group
- Remote maintenance endpoints in a specific maintenance entity group discovered by a specific local maintenance endpoint
- Remote maintenance endpoints in a specific maintenance entity group discovered on a specific ONT port

  MAC address specified

- Remote maintenance endpoints with the specified MAC address
- Remote maintenance endpoints with a specific MAC address discovered in a specific maintenance entity group
- Remote maintenance endpoints with a specific MAC address discovered by a specific maintenance endpoint

  Remote maintenance endpoints (MEP) specified

- Remote maintenance endpoints with the specific ID
- Remote maintenance endpoints with the specific ID and MAC address
- Remote maintenance endpoints with a specific ID and MAC address in a specific maintenance entity group
- Remote maintenance endpoints with a specific ID and MAC address discovered in a specific maintenance entity group
- Remote maintenance endpoints with a specific ID, MAC address, and maintenance entity group discovered by a specific maintenance endpoint
- Remote maintenance endpoints with a specific ID, MAC address, and maintenance entity group discovered on a specific ONT port
- Remote maintenance endpoints with a specific ID discovered in a specific maintenance entity group
- Remote maintenance endpoints with a specific ID and maintenance entity group discovered by a specific maintenance endpoint
- Remote maintenance endpoints with a specific ID and maintenance entity group discovered on a specific ONT port

Syntax:

```
show remote-mep
show remote-mep meg <id>
show remote-mep meg <group-name> id <endpoint-id>

show remote-mep discovered
show remote-mep discovered meg <name>
show remote-mep discovered meg <name> mep id <endpoint-id>
show remote-mep discovered meg <name> mep ont-port <port-id>

show remote-mep discovered mac-address <mac>
show remote-mep discovered mac-address <mac> meg <endpoint-id>
show remote-mep discovered mac-address <mac> meg <endpoint-id> mep
id <endpoint-id>
show remote-mep discovered mac-address <mac> meg <endpoint-id> mep
ont-port <port-id>

show remote-mep discovered id <endpoint-id>
show remote-mep discovered id <endpoint-id> mac-address <mac>
show remote-mep discovered id <endpoint-id> mac-address <mac> meg
<name>
show remote-mep discovered id <endpoint-id> mac-address <mac> meg
<name> mep id <endpoint-id>
show remote-mep discovered id <endpoint-id> mac-address <mac> meg
<name> mep ont-port <port-id>

show remote-mep discovered id <endpoint-id> meg <name>
show remote-mep discovered id <endpoint-id> meg <name> mep id
<endpoint-id>
show remote-mep discovered id <endpoint-id> meg <name> mep ont-port
<port-id>
```

Parameters:

name	Ethernet OAM maintenance entity group. This is a text string.
group-name	Name of maintenance entity group. This is a text string.
endpoint-id	Ethernet OAM maintenance endpoints. This is a text string. Valid range: 1-8191.
mac	MAC address known by the system at a specified address. The (*) indicates a MAC address: six hexadecimal digits in the range 0-FF, optional separated by colons.

port-id	ONT port indicated by ont-id/ont-port, or ont-id only. For ont-port: f=fast-eth, g=gig-eth, h=hpna-eth, r=video-rf, R=video-hot-rf, t=t1, p=pots. For example, 10001/g1.

show rg-mgmt-profile

(E7 only) Shows information for all RG management profiles in the system, or information for a specified profile. Also see create rg-mgmt-profile.

Syntax:

```
show rg-mgmt-profile

show rg-mgmt-profile <p-name>
```

Parameters:

p-name	Shows information for a specified RG management profile. This is a text string.

show rstp

Shows the configuration of Rapid Spanning Tree Protocol in the E7.

Syntax:

```
show rstp
```

Parameters:

none

show sessions

Displays information on the active CLI sessions, including the user ID and the current settings for various session flags.

Note: The system can support up to five CLI sessions concurrently.

Syntax:

```
show sessions
```

Parameters:

none

show shelf

(E7-2 modular chassis only) Shows information or detailed attributes for all shelves in the modular chassis system, or information or detailed attributes for only a specified shelf in the system.

Syntax:

```
show shelf
show shelf <s-id>
show shelf <s-id> [detail|power|timing]
```

Parameters:

s-id	Shows information for the specified shelf. This is an index value, a numeric identifier that uniquely identifies this object within the system. Index values start with 1.
detail	Shows detailed information for either all shelves or only the specified shelf in the system.
power	Shows the power monitoring information for the shelf.
timing	Shows timing subsystem attributes and timing sources.

show sip-gw-profile

Shows information for all SIP gateway profiles in the system, or information for a specified profile. Also see *create sip-gw-profile* (on page 175).

Syntax:

```
show sip-gw-profile

show sip-gw-profile <p-name>
```

Parameters:

p-name	Shows information for a specified SIP gateway profile. This is a text string.

show sip-rmt-cfg-profile

(E7 only) Shows information for all SIP remote configuration profiles in the system, all services in the system using SIP profiles, or information for a specified profile. Also see *create sip-rmt-cfg-profile* (on page 183).

Syntax:

```
show sip-rmt-config-profile [p-name|services]

show sip-rmt-config-profile <p-name> [services]
```

Parameters:

p-name	Shows information for all SIP remote configuration profiles, or for a specified SIP profile. This is a text string.
services	Shows information for all the services in the system using the SIP profiles, or for a specified profile.

show snmp

Displays the attributes of the E7 SNMP (Simple Network Management Protocol) agent, v2c community, trap-destinations, or user.

Syntax:

```
show snmp agent

show snmp community [community name]

show snmp trap-dest [<trap-dest ID>]

show snmp user [<user name>]
```

Parameters:

agent	Displays the attributes of the E7 SNMP (Simple Network Management Protocol) agent.
community	Shows information on all SNMP (Simple Network Management Protocol) communities known to the E7, or only on the specified SNMP community.
community name	Name of SNMP community. This is a text string.
trap-dest	Shows information on all SNMP (Simple Network Management Protocol) trap destinations, or information on only the specified SNMP trap destination. The displayed information includes the trap destination host address, port number, SNMP user, and the administrative state of the trap destination. The SNMP trap destinations are the entities to which the SNMP agent sends notification messages whenever a system event occurs or an alarm is asserted or cleared.
trap-dest ID	Index of SNMP trap destination. This is an index value, a numeric identifier, uniquely identifying the object within the system. Index values start with 1.
user	Shows information on all of the E7 SNMPv3 (Simple Network Management Protocol) users that includes the name and security level for the user, or shows information on only the specified user.
user name	Name of SNMPv3 user. This is a text string.

show span-power

(E3-48C only) Shows attributes of a remote power span.

Syntax:

```
show span-power <index>
```

Parameters:

Index	Index of Power Span. Valid values: 1-3.

show stats

Shows the following cumulative statistics. For some statistics (DSL port, Ethernet port, ERPS), the statistics accumulate until they are cleared with the "clear stats *" command. If the statistics are never cleared, they reflect all activity since system startup.

- (E7-2 only) DSL port statistics
- ERPS (Ethernet Ring Protection Switching) statistics
- Ethernet port statistics
- IGMP statistics for system
- (E7 only) Ethernet OAM maintenance end points (MEP)
- (E7 only) Frame-delay for Ethernet OAM maintenance end points (MEP)
- (E7 only) Frame-loss for Ethernet OAM maintenance end points (MEP)
- (E7 only) Ethernet OAM maintenance intermediate points (MIP)
- (E7 only) ONT statistics
- (E7 only) ONT-port statistics
- RSTP BPDU counts on all interfaces in the system or on a specified interface
- LACP statistics on a Link Aggregate Group (LAG) interface
- VLAN monitor information or only a specified VLAN monitor information, including the interface, the VLAN, and the statistics being collected

Syntax:

```
show stats dhcp
show stats dsl-port <dsl-port-id> <ethernet|line>
show stats erps-domain <domain name>
show stats eth-port <eth-port-id>
show stats g8032-ring <ring-id>
show stats gpon-port <g-port-id>
show stats igmp-counters
show stats lacp
show stats lacp interface <lag>
show stats meg <name> mep g8032-ring-interface <ring-port-object>
show stats meg <name> mep ont-port <ont-port-id>
show stats meg <name> mep id <endpoint-id>
show stats meg <name> mep ont-port <ont-port-id> frame-delay
show stats meg <name> mep id <endpoint-id> frame-delay
show stats meg <name> mep ont-port <ont-port-id> frame-loss
show stats meg <name> mep id <endpoint-id> frame-loss
show stats meg <name> mip ont-port <ont-port-id>
show stats ont <ont-ID>
show stats ont-port <port-id>
show stats ont-port <port-id> pwe3-svc
show stats rstp [interface <i-name>]
show stats vlan-monitor [<monitor index>]
```

Parameters:

dhcp	• Shows counter results for aggregate DHCP packets, DHCP v4 packets, DHCP v6 packets, and NDP/ICMPv6 packets. For modular chassis systems, this statistics data is merged across all cards in the system. DHCP statistics are also available for all interfaces, including VDSL2, Ethernet, and GPON.
dsl-port	• **For stand-alone E7-2**, DSL ports are specified by card, port type, and port number. For example: 1/v1. • **For modular chassis E7-2**, DSL ports are specified by shelf, card, port type, and port number. For example: 1/2/v4.
ethernet	Shows cumulative DSL port Ethernet statistics.
line	Shows cumulative DSL port line-level statistics.
domain name	Name of ERPS domain. This is a text string.
eth-port-id	• **For E7**, Ethernet ports are specified by card, port type, and port number. For example: 1/g1. • **For E-series**, Ethernet ports are specified by port type and port number. For example: g1. Permitted values for the port type are "g" (for Gigabit Ethernet) or "x" (for 10-Gigabit Ethernet).
g-port-id	GPON port specified by shelf (if MC)/card/gpon-port. For example: 1/2/4.
name	Shows statistics for the specified Ethernet OAM maintenance entity group. This is a text string.
ont-port-id	Shows information for a specified ONT port indicated by ont-id/ont-port, or ont-id only. For ont-port: f=fast-eth, g=gig-eth, h=hpna-eth, r=video-rf, R=video-hot-rf, t=t1, p=pots. For example, 10001/g1. **Note:** The command **`show ont-port <port-id> detail`** also shows information on the specified ONT port.
endpoint-id	Show attributes for Ethernet OAM maintenance endpoints. This is a numeric value. Valid range: 1-8191.
ont-ID	An ONT specified by the index. For example, 10001.

port-id	Shows information for a specified ONT port indicated by ont-id/ont-port, or ont-id only. For ont-port: f=fast-eth, g=gig-eth, h=hpna-eth, r=video-rf, R=video-hot-rf, t=t1, p=pots. For example, 10001/g1.
i-name	Shows the RSTP statistics on a specified interface. This is a text string.
lag	Name of the LAG interface. This is a text string.
monitor index	Index of VLAN monitor. This is a numeric value (range 1-30).

show svc-match-list

Shows information for all service match lists in the system, or information for the specified service match list.

Match lists are an ordered collection of matching rules to associate with a service tag action. The match list defines how the ONT classifies subscriber traffic to determine the service in which it belongs. A match list can contain both "tagged" and "untagged" match rules, up to 12 tagged rules and up to 16 untagged rules for each ONT Ethernet port.

Syntax:

```
show svc-match-list [l-name]
```

Parameters:

l-name	Name of the service match list. This is a text string.

show svc-tag-action

Shows information for all service tag-actions in the system, or information for the specified service tag action.

Syntax:

```
show svc-tag-action [a-name]
```

Parameters:

a-name	Name of service tag-action. This is a text string.

show sw-marooned-onts

Shows all software marooned ONTs in the system, or only the units with the specified version.

Syntax:

```
show sw-marooned-onts [system-version]
```

Parameters:

system-version	Show units running specified ONT firmware image version. This is a string value.

show syslog-server

Shows information for the specified Syslog server.

Syntax:

```
show syslog-server [index]
```

Parameters:

index	Index of Syslog server. This is an index value, a numeric identifier that uniquely identifies this object within the system. The allowed range is 1 to 4.

show system

Shows alarms that affect the entire system. Or, shows E-Series system attributes that include configurable attributes, current operating characteristics, and hardware-specific items such as the serial number.

Syntax:

```
show system alarms
show system
```

Parameters:

none

show t1-pwe3-profile

(GPON applications only) Shows information for all T1 PWE3 profiles in the system, or information for the specified profile. Also see *create t1-pwe3-profile* (on page 192).

Syntax:

```
show t1-pwe3-profile [p-name]
```

Parameters:

p-name	Name of T1 port pwe3 profile. This is a text string.

show tag-action

Shows all VLAN tag-actions provisioned in the E7, only the VLAN tag-actions provisioned for a specified interface, or an individual tag-action specified by an index.

Syntax:

```
show tag-action [interface <interface name>|tag-action <tag-action
index>]
```

Parameters:

interface name	Name of interface. This is a text string.
tag-action index	Numeric value of the index of the tag action, uniquely identifying the object within the system. Index values start with 1.

show tdm-gw-profile

Shows information for all TDM Gateway profiles in the system, or information for the specified profile. Also see *create tdm-gw-profile* (on page 195).

Syntax:

```
show tdm-gw-profile [p-name]
show tdm-gw-profile <p-name> [services]
show tdm-gw-profile [services]
```

Parameters:

p-name	Show information on specified TDM Gateway profile. This is a text string.
services	Show all services using TDM gateway profiles, or only the services using the specified profile.

show tech-support

This command executes a compilation of existing 'show' commands that are useful to Calix technical support personnel as they strive to troubleshoot field issues. Once the command returns results, this information can be copy+pasted into a text file for local storage.

The following commands are aggregated under the "show tech support" command:

```
Show card/Show version/Show system/ Show modular/ Show vlan/Show
vlan detail/Show int/ Show eth-p/ Show dsl-p/ Show gpon-p/ Show
mgmt/Show craft-fe /Show svc-match/Show svc-tag/Show bw-profile/Show
igmp-profile/ Show mvr-profile/Show rstp/ Show log alarm all/ Show
log event all /Show log db all/ show erps-domain/ show radius-cfg/
show tag-action
```

Syntax:

```
show tech-support
```

Parameters:

none

show time

Shows the system local time, usually obtained from a network time server. See *set time* (on page 549) and set ntp.

Syntax:

```
show time
```

Parameters:

none

show timezone

Shows the system timezone.

Syntax:

```
show timezone
```

Parameters:

none

show timing

(E7-2 and E7-20 only) Shows E7 timing subsystem attributes.

Note: For E7 modular chassis, this command is not supported. Use the **`show shelf`** command.

Syntax:

```
show timing
```

Parameters:

None

show upgrade

Shows the current upgrade status for the E7, including the status of upgrades currently in progress, the result of recent upgrade attempts, and whether any upgrades have been attempted.

Syntax:

```
show upgrade
```

Parameters:

none

show uptime

Displays the length of time the system has been running.

Syntax:

```
show uptime
```

Parameters:

none

show user

Shows the attributes for all user accounts created in the system, or only for the specified user.

Syntax for E7:

```
show user [name]
```

Parameters:

name	Name of user to show attributes for account.

show vcc-port

Shows the attributes for all Vectoring Control Connector (VCC) ports in a system (all VCP or VDSL2 r2 card VCC ports), or only the specified port.

Syntax:

```
show vcc-port
show vcc-port [alarms|detail|port]
```

Parameters:

card/port	• **For E7-2 standalone systems**, Ethernet ports are specified by card, port type, and port number. For example: 1/vcc1. • **For E7-2 modular chassis systems**, Ethernet ports are specified by shelf/card/port.
alarms	Shows alarms for all VCC ports in the system, or only the specified VCC port.
detail	Shows detailed attributes for all VCC ports, or only for a specified VCC port.

show version

Shows the software version information for an E7 system or an E7 line card. The current, committed and alternate software versions are shown. Also see upgrade card, *upgrade system* (on page 709) and *show upgrade* (on page 682).

Syntax:

```
show version card <slot>

show version system
```

Parameters:

slot	(E7 only) Shows information for a specified service card profile. This is an index value.

show vlan

Shows the attributes for all VLANs provisioned in the system, or only the VLANs associated with various options. Or, shows the static multicast sources for all VLANs or specified VLANs.

Syntax for E7:

```
show vlan [detail|igmp-counters|members|onts|static-mcast-src]
show vlan <vlan id> [detail|igmp-
counters|mac|mcast|members|onts|static-mcast-src]
```

Syntax for E-series:

```
show vlan [detail|igmp-counters|members|static-mcast-src]
show vlan <vlan id> [detail|igmp-counters|mac|mcast|members|static-
mcast-src]
```

Parameters:

vlan id	Index of VLAN to show the attributes for a specified VLAN. VLANs can specified by name or by numeric VLAN ID, which ranges from 1-4093.
detail	Shows all parameters for all VLANs provisioned in the system or only the specified VLAN.
igmp-counters	Shows IGMP counters for all VLANs provisioned in the system or only the specified VLAN.
members	Shows the member for all VLANs provisioned in the system or only the specified VLAN.
onts	(E7 only) Shows the ONTs for all the VLANs, or the ONTs for only the specified VLAN.
mac	Shows the MAC addresses on a specified VLAN.
mcast	Shows the multicast groups on a specified VLAN. Using the **ip** option allows you to specify a multicast group or range to show.
static-mcast-src	Shows the static multicast sources (interfaces and ERPS domains) for the VLAN.

show vlan-monitor

Shows information for all VLAN monitors on the E7, or information for a specified VLAN monitor.

Syntax:

```
show vlan-monitor detail

show vlan-monitor <index> [detail]
```

Parameters:

index	Index of VLAN monitor. This is a numeric value in the range 1-30.
detail	Shows detailed information for all VLAN monitors or for a specified VLAN monitor.

snapshot database

Creates a snapshot of the running database that can then be archived with the **`extract backup`** command. If the backup is not needed, it can be deleted with the **`delete backup`** command.

Note: You can enter a filename (limit of 63 characters using letters, digits, underscore, and dash) for the database backup file that is created with the **`snapshot database file-name`** command. Otherwise, a default filename will be assigned to the file that is comprised of the date and time.

Syntax:

```
snapshot database [file-name <name ID>]
```

Parameters:

none

switch controller

(E7 only) Switches control of the system to the standby card.

Syntax:

```
switch controller [forced]
```

Parameters:

forced	Switches the control of the system to the standby card, even if the standby card is not ready.

switch database

Switches the database, replacing the current database with the database backup retrieved with the "load backup" command.

Syntax:

```
switch database [forced|keep-dhcp-leasefiles|keep-dsl-ont-
configfiles]
```

Parameters:

forced	Switches the database, replacing the current database with the database backup retrieved with the "load backup" command, even if it was generated on another system.
keep-dhcp-leasefiles	Using the "keep-dhcp-leasefiles" option, the active card retains its current DHCP leases and all other cards erase their DHCP leases. NOT using the "keep-dhcp-leasefiles" option, the active card restores its DHCP leases from the database backup and all other cards erase their DHCP leases.
keep-dsl-ont-configfiles	Preserves current DSL configuration, coefficient files, and ONT configuration files.

switch ffp-group

(E7 GPON only) To force an FFP switch from one path/port to another.

Syntax:

```
switch ffp-group <name>
```

Parameters:

name	Name of the FFP group. This is a text string up to 32 characters.

switch g8032-ring-intf

Performs a forced or manual switch on G.8032v2 ring instance. Also see **clear g8032-ring** (on page 92).

Syntax:

```
switch g8032-ring-intf <r-name/intf-instance> forced
switch g8032-ring-intf <r-name/intf-instance> manual
```

Parameters:

r-name	Name assigned to the G.8032v2 ring. This is a text string.
intf-instance	The interface assigned as the G.8032v2 ring port on the node. Valid range: 1-2.
forced	Forces a topology change and a change to the ring port where the command is issued without consideration as to failures elsewhere in the ring (there is an existing SF condition).
manual	Causes a topology change and a change to the ring port where the command is issued, only if the change does not result in a path failure elsewhere on the ring.

*telnet **

Starts a telnet session to another host and allows you to specify an alternate port. Also see Connecting the E7.

Syntax:

```
telnet <host ID> [port ID]
```

Parameters:

host ID	Hostname or IP address. This is a text string.
port ID	Alternate TCP or UDP port number (range 1-65535). The default port value depends on whether you chose FTP (port 21) or SFTP (port 22).

test 802.3ah-loopback

(E7 only) Starts or stops 802.3ah loopback tests on an ONT Ethernet port.

Syntax:

```
test 802.3ah-loopback <start|stop> ont-port <port-id>
```

Parameters:

start	Starts an 802.3ah loopback test.
stop	Stops an 802.3ah loopback test.
port-id	ONT port. ONT ports are specified by ONT logical ID and port number. The port number is prefixed by a "port identifying letter": g=Gigabit Ethernet, h=HPNA Ethernet, r=video RF, R=video Hot RF, d=DS-1, p=POTS. For example: 10001/p2.

test dsl-selt

(Not supported on E7-20) Initiates the G.996.2 Single Ended Line Testing (SELT) that determines characteristics of a DSL loop from one end of the line (typically from the central office), prior to installing a modem at the customer premise and turning up a service on that line. Also see **cancel dsl-selt** (on page 84).

Syntax:

```
test dsl-selt dsl-port <port-id>
```

Parameters:

port-id	• **For E-series**, DSL ports are specified by card (1), port type, and port number. For example: 1/v1. • **For stand-alone E7-2**, DSL ports are specified by card, port type, and port number. For example: 2/v1. • **For modular chassis E7-2**, DSL ports are specified by shelf, card, port type, and port number. For example: 1/2/v4.

test link-trace meg

(E7 only) Initiates the following Ethernet OAM link trace tests and allows for inspection of the results. See *show link-trace meg* (on page 609).

- Tests Ethernet OAM link trace from an ONT port to a remote MEP or a specific MAC address.
- Tests Ethernet OAM link trace from an ONT to a remote MEP or a specific MAC address.
- Tests Ethernet OAM link trace from a local MEP to a remote MEP or a specific MAC address.

Syntax:

```
test link-trace meg <name> ont-port <port-id> to-remote-mep <r-mep-id> [max-hops <hops>]

test link-trace meg <name> ont-port <port-id> to-mac-address <mac> [max-hops <hops>]

test link-trace meg <name> ont <ont-id> ip-host <type> to-remote-mep <r-mep-id> [max-hops <hops>]
test link-trace meg <name> ont <ont-id> ip-host <type> to-mac-address <mac> [max-hops <hops>]

test link-trace meg <name> mep id <endpoint-id> to-remote-mep <r-mep-id> [max-hops <hops>]

test link-trace meg <name> mep id <endpoint-id> to-mac-address <mac> [max-hops <hops>]
```

Parameters:

name	Name of the maintenance entity group. This is a text string.
port-id	ONT port. ONT ports are specified by ONT logical ID and port number. The port number is prefixed by a "port identifing letter": g=Gigabit Ethernet, h=HPNA Ethernet, r=video RF, R=video Hot RF, d=DS-1, p=POTS. For example: 10001/p2.
r-mep-id	Index of the remote maintenance endpoint. This is a numeric value. Valid range: 1-8191.
hops	Maximum number of network nodes to traverse. This is a numeric value. Valid range: 1-16.
mac	MAC address. Valid values: six hexadecimal digits in the range 0-FF, optionally separated by colons.

type	The type of IP host. Valid values: sip, tdm-gw, h248, mgcp, pwe3.
endpoint-id	Ethernet OAM maintenance endpoints. This is a text string. Valid range: 1-8191.

test mcast-loopback meg

(E7 only) Initiates the following Ethernet OAM multicast loopback tests and allows for inspection of the results. See *show mcast-loopback meg* (on page 613).

- Ethernet OAM multicast loopback on an ONT Port.
- Ethernet OAM multicast loopback on an IP host for an ONT.
- Ethernet OAM multicast loopback on a maintenance endpoint.

Syntax:

```
test mcast-loopback meg <m-name> ont-port <port-id> [priority|drop-eligibility]

test mcast-loopback meg <m-name> ont <ont-id> ip-host <h-name> [priority|drop-eligibility]

test mcast-loopback meg <m-name> mep id <endpoint-id> [priority|drop-eligibility]
```

Parameters:

name	Name of the maintenance entity group. This is a text string.
port-id	ONT port. ONT ports are specified by ONT logical ID and port number. The port number is prefixed by a "port identifying letter": g=Gigabit Ethernet, h=HPNA Ethernet, r=video RF, R=video Hot RF, d=DS-1, p=POTS. For example: 10001/p2.
ont-id	An ONT specified by the index. For example, 10001.
h-name	Name of IP Host for ONT. Valid values: sip, tdm-gw, h248, mgcp, pwe3.
endpoint-id	Ethernet OAM maintenance endpoint. This is a text string. Valid range: 1-8191.
priority	Priority for loopback. This is an integer. Valid range: 0-7. Alternatively, the "use-mep" argument can indicate that the priority in the local MEP should be used.
drop-eligibility	Drop eligibility for PDUs. Valid values: enabled, disabled.

test ont-optical

(GPON applications only) Performs an optical test on an ONT.

Syntax:

```
test ont-optical <o-port>
```

Parameters:

o-port	ONT port. ONT ports are specified by ONT logical ID and port number. The port number is prefixed by a "port identifying letter": g=Gigabit Ethernet, h=HPNA Ethernet, r=video RF, R=video Hot RF, d=DS-1, p=POTS. For example: 10001/p2.

test pots-svc

Performs a line test on the specified line card POTS port and ONT POTS port service.

Syntax:

```
test pots-svc ont-port <o-port> [forced]
test pots-svc pots-port <p-port> [forced]
```

Parameters:

o-port	ONT port. ONT ports are specified by ONT logical ID and port number. The port number is prefixed by a "port identifying letter": g=Gigabit Ethernet, h=HPNA Ethernet, r=video RF, R=video Hot RF, d=DS-1, p=POTS. For example: 10001/p2.
p-port	POTS ports are specified by card number and port number, separated by a slash: 1/1.
forced	Performs a line test on the specified line card POTS port or ONT POTS port service, even if the port is in use.

test rfc2544-loopback

(E7 only) The following commands allow RFC 2544 loopback testing to be performed. To enable the test, use the command **set ont-port <ont-id/ont-port> 802.3ah-events enabled 802.3ah-lb-accept enabled**.

Syntax:

```
test rfc2544-loopback start ont <ont-id> ip-host <sip|tdm-
gw|h248|mgcp|pwe3> vlan <vlan-id>
test rfc2544-loopback start ont-port <port-id> vlan <vlan-id>
test rfc2544-loopback stop ont <ont-id>
```

Examples:

```
test rfc2544-loopback start ont 10001 ip-host sip vlan 77
test rfc2544-loopback start ont-port 10001/g1 vlan 78
test rfc2544-loopback stop ont 10001
```

Parameters:

ont-id	An ONT specified by the index. For example, 10001.
port-id	ONT port. ONT ports are specified by ONT logical ID and port number. The port number is prefixed by a "port identifying letter": g=Gigabit Ethernet, h=HPNA Ethernet, r=video RF, R=video Hot RF, d=DS-1, p=POTS. For example: 10001/p2.
ip-host	Name of IP Host. Valid values: sip, tdm-gw, h248, mgcp, pwe3.
vlan	Name of VLAN (or VLAN ID). VLANs can be specified by name or by numeric VLAN ID, valid range: 1-4093.

test ucast-loopback meg

(E7 only) Initiates the following Ethernet OAM loopback tests and allows for inspection of the results. See *show loopback meg* (on page 613).

- Tests Ethernet OAM unicast loopback from an ONT or ONT port to a remote MEP or to a specific MAC address.
- Tests Ethernet OAM unicast loopback from a local maintenance endpoint to a remote maintenance endpoint or to a specific MAC address.

Syntax:

```
test ucast-loopback meg <name> ont-port <port-id> [to-remote-mep <r-mep-id>|to-mac-address <mac>] [pdu-count|priority|drop-eligibility|data-pattern|data-length]

test ucast-loopback meg <name> ont <ont-id> ip-host <type> [to-remote-mep <r-mep-id>|to-mac-address <mac>] [pdu-count|priority|drop-eligibility|data-pattern|data-length]

test ucast-loopback meg <name> mep id <endpoint-id> [to-remote-mep <r-mep-id>|to-mac-address <mac>] [pdu-count|priority|drop-eligibility|data-pattern|data-length]
```

Parameters:

name	Name of the maintenance entity group. This is a text string.
port-id	ONT port. ONT ports are specified by ONT logical ID and port number. The port number is prefixed by a "port identifing letter": g=Gigabit Ethernet, h=HPNA Ethernet, r=video RF, R=video Hot RF, d=DS-1, p=POTS. For example: 10001/p2.
r-mep-id	Index of the remote maintenance endpoint. This is a numeric value. Valid range: 1-8191.
mac	MAC address. Valid values: six hexadecimal digits in the range 0-FF, optionally separated by colons.
ont-id	ONT port. ONT ports are specified by ONT logical ID and port number. The port number is prefixed by a "port identifying letter": g=Gigabit Ethernet, h=HPNA Ethernet, r=video RF, R=video Hot RF, d=DS-1, p=POTS. For example: 10001/p2.
type	Type of IP Host. Valid values: sip, tdm-gw, h248, mgcp, pwe3.

endpoint-id	Ethernet OAM maintenance endpoint. This is a text string. Valid range: 1-8191.
pdu-count	Number of PDUs to send. This is a numeric value. Valid range: 1-1024.
priority	Priority for loopback. This is an integer. Valid range: 0-7. Alternatively, the "use-mep" argument can indicate that the priority in the local MEP should be used.
drop-eligibility	Drop eligibility for PDUs. Valid values: enabled, disabled.
data-pattern	Pattern to use in loopback data. This is a text string.
data-length	Length of loopback data. This is a numeric value. Valid range: 0-1400.

*traceroute **

Discovers the network route to the specified host, using the IP protocol time-to-live field.

Syntax:

```
traceroute <host ID>
```

Parameters:

host ID	Hostname or IP address. This is a text string.

turn-up

Starts the "turn-up" tool that simplifies the process by providing configuration of several key system elements through a series of prompts. The "turn-up" tool appears automatically when you first log in to the E7 web interface. You can also invoke the process with the **`turn-up`** command.

Syntax:

```
turn-up
```

Parameters:

none

unlink onts

(GPON applications only) Unlinks all ONTs from a specific card or GPON port. To unlink a single ONT from a PON, use **`set ont 1 pon-port none`**.

To move one or more ONTs to a different PON port:

1. Disconnect the ONT(s) from the current PON port.
2. Unlink the provisioned ONT(s) from the PON.
3. Connect the ONT(s) to the new PON port.

Syntax:

```
unlink onts on-gpon-port <card>[/gpon-port]
```

Parameters:

none

upgrade card

(E7 only) Upgrades an E7 line card from either a network or local software repository. After this command is issued, the upgrade completes in the background. Notification messages periodically appear as various phases of the upgrade complete. Calix recommends using the **upgrade system** method and typically does not advise using this mode of upgrading software. The system auto-upgrade must be disabled before the card can be upgraded separate from the E7 system. See set system.

Note: This command is only for upgrading out-of-revision cards on arrival.

Syntax:

```
upgrade card <slot> local version <version ID> [forced]

upgrade card <slot> remote server <ip> user <u-name> directory-path
<path> version <version ID> [forced|reset]
```

Example:

```
upgrade card 1 remote server 192.168.1.1 user ftpuser directory-path
/e7code version 1.0.1.255 forced
```

Parameters:

slot	Slot number of card to upgrade. This is an index value. **Note:** If the E7 system is set to Modular-Chassis mode, the card location is indicated with a shelf/card location. For example, to upgrade card 1 in shelf 2, use the following command: **upgrade card 2/1**.
ip	IP address of upgrade server. This is an IP address in "dotted quad" format: "192.168.1.100." Alternatively, "none" can be used to reset the value to "0.0.0.0."
u-name	User name on upgrade server. This is a text string.
path	Path to software on upgrade server. This is a text string.
version ID	Software version. This is a software version identifier of the form "a.b.c.d."
forced	Upgrades an E7 service card, even if the upgrade version is not more recent than the current version.
reset	Reset the system after the upgrade is complete.

upgrade system

Upgrades an E-Series system from a network repository. After this command is issued, the upgrade completes in the background. Notification messages periodically appear as various phases of the upgrade complete.

Syntax:

```
upgrade system server <server ID> user <user name> directory-path
<path> version <version ID> [forced|reset|reset forced|ont-mode]
```

Example:

```
upgrade system server 192.168.1.1 user ftpuser directory-path
/e7code version 1.0.1.255 reset forced ont-mode merge
```

Parameters:

server ID	IP address of upgrade server. This is an IP address in "dotted quad" format: "192.168.1.100." Alternatively, "none" can be used to reset the value to "0.0.0.0."
user name	Username on upgrade server. This is a text string.
directory-path	Path to software on upgrade server. This is a text string.
version ID	Software version. This is a software version identifier of the form "a.b.c.d."
forced	Upgrades an E-Series system, even if the upgrade version is not more recent than the current version.
reset	Upgrades an E-Series system and resets the unit.
reset forced	Upgrades an E-Series system and resets the unit, even if the upgrade version is not more recent than the current version.
ont-mode	Sets the ONT upgrade mode. Valid values: merge, include-bundled, retain-existing, no-packages

Note: You can specify the reset and forced optional flags in any order.