



## PRODUCT DOCUMENTATION

### *BTI 7000 Series Command Line Reference Guide*

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---

# Preface

---

This preface explains who should read this guide, related documentation, and documentation conventions.

## Audience

This guide is primarily intended for technicians and network operation center (NOC) staff.

## Features of the BTI 7000 Series

For detailed information about this release, see the *BTI 7000 Series Release Notes* for this release.

## BTI 7000 Series common equipment

The following table lists the shelves and other common equipment introduced as part of the BTI 7000 Series. For detailed information, see the *BTI 7000 Series Product Guide* and the *BTI 7000 Series Common Equipment Installation Guide*.

### BTI 7000 Series common equipment

Equipment	PEC
BTI 7060	BT7A50AA
BTI 7060 with rear access -48V	BT7A50AR
BTI 7060 Cooling Unit (CU)	BT7A52DA, BT7A52EA
BTI 7060 Main Shelf Interface (MSI)	BT7A53BA, BT7A53BB
BTI 7060 Expansion Shelf Interface (ESI)	BT7A54BA
BTI 7060/BTI 7200 System Control Processor (SCP)	BT7A20CA
BTI 7060 AC Power Assembly Kit	BT7A50BA
BTI 7060 AC Power Module	BT7A58AA
BTI 7060 Filler Panel Kit	BT7A55EA

**BTI 7000 Series common equipment (Continued)**

<b>Equipment</b>	<b>PEC</b>
2U Cover – ANSI	BT7A5070
2U Cover – ETSI	BT7A5071
BTI 7030	BT7A56AA
BTI 7030 Cooling Unit (CU)	BT7A57BA
BTI 7030 Main Shelf Interface (MSI)	BT7A53CA, BT7153CB, BT7A53BB
BTI 7030 System Control Processor (SCP)	BT7A21BA
BTI 7030 AC Power Assembly Kit	BT7A56CA
BTI 7030 AC Power Module	BT7A58BA
1U Cover – ANSI	BT7A5670
1U Cover – ETSI	BT7A5671
BTI 7020	BT7A56BA
BTI 7200	BT7A51AA
BTI 7200 with rear access -48V	BT7A51AR
BTI 7200 Cooling Unit (CU)	BT7A52EA
BTI 7200 Main Shelf Interface (MSI)	BT7A53EA
BTI 7200 Common Communication Module (CCM)	BT7A54EA
BTI 7200 ANSI shelf cover	BT7A5180
BTI 7200 ETSI shelf cover	BT7A5181
BTI 7200 Air Deflector	BT7A59EA
BTI 7200 Installation kit	BT7A5034
BTI 7200 Pack of 5 Mounting Bracket Pairs (7200)	BT7A5035
BTI 7200 Pack of 5 Center Guides	BT7A5036
Single Expansion Shelf Kit (2x 1310 SFP, 1x Dual SM Patch Cord 1.5m)	BP1A58LA-01.5
Single Expansion Shelf Kit (2x 1310 SFP, 1x Dual SM Patch Cord 2m)	BP1A58LA-02

The BTI 7000 Series shelves support a wide range of modules. For the list of modules supported, see the *BTI 7000 Series Product Guide*.

The following table lists the BTI graphical user interface management software suite. For detailed information about each application, refer to the documentation set for the application.

**Management software suite**

<b>proNX Management Suite</b>
proNX Service Manager (PSM)
proNX 900 Node Controller (proNX 900)

## Equipment compliance

The following table provides agency-compliance information for BTI 7000 Series equipment.




Agency	Compliance information
<b>FDA</b>	This equipment is classified by the FDA under IEC 60825, parts 1 and 2, as a Class 1 laser product with a Class 1 hazard rating.
<b>FCC</b>	This equipment complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.
<b>Industry Canada</b>	This Class A digital apparatus complies with Canadian ICES-003.

## Organization of the BTI 7000 Series documentation

The following guides are contained in the BTI 7000 Series documentation suite.

- *BTI 7000 Series Alarm and Troubleshooting Guide*
- *BTI 7000 Series Command Line Interface Reference Guide*
- *BTI 7000 Series Common Equipment Installation Guide*
- *BTI 7000 Series Dynamic Optical Layer Engineering Guideline*
- *BTI 7000 Series Management Communications Channel Solutions Guide*
- *BTI 7000 Series Multiplexing Solutions Guide*
- *BTI 7000 Series Muxponder Solutions Guide*
- *BTI 7000 Series Operations Solutions Guide*
- *BTI 7000 Series Optical Amplifier and DCM Solutions Guide*
- *BTI 7000 Series packetVX Solutions Guide*
- *BTI 7000 Series Product Guide*
- *BTI 7000 Series SNMP Overview Guide*
- *BTI 7000 Series Test and Turn-up Guide*
- *BTI 7000 Series TLI Reference Guide*
- *BTI 7000 Series Transceiver InformationGuide*
- *BTI 7000 Series Transponder Solutions Guide*
- *BTI 7000 Series Upgrade Guide*
- *BTI 7000 Series Release Notes*
- *BTI 7000 Series Quick Installation Notes (various)*

**Documentation conventions**

Convention	Description
<b>Note</b>	Means reader take note. Notes contain helpful suggestions or background information.
 <b>Caution</b>	Means reader be careful. Equipment damage or loss of data can result from your actions.
 <b>Warning</b>	Means reader be careful. Harm to yourself or others can result from your actions.
 <b>Laser Warning</b>	Invisible laser radiation can be emitted from the aperture ports of amplifier circuit packs when no fiber cable is connected. Avoid exposure and do not stare into open apertures to avoid permanent eye damage.

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# 1.0 Introduction to CLI commands

---

This chapter explains background information regarding the Command Line Interface (CLI) commands.

- 1.1, “BTI 7000 Series interfaces”
- 1.2, “CLI overview”
- 1.3, “Accessing the CLI”
- 1.4, “CLI command syntax conventions”
- 1.5, “Keystroke shortcuts”
- 1.6, “Security authorization levels ”
- 1.7, “User sessions”
- 1.9, “Virtual switches”
- 1.10, “Ethernet services”
- 1.11, “Terminology”
- 1.14, “Common commands”
- 1.15, “Common data types”

## 1.1 BTI 7000 Series interfaces

---

BTI 7000 Series modules support the following user interfaces to configure, monitor, and maintain the the switch:

- Command Line Interface (CLI)
- Graphical User Interface (GUI)
- Simple Network Management Protocol (SNMP)
- Transaction Language 1 (TL1)

### CLI

Command Line Interface (CLI) is a mechanism for interacting with a computer operating system or software by typing commands to perform specific tasks.

The CLI supports the following functions:

- User authentication and security
- Software upgrades
- System level functions
- Date and Time
- Serial and Ethernet communications
- SNMP settings
- Inventory and equipment
- module restarts
- alarms and conditions
- Database backup and restore
- Security logs
- Neighbors

The CLI does not support the following functions:

- Allow and inhibit autonomous messages
- In general, the CLI does not support BTI 7000 Series optical modules, but it does support optical amplifiers, and the Dual 10G Multiprotocol Transponder and the Dual 10G Multiprotocol Transponder Lite. All other optical modules are managed using TL1.

### GUI

The BTI proNX 900 Node Controller (proNX 900) software is used to manage BTI 7000 Series modules using the GUI. proNX 900 is included in each BTI software release and is part of the software upgrade process. proNX 900 provides comprehensive nodal management and can be deployed as a local craft terminal for on-site or remote element access.

## SNMP

Simple Network Management Protocol (SNMP) is used in network management systems to configure network devices and monitor them for conditions that warrant administrative attention. It consists of a set of standards for network management, including an application layer protocol, a database schema, and a set of data objects.

SNMP exposes management data in the form of variables on the managed systems, which describe the system configuration. These variables can then be queried (and sometimes set) by managing applications.

## TL1

Transaction Language 1 (TL1) is a widely used management protocol in telecommunications. It is a cross-vendor, cross-technology man-machine language, and is widely used to manage optical and broadband access infrastructure in North America. It is defined in GR-831 by Telcordia.

The following functions are supported for the packetVX through TL1 only:

- Retrieve Equipment (RTRV-EQPT)
- Retrieve Inventory (RTRV-INV)
- Equipment Provisioning (ENT-EQPT, ED-EQPT, DLT-EQPT)

See the *TL1 Reference Guide* for further details.

## 1.2 CLI overview

---

The Command Line Interface (CLI) has several different command modes. The commands available to you depend on which mode you are currently using. Enter a question mark (?) at the system prompt to obtain a list of commands available for each command mode.

When you start a session on the switch, you begin in user EXEC mode. Only a limited set of commands are available in the user EXEC mode.

To have access to all commands, you must enter the privileged EXEC mode by entering the **enable** command. From this mode, you can enter any privileged EXEC command or enter the global configuration mode. Enter the **disable** command to return back to the EXEC mode.

Using the configuration modes (global, interface, and line), you can make changes to the running configuration. To access the various configuration modes, you must start at the global configuration mode. From the global configuration mode, you can enter the other various configuration modes.

Use the **exit** command or <CTRL>+Z keys to leave the current mode and return back to the previous mode.

Use the **end** command to return back to the privileged EXEC mode from anywhere.

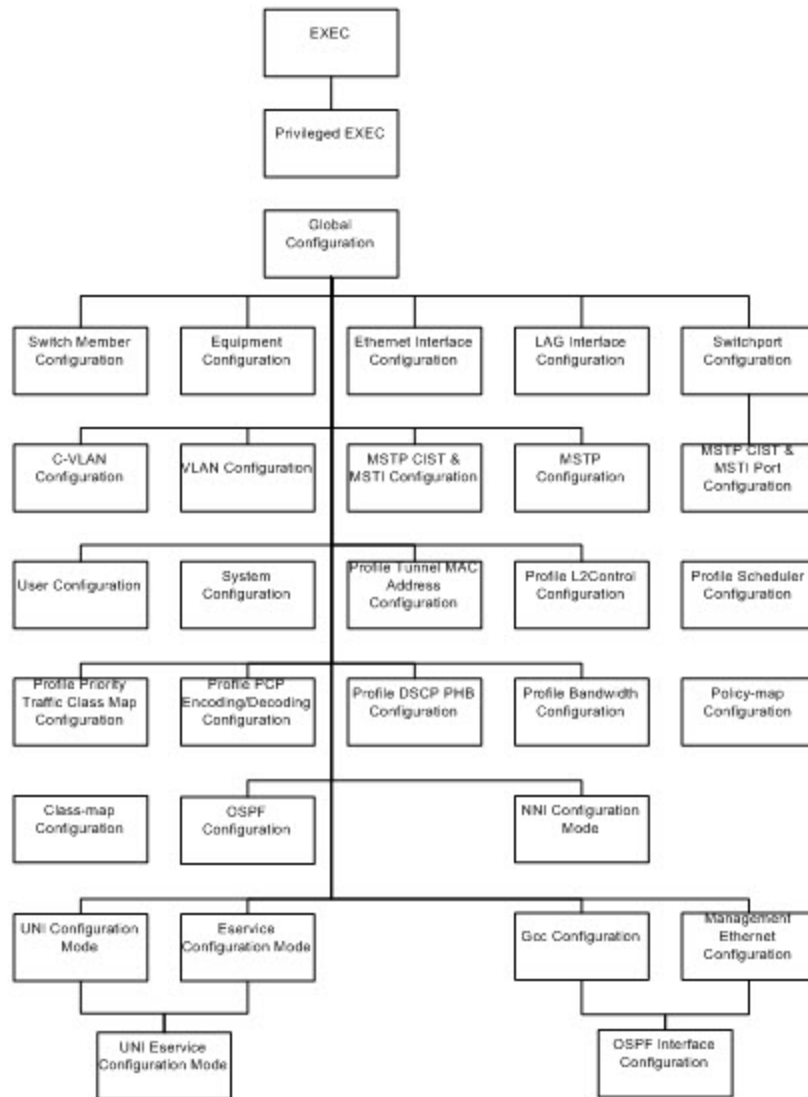
### Passwords

Password restrictions are based on the standards for the CLI (Command Line Interface ) and differ from the password restrctions that are standard for TL1 (Transaction Language 1).

### Structure of the CLI commands

The following diagram shows the structure of the CLI command modes. Each mode has a different set of CLI commands that can be entered.

**Figure 1-1 CLI Command Modes**



## Virtual switch (VS) configurations

The packetVX module is provisioned in a BTI 7000 Series shelf. Each packetVX module is assigned to a virtual switch. The figure that follows shows the variations of virtual switch configurations that are possible.

### Case #1

In Case #1, one BTI 7000 Series shelf contains two packetVX modules that are each assigned to different virtual switches.

**Figure 1-2 Case #1: one packetVX module in one VS (VS1), one packetVX module in another VS (VS2)****Case #2**

In Case #2, one BTI 7000 Series shelf contains two packetVX modules that are both assigned to the same virtual switch. In this example, the virtual switch members are connected together into a stack. For further information about virtual switch stacking, see [1.9, “Virtual switches”](#) in this document.

**Figure 1-3 Case #2: two packetVX modules in one VS (VS1)****Virtual switch structure**

As shown in the illustration of the virtual switch, one or more packetVX modules are members of the virtual switch. All of the virtual switch members share a common address database, VLAN database, and a spanning tree state. These shared resources allow the virtual switch to manage the incoming and outgoing traffic.

**Virtual switch member**

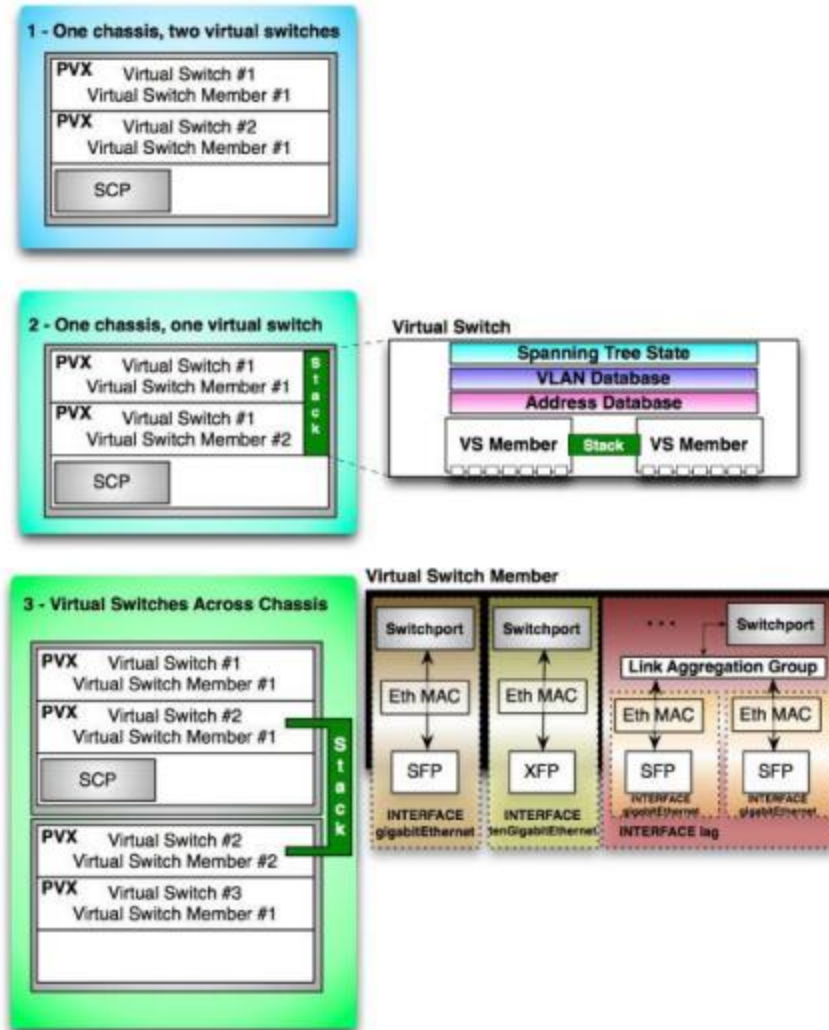
The virtual switch also has the ability to create link aggregation groups (LAG). A LAG creates a group of two or more network links (that can be split across switch members) that are bundled together to appear as a single link. The software sees the link as one logical link and the logical link is associated with one physical switchport.

The following figure represents the conceptual view of the system.





Figure 1-5 CLI Object Hierarchy



## 1.3 Accessing the CLI

The CLI can be accessed via Telnet or SSH.

Access	Description
Telnet	Open a command window or terminal session, type: <code>telnet &lt;IP address&gt; 3084</code> where <code>IP address</code> is the IP address of the network element <code>3084</code> is the port number
SSH <sup>1</sup>	Type <code>SSH &lt;IP address&gt; -p 8022 &lt;user id&gt;</code> where <code>IP address</code> is the IP address of the network element <code>user id</code> is the user identification

<sup>1</sup>Windows operating systems do not provide a built-in client for SSH; however, various Windows-supported clients, such as PuTTY, are readily available on the Internet. Linux does provide a built-in client for SSH.

## 1.4 CLI command syntax conventions

---

The following table lists the command syntax conventions used throughout this document.

Convention	Description
<b>bold</b>	Commands, command options, and keywords.
<i>italics</i> or <i>&lt;italics&gt;</i>	Arguments in which you supply values.
[ ]	Elements in square brackets are optional.
{x y z}	Alternative keywords are grouped in braces and separated by vertical lines.
[x y z]	Optional alternative keywords are grouped in square brackets and separated by vertical lines. The options might be mutually inclusive or mutually exclusive, depending on the command.
<keyboard_key>	A key on the keyboard.

## 1.5 Keystroke shortcuts

The following table lists the keystroke shortcuts that are available and the actions they perform.

Keystroke Sequence	Common Name	Action
<DEL>	Delete	Backspace one character and delete
?	Question Mark	Provides help information
^A	Control+A	Position cursor to the start of the line
^B	Control+B	Position cursor left one character
^C	Control+C	Console interrupt character
^D	Control+D	Delete current character
^E	Control+E	Position cursor to end of line
^F	Control+F	Position cursor right one character
^H	Control+H	Backspace one character and delete
^I	Tab	Complete current word
^K	Control+K	Delete to end of line
^L	Control+L	Redraw line
^N	Control+N	Move down one line in command history
^P	Control+P	Move up one line in command history
^R	Control+R	Reverse search
^T	Control+T	Switch characters
^U	Control+U	Clears input and resets line buffer
^W	Control+W	Deletes word
^X	Control+X	Clears input and resets line buffer
^Z	Control+Z	Exits current mode and returns to previous mode.
\	Back Slash	If character escaping, ignore special meaning of following character
<SP>	Space	Separates keywords
"	Quote	Surrounds a single token

## 1.6 Security authorization levels

---

The Command Line Interface (CLI) supports the standard operator security authorization levels that are defined in Telcordia TR-NWT-835. These levels are defined in the following table.

Authorization Level	Access Rights	Default Timeout
Superuser	Full access to all system operations	15 min.
Provisioning	Full access to all system operations except security operations	30min.
Maintenance	Access to system operations except the provisioning and security operations	45 min.
Surveillance	Read-only access	unlimited

The ability to enter the various command modes is based on a user's authentication level. For example, the ability to enter the EXEC mode is based on the user being a superuser, and hence the system does not request a user ID or password to enter this mode.

## 1.7 User sessions

---

The CLI can handle up to 50 simultaneous user login sessions. There is no restriction on the number of sessions a user can have open.

User session timeout is configurable by Superusers using the **idle-timeout** command in Configuration mode.

## 1.8 Controlling output

---

The CLI supports a MORE facility to control the amount of output when a large amount of data is displayed. After a screen's worth of data is displayed, a "--MORE--" prompt is displayed to the screen and the output will be suspended until the user types in one of the following characters:

- <space> displays the next screen's worth of data or remaining output.
- Q or q display stops and commands are terminated

The number of lines displayed is determined by the screen size values that are sent in by the Telnet or SSH client. The number of lines that are displayed for each screen of a MORE displayed are the screen size less 1 line for the "--MORE--" prompt.

The user can use the <ESC>M key sequence to toggle the MORE facility between enable and disable. The state of the MORE facility is in effect until another <ESC>M is entered. This escape sequence should be done before a command sequence is executed to have it take affect for that command. This escape sequence does not toggle the MORE facility while the "--MORE--" prompt is displayed.

### Comments in command lines

CLI commands can contain comments in the command line. The CLI ignores anything after an ! (that is, an exclamation mark) character until the end of the line.

### Example

```
BTI7000# !show all gigabit interfaces
BTI7000# show interface gig br      !show in table format
```



## 1.9 Virtual switches

---

The BTI 7000 Series system allows you to create multiple virtual switches. Each virtual switch is configured independently.

A Virtual Switch contains one or two packetVX modules that are connected together into a stack. One packetVX module controls the operation of the stack and is called the stack master. The stack master and the other packetVX modules in the stack are switch members.

The user can select which virtual switch to configure or view information on by entering the "virtual-switch <switch\_id>" command from either the EXEC or the global configuration modes. The prompt changes to reflect the virtual switch that is selected.

To leave (or de-select) a virtual switch, enter the "exit virtual-switch" or "end" command.

### Example

```
7000>virtual-switch 1
7000:sw1> exit virtual-switch
7000>
```

All configuration and show commands that are specific to a virtual switch are applied to the selected virtual switch. There are some forms of the show command that allow you to display information in all switches or another switch.

If the "virtual-switch" command is entered in the EXEC mode and the virtual switch does not exist, then an error is displayed.

If the "virtual-switch" command is entered in the global configuration mode and the virtual switch does not exist, it is created.

To remove a virtual-switch, enter the "no virtual-switch [<switch\_id>]" command in the global configuration mode.

## 1.10 Ethernet services

The Metro Ethernet Forum (MEF) has defined an Ethernet framework over which well-defined Ethernet services with a class of service can be implemented.

An Ethernet service is an association of User-Network Interfaces (UNIs) that is closed. Service frames from any UNI in the Ethernet service can be delivered only to other UNIs in the Ethernet service. An Ethernet service has a set of attributes that define the behavior and service-level characteristics of the data transfer.

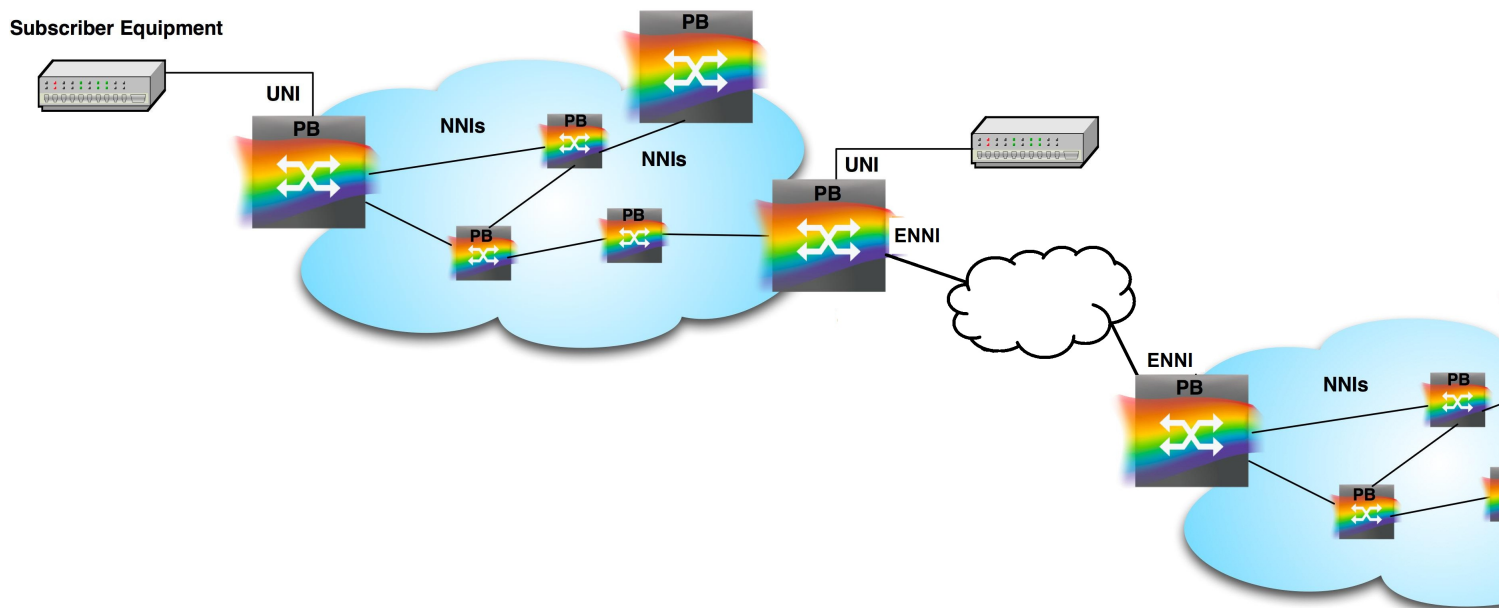
From a network point of view, the Ethernet service has UNIs on one or more bridges and the individual components are connected via a transport mechanism such as an S-VLAN tunnel.

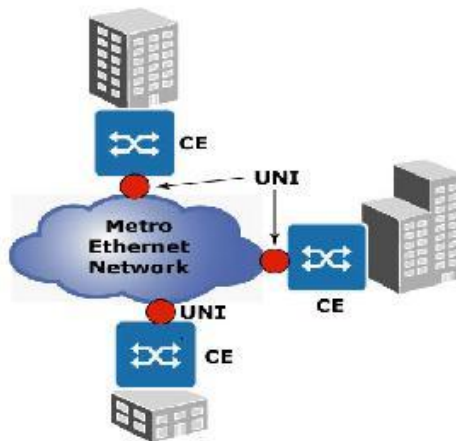
### 1.10.1 User-Network Interface

The UNI is the physical interface or port that is the demarcation between the customer and the service provider such as a cable operator, carrier, or multiple system operator.

The UNI is always provided by the service provider, as shown in the following figure.

**Figure 1-6 UNI , NNI and E-NNI**

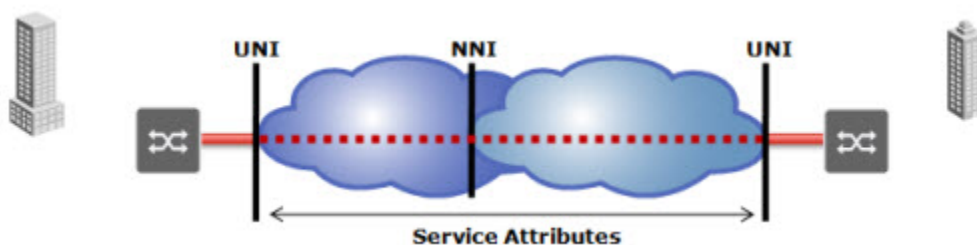


**Figure 1-7 Basic model for Ethernet service**

The Ethernet service is provided by the Metro Ethernet Network (MEN) service provider. Customer Equipment (CE) is attached to the network at the Ethernet UNI using a standard 10 Mb/s, 100 Mb/s, 1 Gb/s or 10 Gb/s Ethernet interface.

### 1.10.2 Network-to-Network Interface

The Network-to-Network Interface (NNI) is the interface between carrier Ethernet devices within a service provider's network.

**Figure 1-8 Network-to-Network Interface**

The NNI is not used to provide services to end customers.

The packetVX modules supports GVRP<sup>2</sup>, which automatically configures S-VLANs on NNIs across the provider backbone. Eservices use these S-VLANs to carry customer traffic from one UNI to another across the provider cloud.

### 1.10.3 External Network to Network Interface [E-NNI]

A network with an E-NNI configuration allows a service provider to offer Ethernet services that have UNIs residing in other service providers' network domains.

E-NNI's allow for the creation of Ethernet Services that span multiple network provider domains.

<sup>2</sup> GVRP, defined in 802.1Q is the GARP VLAN Registration Protocol. It is a sub-protocol of GARP, the Generic Attributes Registration Protocol defined in 802.1D.

An individual segment within a provider's domain is called an OVC (Operator Virtual Circuit). An OVC can be a UNI or an E-NNI.

There are three types of OVCs:

- **Point-to-point OVCs :** [1 UNI + 1 E-NNI or 1 E-NNI + 1 E-NNI] - transport a class of services called Access Ethernet Line [E-LINE] services and associate two EVC. An OVC must associate at most one OVC at a given UNI. An OVC may associate more than one OVC at a given E-NNI. At least one of the OVC s associated by an OVC must be at an E-NNI.
- **Multipoint to Multipoint OVCs :** transport a class of services called Access Ethernet LAN [E-LAN] services and can associate more than two OVC s.
- **Rooted Multipoint OVCs:** ETree and EVTree are partially supported. By default a UNI is provisioned as a leaf and a E-NNI as root.

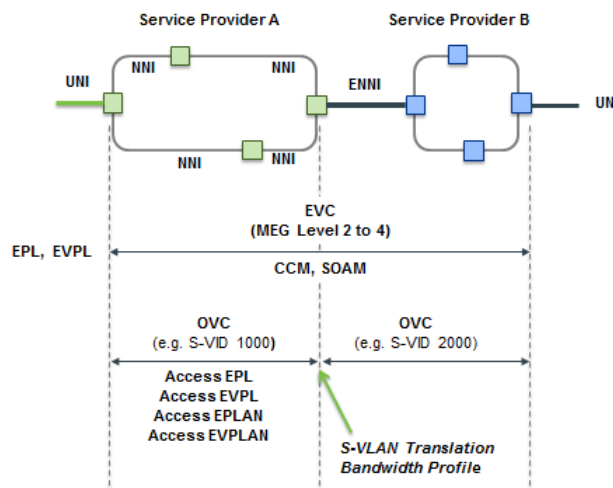
Ethernet Access services are OVC based Ethernet services.

S-VLAN translation is used to switch from one providers S-VLAN to the other providers S-VLAN. At the ingress and egress of the OVC, the S-VLAN ID in the outer tag will be translated to and from the external VLAN.

Bandwidth profiles are also specified to ensure that bandwidth restrictions are enforced across the leasing provider boundaries.

Customer equipment should be provisioned to the Ingress Bandwidth Profile of the service.

Service level CCMs remain supported from one providers SVLAN to another, using Service MEG.



## 1.10.4 Ethernet Virtual Circuit

An Ethernet Virtual Connection (EVC) is the basis for all services and is defined in MEF 10.1 Ethernet Services Attributes Phase 2 (MEF10).

An EVC connects two User-to-Network Interfaces (UNI) so that the connection appears to be a virtual private line to the subscriber. Also, an EVC carries services and prevents data transfer between sites that are not part of the same EVC.

There are two types of EVC:

- Point-to-point EVC (two UNIs) - carries a class of services called Ethernet Line or E-LINE services
- Multipoint EVC (more than two UNIs) - carries a class of services called Ethernet LAN or E-LAN services (and an asymmetric service called Ethernet TREE or E-TREE)

By default, MAC learning is enabled for E-LAN, E-LINE, and E-TREE services. Since an E-LINE service is point-to-point, you may want to turn off MAC learning in some situations and have the bridge forward all traffic to the other end. This can be done for the end nodes as well as for the intermediate nodes. On an intermediate node carrying an E-LINE service, you may need to explicitly define the VLAN before you can disable MAC learning.

To turn off MAC learning:

```
> vlan 1000
> mac-learning disable
> exit
```

If you disable MAC learning, storm control settings should be set with a low threshold, or preferably, no threshold.

To turn MAC learning back on:

```
> vlan 1000
> mac-learning enable
> exit
```

## 1.10.5 Ethernet Line Services

An Ethernet Line Service uses a point-to-point EVC. There are two classes of Ethernet Line Service :

- Ethernet Private Line (EPLINE)
- Ethernet Virtual Private Line (EVPLINE)

The EPLINE and EVPLINE are MEF 9 and MEF 14-compliant.

An EPLINE is a point-to-point connection of two UNIs. All frames that enter on one UNI are delivered on the other UNI, subject to control frame tunneling rules.

An EVPLINE is a point-to-point connection of a set of C-VLANs onto a single V-LAN. Frame delivery is configurable, but in general, the frames that the switch receives on one UNI with a set of C-VIDs are delivered on the other UNI.

**Important** An EPLINE is a port-to-port service and an EVPLINE is a flow-to-flow service.

### **1.10.6 Ethernet LAN services**

Ethernet LAN Services are multi-point connections. There are two classes of Ethernet LAN services:

- Ethernet Private LAN (EPLAN)
- Ethernet Virtual Private LAN (EVPLAN)

The EPLAN is MEF 9 and MEF 14-compliant.

An EPLAN is a multi-point connection of two or more UNIs. The switch forwards to all other UNIs, all frames that it receives on the UNI.

An EVPLAN is a multi-point connection of some set of C-VLANs of two or more UNIs.

### **1.10.7 Ethernet Tree services**

E-Tree services are point-to-multipoint services. In an E-Tree service some UNIs are leaf and some are root. Traffic from leaf UNIs can only be sent to root UNIs. Traffic from root UNIs can be sent both to leaf UNIs and other root UNIs. From the point of view of a root UNI the service looks like an EVPLAN service. From the point of view of leaf UNIs the service is a restricted EVPLAN service.

## 1.11 Terminology

Terminology for ports on the switch differs according to the Ethernet service provisioning model that is used.

**Note** Although the switch supports both the IEEE 802.1ad and MEF E-Services models, we recommend using the MEF E-Services provisioning method.

The MEF Ethernet services (E-services) model is based on Ethernet ports called UNIs and NNIs. For information about UNIs, see [1.10.1, “User-Network Interface”](#). For information about NNIs, see [1.10.2, “Network-to-Network Interface”](#)

The traditional IEEE 802.1ad model is based on ports that are called interfaces at Layer 1 referring to the physical layer, and switchports at Layer 2 referring to the data link layer. The following table describes the interfaces and switchports:

Interface/switchport type	Description
Customer Network Port (CNP)	Direct S-VLAN port based mapping
Customer Edge Port (CEP)	C-VLAN to S-VLAN mapping
Provider Network Port (PNP)	802.1ad tagged frames

## 1.12 Interfaces

The interfaces are identified by an <interface-type> and an <interface-id> for Ethernet interfaces, and by an <interface-id> for non-Ethernet interfaces. The following table shows the supported interface types and the formats and ranges of interface identifiers.

interface-type	interface-id	
	format	range
<b>Ethernet interfaces</b>		
gigabitEthernet	<shelf/slot/port>	shelf: 1,11, 21, 31
		slot: 1-20
		port: 1-24
tenGigabitEthernet	<shelf/slot/port>	shelf: 1,11, 21, 31
		slot: 1-20
		port: 1-4
lag	<lag-id>	1 to 27
<b>Non-Ethernet interfaces</b>		
not applicable	<shelf/slot/port>	shelf: 1,11, 21, 31
		slot: 1-20
		port: 1 (for amplifiers) port: 1-4 (for transponders)



## 1.13 Switchports

---

Switchports are the ports to the switch's packet relay function. Each switchport is created as a layer above a physical Ethernet interface or a link aggregation group. The following syntax is used to create a switchport:

**switchport** *<interface-type>* *<interface-id>*

UNI , NNI and E-NNI are types of switchports. If the systems is configured using the MEF/Ethernet Services model, the user should not have to configure switchports directly.

## 1.14 Common commands

---

The commands listed in the table below are common to all modes.

Command	Description
end	Exits out of a virtual switch and returns to the EXEC or Privileged EXEC mode.
exit or <CTRL>+Z	Returns to the previous mode.
no	Negates a configuration command or sets an attribute to its default value.
default	Sets an attribute to its default value.

## 1.15 Common data types

The data types listed in the table below are commonly used in the commands throughout this document.

Data Types	Acceptable Input Format	Range
Internet Protocol version 4 (IPv4)	xxx.xxx.xxx.xxx/xx	Four integers between 0 and 255 separated by periods. When a network mask is required, the /xx indicates the length of the network mask from 1 to 32 bits.
Media Access Control Address (MAC)	xx-xx-xx-xx-xx-xx	A hexadecimal format that separates each byte by a dash.
Timezone	Alphanumeric characters (See Appendix A in this document.)	Unique alpha character strings.



## 2.0 Show commands

---

Show commands are available in most major modes. This chapter lists the show commands and in which modes they are available.

- “show access-control”
- “show alarm”
- “show amplifier”
- “show amplifier interface”
- “show amplifier interface <ola-interface-id> pm interval”
- “show arp”
- “show class-map [<name>]”
- “show clock”
- “show condition”
- “show c-vlan-map”
- “show enni <interface-type> <interface-id>”
- “show ennis brief”
- “show enni-eservice [enni <interface-type> [interface id>]][eservice<service-name>]”
- “show equipment”
- “show equipment pm”
- “show eservice ”
- “show hardware”
- “show interfaces”

- “show interfaces gcc”
- “show interfaces <if-type> <if-identifier> pm interval”
- “show interfaces <if-type> <if-identifier> pm history”
- “show interfaces <if-type> <if-identifier> pm threshold”
- “show interfaces crafteth”
- “show interfaces mgmteth”
- “show interfaces osceth”
- “show interfaces stackingport”
- “show ip”
- “show lacp pm”
- “show line console”
- “show lldp neighbors”
- “show loss-delay initiator [brief]”
- “show loss-delay responder [brief]”
- “show log ”
- “show mac-address-table”
- “show memory-utilization”
- “show mirror”
- “show neighbor”
- “show nnis brief ”
- “show ntp”
- “show ospf”
- “show ospf database”
- “show ospf interface”
- “show ospf neighbor”
- “show profile bandwidth [<name>]”
- “show profile dscp-phb [<name>]”
- “show profile l2control”
- “show profile pcp-encoding-decoding [<name>]”
- “show profile priority-tc-map [<name>]”
- “show profile scheduler [<name>]”
- “show profile tunnel-mac-address”
- “show protocols”

- “show route”
- “show running-config”
- “show service-policy [<name>]”
- “show snmp community”
- “show snmp trap”
- “show spanning-tree mst”
- “show spanning-tree pm”
- “show station-loopback”
- “show switchports”
- “show system”
- “show throughput”
- “show throughput [rmep <id>]”
- “show transponder”
- “show transponder cross-connects”
- “show transponder interface”
- “show transponder interface <interface-id> pm interval”
- “show transponder protection-groups”
- “show transponder <location> thresholds”
- “show unis brief”
- “show uni-eservice ”
- “show users”
- “show version”
- “show virtual-switch”
- “show virtual-switch cpu-rate-limit”
- “show vlan”
- “show vlan dynamic [<vlan-id>]”
- “show vlan static [<vlan-id>]”

## show access-control

This command displays the Media Access Control/Internet Protocol version 4 (MAC/IPv4) access control table.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

**show access-control** [**mac** | **ipv4**] <*access-control-index*>]

Command Option	Description
<b>mac</b>	displays Media Access Control (MAC) address-based Access Control Lists.
<b>ipv4</b>	displays Internet Protocol version 4 (IPv4)-based Access Control Lists.

Parameter	Description	Range	Default Value
<i>access-control-index</i>	is the index of the access control to display.	1 to 256	not applicable

### Example

#### Command

```
show access-control
```

### System response and side effects

```
VS  ACL Index Type  Action  Source Address      Destination Address
--  -
  1      1   IP    deny    192.168.2.0/24      192.168.1.0/24
```

### Related Commands

access-control (Global Configuration Mode)



## show alarm

This command displays active alarms (BT7A53BB/CB).

**Note** This command displays alarm information for non-optical packet modules, optical amplifiers, and the Dual 10G Multiprotocol Transponder and the Dual 10G Multiprotocol Transponder Lite.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode

### History

Release	Modification
7.1	The command is introduced.
8.1	Added ENV as a command option
8.2 to 9.2	None
9.3	Added information note about support

### Input Syntax

```
show alarm {all|eqpt|lag|mstp|swmember|amplifier|transponder}
```

Command Option	Description
<b>all</b>	shows all alarms
<b>eqpt</b>	shows equipment alarms
<b>lag</b>	shows Link Aggregation alarms
<b>mstp</b>	shows Multiple Spanning Tree Protocol alarms
<b>swmember</b>	shows switch member alarms
<b>amplifier</b>	shows optical amplifier alarms
<b>transponder</b>	shows Dual 10G Multiprotocol Transponder and Dual 10G Multiprotocol Transponder Lite alarms

### Example

#### Command

```
show alarm all
```

#### System response and side effects

## Show commands

---

Alarm	Location	Sev	Date	Time	SA/NSA	Description
-----	-----	-----	-----	-----	-----	-----
Shelf	ES-11	Maj	11-14	15:32:55	NSA	Power feed B failure.
	MS-1	Maj	11-14	15:32:55	NSA	Power feed B failure.
	1/6	Maj	11-14	15:33:06	NSA	Circuit pack missing.
	1/3	Maj	11-14	15:33:06	NSA	Circuit pack missing.
	1/1	Crit	11-14	15:33:06	SA	Circuit pack missing.

## Related Commands

None

## show amplifier

This command displays information about all amplifiers on the shelf, or information about a particular amplifier if a particular amplifier is specified.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode, Global Configuration Mode

### Input Syntax

**show amplifier** [ *<location>*]

Parameter	Description	Range	Default Value
<i>location</i>	The location <i>&lt;shelf/slot&gt;</i> of the specific amplifier to be displayed. This parameter is optional. If this parameter is not specified, all amplifiers are displayed.	shelf = 1, 11, 21, 31 slot = 1 to 20	Not applicable

Option	Description
<b>brief</b>	Shows the state information of the specified amplifier.

### Example

The following example shows all amplifiers on the shelf.

```
BTI7000# show amplifier
```

```
OLA-1/6
```

```
-----
```

```
State
```

```
: IS-NR
```

### Related Commands

None

## show amplifier interface

This command displays information about all optical amplifier interfaces on the shelf, or information about a particular interface if a particular interface is specified.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode, Global Configuration Mode

### Input Syntax

```
show amplifier interface [ [<interface-id> | brief ]
```

Parameter	Description	Range	Default Value
<i>interface-id</i>	The identifier <i>&lt;shelf/slot/interface&gt;</i> of the interface to be displayed. This parameter is optional. If this parameter is not specified, all amplifier interfaces are displayed.	See 1.12, “Interfaces”.	Not applicable

Option	Description
<b>brief</b>	Shows a summary of the amplifier interfaces.

### Example 1

The following example shows a summary of all amplifier interfaces on the shelf:

```
BTI7000# show amplifier interface brief
```

Amplifier port	State	Laser status	OA status	Mode
-----	-----	-----	-----	-----
MGM-1/1/1	IS-NR	on	ConstGain	ConstGain
MGA-1/3/1	OOS-AU	on	ConstGain	ConstGain
OBA-1/6/1	OOS-AU	on	ConstPower	ConstPower

### Example 2

The following example shows detailed information for a specific amplifier interface:

```
BTI7000# show amplifier interface 1/1/1
```

```
MGM-1/1/1
```

```
-----
```

```
Optical Amplifier Mode : Constant Gain
```

```
Laser Status           : on
Amplifier Status       : Constant Gain
Target Gain Level      : 29.0 dB
Target Output Power    : -7.0 dBm
Tilt Compensation      : 0.0
Auto in-service timer  : 08:00 (HH:MM)
State                  : OOS-AU,FLT
Power Transmitted      : 18.5 dBm
Power Received         : -3.8 dBm
Tilt Margin Maximum    : 3.0 dB
Tilt Margin Minimum    : -3.0 dB
Gain Margin Maximum    : 29.0 dB
Gain Margin Minimum    : 19.0 dB
Monitor Port Loss      : 21.2 dB
Optical Power Received Low Threshold : -36.0 dBm
Optical Power Received High Threshold : -1.0 dBm
Optical Power Transmitted Low Threshold : -7.0 dBm
Optical Power Transmitted High Threshold : 18.0 dBm
Optical Back Reflection Shutdown Threshold : -18.0 dBm
FSO Optical Power Transmitted Low Threshold : 13.0 dBm
FSO Optical Power Transmitted High Threshold : 20.0 dBm
SSI Optical Power Received Low Threshold : 13.0 dBm
SSI Optical Power Received High Threshold : 20.0 dBm
Mid Stage Insertion Loss High Threshold : 16.0 dB
```

This example does not show all the fields that can appear in the output of this command. Some fields appear only for certain amplifier types, while others are displayed only if they have been provisioned.

### Related Commands

None

## show amplifier interface <ola-interface-id> pm interval

This command displays PM information for the specified amplifier interface.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode, Global Configuration Mode

### Input Syntax

```
show amplifier interface <interface-id> pm interval { 15-min [ bin { all | current | <bin_number>
} ] | 24-hour [ bin { all | current | <bin_number>
} ] }
```

Command	Description
<b>show amplifier interface &lt;interface-id&gt; pm interval 15-min</b>	Shows PM data for the current 15-minute bin.
<b>show amplifier interface &lt;interface-id&gt; pm interval 15-min bin all</b>	Shows PM data for all historical 15-minute bins.
<b>show amplifier interface &lt;interface-id&gt; pm interval 15-min bin current</b>	Shows PM data for the current 15-minute bin.
<b>show amplifier interface &lt;interface-id&gt; pm interval 15-min bin &lt;bin_number&gt;</b>	Shows PM data for the indicated 15-minute bin.
<b>show amplifier interface &lt;interface-id&gt; pm interval 24-hour</b>	Shows PM data for the current 24-hour bin.
<b>show amplifier interface &lt;interface-id&gt; pm interval 24-hour bin all</b>	Shows PM data for all historical 24-hour bins.
<b>show amplifier interface &lt;interface-id&gt; pm interval 24-hour bin current</b>	Shows PM data for the current 24-hour bin.
<b>show amplifier interface &lt;interface-id&gt; pm interval 24-hour bin &lt;bin_number&gt;</b>	Shows PM data for the indicated 24-hour bin.

Parameter	Description	Range	Default Value
<i>interface-id</i>	The identifier <shelf/slot/ interface> of the interface to be displayed.	See <a href="#">1.12, "Interfaces"</a> .	Not applicable
<i>bin_number</i>	The bin number (with 0 being the current bin).	0 to 96 for 15-minute bins 0 to 1 for 24-hour bins	0

## Example

The following example shows how to display PM data for a specific bin:

```
BTI7000# show amplifier interface 1/6/1 pm interval 15-min bin 3
Optical Power Received           :   -6.60  dBm
Optical Power Transmitted        :    9.60  dBm
Mid-stage Insertion Loss         :    0.00  dB
Effective Gain                   :   16.00  dB
First Stage Optical Power Transmitted :  4.70  dBm
Second Stage Optical Power Received :    0.00  dBm
Optical Back Reflection          :    0.00  dB
Case Temperature                 :    28    C
Laser 1 Temperature              :    25    C
Laser 2 Temperature              :    25    C
Laser 1 Current                  :  158.90  mA
Laser 2 Current                  :   59.60  mA
Laser 1 Power                    :   99.40  mW
Laser 2 Power                    :   29.90  mW
VOA Attenuation                  :    9.50  dB
```

This example shows the output of the command for a specific amplifier. Some fields appear only for certain amplifier types.

## Related Commands

None

## show arp

---

This command displays the ARP table. An ARP table includes up to 512 entries.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Global Configuration Mode

### Input Syntax

**show arp**

### Example

BTI7000 **show arp**

IP Address	MAC Address	Type
-----	-----	-----
10.0.0.1	0014d0301cd3	Published
10.0.0.2	0014d0301cd3	Permanent
10.1.220.10	0014d0301cd3	Incomplete
192.168.17.1	0014d0301cd3	Published
192.168.17.204	0014d0301cd3	Dynamic

BTI7000

### Related Commands

None



## show auth-service

This command displays the settings of the authentication servers and the priority of the login authentication check.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

### Input Syntax

```
show auth-service [ipaddress <ip-addr> | priority]
```

Parameter	Description	Range	Default
ipaddress	IP Address of the authentication server.	IP address of a configured authentication server for which you want to view the configuration information.	Not applicable
priority	Displays if the login authentication check is first made locally, or remotely through RADIUS.	Not applicable.	Not applicable

### Guideline

If you do not specify an IP address, the display shows information for all the configured authentication servers on the system.

### Example 1

This example displays the configuration of the authentication servers for the specified IP address.

```
BTI7000(config)# show auth-service ipaddress 10.128.3.56
```

Server IP address	Role	Port	Timeout	Retry	Key
10.128.3.56	primary	1812	5	1	default
10.128.3.57	secondary	1812	10	4	default
10.128.3.58	tertiary	1812	6	2	default

```
BTI7000(config)#
```

### Example 2

This example displays that authentication is checked through a local server:

```
BTI7000(config)# show auth-service priority
Authentication Priority :    local
BTI7000(config)#
```

## show cfm mip

This command displays a list of the Connectivity Fault Management MIPs.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode

### History

Release	Modification
7.3	The command is introduced.

### Input Syntax

```
show cfm mip [ eservice<service-name>]
```

Command Option	Description
eservice	displays an Eservice.

Parameter	Description	Range	Default Value
<service-name>	is the name of the Eservice	1-32 alphanumeric characters	not applicable

### Example

#### Command

```
show cfm mip
```

### System response and side effects

VS Ethernet Service Name	Port Name	Active
1 test	TenGigE 1/1/2	yes

### Related Commands

```
show hardware
```

## show class-map [<name>]

This command displays the configured QoS class-maps.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode, Global Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

**show class-map** [*<name>*]

Parameter	Description	Range	Default Value
<i>name</i>	is the name of the class map.	1 to 32 alphanumeric characters	not applicable

### Example 1

#### Command

```
show class-map
```

#### System response and side effects

Class-map Profile Table

Profile Name	Type	CVlan	DSCP	Control	EtherType
matchip	Ingress		44		
matchipe	Egress				
matchcvlan	Ingress	2000			
matchetype	Ingress				800

### Example 2

In this example, the user can also specify which class map to show:

#### Command

```
show class matchTwo
```

#### System response and side effects

```
10.1.200.115:sw1(config)# sh class matchTwo
    Profile Name: matchTwo

    Type: Ingress Per COS
    Match type: Match All
    S-Vlan Priority: 3
    Ethernet Type: 8100
```

## Related Commands

None

---

## show clock

---

This command displays the time and date.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

`show clock`

### Example

#### Command

`show clock`

#### System response and side effects

11:00:20 USAEASTERN Mon Jun 23 2008

### Related Commands

None

## show condition

This command displays active conditions BT7A53BB/CB.

### Mode

EXEC Mode, Privileged EXEC Mode

### History

Release	Modification
7.1	The command is introduced.
8.1	Added ENV as a command option

### Input Syntax

```
show condition {all|eqpt|lag|mstp|swmember|amplifier|transponder}
```

Command Option	Description
<b>all</b>	shows all conditions
<b>eqpt</b>	shows equipment conditions
<b>lag</b>	shows Link Aggregation conditions
<b>mstp</b>	shows Multiple Spanning Tree Protocol conditions
<b>swmember</b>	shows switch member conditions
<b>amplifier</b>	shows optical amplifier conditions
<b>transponder</b>	shows Dual 10G Multiprotocol Transponder and Dual 10G Multiprotocol Transponder Lite conditions

### Example 1

#### Command

```
show condition all
```

#### System response and side effects

```
10.1.200.115:sw1(config)# sh cond all
```

Cond	Equipment	Sev	Date	Time	SA/NSA	Description
Pack	TPR-11/4	NR	03-04	09:30:12	NSA	Circuit pack mismatch.
PVX	GigE 1/1/19	Crit	03-05	13:52:09	SA	Link down.
L1	TenGigE 1/1/1	Crit	03-05	13:59:46	SA	XFP mismatch.
	TenGigE 11/1/2	Crit	03-05	13:59:34	SA	Loss of signal.

## Related Commands

None

## show c-vlan-map

In Provider Bridging mode, this command displays the Customer VLAN (C-VLAN) to Service Provider VLAN (S-VLAN) mapping table for a given interface.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode, Global Configuration Mode, Interface Configuration Modes

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

**show c-vlan-map** [**switchport** [<interface-type> [<interface-id>]]]

Parameter	Description	Range	Default Value
<i>interface-type</i>	is the interface type.	See 1.12, “Interfaces”	not applicable
<i>interface-id</i>	is the interface identifier.	See 1.12, “Interfaces”	not applicable

### Example

#### Command

```
show c-vlan-map switchport gigabitEthernet 1/2/1
```

#### System response and side effects

```
BTI7000:sw1(config)> show c-vlan-map switchport gigabitEthernet 1/2/1
```

```

VS      Name      C-VLAN Range  S-VLAN
--  -----
1 GigE 1/1/1      1-5  10
1 GigE 1/1/1      10-15 20

```

### Related Commands

map c-vlan



## show enni <interface-type> <interface-id>

This command displays the provisioned E-NNIs.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode, Global Configuration Mode

### History

Release	Modification
13.2	The command is introduced.

### Input Syntax

**show enni** <interface-type> <interface-id>

Parameter	Description	Range	Default Value
<i>interface-type</i>	is the interface type.	see 1.12, "Interfaces"	not applicable
<i>interface-id</i>	is the interface identifier.	see 1.12, "Interfaces"	not applicable

### Example

#### Command

```
BTI7000# show enni GigE 1/1/18:
Virtual Switch is 1
Admin Status is enabled, Operational Status is down
full duplex, 1000Mb/s
Max frame size is 9600
Port type is (ENNI)
PVID is 1
Provider tag ethertype (TPID) is 88A8
useDEI is enabled
Trust Incoming PCP is enabled
Trust Incoming DSCP is enabled
Storm-control:
  broadcast: disabled
  multicast: disabled
  unicast-dlf: disabled
Profiles:
  Scheduler: "DEFAULT_SCHEDULER_PROFILE"
  Priority Traffic Class Map: "DEFAULT_PRIORITY_TC_MAP_PROFILE"
  PCP Encoding/Decoding: "DEFAULT_8P0D_PROFILE"
```

Associated Ethernet Services:  
Cust04

### **System response and side effects**

None

### **Related Commands**

enni <interface-type> <interface-id>

## show ennis brief

This command displays the provisioned E-NNIs.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode, Global Configuration Mode

### History

Release	Modification
13.2	The command is introduced.

### Input Syntax

**show enni** [*<interface-type>* [*<interface-id>*]] [**brief**]

Parameter	Description	Range	Default Value
<i>interface-type</i>	is the interface type.	see 1.12, “Interfaces”	not applicable
<i>interface-id</i>	is the interface identifier.	see 1.12, “Interfaces”	not applicable

### Example 1

#### Command

```
BTI7000# show ennis brief
```

#### System response and side effects

VS	ENNI name	ENNI STATUS		MaxFrame
		Oper	Admin	
1	TenGigE 1/1/1	up	enabled	9600
1	TenGigE 1/1/2	up	enabled	9600

### Related Commands

enni <interface-type> <interface-id>

## show enni-eservice [enni <interface-type> [interface id>]] [eservice<service-name>]

This command displays the E-NNI to the access Ethernet Service associations.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode, Global Configuration Mode

### History

Release	Modification
13.2	The command is introduced.

### Input Syntax

**show enni-eservice** [**enni** <interface-type> [<interface id>]] [**eservice**<service-name>] [brief]

Parameter	Description	Range	Default Value
<i>interface-type</i>	Interface type.	see <a href="#">1.12, "Interfaces"</a>	not applicable
<i>interface-id</i>	Interface identifier.	see <a href="#">1.12, "Interfaces"</a>	not applicable
<i>service-name</i>	Name of the Ethernet service	1-32 alphanumeric characters	not applicable

### Example 1

#### Command

```
BTI7000# show enni-service
ENNI GigE 1/1/12, Ethernet Service "Cust04"
  Virtual Switch is 1
  External Vlan is 57
```

```
ENNI GigE 1/1/14, Ethernet Service "Cust05"
  Virtual Switch is 1
  External Vlan is 444
  Egress Bandwidth Profile is GOLD
```

```
CFM MIP is enabled
ENNI GigE 1/1/14, Ethernet Service "Cust06"
  Virtual Switch is 1
  External Vlan is 144
```

### **System response and side effects**

None

### **Related Commands**

enni <interface-type> <interface-id>

## show equipment

---

This command displays equipment provisioning information and state information.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

**show equipment** [*<location>*] [*brief*]

Parameter	Description	Range	Default Value
<i>location</i>	is the location of the equipment. <ul style="list-style-type: none"><li><i>shelf</i> is for shelf equipment</li><li><i>shelf/slot</i> is for modules</li></ul>	Shelf = 1, 11, 21, 31 Slot = 1 to 6	not applicable

### Example 1

#### Command

```
show equipment
```

#### System response and side effects

```
Node-105:sw1(config)# show equipment
Shelf: MS-1, PEC: BT7A50AA, Config: 4-SLOT
  Primary State: IS-ANR,PWR
  PowerMode A: DC
  PowerMode B: DC

PVX-1/1, PEC: BT7A81CA
  Primary State: IS-NR

SCP-1/5, PEC: BT7A20CA
  Primary State: IS-NR
  SW Version: System=7.3.0 MAIN 183 GENERIC
```

## **Example 2**

### **Command**

show equipment brief

### **System response and side effects**

### **Related Commands**

show hardware

## show equipment pm

This command displays equipment PMs on the specified module.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode

### Input Syntax

```
show equipment <location> pm history { 15-min | 24-hour }
```

```
show equipment <location> pm interval { 15-min | total }
```

```
show equipment <location> pm interval { 15-min | 24-hour } bin <number>
```

Parameter	Description	Range	Default Value
<i>location</i>	is the location of the equipment: • <i>shelf/slot</i>	Shelf = 1, 11, 21, 31 Slot = 1 to 20	not applicable
<b>pm history { 15-min   24-hour }</b>	Displays historical 15-min or 24-hour bins.	15-min 24-hour	not applicable
<b>pm interval { 15-min   total }</b>	Displays the 15-min bins or the total (unTimed) bin.	15-min total	not applicable
<b>pm interval { 15-min   24-hour } bin &lt;number&gt;</b>	Displays a specific 15-min or 24-hour bin.	<i>number</i> : • 0 to 96 for 15-min bins • 0 to 1 for 24-hour bins	not applicable

### Usage Guidelines

This command is supported on modules equipped with a temperature sensor (for temperature PMs) and on the following modules (for CPU and disk utilization PMs):

- SCP (all)
- PVX modules (all)
- ROADM-on-a-Blade (ROB) modules (all)
- Dual 10G Multiprotocol Transponder (BT7A49AA, BT7A49AA-I02)
- 10-Port Multiprotocol Muxponder (BT7A48AA/BA, BT7A48AA-I02/BA-I02)

### Example

```
show equipment 1/1 pm interval 15-min
Shelf: 1, Slot: 1, Interval: 15-min
Bin: Current
Disk Usage (%) : 30
```



	CPU Usage (%)	:	3
	Minimum CPU Usage (%)	:	2
	Maximum CPU Usage (%)	:	4
	Average CPU Usage (%)	:	2
Bin: 1			
	Disk Usage (%)	:	20
	CPU Usage (%)	:	3
	Minimum CPU Usage (%)	:	2
	Maximum CPU Usage (%)	:	4
	Average CPU Usage (%)	:	2
Bin: 2			
	Disk Usage (%)	:	22
	CPU Usage (%)	:	3
	Minimum CPU Usage (%)	:	2
	Maximum CPU Usage (%)	:	4
	Average CPU Usage (%)	:	2
Bin: 3			
	Disk Usage (%)	:	20
	CPU Usage (%)	:	3
	Minimum CPU Usage (%)	:	2
	Maximum CPU Usage (%)	:	4
	Average CPU Usage (%)	:	2

## Related Commands

## show eservice

This command displays the provisioned Ethernet services.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode, Global Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

**show eservice** [*<service-name>*] [**name** *<service-name>*] [**brief**]

Parameter	Description	Range	Default Value
<i>service-name</i>	is the name of the Ethernet service.	1 to 32 alphanumeric characters	not applicable

### Example 1

#### Command

```
BTI7000# show eservice b
```

#### System response and side effects

VS	Name	Type	Oper	Admin	S-VLAN	MSTI	Max-Frame
1	testep1an1	EPLAN	unknown	enable	31	0	1522
1	testep1an2	EPLAN	unknown	enable	32	0	1522
1	testep1an3	EPLAN	unknown	enable	33	0	1522
1	testep1an4	EPLAN	unknown	enable	34	0	1522

### Example 2

#### Command

```
BTI7000# show eservice TestTraffic_EPLAN
```

#### System response and side effects

```
Ethernet Service "TestTraffic_EPLAN"
  Virtual Switch is 1
  Service type is EPLAN
  Admin State is enable, Operational State is up
  S-VLAN is 111
```

```

MSTP instance is 0
Number of UNIs is 2
Number of NNIs is 0
Lock NNIs is disable
Topology is multi-point
Maximum frame size is 9600
C-VID Translation is disable
CFM Maintenance Entity Name is "v111"
CFM Crosscheck is enabled
CFM Continuity Check Message Interval is 1min
EthService UAS : 0 hours 55 minutes 30 seconds

```

Associated UNIs:

GigE 1/1/7

MEP Id	Type	Remote State	Remote Switch Name	Remote Port
5 (4584)	remote	ok	Node_108ES	Gig21/5/7
3 (4664)	remote	ok	Node_110	Gig1/1/7
1 (5454)	local	---	---	---
2 (5931)	remote	ok	Node_106	Gig1/1/7
4 (6006)	remote	ok	Node_107	Gig1/1/7
6 (6051)	remote	ok	Node_108MS	Gig1/1/7

Node-105:sw1(config)#

### Example 3

#### Command

BTI7000# show eservice epline

#### System response and side effects

```

Ethernet Service "epline"
Virtual Switch is 1
Service type is EPLINE
Admin State is enable, Operational State is up
S-VLAN is 200
MSTP instance is 0
Number of UNIs is 1, Maximum number of UNIs is 2
Number of NNIs is 1
Lock NNIs is disable
Topology is point-to-point
Maximum frame size is 1522
C-VID Translation is disable
CFM Maintenance Entity Name is "v200"
CFM Crosscheck is enabled
CFM Continuity Check Message Interval is 1min
EthService UAS : 0 hours 8 minutes 14 seconds
Associated UNIs:
GigE 1/1/1

```

```
Local Remote
Remote Remote Remote EFPSD EFPSD
MEP Id Type State Switch Name Port State State
-----
2 (4204) remote ok BTI _1 Slot0/1 --- DOWN
1 (5090) local --- --- --- EFPSD ---
Forwarding type is normal
Associated NNIs:
GigE 1/1/2
BTI7000:sw1#
```

## Related Commands

eservice <service-name> [type <service-type>]

## show eservice pm

This command displays the Performance Monitors for a provisioned Ethernet Service.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode, Global Configuration Mode

### History

Release	Modification
7.3	The command is introduced.

### Input Syntax

```
show eservice [<service-name>] pm {history {15-min|24-hour}} interval {15-min  
[bin <bin>]|total}
```

Parameter	Description	Range	Default Value
<i>service-name</i>	Name of the Ethernet service.	1 to 32 alphanumeric characters	not applicable
<i>bin</i>	Specific interval to show 0 is the current interval	0 to 32 for 15-minutes. 0-1 for 24-hour.	0

### Example 1

#### Command

```
BTI7000# show eservice test pm history 15-min
```

#### System response and side effects

```
BTI7000> show eservice test pm history 15-min

BTI7000> show eservice test pm history 15-min
SW: 1, E-Service: test
  Interval: 15-min, Bin: Current
    EthService UAS : 0 hours 0 minutes 0 seconds

  Interval: 15-min, Bin: 1
    EthService UAS : 0 hours 0 minutes 0 seconds

  Interval: 15-min, Bin: 2
    EthService UAS : 0 hours 0 minutes 0 seconds

  Interval: 15-min, Bin: 3
    EthService UAS : 0 hours 0 minutes 0 seconds

  Interval: 15-min, Bin: 4
    EthService UAS : 0 hours 0 minutes 0 seconds

  Interval: 15-min, Bin: 5
    EthService UAS : 0 hours 0 minutes 0 seconds

  Interval: 15-min, Bin: 6
    EthService UAS : 0 hours 0 minutes 0 seconds

  Interval: 15-min, Bin: 7
    EthService UAS : 0 hours 0 minutes 0 seconds
```

## Related Commands

show eservice

## show hardware

This command displays the system inventory (that is, all of the modules and common equipment that are present in the system). An optional argument *brief* displays only a subset of the parameters in a table form.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

**show hardware** [**shelf** <*shelf*>][**brief**]

Command Option	Description
<b>shelf</b>	shows the system shelf hardware
<b>brief</b>	shows a short (table form) list of hardware

Parameter	Description	Range	Default Value
<i>shelf</i>	is the shelf number.	1, 11, 21, 31	not applicable

### Example

#### Command

```
show hardware brief
```

#### System response and side effects

```
BTI7000> show hardware brief
```

Equipment	PEC/Part-Number	CLEI/Serial #	HwRev	Mfg Date
-----	-----	-----	-----	-----
MS-1 (MS7060)	BT7A50AA	UNKNOWN	0	
PVX-1/1	BT7A81AA	SN00008511	3	08-25-2008
SFP-1/1/3	HTSFP-24-1111F	0810003580	A	2008-10-07-0
SFP-1/1/19	HTSFP-24-1111F	0810003579	A	2008-10-07-0
XFP-1/1/1	TRF5012FS-LA000	T08A08170	00	2008-01-25
SCP-1/5	BT7A20CA	SN00007208	2	2008-07-23
ESFP-1/5/1	73929-0026	914230323	D	2009-05-22
FLLR-1/6	BP1A55AA	N/A	0	N/A

## Show commands

---

MSI-1	BT7A53BA	SX09310006	8 2009-09-10
CU-1	BT7A52DA	SN00007537	1 2008-07-17
ES-11 (ES7060)	BT7A50AA	UNKNOWN	9
PVX-11/1	BT7A81AA	SN00007802	6 2009-01-12
SFP-11/1/2	HTSFP-24-1111F	0810003728	A 2008-10-07-0
SFP-11/1/7	HTSFP-24-1111F	0810003622	A 2008-10-07-0
XFP-11/1/2	TRF5012FS-LA000	T08A08099	00 2008-01-25
WR-11/3	BP1A42AA	SN00002555	1 2008-04-29
FLLR-11/4	BP1A55AA	N/A	0 N/A
FLLR-11/5	BP1A55AA	N/A	0 N/A
FLLR-11/6	BP1A55AA	N/A	0 N/A
ESI-11	BT7A54BA	SE09370630	6 2009-09-21
ESFP-11/1	73929-0026	914230323	D 2009-05-22
CU-11	BT7A52DA	SN00000001	1 2008-03-24
ACPU-11/B	BT7A58AA	SN00011815	6 29-05-2009

## Related Commands

show equipment



## show interfaces

This command displays information about an interface. This command takes an optional identifier to display information about a specific interface. If the argument is not specified, then all interfaces on the selected virtual switch are displayed. If a virtual switch is not selected, then all interfaces on all virtual switches are displayed.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode, Global Configuration Mode, Interface Configuration Modes

### Input Syntax

**show interfaces** [*<interface-type>* [*<interface-id>*] | **brief** ]

Parameter	Description	Range	Default Value
<i>interface-type</i>	The interface type.	See 1.12, "Interfaces"	Not applicable
<i>interface-id</i>	The interface identifier	See 1.12, "Interfaces"	Not applicable
<b>brief</b>	Shows a list of the interfaces on the virtual switch.	Not applicable	Not applicable

### Example 1

The following example is a brief display of the interfaces on the virtual switch:

```
BTI7000:sw1(config)# show interfaces brief
```

```
VS      if-name      State      MTU      BW(Mbps)  LAG
-----
1 GigE 1/3/2        IS-NR      9600      1000      1
1 GigE 1/3/10       IS-NR      9600      1000      1
1 GigE 1/3/11       IS-NR      9600      1000      1
1 GigE 1/3/12       IS-NR      9600      1000      1

VS LAG-ID Oper  Admin  Dist  MTU      Port-List
-----
1      1    up enabled  src mac 9600      GigE 1/3/2 (in-bundle)
                               GigE 1/3/10 (in-bundle)
                               GigE 1/3/11 (standby)
                               GigE 1/3/12 (standby)
```

## Example 2

The following example displays detailed information for the Gigabit Ethernet interfaces on the virtual switch.

```
BTI7000:sw1(config)# show interfaces gigabitEthernet 11/1/2
GigE 11/1/2
  State is IS-NR
  fiber type is none, wavelength is 0
  MTU 9600 bytes
  MAC Address is 00-14-d0-30-2e-e1
  Flow control configured as auto, Flow control status is off
  Full-duplex, 1000Mb/s
  loopback is off
  phyPmMon is disabled
  Mirroring Configuration: none
  LLDP is enabled
    Remote Port:
      System Name: Rem_3
      Chassis Id 00:14:d0:30:8c:a7
      Port Id Gig1/11/2
  Signal Degrade BERT is none
  OPR threshold (Min: -23.9, Max: 0.9)
  OPT threshold (Min: -8.9, Max: 4.0)
  SES Level is 0
  Media Rate is auto negotiated
```

### Performance Monitors

Untimed bin

#### Physical:

PM	Value	Min	Max	Avg
-----				
Laser Bias Current (mA)	19.0	---	---	---
Optical Power Rx (dBm)	-16.0	-16.1	-16.0	-16.0
Optical Power Tx (dBm)	-2.1	-16.1	-2.1	-16.0
Temperature (C)	45.9	---	---	---
Supply Voltage 1 (V)	3.3	---	---	---

#### L1:

coding violations	Errored Secs	Sev-Errored Secs	Unavail-Secs
-----			
0	0	0	0

#### L2:

Discarded	FCS-Error	Undersized	Fragments	Oversized
-----				
3104	0	0	0	0

Bytes	Frames	Pause	Multicast	Broadcast
Rx 1126549	10031	0	10031	0
Tx 325872	3901	0	---	---

#### Received Packet Histogram:

```

      64 byte frames : 1004
    65 - 127 byte frames : 8223
   128 - 255 byte frames : 804
   256 - 511 byte frames : 0
   512 - 1023 byte frames : 0
  1024 - 1518 byte frames : 0
   1519+ byte frames : 0

```

```

receive utilization (current bin = 268 seconds) 0.0%
transmit utilization (current bin = 268 seconds) 0.0%

```

### Example 3

The following example displays detailed information for a LAG interface on the virtual switch.

```

BTI7000:sw1(config)# show interfaces lag 3
SwitchId: 1, LagGroup: 1
Admin Status is enabled, Operational Status is up
Distribution is src mac, MAC Address is 02-14-d0-00-4b-05
MTU is 9600
Max-Links is 2
Port Count is 4
Min-Links is 2
Active Port Count is 2
Port List: GigE 1/3/2 (mode: active / state: in-bundle)
           GigE 1/3/10 (mode: active / state: in-bundle)
           GigE 1/3/11 (mode: active / state: standby)
           GigE 1/3/12 (mode: active / state: standby)

```

### Related Commands

None

## show interfaces <if-type> <if-identifier> pm interval

This command displays the performance monitoring (PM) interval for the interface.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode, Global Configuration Mode, and Interface Configuration Mode

### Input Syntax

```
show interfaces <interface-type> <interface-id> pm interval [15-min [bin<bin #>] | 24-hour [bin<bin #>] | total]
```

Parameter	Description	Range	Default Value
<i>interface-type</i>	The interface type.	See 1.12, "Interfaces"	Not applicable
<i>interface-id</i>	The interface identifier.	See 1.12, "Interfaces"	Not applicable
15-min	Displays the PM data over a 15 minute duration.	Not applicable	Current 15-minute time interval.
24-hour	Displays the PM data over a 24 hour duration.	Not applicable	Current 24-hour time interval.
bin <bin #>	The bin number that maintains data for the historical PM interval that you want to view. <b>Note</b> Refer to the Guideline section, following, for more information about bins.	15-min interval: 0 to 96 24-hour interval: 0 to 1 <b>Note</b> The value 0 displays current PM data.	Not applicable
total	Displays the PM data for the current time period.	Not applicable	Current time period.

### Guideline

Bins store historical PM data, as follows:

- Up to 96 bins for 15-minute time intervals.
- Up to 1 bin for the 24-hour time interval .

When you use a bin value, it means that you want to view the historical PM data for a particular 15-minute or 24-hour time interval:

- If you do not specify a bin value, only current PM data is displayed.
- The first 24-hour bin is available after the system collects data for a full 24-hour period. Otherwise, the output for the 24-hour interval displays only current PM data .

The actual PM counts shown depend on the line mapping selected.

## Examples

These examples show the current PM data and the data stored in bin 2, for a 15-minute interval:

```
BTI7000(config)# show interfaces tenGigabitEthernet 1/3/1 pm interval 15-min
```

```
SW: 1, Interface: TenGigE 1/3/1
```

```
Interval: 15-min, Bin: Current
```

### Physical:

PM	Value	Min	Max	Avg
Laser Bias Current (mA)	27.0	---	---	---
Optical Power Rx (dBm)	-2.3	-2.5	-2.1	-2.3
Optical Power Tx (dBm)	-1.7	-1.9	-1.6	-1.7
Temperature (C)	40.9	---	---	---
Supply Voltage 1 (V)	Unavailable	---	---	---
Supply Voltage 2 (V)	3.2	---	---	---

### L1:

Inv-Blocks	Errored Secs	Sev-Errored Secs	Unavail-Secs
0	0	0	28

### WAN:

PM	Value	PM	Value	PM	Value
CV-S	19	CV-L	30	CV-P	10
ES-S	13	ES-L	11	ES-P	11
SES-S	6	SES-L	5	SES-P	0
UAS-S	65	UAS-L	0	UAS-P	0
SEFS-S	71				

### OTN:

PM	Value	PM	Value
Errored Blocks	Unavailable	Bits Corrected	Unavailable
Errored Seconds	Unavailable	Bytes Corrected	Unavailable
Sev Errored Sec	Unavailable	Uncorrectable	Unavailable
Bckgrd Block Errors	Unavailable	Bit Error Rate	Unavailable
Out-of-Frame Seconds	Unavailable	Bit Error Rate (Avg)	Unavailable
Unavailable Seconds	Unavailable		

### L2:

Discarded	FCS-Error	Undersized	Fragments	Oversized
-----------	-----------	------------	-----------	-----------

```
-----
0          0          0          0          0
```

	Received	Transmitted
Bytes	238602	115498
Frames	2259	988
Multicast	2259	---
Broadcast	0	---
Pause	0	0

```
Received Packet Histogram:
      64 byte frames : 37
    65 - 127 byte frames : 1689
   128 - 255 byte frames : 533
   256 - 511 byte frames : 0
   512 - 1023 byte frames : 0
  1024 - 1518 byte frames : 0
   1519+ byte frames : 0
```

BTI7000(config)#

## Output for Bin 2

BTI7000(config)# **show interfaces tenGigabitEthernet 1/3/1 pm interval 15-min bin 2**

SW: 1, Interface: TenGigE 1/3/1

Interval: 15-min, Bin: 2

Physical:

PM	Value	Min	Max	Avg
Laser Bias Current (mA)	49.0	---	---	---
Optical Power Rx (dBm)	-50.0	-50.0	-50.0	-50.0
Optical Power Tx (dBm)	1.0	1.0	1.0	1.0
Temperature (C)	41.0	---	---	---
Supply Voltage 1 (V)	5.0	---	---	---
Supply Voltage 2 (V)	Unavailable	---	---	---

L1:

Inv-Blocks	Errored Secs	Sev-Errored Secs	Unavail-Secs
0	0	0	900

WAN:

PM	Value	PM	Value	PM	Value
-----	-----	-----	-----	-----	-----

CV-S	Unavailable	CV-L	Unavailable	CV-P	Unavailable
ES-S	Unavailable	ES-L	Unavailable	ES-P	Unavailable
SES-S	Unavailable	SES-L	Unavailable	SES-P	Unavailable
UAS-S	Unavailable	UAS-L	Unavailable	UAS-P	Unavailable
SEFS-S	Unavailable				

## OTN:

PM	Value	PM	Value
Errored Blocks	Unavailable	Bits Corrected	Unavailable
Errored Seconds	Unavailable	Bytes Corrected	Unavailable
Sev Errored Sec	Unavailable	Uncorrectable	Unavailable
Bckgrd Block Errors	Unavailable	Bit Error Rate	Unavailable
Out-of-Frame Seconds	Unavailable	Bit Error Rate (Avg)	Unavailable
Unavailable Seconds	Unavailable		

## L2:

Discarded	FCS-Error	Undersized	Fragments	Oversized
0	0	0	0	0

Bytes	Frames	Pause	Multicast	Broadcast
Rx 0	0	0	0	0
Tx 0	0	0	---	---

## Received Packet Histogram:

64	byte frames	: 0
65 - 127	byte frames	: 0
128 - 255	byte frames	: 0
256 - 511	byte frames	: 0
512 - 1023	byte frames	: 0
1024 - 1518	byte frames	: 0
1519+	byte frames	: 0

BTI7000(config)#

**Related Commands**

show interfaces &lt;if-type&gt; &lt;if-identifier&gt; pm history

show interfaces &lt;if-type&gt; &lt;if-identifier&gt; pm threshold

## show interfaces <if-type> <if-identifier> pm history

This command displays the performance monitoring (PM) for the interface, including current data and data stored in the historical PM bins.

**Note** Bins store historical PM data, as follows:

- Up to 96 bins for 15-minute time intervals.
- Up to 1 bin for the 24-hour time interval .
- The first 24-hour bin is available after the system collects data for a full 24-hour period. Otherwise, the output for the 24-hour interval displays only current PM data .

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode, Global Configuration Mode, Interface Configuration Mode

### Input Syntax

**show interfaces** <interface-type> <interface-id> **pm history** {15-min | 24-hour}

Parameter	Description	Range	Default Value
<i>interface-type</i>	The interface type.	See 1.12, "Interfaces"	Not applicable
<i>interface-id</i>	The interface identifier.	See 1.12, "Interfaces"	Not applicable
15-min	Displays the historical PM data for a 15 minute duration.	Not applicable	Not applicable
24-hour	Displays the historical PM data for a 24 hour duration.	Not applicable	Not applicable

### Example 1

This example shows a portion of the PM historical data for a 15-minute interval, and includes current data and a portion of the historical data from bin 6:

```
BTI7000(config)#show interfaces tenGigabitEthernet 1/3/1 pm history 15-min
```

```
SW: 1, Interface: TenGigE 1/3/1
```

```
Interval: 15-min, Bin: Current
```

```
Physical:
```

PM	Value	Min	Max	Avg
-----	-----	-----	-----	-----
-----				
Laser Bias Current (mA)	49.0	---	---	---



Optical Power Rx (dBm)	-50.0	-50.0	-50.0	-50.0
Optical Power Tx (dBm)	1.0	1.0	1.0	1.0
Temperature (C)	39.5	---	---	---
Supply Voltage 1 (V)	4.9	---	---	---
Supply Voltage 2 (V)	Unavailable	---	---	---

## L1:

Inv-Blocks	Errored Secs	Sev-Errored Secs	Unavail-Secs
0	0	0	278

## OTN:

PM	Value	PM	Value
Errored Blocks	Unavailable	Bits Corrected	Unavailable
Errored Seconds	Unavailable	Bytes Corrected	Unavailable
Sev Errored Sec	Unavailable	Uncorrectable	Unavailable
Bckgrd Block Errors	Unavailable	Bit Error Rate	Unavailable
Out-of-Frame Seconds	Unavailable	Bit Error Rate (Avg)	Unavailable
Unavailable Seconds	Unavailable		

## L2:

Discarded	FCS-Error	Undersized	Fragments	Oversized
0	0	0	0	0

Bytes	Frames	Pause	Multicast	Broadcast
Rx 0	0	0	0	0
Tx 0	0	0	---	---

Received Packet Histogram:

64 byte frames	: 0
65 - 127 byte frames	: 0
128 - 255 byte frames	: 0
256 - 511 byte frames	: 0
512 - 1023 byte frames	: 0
1024 - 1518 byte frames	: 0
1519+ byte frames	: 0

Interval: 15-min, Bin: 6

## Physical:

PM	Value	Min	Max	Avg
-----	-----	-----	-----	-----

```

-----
Laser Bias Current (mA) 49.0          ---          ---          ---
Optical Power Rx (dBm)  -50.0         -50.0         -50.0         -50.0
Optical Power Tx (dBm)   1.0           1.0           1.0           1.0
Temperature (C)          37.8          ---          ---          ---
Supply Voltage 1 (V)     4.9           ---          ---          ---
Supply Voltage 2 (V)     Unavailable   ---          ---          ---

```

.....

## Example 2

This example shows a portion of the PM historical data for a 24-hour interval, and includes current data and a portion of the historical data from bin 1:

```
BTI7000(config)# show interfaces tenGigabitEthernet 1/3/1 pm history 24-hour
```

```
SW: 1, Interface: TenGigE 1/3/1
```

Interval: 24-hour, Bin: Current

```

Physical:
  PM              Value          Min          Max          Avg
-----
Laser Bias Current (mA) 49.0          ---          ---          ---
Optical Power Rx (dBm)  -50.0         -50.0         -50.0         -50.0
Optical Power Tx (dBm)   1.0           1.0           1.0           1.0
Temperature (C)          39.9          ---          ---          ---
Supply Voltage 1 (V)     4.9           ---          ---          ---
Supply Voltage 2 (V)     Unavailable   ---          ---          ---

L1:
  Inv-Blocks      Errored Secs      Sev-Errored Secs  Unavail-Secs
-----
0                 0                  0                 37994

OTN:
  PM              Value          PM              Value
-----
Errored Blocks    Unavailable      Bits Corrected    Unavailable
Errored Seconds   Unavailable      Bytes Corrected    Unavailable
Sev Errored Sec   Unavailable      Uncorrectable      Unavailable
Bckgrd Block Errors Unavailable      Bit Error Rate      Unavailable
Out-of-Frame Seconds Unavailable      Bit Error Rate (Avg) Unavailable
Unavailable Seconds Unavailable

```

L2:

Discarded	FCS-Error	Undersized	Fragments	Oversized
0	0	0	0	0
Bytes	Frames	Pause	Multicast	Broadcast
Rx 0	0	0	0	0
Tx 0	0	0	---	---

```

Received Packet Histogram:
      64 byte frames : 0
    65 - 127 byte frames : 0
   128 - 255 byte frames : 0
   256 - 511 byte frames : 0
   512 - 1023 byte frames : 0
  1024 - 1518 byte frames : 0
    1519+ byte frames : 0

```

Interval: 24-hour, Bin: 1

Physical:				
PM	Value	Min	Max	Avg
-----				
Laser Bias Current (mA)	49.0	---	---	---
Optical Power Rx (dBm)	-50.0	-50.0	-50.0	-50.0
Optical Power Tx (dBm)	1.0	1.0	1.0	1.0
Temperature (C)	37.6	---	---	---
Supply Voltage 1 (V)	4.9	---	---	---
Supply Voltage 2 (V)	Unavailable	---	---	---

## Related Commands

```

show interfaces <if-type> <if-identifier> pm interval
show interfaces <if-type> <if-identifier> pm threshold

```

## show interfaces <if-type> <if-identifier> pm threshold

This command displays the current performance monitoring (PM) thresholds for the interface.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode, Global Configuration Mode, and Interface Configuration Mode

### Input Syntax

```
show interfaces <interface-type> <interface-id> pm threshold {15-min | 24-hour}
```

Parameter	Description	Range	Default Value
<i>interface-type</i>	is the interface type.	See 1.12, “Interfaces”	Not applicable
<i>interface-id</i>	is the interface identifier.	See 1.12, “Interfaces”	Not applicable
15-min	Displays the threshold PM data for a 15 minute duration.	Not applicable	Current data
24-hour	Displays the threshold PM data for a 24 hour duration.	Not applicable	Current data

### Example 1

This example shows the threshold PM data for the current 15-minute interval:

```
BTI7000:sw1(config)# show interfaces tenGigabitEthernet 1/3/1 pm threshold 15-min
```

```
SW: 1, Interface: TenGigE 1/3/1
```

```
Interval: 15-min, Bin: Current
```

```
  invblk   : 382          es           : 25          ses           : 4
  uas      : 10          discards      : 0          fcs-errors: 0
  undersized: 0          oversized     : 0          fragments  : 0
```

```
BTI7000:sw1(config)#
```

### Example 2

This example shows the threshold PM data for the current 24-hour interval:

```
BTI7000(config)# show interfaces tenGigabitEthernet 1/3/1 pm threshold 24-hour
```

```
SW: 1, Interface: TenGigE 1/3/1
```

```
Interval: 24-hour, Bin: Current
```

invblk	: 3820	es	: 250	ses	: 40
uas	: 10	discards	: 0	fcs-errors	: 0
undersized	: 0	oversized	: 0	fragments	: 0

BTI7000(config)#

### Related Commands

show interfaces <if-type> <if-identifier> pm interval

show interfaces <if-type> <if-identifier> pm history

## show interfaces crafteth

---

This command displays the configuration of the Craft Ethernet interface.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode, and Global Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

**show interfaces crafteth**

### Example

#### Command

```
show interfaces crafteth
```

#### System response and side effects

```
Node-105:sw1(config)# show interfaces crafteth
```

```
IP-CRAFT
```

```
Description:
```

```
Primary State      : Unavailable      Port State   : FORWARDING
Interface type     : Ethernet          MTU          : 1500
IP Address         : 192.168.17.1      IP netmask   : 255.255.255.0
IP Broadcast Address: 192.168.17.255   MAC Address  : 00-14-d0-00-55-9f
Configured speed   : auto negotiated   Actual speed  : 0
```

```
Node-105:sw1(config)#
```

### Related Commands

**interface crafteth**

## show interfaces gcc

This command extends the “show interfaces” CLI command to display information about the General Communication Channel (GCC). The command takes an optional identifier to display information about a specific GCC interface. If the argument is not specified, then all GCC interfaces are displayed.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode, Global Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

**show interfaces gcc** *<interface-type>* *<interface-id>*

Parameter	Description	Range	Default Value
<i>interface-type</i>	is the interface type.	See 1.12, “Interfaces”	not applicable
<i>interface-id</i>	is the interface identifier.	See 1.12, “Interfaces”	not applicable

### Example

#### Command

```
show interfaces gcc
```

#### System response and side effects

if-name	State	Rate	IP	OSPF
-----	-----	-----	-----	-----
gcc 1/1/1	OOS-AU, UEQ&SGEO	full	unnumbered	no

### Related Commands

None

## show interfaces mgmteth

---

This command displays the configuration of the Management Ethernet interface.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode, and Global Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

**show interfaces mgmteth**

### Example

#### Command

```
show interfaces mgmteth
```

#### System response and side effects

```
Node-105:sw1(config)# show interfaces mgmteth
```

```
IP-NMS
```

```
Description:
```

```
Primary State      : IS-NR          Port State   : FORWARDING
Interface type     : Ethernet       MTU          : 1500
IP Address         : 10.1.200.105   IP netmask   : 255.0.0.0
IP Broadcast Address: 10.255.255.255 MAC Address  : 00-14-d0-00-55-9e
Configured speed   : auto negotiated Actual speed: 100BT Full Duplex
```

```
Node-105:sw1(config)#
```

### Related Commands

**interface mgmteth**



## show interfaces osceth

This command displays information about the SCP OSC (Ethernet) interfaces on the shelf, or information about a particular interface if a particular interface is specified.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode, Global Configuration Mode

### Input Syntax

**show interfaces osceth** <osc-id>

Parameter	Description	Range	Default Value
osc-id	The SCP OSC interface identifier <shelf/slot/port>.	1/1/1, 1/1/2 for an SCP in shelf 1 slot 1 1/5/1, 1/5/2 for an SCP in shelf 1 slot 5	Not applicable

### Example

#### Command

```
show interfaces osceth 1/1/2
```

#### System response and side effects

IP-1-1-2

Description:

Primary State	: OOS-AU	Port State	: BLOCKING
Interface type	: Optical	MTU	: 1500
IP Address	: 10.1.10.20	IP netmask	: 255.255.192.0
IP Broadcast Address	: 10.1.63.255	MAC Address	: 00-14-d0-30-c7-dd
Configured speed	: auto negotiated	Actual speed	: 0

### Related Commands

None

## **show interfaces stackingport**

---

This command is used by BTI support representatives for troubleshooting and debugging purposes.

# show ip

This command displays ip information for management interfaces.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

## Mode

EXEC Mode, Privileged EXEC Mode, and Global Configuration Mode

## History

Release	Modification
7.2	The command is introduced.

## Input Syntax

**show ip [detail]**

## Example 1

### Command

```
show ip
```

### System response and side effects

```
10.1.200.115:sw2(config)# sh ip
      Interface      Ip Address      Primary State Port Type  MTU  Port State
      -----
      IP-NMS          10.1.200.115           Ethernet    1500 FORWARDING
      IP-CRAFT        192.168.17.1           Ethernet    1500 FORWARDING
```

## Example 2

### Command

```
show ip detail
```

### System response and side effects

```
10.1.200.115:sw2(config)# sh ip detail

      IP-NMS
      Primary State      : Unavailable      Port State : FORWARDING
      Port type          : Ethernet          MTU        : 1500
      IP Address          : 10.1.200.115      IP netmask  : 255.0.0.0
      IP Broadcast Address: 10.255.255.255    MAC Address : 00-14-d0-00-23-0a
      Configured speed    : auto negotiated  Actual speed: 100BT Full Duplex
```

## Show commands

---

```
IP-CRAFT
Primary State      : Unavailable      Port State  : FORWARDING
Port type         : Ethernet          MTU         : 1500
IP Address        : 192.168.17.1      IP netmask  : 255.255.255.0
IP Broadcast Address: 192.168.17.255  MAC Address : 00-14-d0-00-23-0b
Configured speed  : auto negotiated  Actual speed: 0
```

## Related Commands

None

## show lacp pm

This command displays the LACP protocol performance monitoring counts.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode, Global Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

```
show lacp {<lag-id>|all} pm {interval{15-min|24-hour|total|all}[bin{<bin#>|
current|all}[monotype<mon-type>]]]
```

Parameter	Description	Range	Default Value
<i>lag-id</i>	is the LAG identifier.	See <a href="#">1.12, "Interfaces"</a>	not applicable
<i>bin</i>	is the specific bin interval to show. 0 is the current interval.	0 to 32 for 15-min bins. 0 to 1 for 24-hour bins.	0
<i>mon-type</i>	is the performance measurement to display.	lacpdu-rx lacpdu-tx mrkpdu-rx mrkpdu-tx mrksppdu-rx mrksppdu-tx inv-lacfr-rx	not applicable

### Example

#### Command

```
show lacp 2 pm interval 15-min bin 0
```

#### System response and side effects

```
Bridge: 1, Lag Group: 2, Interface: GigE 1/1/1, Interval: 15-min
  Current bin
  LACPDUs received: 1
  LACPDUs transmitted: 0
  Marker PDUs received: 0
  Marker PDUs transmitted: 0
```

```
Marker response PDUs received: 0
Marker response PDUs transmitted: 0
Invalid LACs received: 0

Bridge: 1, Lag Group: 2, Interface: GigE 1/1/2, Interval:15-min
Current
LACPDUs received: 0
LACPDUs transmitted: 0
Marker PDUs received: 0
Marker PDUs transmitted: 0
Marker response PDUs received: 0
Marker response PDUs transmitted: 0
Invalid LACs received: 0
```

## Related Commands

None

---

## show line console

---

This command shows the configuration of the local management serial port.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, PRIV EXEC mode, Global Configuration mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

`show line console`

### Example

#### Command

`show line console`

#### System response and side effects

Console 1 settings: 9600 baud, 8 data bits, 1 stop bits, ODD parity

### Related Commands

None

## show lldp neighbors

This command displays a snapshot of current LLDP configurations and information learned by the system.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode, and Global Configuration Mode

### Input Syntax

```
show lldp neighbors
```

### Guideline

A dashboard that displays the topology of all connected interfaces can be displayed using the BTI proNX Service Manager (PSM).

### Example

```
BTI7000(config)# show lldp neighbors
```

		Admin		Remote Port Information		
VS	Type	Port	State	System	ChassisId	PortId
1	GigE	1/3/3	enabled	Rem_3	00:14:d0:30:8c:a7	Gig1/11/1
1	GigE	1/3/4	enabled	Rem_4	00:14:d0:00:1e:d1	Gig1/7/4
1	GigE	1/3/11	disabled	---	---	---
1	GigE	1/3/24	enabled	Rem_2	00:14:d0:00:58:6c	Gig1/15/24
4	GigE	1/7/4	enabled	Rem_1	00:14:d0:30:85:bd	Gig1/3/4
4	GigE	1/7/11	enabled	---	---	---
4	GigE	1/7/12	disabled	---	---	---
4	GigE	1/7/23	enabled	---	---	---
3	GigE	1/11/1	enabled	Rem_1	00:14:d0:30:85:bd	Gig1/3/3
3	GigE	1/11/2	enabled	Rem_5	00:14:d0:30:93:db	Gig11/1/2
3	GigE	1/11/12	disabled	---	---	---
3	GigE	1/11/23	enabled	Rem_2	00:14:d0:00:58:6c	Gig1/15/23
2	GigE	1/15/11	enabled	---	---	---
2	GigE	1/15/12	disabled	---	---	---
2	GigE	1/15/23	enabled	Rem_3	00:14:d0:30:8c:a7	Gig1/11/23
2	GigE	1/15/24	enabled	Rem_1	00:14:d0:30:85:bd	Gig1/3/24
5	GigE	11/1/2	enabled	Rem_3	00:14:d0:30:8c:a7	Gig1/11/2
5	GigE	11/1/11	enabled	---	---	---
5	GigE	11/1/12	disabled	---	---	---

```
BTI7000(config)#
```

### Related Commands

lldp



show interfaces

neighbor delete

## show loss-delay initiator [brief]

This command displays the SLA measurement for the loss-delay initiator.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Global Configuration Mode

### History

Release	Modification
8.2	The command is introduced.

### Input Syntax

```
show loss-delay initiator [brief]
```

### Example

#### Command

```
show loss-delay initiator
```

#### System response and side effects

VS	E-Service	UNI	r-MepId
1	Service1	GigE 1/1/10	5307

Loss/Delay measurement CmdState: running

Delay measurement SVlanPriority: 1

**Note** The throughput is displayed in Kbps, regardless of what units were used to specify the values using the `config profile bandwidth` command.

### Related Commands

None

## show loss-delay responder [brief]

This command displays the SLA measurement for the loss-delay responder.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Global Configuration Mode

### History

Release	Modification
8.2	The command is introduced.

### Input Syntax

```
show loss-delay responder [brief]
```

### Example

#### Command

```
show loss-delay responder
```

#### System response and side effects

VS	E-Service	UNI	r-MepId
1	Service1	GigE 1/1/10	5302

**Note** The throughput is displayed in Kbps, regardless of what units were used to specify the values using the `config profile bandwidth` command.

### Related Commands

None

## show log

This command displays CLI command and security log files.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode, and Global Configuration Mode

### Input Syntax

**show log {command | security}**

Parameter	Description	Range	Default Value
command	Displays a log of the CLI commands executed by the user.	Not applicable	Not applicable
security	Displays a log of user login sessions.	Not applicable	Not applicable

### Example 1

This example shows a portion of the CLI commands run by the user "root."

```
BTI7000(config)# show log command
***** CLI Command Log File *****
COMMAND 0 13:38:54 1/17/2013 [root] root
COMMAND 1 13:39:03 1/17/2013 [root] enable
COMMAND 2 13:41:16 1/17/2013 [root] configure termina
COMMAND 3 13:44:39 1/17/2013 [root] root
COMMAND 4 13:45:10 1/17/2013 [root] enable
COMMAND 5 13:45:31 1/17/2013 [root] configure terminal
COMMAND 6 13:46:13 1/17/2013 [root] user pam
COMMAND 7 13:46:13 1/17/2013 [root] user pam
COMMAND 8 13:46:33 1/17/2013 [root] superuser
COMMAND 9 13:46:44 1/17/2013 [root] timeout 60
COMMAND 10 13:48:55 1/17/2013 [root] exit
COMMAND 11 13:50:14 1/17/2013 [root] class-map techpubs type service-map
COMMAND 12 14:11:36 1/17/2013 [root] match c-vlan c-vid(s)
COMMAND 13 14:11:42 1/17/2013 [root] match c-vlan c-vid
COMMAND 14 14:12:18 1/17/2013 [root] match c-vlan 1
COMMAND 15 14:13:06 1/17/2013 [root] match c-vlan 12-3456
COMMAND 16 14:41:41 1/17/2013 [root] exit
.....
BTI7000(config)#
```

### Example 2

This example shows the login sessions for the user "root."

```
BTI7000(config)# show log security
```

```
***** CLI Security Log File *****
```

```
SECURITY 0 13:38:54 1/17/2013 User root, Login Successful
SECURITY 1 13:44:13 1/17/2013 CLI Session ended for user root
SECURITY 2 13:44:39 1/17/2013 User root, Login Successful
SECURITY 3 10:02:22 1/18/2013 User root, Login Successful
SECURITY 4 10:02:22 1/18/2013 CLI Session ended for user root
SECURITY 5 12:58:49 1/18/2013 User root, Login Successful
SECURITY 6 12:58:49 1/18/2013 CLI Session ended for user root
SECURITY 7 17:12:00 1/18/2013 End session requested for User root
SECURITY 8 17:12:00 1/18/2013 CLI Session ended for user root
SECURITY 9 10:23:47 1/22/2013 User root, Login Successful
SECURITY 10 13:16:25 1/22/2013 User root, Login Successful
SECURITY 11 13:16:25 1/22/2013 CLI Session ended for user root
```

```
BTI7000(config)#
```

### Related Commands

log init

log start

log stop

## show mac-address-table

This command displays information in the unicast/multicast MAC Address table for the selected virtual switch. If a virtual switch is not selected, then all virtual switches are displayed. The show command can be filtered on the parameters shown in the Input Syntax section below.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode, Global Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

```
show mac-address-table [static unicast | static multicast | dynamic unicast |
[vlan <vlan-id> ][address <mac-addr>][interface <interface-type> <interface-
id>]]
```

Command Option	Description
<b>static unicast</b>	shows the table of static (manually entered) MAC addresses
<b>static multicast</b>	shows the table of static (manually entered) MAC multicast addresses
<b>dynamic unicast</b>	shows the table of dynamic (automatically learned) unicast addresses
<b>VLAN</b>	shows the MAC-Addresses in the VLAN
<b>MAC Address</b>	shows a particular MAC address

Parameter	Description	Range	Default Value
<i>vlan-id</i>	is the VLAN identifier.	1 to 4094	not applicable
<i>mac-addr</i>	is the MAC Address in the format: XX-XX-XX-XX-XX-XX	Valid MAC Address	not applicable
<i>interface-type</i>	is the interface type.	See <a href="#">1.12, "Interfaces"</a>	not applicable
<i>interface-id</i>	is the interface identifier.	See <a href="#">1.12, "Interfaces"</a>	not applicable

**Example****Command**

```
show mac-address-table static unicast
```

**System response and side effects**

Static Unicast MAC Address Table

VS	VLAN	MAC-Address	Type	Switchport
1	1	00-11-22-33-44-55	static	GigE 1/1/1

BTI7000#

**Related Commands**

None

## show memory-utilization

This command displays memory information for the SCP and packetVX modules.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode, Global Configuration Mode

### History

Release	Modification
12.2	The command is introduced.

### Input Syntax

**show memory-utilization** [ **brief** | *<location>* [ **brief** ] ]

Command Option	Description
<b>brief</b>	Shows summary memory information for a specific SCP or packetVX module, or for all SCP and packetVX modules.

Parameter	Description	Range	Default Value
<i>location</i>	The location <i>&lt;shelf/slot&gt;</i> of the specific SCP or packetVX module to display. This parameter is optional. If this parameter is not specified, the SCP and all packetVX modules are displayed.	shelf = 1, 11, 21, 31 slot = 1 to 20	Not applicable

### Example

#### Command

```
BTI7000# show memory-utilization 1/1 brief
```

```
Location      Total Memory(KB)    Free Memory (KB)
-----
      1/1              1048576              553212
```

```
BTI7000# show memory-utilization
```

```
1/1 Total Memory: 1048576 KB Free Memory: 553212 KB
```

```
MgmtPlaneAgent PID(1228834) process memory : 288 KB
```



```
ols_eqchapp PID(1339428) process memory      :    224 KB
ols_msgapp  PID(1368101) process memory      :    284 KB
ISS.exe     PID(1290278) process memory      : 146720 KB
ols_msgapp  PID(1388583) process memory      :    284 KB
```

```
1/5  Total Memory: 1048576 KB  Free Memory: 558844 KB
```

```
ols_scapp   PID(2383929) process memory      :    576 KB
ols_olsapp  PID(2584640) process memory      :   13388 KB
ols_snmpd   PID(2797633) process memory      :   37036 KB
ols_cliapp  PID(2826306) process memory      :    6596 KB
```

### **System response and side effects**

The command returns the requested memory information.

### **Related Commands**

None

## show mirror

---

This command shows the port mirroring configuration.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, PRIV EXEC mode, Global Configuration mode

### Input Syntax

`show mirror`

### Example

#### Command

`show mirror`

#### System response and side effects

```
10.1.200.115:sw1(config)# show mirror
```

VS	Intf Name	Mirror State	Direction
---	-----	-----	-----
1	CPU	mirror-from-cpu	Ingress
1	GigE 1/3/2	mirror-from-port	Ingress
1	GigE 1/3/5	mirror-to-port	N/A

### Related Commands

`mirror mirror-from-port`

`mirror mirror-to-port`

`mirror cpu ingress`

# show neighbor

This command displays names and IP addresses of the Network Element's neighbors.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

## Mode

EXEC Mode, Privileged EXEC Mode, and Global Configuration Mode

## History

Release	Modification
7.1	The command is introduced.

## Input Syntax

**show neighbor** [**all** | *<neighbor name>*]

Parameter	Description	Range	Default Value
<i>all</i>	displays all neighbor IP addresses	not applicable	not applicable
<i>neighbor name</i>	Displays this one neighbor's IP address	not applicable	not applicable

## Example 1

### Command

```
show neighbor EastCoast
```

### System response and side effects

```
--Neighbor Name-- --IP Address--
EastCoast 172.26.1.72
BTI7000(config)#
```

## Example 2

### Command

```
show neighbor
```

### System response and side effects

```
--Neighbor Name-- --IP Address--
EastCoast 172.26.1.72
WestCoast 192.168.1.1
NorthSide 10.1.1.1
```

```
SouthNetStender 30.03.1.1  
BTI7000(config)#
```

### **Related Commands**

neighbor create

neighbor edit

neighbor delete

## show nni <interface-type> <interface-id> erps pm

This command displays the provisioned NNIs.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode, Global Configuration Mode

### History

Release	Modification
7.3	The command is introduced.

### Input Syntax

```
show nni <interface-type> <interface-id> erps pm{history {15-min|24-hour}|
interval {15-min [bin <bin>]|24-hour [bin <bin>]|total}}
```

Parameter	Description	Range	Default Value
<i>interface-type</i>	is the interface type.	see 1.12, “Interfaces”	not applicable
<i>interface-id</i>	is the interface identifier.	see 1.12, “Interfaces”	not applicable
<i>bin</i>	is the specific interval to show.	0-32 for 15-min 0-1 for 24-hour	0, which is the current interval

### Example

#### Command

```
BTI7000# show nni gig 1/1/1 erps pm interval total
```

#### System response and side effects

```
SW: 1, E-Service: cfmtest, UNI GigE 1/1/1
Interval: Untimed, Bin: Current
  ingress total octets      : 0
  ingress violate octets    : 0
  ingress conform octets    : 0
  ingress BW Util          : 0
```

### Related Commands

nni <interface-type> <interface-id>

## show nnis brief

This command displays the provisioned NNIs.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode, Global Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

**show nnis** [*<interface-type>* [*<interface-id>*]] [**brief**]

Parameter	Description	Range	Default Value
<i>interface-type</i>	is the interface type.	see <a href="#">1.12, "Interfaces"</a>	not applicable
<i>interface-id</i>	is the interface identifier.	see <a href="#">1.12, "Interfaces"</a>	not applicable

### Example 1

#### Command

```
BTI7000# show nnis brief
```

#### System response and side effects

VS	Switchport name	Switchport Oper	Switchport Admin	MaxFrame
1	TenGigE 1/1/1	down	enabled	1522
1	TenGigE 1/1/2	down	enabled	1522

### Related Commands

nni <interface-type> <interface-id>

## **show nni-eservice [nni <interface-type> [interface id>]] [eservice<service-name>]**

This command displays the NNI to Ethernet Service associations.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode, Global Configuration Mode

### History

Release	Modification
7.3	The command is introduced.

### Input Syntax

**show nni-eservice** [**nni** <interface-type> [<interface id>]] [**eservice**<service-name>] [brief]

Parameter	Description	Range	Default Value
<i>interface-type</i>	Interface type.	see <a href="#">1.12, "Interfaces"</a>	not applicable
<i>interface-id</i>	Interface identifier.	see <a href="#">1.12, "Interfaces"</a>	not applicable
<i>service-name</i>	Name of the Ethernet service	1-32 alphanumeric characters	not applicable

### Example 1

#### Command

```
BTI7000# show nni-service
```

## System response and side effects

```
NNI GigE 1/1/10, Ethernet Service "erps"
  Virtual Switch is 1
  ERPS Ring Protection Link is disabled.
  ERPS Protection Switch is disabled.
  ERPS Ring Port Status is unblocked
  ERPS Ring Port Id is Ring Port 1
  ERPS ME Name is ""
  Remote MEP Id is 0
  ECFM Info is DERPS(2):L(6):V12X1(1):7885
```

```
BTI7000:sw1(config)# sho nni-eservice b
```

VS	NNI name	Ethernet Service Name
-----		
1	GigE 1/1/10	erps

## Related Commands

`nni <interface-type> <interface-id>`



---

## show ntp

---

This command displays NTP information.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode, Global Configuration Mode

### Input Syntax

**show ntp**

### Example

```
BTI7000# show ntp
Polling Period           : 01:00 (HH:MM)
Sync State               : Y
Stratum                  : 2
Reference IP Address     : 24.215.0.24
NTP associations (IP address) in random order
-----
216.194.70.2
24.215.0.24
```

### Related Commands

ntp

## show ospf

---

This command displays information about the Open Shortest-Path First (OSPF) process.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode, Global Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

**show ospf**

### Example 1

#### Command

```
BTI7000:sw1# show ospf
```

## **System response and side effects**

OSPF Information:

Admin State: IS-NR, AINS

Area Id: 0.0.20.208

Router ID: 192.168.192.10

Redistribute: none

Area Type: default

## **Related Commands**

## show ospf database

This command displays information related to the OSPF link state advertisements compiled in the link state database.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode, Global Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

**show ospf database [detail]**

Parameter	Description	Range	Default Value
detail	Displays all of the details about the OSPF database.	NA	NA

### Example 1

#### Command

```
BTI7000:sw1# show ospf database
```

```
Type:  AS - AsSummary, EX - External, MU - Multicast, NE - Networking,
      NS - NS External, NU - NULL, RO - Router, SU - Summary
```

If-name	Area Id	Link state	Router Id	Seq Num	Age	Type
OSPF 1/5	0.0.20.208	10.128.3.3	10.128.3.3	0x80000002	28	RO
OSPF 1/5	0.0.20.208	12.128.1.122	12.128.1.122	0x80000124	27	RO

### System response and side effects

### Example 2

#### Command

```
BTI7000:sw1# show ospf database detail
```

```
If-name: OSPF 1/5
Area Id: 0.0.20.208
```

Database Type: router  
Link State: 10.128.3.3  
Router Id: 10.128.3.3  
Sequence Number: 0x80000003  
Age:734  
Checksum: 0x2028  
Advertisement:

If-name: OSPF 1/5  
Area Id: 0.0.20.208  
Database Type: router  
Link State: 12.128.1.122  
Router Id: 12.128.1.122  
Sequence Number: 0x80000124  
Age:768  
Checksum: 0x634a  
Advertisement:

## **System response and side effects**

## **Related Commands**

## show ospf neighbor

This command displays information about OSPF neighbors.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode, Global Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

**show ospf neighbor [detail]**

Parameter	Description	Range	Default Value
detail	Displays all of the details about the OSPF database.	NA	NA

### Example 1

#### Command

```
BTI7000:sw1# show ospf neighbor
```

#### System response and side effects

```

If-name      IP Addr      Router Id    Options    Priority State
-----
OSPF 1/1/1   12.128.1.122 12.128.1.122 66         1 full

```

```
BTI7000# show ospf neighbor detail
```

```

If-name: OSPF 1/1/1
Ip Address: 12.128.1.122
Router Id: 12.128.1.122
Options: 66
Priority: 1
State: full
Events: 5
Retransmit QLength: 0
Neighbor Status: 1
Permanance: permanent
Hello Suppressed: yes

```

## Related Commands

None.

## show ospf interface

This command displays information about the OSPF interfaces. The command takes an optional identifier to display information about a specific OSPF interface. If the argument is not specified, then all OSPF interfaces are displayed.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode, Global Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

**show ospf interface** [**mgmteth|gcc** <interface-type> <interface-id>]

Parameter	Description	Range	Default Value
<i>interface_type</i>	Interface type (currently only tenGigabitEthernet interfaces are supported)	See 1.12, “Interfaces”	Not available
<i>Interface-id</i>	Interface identifier	See 1.12, “Interfaces”	Not available

### Example 1

#### Command

```
BTI7000:sw1# show ospf interface
```

#### System response and side effects

```
BTI7000# show ospf interface
```

if-name	State	Pri	Transmit	ReTransmit	Hello	Int	Dead	Int	Cost
-----	-----	---	-----	-----	-----	-----	-----	-----	-----
GCC 1/1/1	IS, AINS&UEQ&SGEO	1	1	5	10	40	10		
Mgmteth	IS, AINS	1	1	5	10	40	10		

### Related Commands



## show profile bandwidth [<name>]

This command displays the configured bandwidth profiles.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode, Global Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

**show profile bandwidth** [<name>]

Parameter	Description	Range	Default Value
<i>name</i>	is the name of the profile.	1 to 32 alphanumeric characters	not applicable

### Example

#### Command

```
show profile bandwidth percosbw1
```

#### System response and side effects

```
Profile Name: percosbw1
```

```
Meter
```

```
  Mode   : Two-rate TCM, Color Blind
  CIR    : 2048 Kbps
  CBS    : 4 Kbytes
  EIR    : 50176 Kbps
  EBS    : 4 Kbytes
```

**Note** The output is displayed in Kbps, regardless of what units were used to specify the values using the `config profile bandwidth` command.

### Related Commands

None

## show profile dscp-phb [<name>]

This command displays the configured DSCP PHB profiles.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode, Global Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

**show profile dscp-phb** [<name>]

Parameter	Description	Range	Default Value
<i>name</i>	is the name of the profile.	1 to 32 alphanumeric characters	not applicable

### Example

#### Command

```
show profile dscp-phb
```

#### System response and side effects

DSCP Per Hop Behavior Profile

Profile Name	Class Selector							Best	Asrd Fwd				Expd
	1	2	3	4	5	6	7	Effort	1	2	3	4	Fwd
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
DEFAULT_DSCP_PHB_PROFILE	0	2	3	4	5	6	7	1	2	3	4	5	6
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

### Related Commands

None

## show profile l2control

This command displays the configured L2 Control profiles.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode, and Global Configuration Mode

### Input Syntax

**show profile l2control** [*<profile-name>*]

Parameter	Description	Range	Default Value
<i>profile-name</i>	The name of the profile to display.	1 to 32 alphanumeric characters	Not applicable

### Guideline

LLDP is disabled by default on UNI ports, and packets are discarded. When a UNI port is part of an EPLINE service, LLDP packets appearing on that port are tunneled.

### Example

BTI7000(config)# **show profile l2control**

Profile Name	Dot1x	GMRP	GVRP	LACP	STP
LLDP					
-----	-----	-----	-----	-----	-----
DEFAULT_CEP_PROFILE	peer	discard	discard	peer	discard
discard					
DEFAULT_CNP_PROFILE	peer	tunnel	tunnel	peer	tunnel
tunnel					
DEFAULT_UNI_PROFILE	peer	discard	discard	peer	discard
discard					
DEFAULT_EPLAN_PROFILE	discard	tunnel	tunnel	discard	tunnel
discard					
DEFAULT_EPLINE_PROFILE	tunnel	tunnel	tunnel	tunnel	tunnel
tunnel					
DEFAULT_EVP_ALL_PROFILE	discard	discard	discard	discard	discard
discard					
DEFAULT_EVP_UNI_LAG_PROFILE	peer	discard	discard	peer	discard
discard					
-----	-----	-----	-----	-----	-----
-----					

BTI7000(config)#

### **Related Commands**

None

## show profile pcp-encoding-decoding [<name>]

This command displays the configured Priority Code Point (PCP) Encoding/Decoding profiles.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode, Global Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

**show profile pcp-encoding-decoding** [*<name>*]

Parameter	Description	Range	Default Value
<i>name</i>	is the name of the profile	1 to 32 alphanumeric characters	not applicable

### Example

#### Command

```
show profile pcp-encoding-decoding
```

#### System response and side effects

PCP Encoding Table

-----

Encoding	0	1	2	3	4	5	6	7
-----	---	---	---	---	---	---	---	---
DEFAULT_5P3D_PROFILE	1	1	3	3	5	5	6	7
DEFAULT_6P2D_PROFILE	0	1	3	3	5	5	6	7
DEFAULT_7P1D_PROFILE	0	1	2	3	5	5	6	7
DEFAULT_8P0D_PROFILE	0	1	2	3	4	5	6	7

PCP Encoding Drop Eligible Table

-----

Drop Eligible	0DE	1DE	2DE	3DE	4DE	5DE	6DE	7DE
-----	---	---	---	---	---	---	---	---
DEFAULT_5P3D_PROFILE	0	0	2	2	4	4	6	7
DEFAULT_6P2D_PROFILE	0	1	2	2	4	4	6	7
DEFAULT_7P1D_PROFILE	0	1	2	3	4	4	6	7

## Show commands

---

DEFAULT_8P0D_PROFILE	0	1	2	3	4	5	6	7
----------------------	---	---	---	---	---	---	---	---

### PCP Decoding Table

-----

PCP	0	1	2	3	4	5	6	7
-----	---	---	---	---	---	---	---	---
DEFAULT_5P3D_PROFILE	0DE	0	2DE	2	4DE	4	6	7
DEFAULT_6P2D_PROFILE	0	1	2DE	2	4DE	4	6	7
DEFAULT_7P1D_PROFILE	0	1	2	3	4DE	4	6	7
DEFAULT_8P0D_PROFILE	0	1	2	3	4	5	6	7

## Related Commands

None

## show profile priority-tc-map [<name>]

This command displays the configured Priority Traffic Class Map profiles.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode, Global Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

**show profile priority-tc-map** [<name>]

Parameter	Description	Range	Default Value
<i>name</i>	is the name of the profile.	1 to 32 alphanumeric characters	not applicable

### Example

#### Command

```
show profile priority-tc-map
```

#### System response and side effects

Priority Traffic Class Profile: tcmap1

	Priority							
Attribute	0	1	2	3	4	5	6	7
-----	---	---	---	---	---	---	---	---
CoS queue	1	0	2	3	4	5	6	7

Priority Traffic Class Profile: tcmap2

	Priority							
Attribute	0	1	2	3	4	5	6	7
-----	---	---	---	---	---	---	---	---
CoS queue	1	0	2	3	4	5	6	7

Priority Traffic Class Profile: tcmap3

	Priority							
Attribute	0	1	2	3	4	5	6	7

```
-----
CoS queue      1  0  2  3  4  5  6  7
```

Priority Traffic Class Profile: tcm4p4

```

              Priority
Attribute      0  1  2  3  4  5  6  7
-----
CoS queue      1  0  2  3  4  5  6  7
```

Priority Traffic Class Profile: tcm4p5

```

              Priority
Attribute      0  1  2  3  4  5  6  7
-----
CoS queue      1  0  2  3  4  5  6  7
```

Priority Traffic Class Profile: DEFAULT\_PRIORITY\_TC\_MAP\_PROFILE

```

              Priority
Attribute      0  1  2  3  4  5  6  7
-----
CoS queue      1  0  2  3  4  5  6  7
```

## Related Commands

None



## show profile scheduler [<name>]

This command displays the configured Scheduler profiles.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode, Global Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

**show profile scheduler [<name>]**

Parameter	Description	Range	Default Value
<i>name</i>	is the name of the profile.	1 to 32 alphanumeric characters	not applicable

### Example

#### Command

```
show profile scheduler
```

#### System response and side effects

Profile Name	Algorithm	0	1	2	3	4	5	6	7
rrschl	rr	1	1	1	1	1	1	1	1
spschl	sp	1	1	1	1	1	1	1	1
drschl	drr	1	1	1	1	1	1	1	1
wrrschl	wrr	1	1	1	1	1	1	1	1
spdrschl	sp+drr	1	1	1	1	1	1	1	1
spwrrschl	sp+wrr	1	1	1	1	1	1	1	1
DEFAULT_SCHEDULER_PROFILE	sp	1	1	1	1	1	1	1	1

### Related Commands

None

## show profile sla-measurement [<name>]

This command displays the configured sla-measurement profiles.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode, Global Configuration Mode

### History

Release	Modification
8.2	The command is introduced.

### Input Syntax

**show profile sla-measurement** [*<name>*]

Parameter	Description	Range	Default Value
<i>name</i>	is the name of the profile.	1 to 32 alphanumeric characters	not applicable

### Example

#### Command

```
show profile sla-measurement MySLA
```

#### System response and side effects

Profile Name	Monitor Period
-----	-----
MySLA	24-hours
Threshold Far End Loss Ratio	1.234
Threshold Near End Loss Ratio	2.123
Threshold Delay Maximum	1
Threshold Delay Average	1
Threshold Delay Variation Maximum	1
Threshold Delay Variation Average	1

**Note** The output is displayed in Kbps, regardless of what units were used to specify the values using the `config profile bandwidth` command.

### Related Commands

None

## show profile tunnel-mac-address

This command displays the configured tunnel MAC address profiles.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode, and Global Configuration Mode

### Input Syntax

```
show profile tunnel-mac-address [<String>]
```

Parameter	Description	Range	Default Value
<i>String</i>	The pre-defined name of the profile.	Not applicable	Not applicable

### Guideline

When LLDP packets are tunneled, those packets are transported with a system-defined destination MAC address of 01-00-0c-cd-cd-d5. To modify the MAC address use the **set profile tunnel-mac-address** command from Global Configuration mode.

### Example

```
BTI7000(config)# show profile tunnel-mac-address
```

```
Tunnel MAC Address Profile: DEFAULT_TMA_PROFILE
Dot1x Tunnel MAC Address:    01-00-0c-cd-cd-d3
GMRP Tunnel MAC Address:    01-00-0c-cd-cd-d2
GVRP Tunnel MAC Address:    01-00-0c-cd-cd-d1
LACP Tunnel MAC Address:    01-00-0c-cd-cd-d4
STP Tunnel MAC Address:     01-00-0c-cd-cd-d0
LLDP Tunnel MAC Address:    01-00-0c-cd-cd-d5
```

```
BTI7000(config)#
```

### Related Commands

None

## show protocols

This command displays the state of the protocols for the virtual switch.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode, Global Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

**show protocols**

### Example

#### Command

```
BTI7000# show protocols
```

#### System response and side effects

```
BTI7000> show protocols
```

VS	MSTP	GVRP	LACP	802.1x	
8	enabled	enabled	enabled	disabled	
	802.1ag	Y.1731	CCM_OFLD	ERPS	SLA-Measurement
	disabled	enabled	disabled	enabled	disabled

The output shows which protocols have been enabled or disabled, either explicitly by the “[protocol {enable | disable}](#)” command, or implicitly through their default settings.

### Related Commands

**protocol {enable | disable}**

## show route

When the show route command is entered, the routing table is displayed for management traffic only. The command takes an optional identifier to display the routing table information about a specific protocol. If the argument is not specified, then all routes are displayed.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode, Global Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

```
show route [<ip-addr>|protocol {connected|static|ospf}] [detail]
```

### Example 1

#### Command

```
BTI7000:sw1# show route
```

#### System response and side effects

IP Address/Prefix	Admin		Next Hop	Protocol	Type	Age	PR
	Dist	Cost					
0.0.0.0/0	0	0	10.1.1.1	other	indirect	00:00:00	Y
10.0.0.0/8	0	0	IP-NMS	connected	direct	00:00:00	Y
127.0.0.0/8	0	0	IP-LOOPBACK	connected	direct	00:00:00	Y
192.168.17.0/24	0	0	IP-CRAFT	connected	direct	00:00:00	Y
224.0.0.0/24	0	0	127.0.0.1	other	indirect	00:00:00	Y

```
BTI7000# show route protocol ospf detail
```

```
Routing Entry for 10.128.0.0 (mask 255.128.0.0)
  via IP-NMS
  Routing type is direct
  Protocol is ospf
  Preferred Route is no
  Age is 00:47:09
  Route Cost is 10
  Administrative Distance is 110
```

```
Routing Entry for 12.0.0.0 (mask 255.0.0.0)
```

```
via IP-1/1/1
Routing type is indirect
Protocol is ospf
Preferred Route is yes
Age is 00:46:59
Route Cost is 20
Administrative Distance is 110
```

Routing Entry for 12.128.1.122 (mask 255.255.255.255)

```
via IP-1/1/1
Routing type is direct
Protocol is ospf
Preferred Route is no
Age is 00:46:59
Route Cost is 10
Administrative Distance is 110
```

## Related Commands

## show running-config

This command shows the configuration of the system in CLI command format. Only configuration parameters that have a value other than the default are displayed. To include all parameters in the output, add the **[include-defaults]** option.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode, Global Configuration Mode

### Input Syntax

```
show running-config [include-defaults]
```

### Example

```
show running-config
```

### System response and side effects

```
clock daylight enable
clock timezone USAEASTERN
!

snmp community public access READ
snmp community private access WRITE

!
system
  ains-timer-default 08:00
  contact UNKNOWN
  ne-id 0
  ne-name BTI7000
  site-id 0
  site-name ABC
  exit
!
equipment 1 pec BT7A50AA
  admin-state enable
  exit
!
equipment 1/1 pec BT7A81AA
  admin-state enable
  exit
!
equipment 1/5 pec BT7A50AA
  admin-state enable
  exit
```

```

!
equipment 11 pec BT7A50AA
    admin-state enable
    exit
!
equipment 11/1 pec BT7A81AA
    admin-state enable
    exit
!
interface crafteth
% Not owner
!
interface mgmteth
    no shutdown
    ip 10.0.0.1/8
    exit
!
profile l2control lldp
    dot1x tunnel
    gmrp tunnel
    gvrp tunnel
    lacp tunnel
    lldp tunnel
    stp tunnel
    exit
!
profile l2control DEFAULT_CEP_PROFILE
    dot1x peer
    gmrp discard
    gvrp discard
    lacp peer
    lldp discard
    stp peer
    exit
!
profile l2control DEFAULT_CNP_PROFILE
    dot1x peer
    gmrp tunnel
    gvrp tunnel
    lacp peer
    lldp discard
    stp tunnel
    exit
!
profile l2control DEFAULT_UNI_PROFILE
    dot1x peer
    gmrp discard
    gvrp discard
    lacp peer
    lldp discard
    stp discard

```



```
    exit
!
profile l2control DEFAULT_EPLAN_PROFILE
    dot1x discard
    gmrp tunnel
    gvrp tunnel
    lacp discard
    lldp discard
    stp tunnel
    exit
!
profile l2control DEFAULT_EPLINE_PROFILE
    dot1x tunnel
    gmrp tunnel
    gvrp tunnel
    lacp tunnel
    lldp tunnel
    stp tunnel
    exit
!
profile l2control DEFAULT_EVP_ALL_PROFILE
    dot1x discard
    gmrp discard
    gvrp discard
    lacp discard
    lldp discard
    stp discard
    exit
!
profile priority-tc-map "DEFAULT_PRIORITY_TC_MAP_PROFILE"
    exit
!
profile scheduler "DEFAULT_SCHEDULER_PROFILE" algorithm sp
    exit
!
profile tunnel-mac-address DEFAULT_TMA_PROFILE
    dot1x 01-00-0c-cd-cd-d3
    gmrp 01-00-0c-cd-cd-d2
    gvrp 01-00-0c-cd-cd-d1
    lacp 01-00-0c-cd-cd-d4
    lldp 01-00-0c-cd-cd-d5
    stp 01-00-0c-cd-cd-d0
    exit
!
auth-service priority disabled
!

!
!-----
```

BTI7000#

## Related Commands

None

## show service-policy [<name>]

This command displays information about the configured service policies.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode, Global Configuration Mode

### Input Syntax

**show service-policy** [<name>]

Parameter	Description	Range	Default Value
<i>name</i>	The name of the service policy.	1 to 32 alphanumeric characters	Not applicable

### Example

```
show service-policy Policy1
```

```
Service-Policy Name: Policy1
```

```
class-map Profile Name
```

```
Bandwidth Profile Name
```

```
-----  
matchip
```

```
-----  
percobswl
```

### Related Commands

none

## show snmp community

---

This command displays configured Simple Network Management Protocol (SNMP) community strings.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode, Global Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

```
show snmp community
```

### Example

#### Command

```
show snmp community
```

#### System response and side effects

```
BTI7000> show snmp community
Community String      Access
-----
                private  WRITE
                public   READ
```

### Related Commands

```
snmp community
```

## show snmp trap

This command displays configured Simple Network Management Protocol (SNMP) traps.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode, Global Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

```
show snmp trap
```

### Example

#### Command

```
show snmp trap
```

#### System response and side effects

Receiver Id	IP Address	Community String	Version	Port	Notify Type
receiver1	10.10.10.10	public	V2C	162	Inform

### Related Commands

```
snmp trap
```

## show spanning-tree mst

This command displays information about Multiple Spanning Tree (MST) protocol. This command takes an optional identifier to display information about a specific switchport. If the argument is not specified, then two potential displays show.

In Switchport Configuration mode, only the specific switchport defined by that mode is displayed. In modes other than Switchport Configuration, all switchports on the selected virtual switch are displayed. If a virtual switch is not selected, all virtual switches are displayed. The show command can be filtered on the following criteria: configuration, detail, and switchport.

The packetVX spanning-tree PM combines CIST and MSTP BPDU statistics on the interface, as described in the IEEE standard 802.1Q 2005, section 14.6 "Encoding and decoding of STP Configuration, RST and MST BPDUs."

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode, Global Configuration Mode, Switchport Configuration Mode

### Input Syntax

```
show spanning-tree mst {configuration|detail|switchport<interface-  
type>[<interface-id>][detail]}
```

```
show spanning-tree mst <instance-id>[{detail|switchport <interface-  
type>[<interface-id>][detail]}]
```

Command Option	Description
<b>configuration</b>	shows a table of MSTP instance to VLAN mappings.
<b>detail</b>	shows all MSTP parameters. If you do not specify detail, it will not display everything.
<b>switchport</b>	shows MSTP information for a specific switchport.

Parameter	Description	Range	Default Value
<i>instance-id</i>	is the spanning tree instance identification number.	1 to 16	not applicable
<i>interface-type</i>	is the interface type.	See 1.12, "Interfaces"	not applicable
<i>interface-id</i>	is the interface identifier.	See 1.12, "Interfaces"	not applicable

### Example

#### Command

```
show spanning-tree mst
```

## System response and side effects

```
BTI70007000:sw1(config)# show spanning-tree mst
```

```
Switch: 1, MSTP Instance: 3
```

```
VLANs Mapped: 2047
```

```
Switch: 1, MSTP Instance: 3
```

```
Bridge ID Priority: 32768
```

```
Bridge ID Address: 00:14:d0:30:64:56
```

```
Designated Root: 00:14:d0:30:64:56 : We are the root bridge for this  
MST instance.
```

```
Root Path Cost: 0
```

VS	MSTI	Interface	Role	State	Cost	Priority
1	3	LAG 1	Disabled	Discarding	9900	128
1	3	LAG 4	Disabled	Forwarding	9900	128
1	3	GigE 1/1/3	Disabled	Forwarding	20000	128
1	3	GigE 1/1/5	Disabled	Discarding	20000	128
1	3	GigE 1/1/6	Disabled	Discarding	20000	128
1	3	GigE 1/1/7	Disabled	Discarding	20000	128
1	3	TenGigE 1/1/1	Designated	Forwarding	2000	128
1	3	TenGigE 1/1/2	Disabled	Forwarding	2000	128

```
Switch: 1, MSTP Instance: 4
```

```
VLANs Mapped: 1022-1023,1027,2048-2052
```

```
Switch: 1, MSTP Instance: 4
```

```
Bridge ID Priority: 32768
```

```
Bridge ID Address: 00:14:d0:30:64:56
```

```
Designated Root: 00:14:d0:30:64:56 : We are the root bridge for this  
MST instance.
```

```
Root Path Cost: 0
```

VS	MSTI	Interface	Role	State	Cost	Priority
1	4	LAG 1	Disabled	Discarding	9900	128
1	4	LAG 4	Disabled	Forwarding	9900	128
1	4	GigE 1/1/3	Disabled	Forwarding	20000	128
1	4	GigE 1/1/5	Disabled	Discarding	20000	128
1	4	GigE 1/1/6	Disabled	Discarding	20000	128
1	4	GigE 1/1/7	Disabled	Discarding	20000	128
1	4	TenGigE 1/1/1	Designated	Forwarding	2000	128
1	4	TenGigE 1/1/2	Disabled	Forwarding	2000	128

## Related Commands

None

## show spanning-tree pm

This command displays the MSTP performance monitoring counts.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode, Global Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

```
show spanning-tree pm {mst <instance-id>|cist}[interface <interface-type>
<interface-id>][interval {15-min|24-hour|total|all}[bin{<bin>|current|all}
[monotype <mon-type>]]]
```

Parameter	Description	Range	Default Value
<i>instance-id</i>	is the Spanning Tree Instance identification number.	1 to 64	Not applicable
<i>interface-type</i>	is the interface type.	See <a href="#">1.12, "Interfaces"</a> .	Not applicable
<i>interface-id</i>	is the interface identifier.	See <a href="#">1.12, "Interfaces"</a> .	Not applicable
<i>bin</i>	is the specific interval to show. 0 is the current interval.	0 to 32 for 15-min bins 0 to 1 for 24-hour bins.	0
<i>mon-type</i>	is the performance measurement to display.	rccc tcc nrbc ftc pmc rxbpdu txbpdu cfg-rxbpdu cfg-txbpdu tcn-rxbpdu tcn-txbpdu inv-cfg-rxbpdu inv-tcn-rxbpdu	Not applicable



Parameter	Description	Range	Default Value
		all	

### Example 1

This example shows the topology changes.

#### Command

```
show spanning-tree pm cist interval total
```

#### System response and side effects

```
10.1.200.115:sw1(config)# sh sp pm cist interval total
Bridge: 1 CIST, Interval: Untimed
Current bin
Region Config Change   : 1
Topology Change Count  : 1
New Root Bridge Count   : 0
```

### Example 2

This example shows the BPDU counts.

#### Command

```
show spanning-tree pm cist interface gig 1/1/1
```

#### System response and side effects

```
10.1.200.115:sw1(config)# sh sp pm cist interface gig 1/1/1
      Bridge: 1, Interface: GigE 1/1/1, Interval: 15-min
      Current bin
                Number of FWD Transitions           : 0
                Protocol Migration Count              : 0
                BPDU Received                         : 0
                BPDU Transmitted                     : 0
                BPDU Config Received                 : 0
                BPDU Config Transmitted               : 0
                BPDU Topology Change Notification Received : 0
                BPDU Topology Change Notification Transmitted : 0
                Invalid BPDU Received                 : 0
                Invalid BPDU Config Received           : 0
                Invalid BPDU Topology Change Notification Received : 0
```

### Related Commands

## show station-loopback

This command displays the station-loopback instances and statistics.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode, Global Configuration Mode

### Input Syntax

**show station-loopback** [**statistics**]

### Example

The following lists the station-loopback instances:

```
BTI7000# show station-loopback
```

```
virtual switch id : 1
```

```
station loopback is enabled
```

Instance name	SVLAN Class-map	Status
slb_test1	2000 cvlan200	inactive
slb_test2	2001 cvlan201	active

The following displays the MAC DA and SA of frames that have been looped back. The Last 10 MAC-swapped Frames represent the last 10 frames that have been looped back. The 10 Unique MAC-swapped Frames represent the last 10 frames with distinct MAC DA-SA pairs that have been looped back.

The MAC SWAP CNT (RX) count represents the number of frames the FPGA receives prior to swapping MAC addresses. This generally represents the number of received frames that match the criteria to be looped back. The MAC SWAP CNT (TX) count represents the number of frames the FPGA transmits after swapping MAC addresses. This generally represents the number of frames that are looped back. A mismatch between these values can indicate frame loss due to congestion.

```
BTI7000# show station-loopback statistics
```

```
Virtual Switch: 1
```

MAC Record	:	Enable
MAC SWAP CNT : RX	53	TX 53
:	DA	: SA
:	00:19:6d:01:22:f3	: 00:19:6d:01:24:d2 :
:	00:19:6d:01:22:f3	: 00:19:6d:01:24:d2 :
:	00:19:6d:01:22:f3	: 00:19:6d:01:24:d2 :

```
Last 10      : 00:19:6d:01:22:f3 : 00:19:6d:01:24:d2 :
MAC-swapped  : 00:19:6d:01:22:f3 : 00:19:6d:01:24:d2 :
Frames       : 00:19:6d:01:22:f3 : 00:19:6d:01:24:d2 :
              : 00:19:6d:01:22:f3 : 00:19:6d:01:24:d2 :
              : 00:19:6d:01:22:f3 : 00:19:6d:01:24:d2 :
              : 00:19:6d:01:22:f3 : 00:19:6d:01:24:d2 :
              : 00:19:6d:01:22:f3 : 00:19:6d:01:24:d2 :
-----
              : 00:19:6d:01:22:f3 : 00:19:6d:01:24:d2 :
              : 00:19:6d:01:22:f4 : 00:19:6d:01:46:f4 :
              : 00:00:00:00:00:00 : 00:00:00:00:00:00 :
10 Unique    : 00:00:00:00:00:00 : 00:00:00:00:00:00 :
MAC-swapped  : 00:00:00:00:00:00 : 00:00:00:00:00:00 :
Frames       : 00:00:00:00:00:00 : 00:00:00:00:00:00 :
              : 00:00:00:00:00:00 : 00:00:00:00:00:00 :
              : 00:00:00:00:00:00 : 00:00:00:00:00:00 :
              : 00:00:00:00:00:00 : 00:00:00:00:00:00 :
              : 00:00:00:00:00:00 : 00:00:00:00:00:00 :
-----
```

## Related Commands

station-loopback

clear station-loopback statistics

## show switchports

This command displays information about switchports that are configured on interfaces. This command takes an optional identifier to display information about a specific interface. If the argument is not specified, then all switchports on the selected virtual switch are displayed. If a virtual switch is not selected, then all switchports on all virtual switches are displayed.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode, Global Configuration Mode, Interface Configuration Modes

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

**show switchports** [*<interface-type>* *<interface-id>*][**brief**]

Parameter	Description	Range	Default Value
<i>interface-type</i>	is the interface type	See 1.12, “Interfaces”.	not applicable
<i>interface-id</i>	is the interface identifier	See 1.12, “Interfaces”.	not applicable

### Example 1

#### Command

```
show switchports brief
```

### System response and side effects

VS	Switchport name	Switchport Oper	Switchport Admin	S-PVID	Port-Type
1	GigE 1/1/1	down	enabled	4094	UNI(Multi EService)
1	GigE 1/1/2	up	enabled	4094	UNI(Multi EService)
1	GigE 1/1/3	down	enabled	4094	UNI(Multi EService)
1	GigE 1/1/11	up	enabled	1	PNP
1	TenGigE 1/1/1	down	enabled	1	NNI
1	TenGigE 1/1/2	down	enabled	1	NNI

## Example 2

### Command

```
show switchports gig 1/1/1
```

### System response and side effects

```
Switchport GigE 1/1/1:  
  Admin Status is enabled  
  Port type is UNI  
  Rate limiting is disabled  
  Ingress filtering is disabled  
  PVID is 1  
  Acceptable Frame Type is all  
  Default Priority is 0
```

### Related Commands

None

## show system

---

This command displays the global system parameters.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode, Global Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

**show system**

### Example

#### Command

```
show system
```

#### System response and side effects

```
Vendor           : BTI           Model           : BTI 7060
NE Type          : WDM           SW Version      : 7.3.1 MAIN 29
NE Name          : &            NE Id           : 0
Site Name        : BTI           Site Id        : 0
Gateway          : 0.0.0.0        Active Gateway :
Sec Gateway      : UNASSIGNED     Spanning Tree  : enabled
Auto Provision   : IS-AINS        Deprov Timer   : 00:00
Time             : 09:21:13 2008-10-14 Time Zone     : USAEASTERN
Uptime           : 3 days, 18:6:46 Daylight Savings: enabled
AINS Timer       : 08:00
```

### Related Commands

None

# show throughput

This command displays the SLA measurement for throughput.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

## Mode

Global Configuration Mode

## History

Release	Modification
8.2	The command is introduced.

## Input Syntax

**show throughput**

## Example

### Command

show throughput

### System response and side effects

```

VS          E-Service          UNI          rMepId  test    init state/
                                     role      resp state

-----
--
1  Service1          GigE 1/1/10  5307    initiator ready

bandwidthProfileName: BWProfile1
servicePolicyName: ServicePolicy1
classMapName: ClassMap1
initiatorSVlanPriority: 1
CIRrate test result:    fail
N      frameSize      Far-End (Mbps)      Near-End (Mbps)
-----
1          2000          0.96          0.96
2          3000          0.96          0.96
3          4000          0.95          0.95
4          5000          0.97          0.97
5          6000          0.98          0.98
6          7000          0.95          0.95

```

**Note** The throughput is displayed in Kbps, regardless of what units were used to specify the values using the `config profile bandwidth` command.

### Related Commands

None



## show throughput [rmep <id>]

This command displays the throughput for the specified remote MEP.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

UNI Eservice Configuration Mode

### History

Release	Modification
8.2	The command is introduced.

### Input Syntax

**show throughput [rmep<id>]**

Parameter	Description	Range	Default Value
<i>id</i>	is the id of the remote MEP.	1 to 8191	not applicable

### Example

#### Command

```
show throughput rmep 5307
```

#### System response and side effects

```
VS      E-Service      UNI      rMepId  test    init state/
                                role    resp state

--  -----
--
1  Service1      GigE 1/1/10  5307  initiator ready

bandwidthProfileName:
servicePolicyName:
classMapName:
initiatorSVlanPriority: 0
CIRrate test result:    fail

N      frameSize      Far-End (Mbps)      Near-End (Mbps)
----  -
1      96              0                    0
2      0               0                    0
3      0               0                    0
4      0               0                    0
```

Show commands

---

5	0	0	0
6	0	0	0

**Note** The throughput put is displayed in Kbps, regardless of what units were used to specify the values using the `config profile bandwidth` command.

## Related Commands

None

## show transponder

This command displays information about all transponders on the shelf, or information about a particular transponder if a particular transponder is specified.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode, Global Configuration Mode

### Input Syntax

```
show transponder [ <location> [ brief ] ]
```

Parameter	Description	Range	Default Value
<i>location</i>	The location <shelf/slot> of the specific transponder to be displayed. This parameter is optional. If this parameter is not specified, all transponders are displayed.	shelf = 1, 11, 21, 31 slot = 1 to 20	Not applicable

Command Option	Description
<b>brief</b>	Shows the state information of the specified transponder.

### Example 1

The following example shows all transponders on the shelf.

```
BTI7000# show transponder
```

```
TPR-1/1
```

```
-----
```

```
State                               : IS-NR
```

```
Cross-Connect Table
```

Source intf	Destination intf	Type
TPR-1/1/1	TPR-1/1/2	two-way
TPR-1/1/3	TPR-1/1/4	two-way

```
TPR-1/2
```

```
-----
```

```
State                               : IS-NR
```

## Cross-Connect Table

Source intf	Destination intf	Type
-----	-----	-----
TPR-1/2/1	TPR-1/2/2	two-way
TPR-1/2/3	TPR-1/2/4	two-way

TPR-1/13

-----

State : OOS-AU,AINS&amp;UEQ

## Protection Table

Working intf	Protecting intf	Group Id	PSDirn
-----	-----	-----	-----
TPR-1/13/1	TPR-1/13/3	PG13	BI

**Example 2**

The following example shows the state information for a specific transponder.

BTI7000# **show transponder 1/2 brief**

TPR-1/2

-----

State : IS-NR

**Related Commands**

None

---

## show transponder cross-connects

---

This command displays information about all transponder cross-connects on the shelf.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode, Global Configuration Mode

### Input Syntax

**show transponder cross-connects**

### Example

The following example shows a response for a shelf with four transponder cross-connects.

```
BTI7000# show transponder cross-connects
```

```
Cross-Connect Table
Source intf      Destination intf  Type
-----
TPR-1/1/1        TPR-1/1/2        two-way
TPR-1/1/3        TPR-1/1/4        two-way
TPR-1/2/1        TPR-1/2/2        two-way
TPR-1/2/3        TPR-1/2/4        two-way
```

### Related Commands

cross-connect

## show transponder interface

This command displays information about all transponder interfaces on the shelf, or information about a particular interface if a particular interface is specified.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode, Global Configuration Mode

### Input Syntax

```
show transponder interface [ [ <interface-id> | brief ]
```

Parameter	Description	Range	Default Value
<i>interface-id</i>	The interface identifier <i>&lt;shelf/slot/interface&gt;</i> of the interface to be displayed. This parameter is optional. If this parameter is not specified, all transponder interfaces are displayed.	See 1.12, “Interfaces”.	Not applicable

Command Option	Description
<b>brief</b>	Shows a summary of the transponder interfaces.

### Example 1

The following example shows a summary of all transponder interfaces on the shelf:

```
BTI7000# show transponder interface brief
```

Transceiver port	State	Laser status	Protocol	Wavelength
TPR-1/1/1	IS-NR	On	OTU2eEFEC	1559.79
TPR-1/1/2	IS-NR	On	10GELAN	1310
TPR-1/1/3	IS-NR	On	OTU2eEFEC	1558.98
TPR-1/1/4	IS-NR	On	10GELAN	1310
TPR-1/2/1	IS-NR	On	OTU2eEFEC	1558.17
TPR-1/2/2	IS-NR	On	10GELAN	1310
TPR-1/2/3	IS-NR	On	OTU2eEFEC	1557.36
TPR-1/2/4	IS-NR	On	10GELAN	1310

## Example 2

The following example shows detailed information for the specified transponder interface:

```
BTI7000# show transponder interface 1/1/2
TPR-1/1/2
-----
State                               : IS-NR
Laser status                         : On
Protocol is                         : 10GELAN
Physical PM Monitoring              : Disabled
Signal Degrade BER Threshold       : Disabled
Wavelength                          : 1310.00 nm
Fault Propagation Shutdown         : ON
Loopback Type                      : Disabled
Transceiver PEC                    : BP3AM4MS
Automatic In-Service Timer         : 08:00 (HH:MM)
Laser control                       : auto
Optical Pwr Recvd. High Thresh:    2.50 dBm
Optical Pwr Recvd. Low  Thresh:   -12.20 dBm
Optical Pwr Xmit High Thresh  :    0.90 dBm
Optical Pwr Xmit Low  Thresh  :   -7.90 dBm
Fiber Type                         : none
ITU-T-Grid                        : none
```

This example does not show all the fields that can appear in the output of this command. Some fields are displayed only if they have been provisioned.

## Related Commands

None

## show transponder interface <interface-id> pm interval

This command displays PM information for the specified transponder interface.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode, Global Configuration Mode

### Input Syntax

```
show transponder interface <interface-id> pm interval { total | 15-min [ bin { all | current | <bin_number>
} ] | 24-hour [ bin { all | current | <bin_number>
} ] }
```

Command	Description
<b>show transponder interface &lt;interface-id&gt; pm interval total</b>	Shows the cumulative untimed PM data since the last reset.
<b>show transponder interface &lt;interface-id&gt; pm interval 15-min</b>	Shows PM data for the default 15-minute bin.
<b>show transponder interface &lt;interface-id&gt; pm interval 15-min bin all</b>	Shows PM data for all historical 15-minute bins.
<b>show transponder interface &lt;interface-id&gt; pm interval 15-min bin current</b>	Shows PM data for the current 15-minute bin.
<b>show transponder interface &lt;interface-id&gt; pm interval 15-min bin &lt;bin_number&gt;</b>	Shows PM data for the indicated 15-minute bin.
<b>show transponder interface &lt;interface-id&gt; pm interval 24-hour</b>	Shows PM data for the default 24-hour bin.
<b>show transponder interface &lt;interface-id&gt; pm interval 24-hour bin all</b>	Shows PM data for all historical 24-hour bins.
<b>show transponder interface &lt;interface-id&gt; pm interval 24-hour bin current</b>	Shows PM data for the current 24-hour bin.
<b>show transponder interface &lt;interface-id&gt; pm interval 24-hour bin &lt;bin_number&gt;</b>	Shows PM data for the indicated 24-hour bin.

Parameter	Description	Range	Default Value
<i>interface-id</i>	The interface identifier <shelf/slot/interface> of the interface to be displayed.	See 1.12, "Interfaces".	Not applicable
<i>bin_number</i>	The bin number (with 0 being the current bin).	0 to 96 for 15-minute bins 0 to 1 for 24-hour bins	0



## Example

The following example shows how to display PM data for the current 15-minute bin:

```
BTI7000# show transponder interface 1/2/1 pm interval 15-min
TPR-1/2/1
Laser Bias Current                15 mA
Optical Power Received            -13.50 dBm
Optical Power Received Minimum    -13.50 dBm
Optical Power Received Maximum    -13.40 dBm
Optical Power Received Average    -13.50 dBm
Optical Power Transmitted         1.50 dBm
Optical Power Transmitted Minimum 1.50 dBm
Optical Power Transmitted Maximum 1.50 dBm
Optical Power Transmitted Average 1.50 dBm
Temperature                       36.10 C
Supply Voltage                    5.00 V
Supply Voltage2                   3.20 V
Count of the Number of Bits Corrected 0
Count of the Number of Bytes Corrected 0
Number of Bits Corrected           0
Number of Bytes Corrected          0
Uncorrectable Codewords            0
Instantaneous BER of Transciever Ports Provisione 0
Average/interval BER of Transciever Ports Provisi 0
OTN Digital Wrapper Errored Blocks 0
OTN Digital Wrapper Background Block Errors 0
OTN Digital Wrapper Errored Seconds 0
OTN Digital Wrapper Severely Errored Seconds 0
OTN Digital Wrapper Unavailable Seconds 0
OTN Digital Wrapper Out of Frame Seconds 0
Frame Checksum Errors              0
Frames Discarded                   0
Total Number of Bytes Received     24
Total Frames Received              0
Broadcast Frames                   0
Multicast Frames                   0
Undersized Frames                  0
Oversized Frames                   0
Fragmented Frames                  0
Jabbers                           0
Total Number of 64 byte Frames Received 0
Total Number of 65 to 127 byte Frames Received 0
Total Number of 128 to 255 byte Frames Received 0
Total Number of 256 to 511 byte Frames Received 0
Total Number of 512 to 1024 byte Frames Received 0
Total Number of 1024 to 1518 byte Frames Received 0
Total Number of over 1518 byte Frames Received 0
```

## Related Commands

None

---

## show transponder protection-groups

---

This command displays the transponder protection groups on the shelf.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode, Global Configuration Mode

### Input Syntax

**show transponder protection groups**

### Example

The following example shows a response for a transponder with a single protection group.

```
BTI7000# show transponder protection-groups
```

Protection Table

Working intf	Protecting intf	Group Id	PSDirn
-----	-----	-----	-----
TPR-1/1/1	TPR-1/1/3	group1	BI

### Related Commands

protection interface, protection group-id

## show transponder <location> thresholds

This command displays the PM thresholds for the specified transponder.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode, Global Configuration Mode

### Input Syntax

**show transponder** <location> **thresholds**

Parameter	Description	Range	Default Value
<i>location</i>	The location <shelf/slot> of the transponder.	Shelf = 1, 11, 21, 31 Slot = 1 to 20	Not applicable

### Example

The following example shows a response for a transponder with two ports.

BTI7000# **show transponder 1/2 thresholds**

Port	Parameter	Threshold	Time Period
----- ----- ----- -----			
TPR-1/2/1	Uncorrectable Codewords	10	15-min
TPR-1/2/1	Frames Discarded	0	15-min
TPR-1/2/1	Frame Checksum Errors	0	15-min
TPR-1/2/1	Undersized Frames	0	15-min
TPR-1/2/1	Oversized Frames	0	15-min
TPR-1/2/1	Fragmented Frames	0	15-min
TPR-1/2/1	Jabbers	0	15-min
TPR-1/2/1	OTN Digital Wrapper Errorred Blocks	0	15-min
TPR-1/2/1	OTN Digital Wrapper Background Blo	382	15-min
TPR-1/2/1	OTN Digital Wrapper Errorred Second	25	15-min
TPR-1/2/1	OTN Digital Wrapper Severely Error	4	15-min
TPR-1/2/1	OTN Digital Wrapper Unavailable Se	10	15-min
TPR-1/2/1	OTN Digital Wrapper Out of Frame S	2	15-min
TPR-1/2/1	Uncorrectable Codewords	100	24-hour
TPR-1/2/1	Frames Discarded	0	24-hour
TPR-1/2/1	Frame Checksum Errors	0	24-hour
TPR-1/2/1	Undersized Frames	0	24-hour
TPR-1/2/1	Oversized Frames	0	24-hour
TPR-1/2/1	Fragmented Frames	0	24-hour
TPR-1/2/1	Jabbers	0	24-hour
TPR-1/2/1	OTN Digital Wrapper Errorred Blocks	0	24-hour
TPR-1/2/1	OTN Digital Wrapper Background Blo	3820	24-hour
TPR-1/2/1	OTN Digital Wrapper Errorred Second	250	24-hour

---

TPR-1/2/1	OTN Digital Wrapper Severely Error	40	24-hour
TPR-1/2/1	OTN Digital Wrapper Unavailable Se	10	24-hour
TPR-1/2/1	OTN Digital Wrapper Out of Frame S	8	24-hour
TPR-1/2/2	Errored Seconds	25	15-min
TPR-1/2/2	Severely Errored Seconds	4	15-min
TPR-1/2/2	Unavailable Seconds	10	15-min
TPR-1/2/2	Invalid Blocks	382	15-min
TPR-1/2/2	Frames Discarded	0	15-min
TPR-1/2/2	Frame Checksum Errors	0	15-min
TPR-1/2/2	Undersized Frames	0	15-min
TPR-1/2/2	Oversized Frames	0	15-min
TPR-1/2/2	Fragmented Frames	0	15-min
TPR-1/2/2	Jabbers	0	15-min
TPR-1/2/2	Errored Seconds	250	24-hour
TPR-1/2/2	Severely Errored Seconds	40	24-hour
TPR-1/2/2	Unavailable Seconds	10	24-hour
TPR-1/2/2	Invalid Blocks	3820	24-hour
TPR-1/2/2	Frames Discarded	0	24-hour
TPR-1/2/2	Frame Checksum Errors	0	24-hour
TPR-1/2/2	Undersized Frames	0	24-hour
TPR-1/2/2	Oversized Frames	0	24-hour
TPR-1/2/2	Fragmented Frames	0	24-hour
TPR-1/2/2	Jabbers	0	24-hour

## Related Commands

threshold

## show unis brief

This command displays the provisioned UNIs.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode, Global Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

**show unis** [*<interface-type>* [*<interface-id>*]] [**brief**]

Parameter	Description	Range	Default Value
<i>interface-type</i>	is the interface type.	1.12, "Interfaces"	not applicable
<i>interface-id</i>	is the interface identifier.	1.12, "Interfaces"	not applicable

### Example 1

#### Command

```
BTI7000# show unis brief
```

#### System response and side effects

VS	Switchport	Switchport		Service-Type	S-PVID	C-PVID	MaxFrame
	name	Oper	Admin				
1	GigE 1/1/1	down	enabled	virtual-multiple	4094	2222	1522
1	GigE 1/1/2	up	enabled	virtual-multiple	4094	0	1522
1	GigE 1/1/3	down	enabled	virtual-multiple	4094	0	1522

### Related Commands

uni <interface-type> <interface-id>

## show uni-eservice

This command displays the UNI-to-Ethernet Service associations.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode, Global Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

**show uni-eservice** [**uni** <interface-type> [<interface-id>]] [**eservice** <service-name>]

Parameter	Description	Range	Default Value
<i>interface-type</i>	is the interface type.	1.12, "Interfaces"	not applicable
<i>interface-id</i>	is the interface identifier.	1.12, "Interfaces"	not applicable
<i>service-name</i>	is the name of the Ethernet service.	1 to 32 alphanumeric character	not applicable

### Example 1

#### Command

```
BTI7000# show uni-eservice
```

#### System response and side effects

```
UNI GigE 1/1/4, Ethernet Service "test"
  Virtual Switch is 1
  MEP-ID is 5871
  Forwarding type is etree-leaf
```

### Example 2

#### Command

```
BTI7000# show uni-eservice brief
```

#### System response and side effects

VS	UNI name	Ethernet Service Name	C-VLANs
1	LAG 1	testevplan1	2000

			2003
1	LAG 1	testevplan2	2001
			2004
1	GigE 1/1/7	testevplan1	2000
			2003
1	GigE 1/1/7	testevplan2	2001
			2004
1	TenGigE 1/1/1	testevplan1	2000
			2003
1	TenGigE 1/1/1	testevplan2	2001
			2004

## Example 2

### Command

```
BTI7000# sh uni-eser uni gig 11/1/1
```

### System response and side effects

```
10.1.200.115:sw2(config)# sh uni-eser uni gig 11/1/1
UNI GigE 11/1/1, Ethernet Service "Evplan_GigE"
  Virtual Switch is 2

  C-VLANs:
    10
  MEP-ID is 4474
  State is active
  Direction is up
  Mac Address is 00-14-d0-00-31-7a
  Auto-generate is yes
  Number of CCM Messages sent is 8346
  Number of CCM Sequence Errors is 0

  MEP ID: 1 (4474)
    Type is local
    Auto-generate is no

  MEP ID: 2 (5705)
    Type is remote
    Auto-generate is no
    Remote state is ok
    Remote MAC Address is 00-14-d0-00-0e-49
    Remote RDI is off
    Remote Switch name is ABC_1
    Remote Port is Gig1/1/1
```

### Related Commands

```
uni <interface-type> <interface-id>
```



## show uni-eservice class-map pm

This command displays per CoS the Performance Monitors for a provisioned UNI Service (EVC).

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode, Global Configuration Mode

### History

Release	Modification
7.3	The command is introduced.

### Input Syntax

```
show uni-eservice uni <interface-type> <interface-id> eservice <service-name>
service-policy {ingress} <policy-name> class-map <class-name> pm
{history {15-min|24-hour}|interval {15-min [bin <bin>]|24-hour [bin <bin>]|
total}|thresholds {15-min|24-hour}}
```

Parameter	Description	Range	Default Value
<i>interface-type</i>	Interface type	1.12, "Interfaces"	not applicable
<i>interface-id</i>	Interface identifier	1.12, "Interfaces"	not applicable
<i>service-name</i>	Name of the Ethernet service	1 to 32 alphanumeric characters	not applicable
<i>policy-name</i>	Name of the service policy	1 to 32 alphanumeric characters	not applicable
<i>class-name</i>	Name of the class-map	1 to 32 alphanumeric characters	not applicable
<i>bin</i>	Specific interval to show. 0 is the current interval	0-32 fir 15-min 0-1 for 24-hour	0

### Example 1

#### Command

```
10.1.200.115:sw2(config)# show uni-eservice uni gig 11/1/1 eservice
Evpline_GigE service-policy ingress policy_1 class-map "Class_Map" pm inter
total
```

### System response and side effects

```
SW: 2, E-Service: Evpline_GigE, UNI GigE 11/1/1, service-policy: Policy_1,
Class-map: Class_Map
```

```
Interval: Untimed, Bin: Current
ingress conform octets      : 0
ingress violate octets (red) : 0
ingress total octets        : 0
ingress BW Util (%)         : 0
```

## Related Commands

uni <interface-type> <interface-id>

## show uni-eservice pm

This command displays the Performance Monitors for a provisioned UNI Service (EVC).

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode, Global Configuration Mode

### History

Release	Modification
7.3	The command is introduced.

### Input Syntax

```
show uni-eservice uni <interface-type> <interface-id> eservice <service-name>
{ingress|egress} pm
{history {15-min|24-hour}|interval {15-min [bin <bin>]|24-hour [bin <bin>]|
total}|thresholds {15-min|24-hour}}
```

Parameter	Description	Range	Default Value
<i>interface-type</i>	is the interface type.	1.12, "Interfaces"	not applicable
<i>interface-id</i>	is the interface identifier.	1.12, "Interfaces"	not applicable
<i>service-name</i>	is the name of the Ethernet service.	1 to 32 alphanumeric character	not applicable
<i>bin</i>	Specific interval to show 0 is the current interval.	0-32 for 15-min 0-1 for 24-hour	0

### Example

#### Command

```
BTI7000# show uni-eservice uni gigabitEthernet 1/1/8 eservice
TestTraffic_EVPLAN ingress pm interval total
```

#### System response and side effects

```
Node-106:sw1(config)# show uni-eservice uni gig 1/1/8 eservice
TestTraffic_EVPLAN ingress pm interval total
```

```
SW: 1, E-Service: TestTraffic_EVPLAN, UNI Gige 1/1/8
Interval: Untimed, Bin: Current
  ingress conform octets      : 151325
  ingress violate octets (red) : 2421
  ingress total octets        : 125313
  ingress BW Util (%)         : 20
```

Node-106:sw1(config)#

### **Related Commands**

uni <interface-type> <interface-id>

## show uni-eservice rmepid pm

This command displays the Performance Monitors for a pairs of service UNIs for an EVC.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode, Global Configuration Mode

### History

Release	Modification
8.2	The command is introduced.

### Input Syntax

```
show uni-eservice uni <interface-type> <interface-id> eservice <service-name>
rmepid <rmepid> pm {history {15-min | 24-hour | interval {total | 15-min {bin
<bin#>} | 24-hour {bin <bin <bin#>}}}}
```

Parameter	Description	Range	Default Value
<i>interface-type</i>	is the interface type.	1.12, "Interfaces"	not applicable
<i>interface-id</i>	is the interface identifier.	1.12, "Interfaces"	not applicable
<i>service-name</i>	is the name of the Ethernet service.	1 to 32 alphanumeric character	not applicable
<i>rmepid</i>	is the remote MEP ID.	1-8191	not applicable
<i>bin</i>	Specific interval to show. 0 is the current interval.	0-32 for 15-min 0-1 for 24-hour	0

### Example

#### Command

```
BTI7000# show uni-eservice uni gigabitEthernet 1/1/10 eservice Service1 rmepid
5307 pm interval total
```

#### System response and side effects

VS	E-Service	UNI	r-MepId
1	Service1	GigE 1/1/10	5307

Interval: Untimed, Bin: Current

```
Near End Frame Loss Ratio      : 1.234 %
Far End Frame Loss Ratio       : 1.234 %
Two way Delay Minimum          : 4 microseconds
```

```
Two way Delay Maximum      : 6 microseconds
Two way Delay Average       : 5 microseconds
Two way Delay Variation Minimum : 1 microseconds
Two way Delay Variation Maximum : 3 microseconds
Two way Delay Variation Average : 2 microseconds
```

## Related Commands

uni <eservice> <service\_name>

## show users

This command displays the list of names of authenticated users and their system access privilege.



### Mode

EXEC Mode, Privileged EXEC Mode, Global Configuration Mode

### Input Syntax

**show users** *<username>*

Parameter	Description	Range	Default Value
<i>username</i>	The name of the authorized system user.	Existing system user.	Not applicable

### Example

BTI7000# **show users**

UserName	Privilege	Timeout	Status
debug	debug	none	IS
luc	superuser	none	IS
mina	superuser	none	IS
pam	superuser	60	IS
pamela	superuser	15	IS
paul	superuser	none	IS
root	superuser	none	IS

BTI7000#

### Related Commands

None

## show users active

---

This command displays a list of local and remotes users currently logged in.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode, Global Configuration Mode

### Input Syntax

**show users active** [ *<username>* ]

Parameter	Description	Range	Default Value
<i>username</i>	The name of the user currently logged in.	Not applicable	Not applicable

### Example

```
Node-106:sw1(config)# show users active
```

Id	UserName	Remote IP	Elapsed Time	Expire In
7	root	172.25.5.130	00:20:17	never
10	root	172.25.5.130	00:00:24	never

### Related Commands

None



---

## show version

---

This command displays software version information.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode, Global Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

`show version`

### Example

#### Command

`show version`

#### System response and side effects

Active load: 7.1.0 MAIN 24

Inactive load: 7.1.0 MAIN 23

### Related Commands

None

## show virtual-switch

This command displays information about a provisioned switch along with any members and takes optional arguments. If a switch\_id parameter is entered, then only that switch is shown.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode, Global Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

**show virtual-switch** [*<switch\_id>*][**all**][**brief**]

Parameter	Description	Range	Default Value
<i>switch_id</i>	is an optional argument that displays information for a specific switch.	1 to 11	not applicable

Command Option	Description
<b>all</b>	Displays information for all virtual switches.
<b>brief</b>	Displays summary information for all virtual switches.

### Example

#### Command

```
show virtual-switch 1
```

#### System response and side effects

```
SwitchId: 1
  Bridge Mode is provider
  Bridge ID is 00:14:d0:30:a4:58
  Aging Time is 300 sec
  MSTP is administratively enabled
  GVRP is administratively enabled
  LACP is administratively enabled
  802.1x is administratively disabled
  802.lag is administratively disabled
  Y.1731 is administratively enabled
```

CCM\_OFFLOAD is administratively disabled  
ERPS is administratively enabled  
SLA Measurement is administratively disabled  
LACP System Priority is 32767  
LACP system-id is 00:14:d0:30:a4:58  
Vlan Propagation mode across ERPS Rings is fast

Tunnel MAC Address Profile: DEFAULT\_TMA\_PROFILE

EVC MEG Name: ABC  
EVC MEG Level: 4  
Switch Name: ABC\_1  
MIP Auto create: enabled  
MIP Auto create MEL: 4  
Primary Member: 1/1  
Time As Primary: 61788 seconds

Members:

Location	Stacking State	Stacking Port Comm State	Backplane Comm State
1/1	unstacked	no connection	no connection

## Related Commands

show switch member

## show virtual-switch cpu-rate-limit

This command displays the CPU rate limiting information for all switches. If a `switch_id` parameter is entered, then only information for that switch is shown.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode, Global Configuration Mode

### Input Syntax

```
show virtual-switch [<switch_id>] cpu-rate-limit [stats [drops|sixty] ]
```

Parameter	Description	Range	Default Value
<i>switch_id</i>	is an optional argument that displays information for a specific switch.	1 to 11	not applicable

Command Option	Description
<b>stats</b>	Displays the CPU rate limiting statistics.
<b>drops</b>	Displays the discarded packet counts.
<b>sixty</b>	Displays the CPU rate limiting statistics for the last sixty seconds.

**Note** If none of the command options is specified, the CPU rate limiting configuration is displayed.

### Example

#### Command

```
show virtual-switch 8 cpu-rate-limit stats sixty
```

#### System response and side effects

CPU Rate Limit Monitors (60sec) for Switch 8 Primary:

Rate								
Queue	Limit	Rx Rate	Rx Total	Discards	High WM (60, lifetime, max)			
0	200	0.00	0	0	0,	0,	128	
1	200	0.00	0	0	0,	0,	128	
2	25	0.50	30	0	0,	1,	128	
3	200	0.07	4	0	0,	1,	128	
4	100	0.53	32	0	0,	2,	128	
5	200	0.00	0	0	0,	0,	128	
6	2400	0.00	0	0	0,	0,	128	

7	2400	0.00	0	0	0,	0,	128
CFA	0	1.10	66	0	0,	2,	2048

### Related Commands

cpu-rate-limit cos-queue

## show vlan

This command displays VLAN information for the selected virtual switch. If a virtual switch is not selected, then all virtual switches are displayed. The show command can be filtered on VLAN.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode, Global Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

`show vlan [all|dynamic|static|summary]`

Command Option	Description
<b>all</b>	Shows the VLAN information for all virtual switches
<b>dynamic</b>	Shows dynamic information for VLAN in the current context
<b>static</b>	Shows static information for VLAN in the current context
<b>summary</b>	Shows the VLAN summary information for all virtual switches

### Example 1

#### Command

```
show vlan
```

#### System response and side effects

```
BTI7000> show vlan
```

VS	VLAN ID	Mac-Learning	MSTP Id	Admin Status	Port(s)
1	1	enable	0	enable	---
1	500	enable	0	enable	GigE 1/1/24 (untagged)
2	1	enable	0	enable	---
3	1	enable	0	enable	---
3	500	enable	0	enable	GigE 11/1/12 (untagged)

## Example 2

### Command

```
show vlan static
```

### System response and side effects

```
BTI7000> show vlan summary
```

```
Switch 1, number of VLANs (static: 2, dynamic: 0)
```

```
Switch 2, number of VLANs (static: 1, dynamic: 0)
```

```
Switch 3, number of VLANs (static: 2, dynamic: 0)
```

### Related Commands

None

## show vlan dynamic [<vlan-id>]

This command displays the dynamic VLAN information for the selected VLAN ID. If a VLAN ID is not selected, all VLAN IDs are displayed.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC mode, Global Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

```
show vlan dynamic[ all [ ascending ] | ascending | <vlan-id> ]
```

Command Option	Description
<b>all</b>	All VLANs for all virtual switches are displayed. The VLANs are sorted by virtual switch first, then by the order of creation of the VLAN.
<b>ascending</b>	All VLANs are displayed in ascending order of VLAN ID.  If the <b>all</b> option is also selected, then the VLANs are sorted by virtual switch first, then by ascending order of VLAN ID.  If the <b>all</b> option is not selected, then the VLANs for the current virtual switch command session are displayed and sorted by ascending order of VLAN ID. If this command is issued outside of a virtual switch command session, then the command is interpreted as if the <b>all</b> option has also been selected.
no option	All VLANs for the current virtual switch command session are displayed by the order of creation of the VLAN. If this command is issued outside of a virtual switch command session, then the command is interpreted as if the <b>all</b> option has been selected.

Parameter	Description	Range	Default Value
<i>vlan-id</i>	The VLAN identifier.  If this command is issued within a virtual switch command session, then	1 to 4094	not applicable



Parameter	Description	Range	Default Value
	the matching VLAN for this virtual switch is displayed.  If this command is issued outside of a virtual switch command session, then all matching VLANs in all virtual switches are displayed.		

## Example

### Command

Here is an example of the command issued outside of a virtual switch command session.

```
show vlan dynamic 1000
```

### System response and side effects

VS	VLAN ID	Status	Creation Time	Port(s)
1	1000	static	12:03:26 2009-06-05	GigE 1/1/1 (untagged) TenGigE 1/1/1 (tagged) TenGigE 1/1/2 (tagged)
2	1000	dynamic	12:15:45 2009-06-05	TenGigE 11/5/1 (tagged)
3	1000	static	12:03:26 2009-06-05	GigE 11/1/1 (untagged) TenGigE 11/1/1 (tagged) GigE 11/1/1 (untagged) TenGigE 11/1/1 (tagged)

### Related Commands

None

## show vlan static [<vlan-id>]

This command displays the static VLAN information for the selected virtual switch. If a virtual switch is not selected, all virtual switches will be displayed.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode, Global Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

**show vlan static** [<vlan-id>]

Parameter	Description	Range	Default Value
<i>vlan-id</i>	is the VLAN identifier. <sup>1</sup>	1 to 4094	not applicable

<sup>1</sup>All VLANS will be displayed if *vlan-id* is not specified.

### Example

#### Command

```
show vlan static 20
```

#### System response and side effects

VS	VLAN ID	Mac-Learning	MSTP Id	Admin Status	Port(s)
1	20	disable	10	enable	---

### Related Commands

None

## 3.0 EXEC mode and Privileged EXEC mode commands

---

This section lists the EXEC Mode and Privileged EXEC Mode commands. Privileged EXEC Mode can be entered from the EXEC Mode by using the command “[enable](#)”.

- “[configure](#)”
- “[disable](#)”
- “[enable](#)”
- “[exit virtual-switch](#)”
- “[logout](#)”
- “[neighbor create](#)”
- “[neighbor delete](#)”
- “[neighbor edit](#)”
- “[password](#)”
- “[ping](#)”
- “[reload](#)”
- “[t11](#)”
- “[virtual-switch](#)”

## configure

---

This command places the user session in the Administration Configuration Mode. In this mode, the user can provision the system. This command is only available in the Privileged EXEC Mode.



### Mode

Privileged EXEC Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

`configure terminal`

### Example

#### Command

`configure terminal`

#### System response and side effects

The user session enters the Global Configuration Mode.

### Related Commands

None

---

## disable

---

This command returns the user to the EXEC Mode.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

`disable`

### Example

#### Command

`disable`

#### System response and side effects

The user session exits the Privileged EXEC Mode.

### Related Commands

None

## enable

---

This command places the user session in the Privileged EXEC Mode.



### Mode

EXEC Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

**enable**

### Example

#### Command

**enable**

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

None

---

## exit virtual-switch

---

This command deselects a virtual switch to be viewed by the CLI.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode, Global Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

`exit virtual-switch`

### Example

#### Command

```
exit virtual-switch
```

#### System response and side effects

The CLI prompt changes to indicate that no virtual switch is selected.

### Related Commands

virtual-switch

## linktrace eservice

This command will display the path trace (hop-to-hop) to a specific remote endpoint (MEP) by sending link-trace messages (LTM) to the remote MEP.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Privileged EXEC Mode, Global Configuration Mode

### History

Release	Modification
7.3	The command is introduced.

### Input Syntax

**linktrace eservice** *<name>* **<source-uni>** *<interface-name>* *<interface-id>* **rmep-id** *<id>*

Parameter	Description	Range	Default Value
<i>name</i>	Name of the Eservice	1 to 32 alphanumeric characters	not applicable
<i>source-uni</i>	Source UNI		not applicable
<i>interface type</i>	Interface type	See <a href="#">1.12, "Interfaces"</a>	not applicable
<i>interface-id</i>	Interface identifier	See <a href="#">1.12, "Interfaces"</a>	not applicable
<i>id</i>	ID of the remote MEP	1 to 8191	not applicable

### Example

#### Command

```
linktrace eservice Ottawa source-uni gigabit 1/1/1 rmep-id 100
```

#### System response and side effects

### Related Commands



---

# logout

---

This command logs the user out of the Command Line Interface session.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

## Mode

EXEC Mode, Privileged EXEC Mode

## History

Release	Modification
7.1	The command is introduced.

## Input Syntax

logout

## Example

### Command

logout

### System response and side effects

Exits the Command Line Interface session.

## Related Commands

None

## loopback eservice

This command sends a loopback message (LBM) to a specific MEP and waits for a reply. A failure is reported if a reply is not seen within 5 seconds.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Privileged EXEC Mode, Global Configuration Mode

### History

Release	Modification
7.3	The command is introduced.

### Input Syntax

```
loopback eservice <name><source-uni><interface-name> <interface-id> rmep-id  
<id> [count <count>]
```

Parameter	Description	Range	Default Value
<i>name</i>	Name of the Eservice	1 to 32 alphanumeric characters	not applicable
<i>source-uni</i>	Source UNI		not applicable
<i>interface type</i>	Interface type	See 1.12, “Interfaces”	not applicable
<i>interface-id</i>	Interface identifier	See 1.12, “Interfaces”	not applicable
<i>id</i>	ID of the remote MEP	1 to 8191	not applicable
<i>count</i>	Number of LBM requests to send and wait for a reply	0 to 2147483647 (0 will send LBM messages forever)	5

### Example

#### Command

```
loopback eservice Ottawa source-uni gigabit 1/1/1 rmep-id 100
```

#### System response and side effects

Success/failure for each LBM sent.

#### Related Commands

## neighbor create

This command enters the IP address of a new Network Element neighbor that the EMS can use to draw a connected network. A maximum of 30 neighbors can be added for each Network Element.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Privileged EXEC Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

**neighbor create** *<neighbor's name>* *<neighbor's IP address>*

Parameter	Description	Range	Default Value
<i>neighbor's name</i>	is the Network Element neighbor's name	not applicable	not applicable
<i>neighbor's IP address</i>	is the Network Element neighbor's IP address	0.0.0.0 to 255.255.255.255	not applicable

### Example

#### Command

```
neighbor create EastCoast 172.26.1.72
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

neighbor edit

neighbor delete

show neighbor

## neighbor delete

---

This command deletes a Network Element's neighbor.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Privileged EXEC Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

**neighbor delete** *<neighbor's name>*

Parameter	Description	Range	Default Value
<i>neighbor's name</i>	is the existing Network Element neighbor's name.	not applicable	not applicable

### Example

#### Command

```
neighbor delete EastCoast
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

neighbor create

neighbor edit

show neighbor

## neighbor edit

This command edits the IP address of a Network Element's neighbor. Only the neighbor's IP address can be modified. To change a neighbor's name, the neighbor must be deleted and the neighbor can be re-entered with a new name.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Privileged EXEC Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

**neighbor edit** *<neighbor's name>* *<neighbor's IP address>*

Parameter	Description	Range	Default Value
<i>neighbor's name</i>	is the existing Network Element neighbor's name.	not applicable	not applicable
<i>neighbor's IP address</i>	is the existing Network Element neighbor's IP address	0.0.0.0 to 255.255.255.255	not applicable

### Example

#### Command

```
neighbor edit EastCoast 10.0.0.1
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

neighbor create

neighbor delete

show neighbor

## password

---

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

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

**password**

Parameter	Description	Range	Default Value
<i>new / old Password</i>	The password identifier that is a confidential code to qualify the authorized system user to access the account specified by the userid.	6 to 10 case-sensitive alphanumeric characters and special characters.	not applicable

### Guideline

- Password restrictions are based on the standards for the CLI (Command Line Interface ) and differ from the password restrictions that are standard for TL1 (Transaction Language 1).
- Although the default password for the system is five characters in length, it is required for security reasons to change the default password to between six and ten characters in length.
- Password identifiers are a combination of alphanumeric (letters A through Z and a through z; numbers 0 through 9) and special characters. All special characters are supported for the password except the following: - = ; : ' " , ?

### Example

#### Command

```
password
```

#### System response and side effects

```
>password
      Old Password:
```

New Password:  
Retype Password:

### **Related Commands**

None

## ping

---

This command sends a ping request from the System Control Processor (SCP) to the specified Internet Protocol (IP) address. Three ping attempts are made and the result of all three attempts is reported.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

**ping** <*ip-addr*>

Parameter	Description	Range	Default Value
<i>ip-addr</i>	is the IP address in dotted notation.	0.0.0.0 to 255.255.255.255	none

### Example

#### Command

```
ping 10.0.0.1
```

#### System response and side effects

```
ping from SCP-1-5 to 10.0.0.1: succeeded
    ping from SCP-1-5 to 10.0.0.1: succeeded
    ping from SCP-1-5 to 10.0.0.1: succeeded
```

### Related Commands

None



# reload

This command restarts a module.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

## Mode

Privileged EXEC Mode

## History

Release	Modification
7.1	The command is introduced.

## Input Syntax

**reload** {**SI** <*shelf*>|<*location*>} {**warm**|**cold**|**power-on**}

Command Option	Description
<b>SI</b>	is the shelf interface module
<b>warm</b>	is a warm restart
<b>cold</b>	is a cold restart
<b>power-on</b>	is a power-on restart (used to restart a module that has been shut down due to temperature)

Parameter	Description	Range	Default Value
<i>shelf</i>	is the shelf identifier that indicates which shelf to restart the shelf interface module. For the shelf interface, shelf 1 is not valid.	11, 21, 31	None
<i>location</i>	is the location of the equipment: <i>shelf</i> for shelf equipment <i>shelf/slot</i> for modules	Shelf = 1, 11,21, 31 Slot = 1 to 6	None

### **Example**

#### **Command**

```
reload 1/1 warm
```

#### **System response and side effects**

The system commences a restart.

#### **Related Commands**

None

## set prompt

This command changes the prompt for the Network Element.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Privileged EXEC Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

**set prompt** *<string>*

Parameter	Description	Range	Default Value
<i>string</i>	The new prompt	1 to 32 alphanumeric characters	Not applicable

## **Example**

### **Command**

```
set prompt NewPrompt
```

### **System response and side effects**

Prompt changes to the new prompt

```
BTI7000> set prompt NewPrompt  
NewPrompt>
```

### **Related Commands**

None

---

## t11

---

This command switches the console to the TL1 interface. You must then log in to TL1 again.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, EXEC Privileged Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

t11

### Example

#### Command

t11

#### System response and side effects

Type 'exit' to return to the CLI mode.

TL1 interface - Type ? for a full list of commands.

BTI7000>

### Related Commands

None

## virtual-switch

---

This command selects a virtual switch to view in the Command Line Interface session.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

**virtual-switch** *<switch\_id>*

Parameter	Description	Range	Default Value
<i>switch_id</i>	is the switch identifier.	1 to 11	not applicable

### Example

#### Command

```
virtual-switch 1
```

#### System response and side effects

The CLI prompt changes to indicate the virtual switch selected.

```
7000:sw1>
```

#### Related Commands

exit virtual-switch

## 4.0 AuthService configuration mode commands

---

This section lists the AuthService configuration mode commands, which are used to configure RADIUS authentication. AuthService configuration mode is entered from the Privileged EXEC mode.

- “key”
- “port”
- “retry”
- “role”
- “show”
- “timeout”

Users (RADIUS clients) are authenticated by an authentication server. When the user attempts to log into the BTI 7000 Series, the system encrypts the password and forwards the username and password to the RADIUS server for authentication.

The RADIUS client supports only authentication and authorization.

## key

---

This command configures the Authentication Service key. The **no** version of the commands restores the default value.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### key

#### Input Syntax

```
[no] key <string>
```

Parameter	Description	Range	Default
key	Authentication key used to encrypt user credentials.	<p>The Key value must be 6-256 case-sensitive alphanumeric characters. The following special characters are supported:</p> <p>! @ # \$ % ^ &amp; * ( ) _ + - = { }   [ ] ' &lt; &gt; / ~ `</p> <p>The following special characters are not supported for TL1: ; , ?</p> <p>The following special characters are not supported for CLI: \ ! " ?</p>	<p>default</p> <p><b>Note</b></p> <p>The key on the client and server must match.</p>

#### Example

```
BTI7000(authServer)# key Ottawa67
BTI7000(authServer)#
```

#### Related Commands

None



## port

This command configures the Authentication Service port. The **no** version of the commands restores the default value.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### port

#### Input Syntax

[no] port <string>

Parameter	Description	Range	Default
port	IP port of the authentication server	Integer between 1 and 65535	1812

#### Example

```
BTI7000(authServer)# port 3084
BTI7000(authServer)#
```

#### Related Commands

None

## retry

---

This command determines the number of attempts an authentication server waits for a response, before sending another request. The **no** version of the command restores the default value.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### key

### Input Syntax

```
[no] retry <string>
```

Parameter	Description	Range	Default
<string>	The number of times a server attempts to reach another server, before sending another request.	1 to 5	1

### Example

```
BTI7000(authServer)# retry 3  
BTI7000(authServer)#
```

### Related Commands

timeout

## role

This command configures the role of the Authentication Server. The **no** version of the command restores the default value. By default, the authentication server is disabled.



### Mode

#### Input Syntax

```
[no] role [disabled|primary|secondary|tertiary]
```

Parameter	Description	Range	Default
disabled	The current role of the server is not defined.	Not applicable	disabled
primary	Sets the server as the primary server.	Not applicable	disabled
secondary	Optional. Sets the server as the secondary server, which the system contacts if the primary server cannot be reached.	Not applicable	disabled
tertiary	Optional. Sets the server as the tertiary server, which the system contacts if the primary and secondary servers cannot be reached.	Not applicable	disabled

### Example

```
BTI7000(authServer)# role primary
BTI7000(authServer)#
```

## show

---

This command displays the current configuration of the RADIUS authentication server.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

### Input Syntax

show

### Example command

```
BTI7000(authServer)# show
```

Server IP Address	Role	Port	Timeout	Retry	Key
10.1.105.13	Primary	1812	10	3	default

```
BTI7000(authServer)#
```

## timeout

This command determines how long the client server waits for a response from the authentication server, before sending another request to the authentication server. The **no** version of the command restores the default value.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### key

### Input Syntax

```
[no] timeout <string>
```

Parameter	Description	Range	Default
<string>	The amount of time, in seconds, that the client server waits for a response from the authentication server.	1 to 10 seconds	5 seconds

### Example

```
BTI7000(authServer)# timeout 10
BTI7000(authServer)#
```

### Related Commands

retry



## 5.0 Equipment configuration mode commands

---

This section lists the Equipment Configuration Mode commands. This mode is entered from the Global Configuration Mode by using the command “[equipment](#)”.

- “[admin-state](#)”
- “[custom-1](#), [custom-2](#), [custom-3](#)”
- “[location](#)”
- “[shelf-powerfeed-a](#)”

## admin-state

---

This command sets the primary state of the equipment to in-service (IS) or out-of-service (OOS). The default state is enabled.



### Mode

Equipment Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

`admin-state {enable|disable}`

### Example

#### Command

```
admin-state disable
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

`show equipment`



## custom-1, custom-2, custom-3

These commands set the custom fields available to users to provide specific operating company information. The **no** form of these commands removes the string.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Equipment Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

[no] **custom-1** <string>

[no] **custom-2** <string>

[no] **custom-3** <string>

Parameter	Description	Range	Default Value
<i>string</i>	is the string that sets the custom field. <sup>1</sup>	1 to 256 alphanumeric characters	not applicable

<sup>1</sup>This parameter is not required for the **no** form of this command.

### Example

#### Command

```
custom-1 "local office Ottawa"
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

show equipment

## location

---

This command allows the user to enter a string that describes the equipment. The **no** form of this command removes the string.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Equipment Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

**[no]** **location** *<string>*

Parameter	Description	Range	Default Value
<i>string</i>	is the string that describes the equipment. <sup>1</sup>	1 to 20 alphanumeric characters	not applicable

<sup>1</sup>This parameter is not required for the **no** form of this command.

### Example

#### Command

```
location "packet service module"
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

show equipment

## shelf-powerfeed-a

This command sets the power feed mode for rail A or rail B. The no form resets the mode back to its default value

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Equipment Configuration Mode

### History

Release	Modification
7.3	The command is introduced.

### Input Syntax

```
[no] shelf-powerfeed-a <mode>
```

```
[no] shelf-powerfeed-b <mode>
```

Parameter	Description	Range	Default Value
<i>mode</i>	Power feed mode	ac, dc, ac/dc, none	dc

### Example

#### Command

```
shelf-powerfeed-a ac
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

```
show equipment
```



## 6.0 Global configuration mode commands

---

This section lists the Global Configuration Mode commands. This mode is entered from the Privileged EXEC Mode by using the command “[configure](#)”.

- “[access-control](#)”
- “[amplifier](#)”
- “[auth-service ipaddress](#)”
- “[auth-service priority](#)”
- “[bridge-mode](#)”
- “[class-map <name> \[type <type>\]](#)”
- “[cfm meg level](#)”
- “[cfm mip autcreate](#)”
- “[cfm pad](#)”
- “[clear amplifier interface <interface-id> pm interval](#)”
- “[clear eservice pm](#)”
- “[clear interfaces](#)”
- “[clear lacp pm](#)”
- “[clear mac-address-table](#)”
- “[clear spanning-tree pm](#)”
- “[clear station-loopback statistics](#)”
- “[clear transponder interface <interface-id> pm interval](#)”
- “[clear uni-eservice uni pm](#)”

- “clear uni-eservice uni class of service”
- “clock daylight”
- “clock set”
- “cpu-rate-limit”
- “clock timezone”
- “c-vlan-map”
- “enni <interface-type> <interface-id>”
- “equipment”
- “erps vlan-propagate”
- “eservice <service-name> [type <service-type>]”
- “exit virtual-switch”
- “interface”
- “interface crafteth”
- “interface gcc”
- “interface mgmteth”
- “interface osceth”
- “lACP admin-state”
- “lACP shutdown”
- “lACP system-priority”
- “line console”
- “mac-address-table aging-time”
- “mac-address-table static”
- “member”
- “mirror cpu ingress”
- “nni <interface-type> <interface-id>”
- “ntp”
- “ospf”
- “profile bandwidth <name>”
- “profile l2control”
- “profile priority-tc-map <name>”
- “profile scheduler ”
- “profile tunnel-mac-address”
- “protocol {enable | disable}”

- “route static”
- “service-policy <name>”
- “set profile tunnel-mac-address”
- “snmp community”
- “snmp trap”
- “spanning-tree <instance-id>”
- “spanning-tree mst configuration”
- “station-loopback {enable | disable}”
- “station-loopback instance-name s-vlan class-map”
- “station-loopback instance-name {start | stop}”
- “station-loopback mac-record {enable | disable}”
- “switchport”
- “system”
- “transponder”
- “tpid {aware | blind}”
- “uni <interface-type> <interface-id>”
- “unset profile tunnel-mac-address”
- “user”
- “virtual-switch”
- “vlan”

## access-control

This command defines an IPv4- or MAC-based access control list for the currently selected switch. The no form of this command removes an IPv4- or MAC-based access control list for the currently selected switch.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Global Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

**[no] access-control {mac|ipv4} deny [source <address>] [dest <address>]**

Command Option	Description
<b>mac</b>	is the Media Access Control (MAC) keyword indicating that the ACL should be MAC address based
<b>ipv4</b>	is the Internet Protocol version 4 (IPv4) keyword indicating that the ACL should be IPv4 address based
<b>deny</b>	is the command option to deny packets with certain address(es) from being forwarded
<b>source</b>	specifies a source address to match
<b>dest</b>	specifies a destination address to match

**Note** When both a source and destination exist, the command treats the list as an AND not an OR.

Parameter	Description	Range	Default Value
<i>address</i>	is the MAC or IPv4 address with an optional network prefix.	Valid MAC or IPv4 address <sup>12</sup>	not applicable

<sup>1</sup>MAC Address Format = aa-aa-aa-aa-aa-aa

<sup>2</sup>IPv4 Format = xxx.xxx.xxx.xxx[/prefix]



**Example****Command**

```
access-control mac deny source 11:22:33:44:55:66 dest aa:bb:cc:dd:ee:ff
```

**System response and side effects**

Returns the Access Control List (ACL) index if successful.

**Related Commands**

```
show access-control
```

## amplifier

---

This command puts the user session into the Amplifier Configuration Mode for the specified amplifier. If the specified amplifier does not exist, it is created. The **no** form of this command removes the amplifier.



### Mode

Global Configuration Mode

### Input Syntax

**amplifier** <location>

Parameter	Description	Range	Default Value
<i>location</i>	The location <shelf/slot> of the amplifier.	Shelf = 1, 11, 21, 31 Slot = 1 to 20	Not applicable

### Example

#### Command

```
amplifier 1/6
```

#### System response and side effects

The user session enters the Amplifier Configuration Mode.

#### Related Commands

None

## auth-service ipaddress

Use this command to configure an authentication service IP address. This command enters the AuthService configuration mode, from which authentication service parameters can be set. The **no** version of this command removes the authentication server IP address.



### Mode

### Input Syntax

```
[no] auth-service ipaddress <ip-addr>
```

Parameter	Description	Range	Default
ip-addr	IP Address of the server	Valid IPv4 address.	Not applicable

### Example

```
BTI7000(config)# auth-service ipaddress 10.1.105.13  
authService created.  
BTI7000(authServer)#
```

## auth-service priority

---

This command sets the priority for the authentication service. By default, priority is set to disabled. The **no** version of this command restores the default value.



### Mode

### Input Syntax

```
[no] auth-service priority {disabled | local | remote}
```

Parameter	Description	Range	Default
priority	Determines how login authentication is checked.	Disabled: The login priority is not configured. Local: Authentication is checked locally. Remote: Authentication is checked using RADIUS.	Disabled

### Example command

```
BTI7000(config)# auth-service priority remote  
BTI7000(config)#
```

## bridge-mode

This command configures the bridge mode of the virtual switch. The **no** and **default** forms of this command set the mode back to its default value of provider.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Global Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

```
[no|default] bridge-mode {customer|provider}
```

Command Option	Description
<b>customer</b>	is the base 802.1Q bridging mode. This mode is not supported.
<b>provider</b>	is the provider bridging mode as defined by the 802.1ad amendment to 802.1Q. Provider is the default value.

### Example

#### Command

```
bridge-mode provider
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

```
show virtual-switch
```

## cfm meg level

---

This command sets the CFM Maintenance Entity Group (MEG) name and MEG level. The MEG name is used as the Unique MEG Code (UMC) in service level CCMs. The MEG level is the level used in service level CCMs.



### Mode

Global Configuration Mode

### Input Syntax

```
cfm meg <name> level <level>
```

Command Option	Description	Range	Default value
<i>name</i>	MEG name, one per virtual switch, used as the UMC in service level CCMs.	1 to 12 alphanumeric characters if padding is disabled.  1 to 6 alphanumeric characters if padding is enabled.	BTI
<i>level</i>	MEG level, one per virtual switch, used as the level in service level CCMs.	2 to 4	4

## Guidelines

- This command can only be used when no Ethernet services are provisioned. Once an Ethernet service is provisioned, the MEG name and MEG level cannot be changed.
- The MEG name and MEG level must be the same for all switches in the network.
- The MEG ID, which is the concatenation of the Unique MEG Code (UMC) and the ITU Carrier Code (ICC), must not exceed 13 alphanumeric characters in length. If it does, then the ICC is truncated (from the end) in service level CCMs to reduce the MEG ID to 13 alphanumeric characters. The ICC is the ME name, configured using the **cfm me** command in Ethernet service configuration mode.
- The MEG level for service level CCMs cannot be the same as the MEG level for link level CCMs in ERPS messages. The MEG level in link level CCM messages is configured by the **meglevel-down** command in ERPS configuration mode.

## **Example**

### **Command**

```
cfm meg BOS level 3
```

### **System response and side effects**

There is no system response if the command is successful.

### **Related Commands**

show virtual-switch

cfm pad

cfm me (Ethernet service configuration mode)



## cfm mip autocreate

This command enables/disables MIP autocreate.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Global Configuration Mode

### History

Release	Modification
7.3	The command is introduced.

### Input Syntax

**cfm mip autocreate enable | disable**

Command Option	Description
<i>enable</i>	Enables MIP autocreation. When an NNI is associated with an Ethernet service, the MIP is created automatically. This is the default setting.
<i>disable</i>	Disables MIP autocreation. When an NNI is associated with an Ethernet service, the MIP is not created automatically.

### Guidelines

- This command can only be used when no Ethernet services are configured. If an Ethernet service is configured, then the MIP autocreate setting cannot be changed.
- The MEG level for the MIP is the same as the MEG level for the MEP, and is configured using the **cfm meg level** command.
- If MIP autocreate is disabled, then you can manually create the MIP using the **cfm mip** command in Ethernet service NNI configuration mode.

### **Example**

#### **Command**

```
cfm mip autocreate enable
```

#### **System response and side effects**

There is no system response if the command is successful.

#### **Related Commands**

```
show virtual-switch
```

```
cfm mip (Ethernet service NNI configuration mode)
```

## cfm pad

This command enables/disables padding for the ICC field in service level CCMs.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Global Configuration Mode

### History

Release	Modification
12.2	The command is introduced.

### Input Syntax

**cfm pad enable | disable**

Command Option	Description
<i>enable</i>	Enables padding. The ME name, used as the ITU Carrier Code (ICC), is padded to 6 bytes in length in service level CCMs. Consequently, the MEG ID, which is the concatenation of the ICC and UMC fields, consists of the ICC padded with nulls to 6 bytes, followed by the UMC. This is the default setting.
<i>disable</i>	Disables padding. The ME name is not padded in service level CCMs. The MEG ID consists of the ICC immediately followed by the UMC.

### Guidelines

- This command can only be used when no Ethernet services are configured. If an Ethernet service is configured, then the pad setting cannot be changed.
- When padding is enabled, the MEG name or UMC cannot exceed 6 bytes in length.
- When padding is disabled, the MEG name or UMC cannot exceed 12 bytes in length.

## **Example**

### **Command**

```
cfm pad disable
```

### **System response and side effects**

There is no system response if the command is successful.

### **Related Commands**

```
show virtual-switch
```

```
cfm meg level
```

```
cfm me (Ethernet service configuration mode)
```

## class-map <name> [type <type>]

This command creates a new class map, and is used to enter the Class-map Configuration mode . The **no** form of this command removes the class-map.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Global Configuration Mode

### Input Syntax

[no] **class-map** <name> [**type** <type>]

Parameter	Description	Range	Default Value
<i>name</i>	The name of the class map.	1 to 32 alphanumeric characters	not applicable
<i>type</i>	The type of class map being provisioned.	ingress-cos egress-cos service-map	not applicable

### Guideline

This parameter is used to only create a new class map.

To edit an existing class map, you specify the existing class map name, omitting the <type> value, for example: **class-map**<name>.

### Example

This example creates a new class map. Once the class map is created and you press **Enter**, you are in the Class-map Configuration mode.

```
class-map Customer1 type ingress-cos
```

### Related Commands

show class-map [<name>]

## clear amplifier interface <interface-id> pm interval

This command clears the amplifier performance monitoring counts for the specified interface.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Privileged EXEC Mode, Global Configuration Mode

### Input Syntax

```
clear amplifier interface <Interface-id> pm interval { total | 15-min [ bin { all | current | <bin_number>
} ] | 24-hour [ bin { all | current | <bin_number>
} ] }
```

Command	Description
<b>clear amplifier interface &lt;interface-id&gt; pm interval total</b>	Clears the cumulative untimed PM data.
<b>clear amplifier interface &lt;interface-id&gt; pm interval 15-min</b>	Clears PM data for the default 15-minute bin.
<b>clear amplifier interface &lt;interface-id&gt; pm interval 15-min bin all</b>	Clears PM data for all historical 15-minute bins.
<b>clear amplifier interface &lt;interface-id&gt; pm interval 15-min bin current</b>	Clears PM data for the current 15-minute bin.
<b>clear amplifier interface &lt;interface-id&gt; pm interval 15-min bin &lt;bin_number&gt;</b>	Clears PM data for the indicated 15-minute bin.
<b>clear amplifier interface &lt;interface-id&gt; pm interval 24-hour</b>	Clears PM data for the default 24-hour bin.
<b>clear amplifier interface &lt;interface-id&gt; pm interval 24-hour bin all</b>	Clears PM data for all historical 24-hour bins.
<b>clear amplifier interface &lt;interface-id&gt; pm interval 24-hour bin current</b>	Clears PM data for the current 24-hour bin.
<b>clear amplifier interface &lt;interface-id&gt; pm interval 24-hour bin &lt;bin_number&gt;</b>	Clears PM data for the indicated 24-hour bin.

Parameter	Description	Range	Default Value
<i>interface-id</i>	The interface identifier <shelf/slot/interface> of the interface to be cleared.	See 1.12, "Interfaces".	Not applicable
<i>bin_number</i>	The bin number (with 0 being the current bin).	0 to 96 for 15-minute bins 0 to 1 for 24-hour bins	0

**Guidelines**

This command is only supported on the LGA, MGA, and MGM amplifiers.

**Example****Command**

```
clear amplifier interface 1/6/1 pm interval total
```

**System response and side effects**

There is no system response if the command is successful.

**Related Commands**

None

## clear eservice pm

This command clears per CoS UNI Eservice performance monitor count(s).

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode, Global Configuration Mode

### History

Release	Modification
7.3	The command is introduced.

### Input Syntax

```
clear eservice<service-name> pm [interval {all [bin_current [<mon-type>]] |
total[<mon-type>] | 15-min [bin { all[ <mon-type>] | current[<mon-type>] |
<bin> [<mon-type>]]}] | 24-hour [bin { all[ <mon-type>] | current[<mon-type>] |
<bin> [<mon-type>]]}]}
```

Parameter	Description	Range	Default Value
<i>service-name</i>	Name of the Eservice	1 to 32 alphanumeric characters	Not applicable
<i>bin</i>	Specific interval to show. 0 is the current interval	0 to 32 for 15-min 0 to 1 for 24-hour	0
<i>mon-type</i>	Performance Monitor to display	TBD	Not applicable

### Example

#### Command

```
clear eservice Ottawa pm interval 15-min bin 1
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands



## clear interfaces

This command clears one, some, or all the performance monitoring (PM) counter bins.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Privileged EXEC Mode, Global Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

```
clear interfaces <interface-type> <interface-id> pm
[ interval { all [bin current [<mon-type>]] |
  total [<mon-type>] |
  15-min [ bin { all [<mon-type>] |
    current [<mon-type>] |
    <bin> [<mon-type>] } ] |
  24-hour [bin { all [<mon-type>] |
    current [<mon-type>] |
    <bin> [<mon-type>] } ]
}
```

Parameter	Description	Range	Default Value
<i>interface-type</i>	is the interface type.	See 1.12, “Interfaces”	not applicable
<i>interface-id</i>	is the interface identifier.	See 1.12, “Interfaces”	not applicable
<i>bin</i>	is the historical bin identifier.	1 to 32 for 15-min 1 for 24-hour	not applicable
<i>montype</i>	is the specific montype to clear.	cv invblk es ses eb-otu bbe-otu ofs-otu es-otu ses-otu numbitscr-otu	not applicable

Parameter	Description	Range	Default Value
		numbytescr-otu	
		uncrcdwr-d-otu	
		bytes-rx	
		bytes-tx	
		pkts-rx	
		pkts-tx	
		bcast	
		mcast	
		rx-64	
		rx-65-127	
		rx-128-255	
		rx-256-511	
		rx-512-1023	
		rx-1024-1518	
		rx-1519+	
		discards	
		fcs-errors	
		undersized	
		oversized	
		fragments	
		pause-tx	
		pause-rxall	

---

### Example 1

#### Command

```
clear interfaces gigabitEthernet 1/1/1 pm interval 15-min bin all rx-64
```

#### System response and side effects

There is no system response if the command is successful.

### Example 2

#### Command

```
clear interfaces gigabitEthernet 1/1/1 pm
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

```
show interfaces
```

## clear lacp pm

This command clears the LACP protocol performance monitoring counts.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode, Global Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

```
clear lacp <lag-id> pm [interval {15-min|24-hour|total|all}][bin {<bin#>|
current|all}][montype <mon-type>]]
```

Parameter	Description	Range	Default Value
<i>lag-id</i>	is the LAG identifier.	See 1.12, “Interfaces”.	Not applicable
<i>bin</i>	is the specific bin interval to show. 0 is the current interval.	0 to 32 for 15-min bins 0 to 1 for 24-hour bins	0
<i>mon-type</i>	is the performance measurement to display.	lacpdu-rx lacpdu-tx mrkpdu-rx mrkpdu-tx mrksppdu-rx mrksppdu-tx inv-lacfr-rx all	Not applicable

### Example

#### Command

```
clear spanning-tree pm mst 1 interface gigabitEthernet 1/1/1
```

#### System response and side effects

There is no system response if the command is successful.

## **Related Commands**

None

---

## clear mac-address-table

---

This command forces a clear of all dynamically learned entries in the MAC address table.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Global Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

`clear mac-address-table`

### Example

#### Command

```
clear mac-address-table
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

`show mac-address-table`

## clear nni pm erps

This command clears the nni performance monitoring (PM) counter bins for erps.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Privileged EXEC Mode, Global Configuration Mode

### History

Release	Modification
7.3	The command is introduced.

### Input Syntax

```
clear interfaces <interface-type> <interface-id> pm erps
[ interval { all [bin current [<mon-type>]] |
  total [<mon-type>] |
  15-min [ bin { all [<mon-type>] |
    current [<mon-type>] |
    <bin> [<mon-type>] } ] |
  24-hour [bin { all [<mon-type>] |
    current [<mon-type>] |
    <bin> [<mon-type>] } ]
}
```

Parameter	Description	Range	Default Value
<i>interface-type</i>	is the interface type.	See 1.12, “Interfaces”	not applicable
<i>interface-id</i>	is the interface identifier.	See 1.12, “Interfaces”	not applicable
<i>bin</i>	is the historical bin identifier.	1 to 32 for 15-min 1 for 24-hour	not applicable
<i>montype</i>	is the specific montype to clear.	cv invblk es ses eb-otu bbe-otu ofs-otu es-otu ses-otu numbitscr-otu	not applicable

Parameter	Description	Range	Default Value
		numbytescr-otu	
		uncrcdwr-d-otu	
		bytes-rx	
		bytes-tx	
		pkts-rx	
		pkts-tx	
		bcast	
		mcast	
		rx-64	
		rx-65-127	
		rx-128-255	
		rx-256-511	
		rx-512-1023	
		rx-1024-1518	
		rx-1519+	
		discards	
		fcs-errors	
		undersized	
		oversized	
		fragments	
		jabbers	
		pause-tx	
		pause-rxall	

### Example 1

#### Command

```
clear nni gigabitEthernet 1/1/11 pm erps interval 15-min bin all rx-64
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

```
show nni erps pm
```

## clear spanning-tree pm

This command clears the MSTP performance monitoring counts.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode, Global Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

```
clear spanning-tree pm {mst <instance-id>|cist} [interface <interface-type>
<interface-id>] [interval {15-min|24-hour|total|all}] [bin{<bin>|current|all}]
[montype <mon-type>]]
```

Parameter	Description	Range	Default Value
<i>instance-id</i>	is the Spanning Tree Instance identifier.	1 to 64	Not applicable
<i>instance-type</i>	is the interface type.	See 1.12, "Interfaces".	Not applicable
<i>interface-id</i>	is the interface identifier.	See 1.12, "Interfaces".	Not applicable
<i>bin</i>	is the specific bin interval to show 0 is the current interval	0 to 32 for 15-min bins 0 to 1 for 24-hour bins	0
<i>mon-type</i>	is the performance measurement to display.	rcc tcc nrbc ftc pmc rxbpdu txbpdu cfg-rxbpdu cfg-txbpdu tcn-rxbpdu tcn-txbpdu inv-rxbpdu inv-cfg-rxbpdu inv-tcn-rxbpdu	Not applicable



Parameter	Description	Range	Default Value
		all	

**Example****Command**

```
clear spanning-tree pm mst 1 interface gigabitEthernet 1/1/1
```

**System response and side effects**

There is no system response if the command is successful.

**Related Commands**

## clear station-loopback statistics

---

This command clears the station loopback statistics and the recorded MAC addresses.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Global Configuration Mode

### Input Syntax

```
clear station-loopback statistics
```

### Example

#### Command

```
BTI7000:sw1(config)# clear station-loopback statistics
```

### System response and side effects

There is no system response if the command is successful.

### Related Commands

```
show station-loopback statistics
```

```
station-loopback mac-record {enable | disable}
```

## clear transponder interface <interface-id> pm interval

This command clears the transponder performance monitoring counts for the specified interface.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Privileged EXEC Mode, Global Configuration Mode

### Input Syntax

```
clear transponder interface <Interface-id> pm interval { total | 15-min [ bin { all | current | <bin_number>
} ] | 24-hour [ bin { all | current | <bin_number>
} ] }
```

Command	Description
<b>clear transponder interface &lt;interface-id&gt; pm interval total</b>	Clears the cumulative untimed PM data.
<b>clear transponder interface &lt;interface-id&gt; pm interval 15-min</b>	Clears PM data for the default 15-minute bin.
<b>clear transponder interface &lt;interface-id&gt; pm interval 15-min bin all</b>	Clears PM data for all historical 15-minute bins.
<b>clear transponder interface &lt;interface-id&gt; pm interval 15-min bin current</b>	Clears PM data for the current 15-minute bin.
<b>clear transponder interface &lt;interface-id&gt; pm interval 15-min bin &lt;bin_number&gt;</b>	Clears PM data for the indicated 15-minute bin.
<b>clear transponder interface &lt;interface-id&gt; pm interval 24-hour</b>	Clears PM data for the default 24-hour bin.
<b>clear transponder interface &lt;interface-id&gt; pm interval 24-hour bin all</b>	Clears PM data for all historical 24-hour bins.
<b>clear transponder interface &lt;interface-id&gt; pm interval 24-hour bin current</b>	Clears PM data for the current 24-hour bin.
<b>clear transponder interface &lt;interface-id&gt; pm interval 24-hour bin &lt;bin_number&gt;</b>	Clears PM data for the indicated 24-hour bin.

Parameter	Description	Range	Default Value
<i>interface-id</i>	The interface identifier <shelf/slot/interface> of the interface to be cleared.	See 1.12, "Interfaces".	Not applicable
<i>bin_number</i>	The bin number (with 0 being the current bin).	0 to 96 for 15-minute bins 0 to 1 for 24-hour bins	0

### **Example**

#### **Command**

```
clear transponder interface 1/13/1 pm interval total
```

#### **System response and side effects**

There is no system response if the command is successful.

#### **Related Commands**

None

## clear uni-eservice uni pm

This command clears the UNI Eservice (EVC) performance monitor count(s).

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode, Global Configuration Mode

### History

Release	Modification
7.3	The command is introduced.

### Input Syntax

```
clear uni-eservice uni <interface-type> <interface-id> eservice <service-name>
service-policy { ingress | egress } pm [ interval { all [bin current [<mon-
type>]] | total [<mon-type>] | 15-min [bin { all [<mon-type>] | current
[<mon-type>] | <bin> [<mon-type>] } ] | 24-hour [bin { all [<mon-type>] |
current [<mon-type>] |<bin> [<mon-type>] } ] } ]
```

Parameter	Description	Range	Default Value
<i>interface type</i>	Interface type.	See 1.12, "Interfaces".	Not applicable
<i>interface-id</i>	Interface identifier.	See 1.12, "Interfaces".	Not applicable
<i>service-name</i>	Name of the Eservice	1 to 32 alphanumeric characters	Not applicable
<i>policy-name</i>	Name of the service policy	1 to 32 alphanumeric characters	Not applicable
<i>bin</i>	Specific interval to show. 0 is the current interval	0 to 32 for 15-min 0 to 1 for 24-hour	0
<i>mon-type</i>	Performance Monitor to display	TBD	Not applicable

### Example

#### Command

```
clear uni-eservice uni gigabitEthernet 1/1/1 eservice Ottawa service-policy
ingress GoldService pm interval 15-min bin 1
```

### System response and side effects

There is no system response if the command is successful.

### Related Commands

## clear uni-eservice uni class of service

This command clears per CoS UNI Eservice performance monitor count(s).

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode, Global Configuration Mode

### Input Syntax

```
clear uni-eservice uni < interface-type> <interface-id> eservice <service-name> service-policy
{ ingress | egress } <policy-name> class-map <class-name> pm [ interval { all [bin current [<mon-
type>]] | total [<mon-type>] |
15-min [bin { all [<mon-type>] | current [<mon-type>] | <bin> [<mon-type>] } ] | 24-hour [bin
{ all [<mon-type>] | current [<mon-type>] | <bin> <mon-type>] } ] } ]
```

Parameter	Description	Range	Default Value
<i>interface type</i>	Interface type.	See 1.12, “Interfaces”.	Not applicable
<i>interface-id</i>	Interface identifier.	See 1.12, “Interfaces”.	Not applicable
<i>service-name</i>	Name of the Eservice	1 to 32 alphanumeric characters	Not applicable
<i>policy-name</i>	Name of the service policy	1 to 32 alphanumeric characters	Not applicable
<i>class-name</i>	Name of the class map	1 to 32 alphanumeric characters	Not applicable
<i>bin</i>	Specific interval to show. 0 is the current interval	0 to 32 for 15-min 0 to 1 for 24-hour	0
<i>mon-type</i>	Performance Monitor to display	TBD	Not applicable

### Example

#### Command

```
clear uni-eservice uni gigabitEthernet 1/1/1 eservice Ottawa service-policy
ingress GoldService pm interval 15-min bin 1
```

### System response and side effects

There is no system response if the command is successful.

### Related Commands

## clear uni-eservice uni rmepid pm

This command clears the UNI Eservice (EVC) performance monitor count(s).

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode, Global Configuration Mode

### History

Release	Modification
8.2	The command is introduced.

### Input Syntax

```
clear uni-eservice uni <interface-type> <interface-id> eservice <service-name>
rmepid <rmepid> pm {history {15-min | 24-hour | interval {total | 15-min {bin
<bin#>} | 24-hour {bin <bin <bin#>}}}}
```

Parameter	Description	Range	Default Value
<i>interface type</i>	Interface type.	See 1.12, "Interfaces".	Not applicable
<i>interface-id</i>	Interface identifier.	See 1.12, "Interfaces".	Not applicable
<i>service-name</i>	Name of the Eservice.	1 to 32 alphanumeric characters	Not applicable
<i>rmepid</i>	is the remote MEP ID.	1-8191	Not applicable
<i>bin</i>	Specific interval to show. 0 is the current interval.	0-32 for 15-min 0-1 for 24-hour	0

### Example

#### Command

```
clear uni-eservice uni gigabitEthernet 1/1/1 eservice Ottawa service-policy
rmepid 100 pm interval 15-min bin 1
```

### System response and side effects

There is no system response if the command is successful.

### Related Commands

## clock daylight

---

This command enables or disables daylight savings.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Global Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

`clock daylight {enable|disable}`

Command Option	Description
<code>enable</code>	initiates daylight savings time
<code>disable</code>	stops daylight savings time

### Example

#### Command

```
clock daylight disable
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

`show system`



## clock set

This command sets the time and optionally the date.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Global Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

```
clock set <time> [DD <month>YYYY] [<timezone>]
```

Parameter	Description	Range	Default Value
<i>time</i>	is the time in the 24-hour format HH-MM-SS.	HH: 0 to 23 MM: 0 to 59 SS: 0 to 59	not applicable
DD	is the day of the month.	1 to 31	not applicable
<i>month</i>	is the month.	January February March April May June July August September October November December	not applicable
YYYY	is the year.	1900 to 9999	not applicable
<i>timezone</i>	is the string value representing the time zone.	See Appendix A in this document.	not applicable

### **Example**

#### **Command**

```
clock set 19-34-00 23 june 2008
```

#### **System response and side effects**

There is no system response if the command is successful.

#### **Related Commands**

```
show clock
```

## clock timezone

This command sets the time zone.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Global Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

**clock timezone** <timezone>

Parameter	Description	Range	Default Value
<i>timezone</i>	is the string value representing the time zone.	See <a href="#">Appendix A, “Time zones”</a> .	not applicable

### Example

#### Command

```
clock timezone USAEASTERN
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

show clock

show system

## cpu-rate-limit

---

This command sets the CPU rate limiting parameters for the virtual switch. The **no** form of the command sets the parameters back to their default values.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Global Configuration Mode

### Input Syntax

**[no] cpu-rate-limit cos-queue** *<Cos-queue>* **pps** *<Cos-pps>*

Parameter	Description	Range	Default Value
<i>Cos-queue</i>	is the class-of-service queue to configure.	0 to 7	not applicable
<i>Cos-pps</i>	is the packets-per-second limit to enforce for the specified class-of-service queue.	1 to 10000 pps	not applicable

### Guidelines

- To set the *<Cos-pps>* of a specific queue back to its default value, use the **no** form of the command with the *<Cos-queue>* specified.
- To set the *<Cos-pps>* for all queues back to their default values, use the **no** form of the command without specifying the queue.

### Example

#### Command

```
cpu-rate-limit cos-queue 5 pps 500
no cpu-rate-limit cos-queue 5
no cpu-rate-limit
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

show virtual-switch cpu-rate-limit

## c-vlan-map

This command enters the CVID-to-SVID mapping mode. If the switchport does not exist, the CLI returns an error. Use the **exit** command to leave this mode. The CLI does not implement a **no** form of this command. This command should be used if you are not using the ESERVICE method of configuration.



### Mode

Global Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

**c-vlan-map switchport** *<interface-type>* *<interface-id>*

Parameter	Description	Range	Default Value
<i>interface-type</i>	is the interface type	See 1.12, "Interfaces".	not applicable
<i>interface-id</i>	is the interface identifier	See 1.12, "Interfaces".	not applicable

### Example

#### Command

```
BTI7000:sw1(config)# c-vlan-map gigabitEthernet 1/2/1
BTI7000:sw1(config-c-vlan-if 1/2/1#
```

#### System response and side effects

Enters the c-vlan mapping mode for an interface, LAG or the specified switchport.

#### Related Commands

show c-vlan-map

## enni <interface-type> <interface-id>

This command enters the E-NNI Configuration mode to provision a switchport for an E-NNI. The E-NNI, switchport, and interface for <interface-type> and <interface-id> are created if they do not exist already. The **no** form of this command removes the E-NNI.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Global Configuration Mode

### History

Release	Modification
13.2	The command is introduced.

### Input Syntax

[no] enni <interface-type> <interface-id>

Parameter	Description	Range	Default Value
<i>interface-type</i>	is the interface type.	1.12, "Interfaces"	not applicable
<i>interface-id</i>	is the interface identifier.	1.12, "Interfaces"	not applicable

### Example

#### Command

```
enni tenGigabitEthernet 1/2/1
```

#### System response and side effects

Creates or enters the ENNI Configuration mode.

#### Related Commands

```
show enni [<interface-type> [<interface-id>]] [brief]
```

## equipment

This command creates or changes provisioning information for a piece of equipment. The **no** form of this command unprovisions the equipment. The PEC type parameter is only required when provisioning a new module. The PEC type parameter is not required to change an existing module or to remove a module. The user session is placed into the Equipment Configuration Mode.



### Mode

Global Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

```
[no] equipment <location> [[name <module_name>] pec <type>]
```

Parameter	Description	Range	Default Value
<i>location</i>	is the location of the equipment:  <i>shelves</i> for shelf equipment <i>shelf/slot</i> is for modules	Shelf = 1, 11, 21, 31 Slot = 1 to 6	not applicable
<i>module_name</i>	is the optional module name.	1 to 20 alphanumeric characters	not applicable
<i>type</i>	is the product equipment code (PEC). <sup>1</sup>	8 to 11 alphanumeric characters	not applicable

<sup>1</sup>Optionally, the specified connector type or channel number can be added to applicable PECs.

### Example

#### Command

```
equipment 1/3 pec BT7A81AA
```

#### System response and side effects

The user session enters the Equipment Configuration Mode.

## **Related Commands**

None



## erps vlan-propagate

This command specifies whether preference is given to faster traffic convergence or more efficient network bandwidth utilization.

To allow for faster traffic convergence upon network link failure (in the order of ERPS convergence times), VLAN membership within the network can be made more liberal, which results in some incoming traffic being transmitted onto both sides of the ring and onto subrings. When a failure occurs, the RPL owner can forward this traffic immediately rather than wait for traffic to be re-routed as new VLAN memberships are propagated. The trade-off to this approach is higher bandwidth utilization under normal conditions due to the additional traffic.

This command allows you to choose whether you want to have a more liberal approach to VLAN membership within the network or a more conservative one.



### Mode

Global Configuration Mode

### Input Syntax

**erps vlan-propagate {fast|slow}**

Command Option	Description
fast	Preference is given to faster convergence times. VLAN membership is more liberal, resulting in some incoming traffic being transmitted onto both sides of the ring and onto subrings. This is the default setting.
slow	Preference is given to more efficient network bandwidth utilization. VLAN membership is more conservative. Convergence times upon failure are slower.

This command can only be issued after you select a virtual switch.

### Example

#### Command

```
BTI7000(config)# virtual-switch 6
BTI7000:sw6(config)# erps vlan-propagate fast
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

None

## **eservice <service-name> [type <service-type>]**

This command configures an Ethernet Service (Eservice). The **no** form of this command deletes the Ethernet service.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Global Configuration Mode

### Input Syntax

**[no] eservice** <service-name> [**type** <service-type>]

Parameter	Description	Range	Default Value
<service-name>	The name of the Ethernet service.	1 to 32 alphanumeric characters	not applicable
<service-type>	The type of Ethernet service.	EPLINE: Ethernet Private Line	not applicable
	<b>Note</b> This argument is required to create a new service, but not to edit an existing one.	EVPLINE: Ethernet Virtual Private Line	
		EPLAN: Ethernet Private LAN	
		EVPLAN: Ethernet Virtual Private LAN	
		ERPS: Ethernet Ring Protection Switching	
		MGMTVLAN: Ethernet Management VLAN	
		EPTREE: Ethernet single root for multiple leaf units	
		EVPTREE: Ethernet multi-root for multiple leaf units	

### Guidelines

**Prerequisite for ERPS Eservice configuration:** To allow the MSTP ring to dynamically re-converge when an MSTI on the node is being converged to ERPS, before you create an ERPS EService, all Eservices on the virtual-switch that are on an MSTI (1 to 16) must be returned to the CIST (instance zero).

### Example

In this example, a new Eservice is created. Once the service is created, the session enters configuration mode for that service.

### Command

```
:sw1(config)# eservice ring1 type evplan  
:sw1(config-eservice)#
```

### **Related Commands**

**show eservice**

## exit virtual-switch

---

This command deselects a virtual switch to be viewed by the CLI.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

EXEC Mode, Privileged EXEC Mode, Global Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

`exit virtual-switch`

### Example

#### Command

```
exit virtual-switch
```

#### System response and side effects

The CLI prompt changes to indicate that no virtual switch is selected.

### Related Commands

virtual-switch

## ht-shutdown

This command manages whether or not a module is automatically shut down when it exceeds the shutdown temperature threshold. By default this command is disabled.



### Mode

Global Configuration Mode

### Input Syntax

```
ht-shutdown {enable | disable}
```

### Guideline

Following are configuration considerations:

- This command applies only to modules that support high temperature shutdown.
- When enabled, a module that exceeds the shutdown threshold temperature automatically shuts down.

### Example

```
BTI7000(config)# ht-shutdown enable  
BTI7000(config)#
```

### Related Commands

```
show system
```

## interface

---

This command enters the Interface Configuration Mode for a specific interface. The interface is created if it does not already exist. The **no** form of this command removes the interface.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Global Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

**interface** <interface-type> <interface-id>

Parameter	Description	Range	Default Value
<i>interface-type</i>	is the interface type	See <a href="#">1.12, “Interfaces”</a> .	not applicable
<i>interface-id</i>	is the interface identifier	See <a href="#">1.12, “Interfaces”</a> .	not applicable

### Example

#### Command

```
interface tenGigabitEthernet 1/2/1
```

#### System response and side effects

The user session enters the Ethernet Interface Configuration Mode or the LAG Interface Configuration Mode.

#### Related Commands

show interfaces

## interface crafteth

This command enters the Management and Craft Ethernet Configuration Mode to provision the Craft serial port.



### Mode

Global Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

```
interface crafteth
```

### Example

#### Command

```
interface crafteth
```

#### System response and side effects

Enters Management and Craft Ethernet Configuration Mode.

### Related Commands

```
show interfaces crafteth
```

## interface gcc

---

This command will enter the GCC Configuration Mode for a specific interface. The interface is created if it does not exist. The no form of the command deletes the GCC interface.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Global Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

[no] **interface gcc** <interface-type> <interface\_id>

Parameter	Description	Range	Default Value
<i>interface-type</i>	Interface type (currently only tenGigabitEthernet interfaces are supported)	See <a href="#">1.12, “Interfaces”</a>	not applicable
<i>interface-id</i>	Interface identifier.	See <a href="#">1.12, “Interfaces”</a>	not applicable

### Example

#### Command

```
Interface gcc tenGigabitEthernet 1/1/1
```

#### System response and side effects

Enters GCC Configuration mode.

#### Related Commands

show interfaces gcc



## interface mgmteth

This command enters the Management and Craft Ethernet Configuration Mode to provision the management Ethernet port.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Global Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

```
interface mgmteth
```

### Example

#### Command

```
interface mgmteth
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

```
show interfaces mgmteth
```

## interface osceth

---

This command puts the user session into the OSCeTh Configuration Mode for the specified SCP OSC interface. If the specified SCP OSC interface does not exist, it is created. The **no** form of the command deletes the specified SCP OSC interface.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Global Configuration Mode

### Input Syntax

```
[no] interface osceth <osc-id>
```

Parameter	Description	Range	Default Value
<i>osc-id</i>	The SCP OSC interface identifier <shelf/slot/port>.	1/1/1, 1/1/2 for an SCP in shelf 1 slot 1  1/5/1, 1/5/2 for an SCP in shelf 1 slot 5	Not applicable

### Example

#### Command

```
interface osceth 1/1/1  
no interface osceth 1/1/1
```

#### System response and side effects

Enters OSCeTh Configuration mode.

#### Related Commands

None

## interface stackingport

This command specifies an interface on a packetVX™ module as a port for stacking two packetVX™ modules. The interface is created if it does not exist. The no form of the command deletes the stacking port.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Global Configuration Mode

### History

Release	Modification
8.2	The command is introduced.

### Input Syntax

**[no] interface stackingport** <interface-type> <interface\_id>

Parameter	Description	Range	Default Value
<i>interface-type</i>	Interface type Only tenGigabitEthernet interfaces are supported)	See 1.12, “Interfaces”	not applicable
<i>interface-id</i>	Interface identifier.	See 1.12, “Interfaces”	not applicable

### Guideline

If you configure more than one pair of stacking links, verify that each pair is in service before configuring the next stacking link pair:

**show interfaces**<interface-type> <interface-id>**brief**

### Example

```
interface stackingport tenGigabitEthernet 1/1/1
```

### Related Commands

none

## lacp admin-state

---

This command enables or disables the Link Aggregation Control Protocol (LACP) for the switch.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Global Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

`lacp admin-state {enable|disable}`

Command Option	Description
<code>enable</code>	initiates the LACP for the switch
<code>disable</code>	stops the LACP for the switch

### Example

#### Command

```
lacp admin-state disable
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

`lacp shutdown`

`show virtual-switch`

---

## lacp shutdown

---

This command enables or disables the Link Aggregation Control Protocol (LACP) for the switch.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Global Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

[no] lacp shutdown

### Example

#### Command

```
lacp shutdown
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

lacp admin-state

show virtual-switch

## lacp system-priority

---

This command sets the Link Aggregation Control Protocol (LACP) system priority for the switch. Higher numbers have a lower priority. The **no** and **default** forms of this command set the system priority default value.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Global Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

**lacp system-priority** *<priority>* | **default**

Parameter	Description	Range	Default Value
<i>priority</i>	is the system priority. Higher numbers have a lower priority.	1 to 65535	32768

### Example

#### Command

```
lacp system-priority 5000
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

show virtual-switch

# line console

This command configures the local management serial port.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

## Mode

Global Configuration Mode

## History

Release	Modification
7.1	The command is introduced.

## Input Syntax

```
[default] line console {baudrate <baud-rate>|databits <data-bits>|stop-bits  
<stop-bits>|parity <parity>}
```

Parameter	Description	Range	Default Value
<i>baud-rate</i>	is the baud rate or serial line speed.	300, 1200, 2400, 4800, 9600, 14400, 19200, 38400, 57600, or 115200	9600
<i>data-bits</i>	is the number of data bits used.	7 or 8	8
<i>stop-bits</i>	is the number of stop bits used.	1 or 2	1
<i>parity</i>	is the type of parity used.	Even, Odd, or None	None

## Example

### Command

```
line console baudrate 19200
```

### System response and side effects

There is no system response if the command is successful.

### Related Commands

None

## mac-address-table aging-time

---

This command sets the maximum age of a dynamically learned entry in the MAC Address table. When the mac-learning is enabled, the Forwarding Database (FDB) entries "age out" according to the timer value. The aging timer for a particular FDB entry (source MAC address) is reset when it is learned or relearned. The **no** form of this command disables the aging timer. The **default** form of this command sets the aging timer back to its default value.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Global Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

**[no|default] mac-address-table aging-time [<time>]**

Parameter	Description	Range	Default Value
<i>time</i>	is the aging timer value in seconds. <sup>1</sup>	1 to 604800	300

<sup>1</sup>This parameter is not required for the no and default forms of this command.

### Example

#### Command

```
mac-address-table aging-timer 300
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

None



## mac-address-table static

This command adds or removes a static unicast or multicast entry in the MAC Address table for the currently selected switch. The **no** form of this command removes an entry from the table. For the static unicast table, only one interface can be added to the MAC Address Table for any MAC address/VLAN pair. The CLI returns "%Entity already exists." if an attempt is made to add another interface to the table that has the same MAC address and VLAN identifier.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Global Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

**[no] mac-address-table static {unicast|multicast} <mac-addr> vlan <vlan-id> switchport <interface-type> <interface-id>**

Parameter	Description	Range	Default Value
<i>mac-addr</i>	is the MAC address in the format xx-xx-xx-xx-xx-xx	Valid MAC address	not applicable
<i>vlan-id</i>	is the VLAN identifier.	1 to 4094	not applicable
<i>interface-type</i>	is the interface type.	<a href="#">1.12, "Interfaces"</a>	not applicable
<i>interface-id</i>	is the interface identifier.	<a href="#">1.12, "Interfaces"</a>	not applicable

### Example

#### Command

```
mac-address-table static unicast 12-34-56-78-9a-bc vlan 1 switchport  
tenGigabitEthernet 1/2
```

#### System response and side effects

There is no system response if the command is successful.


#### Related Commands

None

## member

---

This command adds a member to a virtual switch. The **no** form of this command removes the member.

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### Mode

Global Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

**[no] member** <location>

Parameter	Description	Range	Default Value
<i>location</i>	is the location of the equipment. For example: shelf/slot	Shelf = 1, 11, 21, or 31 Slot = 1 to 6	not applicable

### Example

#### Command

```
member 1/2
```

#### System response and side effects

The user session enters the Switch Member Configuration mode if successful.

#### Related Commands

show virtual-switch

---

## mirror cpu ingress

---

This command mirrors all ingress CPU packets to the Mirror-To-Port. The **no** form of this command removes this mirror.



### Mode

Global Configuration Mode

### Input Syntax

```
[no] mirror cpu ingress
```

### Guidelines

- Ingress CPU traffic is mirrored to the Mirror-To-Port.
- The Mirror-To-Port is configured with the “[mirror mirror-to-port](#)” command.
- This command does not mirror egress CPU traffic.

### Example

```
mirror cpu ingress  
no mirror
```

### Related Commands

```
mirror mirror-to-port  
show mirror
```

## nni <interface-type> <interface-id>

This command enters the NNI Configuration mode to provision a switchport for an NNI. The NNI, switchport, and interface for <interface-type> and <interface-id> are created if they do not exist already. The **no** form of this command removes the NNI.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Global Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

[no] **nni** <interface-type> <interface-id>

Parameter	Description	Range	Default Value
<i>interface-type</i>	is the interface type.	1.12, "Interfaces"	not applicable
<i>interface-id</i>	is the interface identifier.	1.12, "Interfaces"	not applicable

### Example

#### Command

```
nni tenGigabitEthernet 1/2/1
```

#### System response and side effects

Enters the NNI Configuration mode.

#### Related Commands

```
show nnis [<interface-type> [<interface-id>]] [brief]
```

## ntp

---

This command puts the user session into the NTP Configuration Mode.



### Mode

Global Configuration Mode

### Input Syntax

`ntp`

### Example

#### Command

`ntp`

#### System response and side effects

The user session enters the NTP Configuration Mode.

#### Related Commands

None

## ospf

---

This command enters the Open Shortest-Path First (OSPF) Configuration Mode. The OSPF routing entity is created if it does not exist. The command will fail if the entity has not been previously created and the user does not specify area id. The no form of the command deletes the OSPF routing process.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Global Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

[no] ospf [area-id <id>]

Parameter	Description	Range	Default Value
<id>	the OSPF area-id	Valid IP address   default	default
default	the default area-id for OSPF		

**Note** The area-id is required for creating the OSPF

### Example

#### Command

```
ospf
```

#### System response and side effects

OSPF Configuration Mode.

#### Related Commands

show interface mgmteth

## profile bandwidth <name>

This command enters the Profile Bandwidth Configuration mode to configure a Bandwidth profile. The profile is created if it does not already exist. The **no** form of this command removes the profile.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Global Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

[no] profile bandwidth <name>

Parameter	Description	Range	Default Value
<i>name</i>	is the name of the profile.	1 to 32 alphanumeric characters	not applicable

### Example

#### Command

```
profile bandwidth goldService
```

#### System response and side effects

Enters the Profile Bandwidth Configuration Mode.

#### Related Commands

```
show profile bandwidth
```

## profile l2control

---

This command enters the Profile L2Control Configuration mode to configure an L2 Control profile. The profile is created if it does not already exist. The **no** form of the command removes the profile. There is a system limit of 154 profiles.



### Mode

Global Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

**[no] profile l2control** *<profile-name>*

Parameter	Description	Range	Default Value
<i>profile-name</i>	is the profile name.	1 to 32 alphanumeric characters	not applicable

### Example

#### Command

```
profile l2control btisystems
```

#### System response and side effects

Enters the Profile L2Control Configuration mode.

#### Related Commands

```
show profile l2control
```



## profile priority-tc-map <name>

This command enters the Profile Priority Traffic Class Map Configuration mode to configure a Traffic Class Map profile. The profile is created if it does not already exist. The **no** form of this command removes the profile.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Global Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

[no] profile priority-tc-map <name>

Parameter	Description	Range	Default Value
<i>name</i>	is the name of the profile.	1 to 32 alphanumeric characters	not applicable

### Example

#### Command

```
profile priority-tc-map Customer1
```

#### System response and side effects

Enters the Profile Priority Traffic Class Map Configuration Mode.

#### Related Commands

```
show profile priority-tc-map [<name>]
```

## profile scheduler

This command creates a new Scheduler profile, and is used to enter the Profile Scheduler Configuration mode. The **no** form of this command removes the profile.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Global Configuration Mode

### Input Syntax

**[no] profile scheduler** *<name>* [**algorithm** *<algorithm>*]

Parameter	Description	Range	Default Value
<i>name</i>	The name of the profile.	1 to 32 alphanumeric characters	not applicable
<i>algorithm</i>	The schedule algorithm to use.	sp – strict priority rr – round robin wrr – weighted round robin drr – deficit round robin sp+wrr – strict priority + weighted round robin sp+drr – strict priority + deficit round robin	sp

### Guideline

This command is used to only create a new Scheduler profile.

To edit an existing profile, you specify the existing profile name, omitting the *<algorithm>* value, for example: **profile scheduler***<name>*.

### Example

This example creates a new Scheduler profile. Once the profile is created and you press **Enter**, you are in the Profile Scheduler Configuration mode.

```
profile scheduler Customer1 algorithm rr
```

### Related Commands

show profile scheduler

## profile sla-measurement <name>

This command enters the Profile SLA-Measurement Configuration mode to configure a sla-measurement profile. The profile is created if it does not already exist. The **no** form of this command removes the profile.



### Mode

Global Configuration Mode

### History

Release	Modification
8.2	The command is introduced.

### Input Syntax

[no] profile sla-measurement <name>

Parameter	Description	Range	Default Value
<i>name</i>	is the name of the profile.	1 to 32 alphanumeric characters	not applicable

### Example

#### Command

```
profile sla-measurement goldService
```

#### System response and side effects

Enters the Profile SLA-Measurement Configuration Mode.

#### Related Commands

```
show profile sla-measurement
```

## profile tunnel-mac-address

---

This command enters the Profile Tunnel MAC Address Configuration mode to configure the MAC addresses for tunneling protocols. The profile is created if it does not already exist. The **no** form of this command removes the profile.



### Mode

Global Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

**[no] profile tunnel-mac-address** *<profile-name>*

Parameter	Description	Range	Default Value
<i>profile-name</i>	is the profile name.	1 to 32 alphanumeric characters	not applicable

### Example

#### Command

```
profile tunnel-mac-address btisystems
```

#### System response and side effects

Enters the Profile Tunnel MAC Address Configuration mode.

#### Related Commands

```
show profile tunnel-mac-address
```

## protocol {enable | disable}

This command allows the administrator to control whether various protocols are running on a switch.

**Table 6-1 Default values for protocols**

Protocol	Default value
802.1ag	Disable
802.1x	Disable
ccm_offload	Disable
erps	Enable
gvrp	Enable
lacp	Enable
mstp	Enable
sla-measurement	Disable
y.1731	Enable

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Global Configuration Mode

### History

Release	Modification
7.2	The command is introduced.
7.3	Added 802.1ag, ccm_offload, erps, and y.1731

### Input Syntax

**protocol** <protocol> {enable|disable}

Command Option	Description	Range	Default Value
<i>protocol</i>	Protocol to enable or disable	802.1ag 802.1x ccm_offload erps gvrp lacp mstp	See table above

Command Option	Description	Range	Default Value
		sla-measurement y.1731	

---

**Example****Command**

```
protocol mstp disable
```

**System response and side effects**

There is no system response if the command is successful.

Only enabled protocols are allowed to be used on a switch. Disabled protocols cannot be used.

**Related Commands**

```
show protocols
```

## protocol sla-measurement [enable | disable]

This command enables or disables the sla-measurement protocol.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Global Configuration Mode

### History

Release	Modification
8.2	The command is introduced.

### Input Syntax

```
[no] protocol sla-measurement {enable|disable}
```

### Example

#### Command

```
protocol sla-measurement enable
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

```
show protocol
```

## route static

This command provisions static entries in the system routing table.

The no form of this command deletes the statically provisioned routing table entry.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Global Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

**[no] route static** <ip-addr/prefix> <next-hop> [distance <admin-dist>]

Parameter	Description	Range	Default Value
<i>ip-addr/prefix</i>	IP address of the destination network with routing prefix in CIDR notation.  IPv4 Format: xxx.xxx.xxx.xxx/prefix	IPv4 address	not applicable
<i>next-hop</i>	IP address of the next hop router to which packets are routed.	IPv4 address	not applicable
<i>admin-dist</i>	Administrative distance of the route. It is used as a metric when the router uses the route information to select a route.	1 to 254	1

### Example

#### Command

```
route static 175.25.1.0/24 10.128.1.1
```

#### System response and side effects

There is no system response if the command is successful.



## Related Commands

show route

## service-policy <name>

---

This command enters the Service Policy Configuration Mode to configure a service policy. A service policy is not considered created until class map and bandwidth associations have been made. See “[class-map <name> profile bandwidth <bw-name>](#)”. The **no** form of this command removes the service policy.



### Mode

Global Configuration Mode

### History

Release	Modification
7.3	The command is introduced.

### Input Syntax

[no] **service-policy** <name>

Parameter	Description	Range	Default Value
<i>name</i>	is the name of the service policy.	1 to 32 alphanumeric characters	not applicable

### Example

#### Command

```
service-policy Customer1Policy
```

#### System response and side effects

Enters the Service Policy Configuration Mode.

#### Related Commands

```
show service-policy [<name>]
```

## set profile tunnel-mac-address

This command sets the virtual switch to use the Tunnel MAC Address profile specified by the identifier.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Global Configuration Mode

### Input Syntax

```
set profile tunnel-mac-address <String>
```

Parameter	Description	Range	Default Value
<i>String</i>	The profile identifier	1 to 32 alphanumeric characters	not applicable

### Example

#### Command

```
set profile tunnel-mac-address <String>
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

show profile tunnel-mac-address

show virtual switch

## snmp community

---

This command configures the SNMP community string. The **no** form of this command clears the configuration the SNMP community string.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Global Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

```
snmp community <string> access {read|write}
```

Parameter	Description	Range	Default Value
<i>string</i>	is the SNMP community string value.	1 to 20 alphanumeric characters	not applicable

### Example

#### Command

```
snmp community public access write
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

```
show snmp community
```

## snmp trap

This command configures SNMP traps.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

**Note** If you do not have Superuser privileges in the CLI, use TL1 to provision SMNP traps.

### Mode

Global Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

```
snmp trap <receiver-string> ipaddr <ipaddr> community <community-string>
version{V1|V2C|V3} port <port> notify {inform|trap}
```

Command Option	Description
V1	is the initial implementation version of SNMP
V2C	is a later implementation version of SNMP
V3	is a later implementation version of SNMP

Parameter	Description	Range	Default Value
<i>receiver-string</i>	is the SNMP receiver string value.	1 to 20 alphanumeric characters	not applicable
<i>ipaddr</i>	is the IP address.	Four integers between 0 and 255 separated by periods.	not applicable
<i>community-string</i>	is the SNMP community string value.	1 to 20 alphanumeric characters	not applicable
<i>port</i>	is the port number.	Integer between 1 and 65535	not applicable

### Example

#### Command

```
snmp trap receiver1 ipaddr 10.10.10.10 community public version V2C port 162  
notify trap
```

### **System response and side effects**

There is no system response if the command is successful.

### **Related Commands**

```
show snmp trap
```

## spanning-tree <instance-id>

This command enters the Multiple Spanning Tree (MST) Common and Internal Spanning Tree (CIST) & Multiple Spanning Tree Instances (MSTI) Configuration mode to configure either the CIST or an MST instance. The MSTI is created if it does not already exist. Entering an instance identifier of zero (0) enters the CIST configuration. Entering a valid instance identifier between 1 and 64 enters the MSTI configuration.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Global Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

**spanning-tree** <instance-id>

Parameter	Description	Range	Default Value
<i>instance-id</i>	is the spanning-tree instance identification number. <sup>1</sup>	0 to 16	0

<sup>1</sup>This parameter is not required for the **no** form of this command.

### Example 1

#### Command

```
BTI7000:sw1(config)# spanning-tree 0
```

#### System response and side effects

```
BTI7000:sw1(config-cist)#
```

## **Example 2**

### **Command**

```
BTI7000:sw1(config)# spanning-tree 1
```

### **System response and side effects**

```
BTI7000:sw1(config-msti 1)#
```

### **Related Commands**

```
show spanning-tree mst
```



---

## spanning-tree mst configuration

---

This command enters the Multiple Spanning Tree (MST) configuration mode to configure the global MSTP parameters. The MSTP configuration is created if it does not already exist.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Global Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

`spanning-tree mst configuration`

### Parameters

Not Applicable

### Example

#### Command

`spanning-tree mst configuration`

#### System response and side effects

The user session enters the MST Configuration Mode.

### Related Commands

`show spanning-tree mst configuration`

## station-loopback {enable | disable}

---

This command enables or disables station-loopback.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Global Configuration Mode

### Input Syntax

**station-loopback {enable | disable}**

Option	Description
enable	This enables station-loopback on the virtual switch. Enabling station-loopback allows you to start and stop specific station-loopback instances. Prior to issuing this command, ensure you do not have a throughput test running on the switch.
disable	This disables station-loopback on the virtual switch and clears the station-loopback statistics and the recorded MAC addresses. All active station-loopbacks must be stopped prior to executing this command.

### Example

#### Command

```
BTI7000:sw1(config)# station-loopback enable
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

None

## station-loopback instance-name s-vlan class-map

This command creates a new station-loopback instance or edits an existing station-loopback instance. The **no** form of the command removes the specified instance.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Global Configuration Mode

### Input Syntax

**[no] station-loopback instance-name** *<instance-name>* **s-vlan** *<vlan-id>* **class-map** *<class-map>*

Parameter	Description	Range	Default
instance-name	To create a new station-loopback instance, specify a new name.  To edit an existing station-loopback instance, specify an existing name.	1 to 32 alphanumeric characters	Not applicable
vlan-id	The S-VLAN ID of the frame being looped back.	2 to 4090	Not applicable
class-map	The name of the ingress-cos class-map that is used to match the incoming frame.	This must reference an ingress-cos class-map that already exists.	Not applicable

### Example

#### Command

To create a station-loopback instance that loops back frames that have an S-VLAN ID of 100 and a C-VLAN ID of 200 (cvlan200 is an existing ingress-cos class-map that matches frames with a C-VLAN ID of 200):

```
BTI7000:sw1(config)# station-loopback instance-name slb_1 s-vlan 100 class-map cvlan200
```

To remove a station-loopback instance:

```
BTI7000:sw1(config)# no station-loopback instance-name slb_1
```

### System response and side effects

There is no system response if the command is successful.

## Related Commands

None

## station-loopback instance-name {start | stop}

This command starts or stops the specified station-loopback instance.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Global Configuration Mode

### Input Syntax

**station-loopback instance-name** *<instance-name>*{**start** | **stop**}

Parameter	Description	Range	Default
instance-name	The station-loopback instance to be started or stopped.	This must reference an existing station-loopback instance.	Not applicable

Option	Description
start	This starts the specified station-loopback instance. Station-loopback must be enabled.
stop	This stops the specified station-loopback instance.

### Example

#### Command

```
BTI7000:sw1(config)# station-loopback instance-name slb_1 start
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

None

## station-loopback mac-record {enable | disable}

---

This command enables or disables the recording of MAC addresses for frames that have been looped back.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Global Configuration Mode

### Input Syntax

`station-loopback mac-record {enable | disable}`

Option	Description
enable	This enables the recording of MAC addresses for frames that have been looped back. The following are recorded: <ul style="list-style-type: none"><li>• The MAC addresses of the last 10 looped-back frames.</li><li>• The MAC addresses of the last 10 looped-back frames that have a distinct DA-SA pair.</li></ul>
disable	This disables the recording of MAC addresses and clears the station loopback statistics and the recorded MAC addresses. After this command is executed, MAC addresses are no longer recorded but the station loopback statistics still increment.  This is the default option.

### Example

#### Command

```
BTI7000:sw1(config)# station-loopback mac-record enable
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

`show station-loopback statistics`

## switchport

This command enters the Switchport Configuration Mode to configure the switchport attributes for a special interface. The switchport is created if it does not already exist. The **no** form of this command removes the switchport.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Global Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

**[no] switchport** <interface-type> <interface-id>

Parameter	Description	Range	Default Value
<i>interface-type</i>	is the interface type	See 1.12, "Interfaces"	not applicable
<i>interface-id</i>	is the interface identifier	See 1.12, "Interfaces"	not applicable

### Example

#### Command

```
switchport tenGigabitEthernet 1/2/1
```

#### System response and side effects

The user session enters the Switchport Configuration mode.

#### Related Commands

```
show switchport
```

## system

---

This command enters the System Configuration Mode to allow global system parameters to be configured.



### Mode

Global Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

`system`

### Example

#### Command

`system`

#### System response and side effects

The user session enters the System Configuration Mode if the command is successful.

### Related Commands

None



## transponder

This command puts the user session into the Transponder Configuration Mode for the specified Dual 10G Multiprotocol Transponder or the Dual 10G Multiprotocol Transponder Lite. If the specified transponder does not exist, it is created. The **no** form of this command removes the transponder.



### Mode

Global Configuration Mode

### Input Syntax

**transponder** <location>

Parameter	Description	Range	Default Value
<i>location</i>	The location <shelf/slot> of the Dual 10G Multiprotocol Transponder or the Dual 10G Multiprotocol Transponder Lite.	Shelf = 1, 11, 21, 31 Slot = 1 to 20	Not applicable

### Example

#### Command

```
transponder 1/2
```

#### System response and side effects

The user session enters the Transponder Configuration Mode.

#### Related Commands

None

## tpid {aware | blind}

---

This command sets the blind or aware function on incoming frames' TPID on EPLINE and EPLAN UNI interfaces.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Global Configuration Mode

### Input Syntax

`tpid {aware | blind}`

Command Option	Description
<b>aware</b>	Discards incoming frames with TPID 0X88A8 and transmits other TPIDs. The default value is aware
<b>blind</b>	Configures all customer frames as un-tagged and transmits frames to peer UNIs

### Example

#### Command

```
BTI7000:sw1(config)# tpid blind
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

show eservice (Shows the current TPID value on a UNI port.)

## uni <interface-type> <interface-id>

This command enters the UNI Configuration Mode to provision a switchport for a UNI. The UNI, switchport, and interface for <interface-type> and <interface-id> are created if they do not exist already. The **no** form of this command removes the UNI.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Global Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

[no] uni <interface-type> <interface-id>

Parameter	Description	Range	Default Value
<i>interface-type</i>	is the interface type.	1.12, "Interfaces"	not applicable
<i>interface-id</i>	is the interface identifier.	1.12, "Interfaces"	not applicable

### Example

#### Command

```
uni tenGigabitEthernet 1/2/1
```

#### System response and side effects

Enters the UNI Configuration Mode.

Once created a UNI can have the following status:

- Unspecified - the UNI has been created but it has not been added to an eService.
- Private - the UNI has been added to an EPLINE/EPLAN.
- VirtualMultiple - the UNI has been added to an EVPLINE/EVPLAN.
- VirtualSingle - the UNI has been added to an EVPLINE/EVPLAN and has been configured so that there is only one C-VLAN mapping on the Eservice.

### Related Commands

show unis [<interface-type> [<interface-id>] ] [brief]

## unset profile tunnel-mac-address

---

This command removes the Tunnel MAC Access from the virtual switch.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Global Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

`unset profile tunnel-mac-address`

### Example

#### Command

```
unset profile tunnel-mac-address
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

`show profile tunnel-mac-address`

`show virtual-switch`

## user

This command creates, deletes, or modifies a user account.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Global Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

To create a new user account:

```
user <username>
```

To delete a user account:

```
no user <username>
```

Parameter	Description	Range	Default Value
<i>username</i>	is the user identifier that is a unique name that identifies each authorized system user.	1 to 10 case-sensitive alphanumeric characters.	not applicable

### Example

#### Command

```
user tom
```

#### System response and side effects

The system queries the operator to enter a password and privileges for the user and then enters the User Configuration Mode if successful.

Password:

Retype Password:

Privilege:

#### Related Commands

None

## virtual-switch

This command creates, deletes, or changes the configuration for a virtual switch. The **no** form of this command deletes the switch configuration.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Global Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

[no] **virtual-switch** <switch\_id> [ **name** <switch\_name> ]

Parameter	Description	Range	Default Value
<i>switch_id</i>	is the switch identifier.	1 to 11	not applicable
<i>switch_name</i>	is the switch name.  If the virtual switch identified by <i>switch_id</i> already exists, then the name of the switch is changed to <i>switch_name</i> .  If the virtual switch identified by <i>switch_id</i> does not already exist, then the name of the switch is set to <i>switch_name</i> .	Up to 32 alphanumeric characters	an empty string

### Example

#### Command

```
virtual-switch 1 name my_switch  
no virtual-switch 1
```

#### System response and side effects

The CLI prompt changes to indicate the virtual switch is selected.

```
7000:sw1>
```

## **Related Commands**

show virtual-switch

## vlan

---

This command configures a Virtual Local Area Network (VLAN). It creates the VLAN if it is not already present. The **no** form of this command deletes the VLAN.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Global Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

**[no] vlan** <vlan-id>

Parameter	Description	Range	Default Value
vlan-id	is the VLAN identifier.	1 to 4094	not applicable

### Example

#### Command

```
vlan 2
```

#### System response and side effects

The user session enters the VLAN Configuration Mode if the command is successful.

#### Related Commands

None



## 7.0 SLA measurement profile configuration commands

---

This section lists the SLA measurement profile configuration commands.

- “monitor-period”
- “threshold packet-loss-ratio”
- “threshold delay-avg”
- “threshold delay-max”
- “threshold delay-var-avg”
- “threshold delay-var-max”

## monitor-period

---

This command specifies the monitoring period for the SLA measurement profile. The **no** form of this command removes the monitoring period.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

SLA Measurement Profile Configuration Mode

### History

Release	Modification
8.2	The command is introduced.

### Input Syntax

**[no] monitor-period** *<value>*

Parameter	Description	Range	Default Value
<i>value</i>	Threshold value	15-minutes 24-hours	Not applicable

### Example

#### Command

```
monitor period 15-minutes
```

#### System response and side effects

There is no system response if the command is successful.

## threshold packet-loss-ratio

This command sets the packet-loss ratio threshold for the SLA measurement profile. The **no** form of this command removes the threshold.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

SLA Measurement Profile Configuration Mode

### History

Release	Modification
8.2	The command is introduced.

### Input Syntax

**[no] threshold packet-loss-ratio {near-end | far-end} <value>**

Parameter	Description	Range	Default Value
<i>value</i>	Threshold value	0.0 to 99.999%	Not applicable

### Example

#### Command

```
threshold packet-loss-ratio near-end 1
```

#### System response and side effects

There is no system response if the command is successful.

## threshold delay-avg

---

This command sets the average delay threshold for the SLA measurement profile. The **no** form of this command removes the threshold.

 Authorization Required Superuser Provisioning Maintenance Surveillance

### Mode

SLA Measurement Profile Configuration Mode

### History

Release	Modification
8.2	The command is introduced.

### Input Syntax

**[no] threshold delay-avg** *<value>*

Parameter	Description	Range	Default Value
<i>value</i>	Threshold value	0 to 2147483647 milliseconds	Not applicable

### Example

#### Command

```
threshold delay-avg 1234
```

#### System response and side effects

There is no system response if the command is successful.

## threshold delay-max

This command sets the maximum delay threshold for the SLA measurement profile. The **no** form of this command removes the threshold.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

SLA Measurement Profile Configuration Mode

### History

Release	Modification
8.2	The command is introduced.

### Input Syntax

**[no] threshold delay-max** *<value>*

Parameter	Description	Range	Default Value
<i>value</i>	Threshold value	0 to 2147483647 milliseconds	Not applicable

### Example

#### Command

```
threshold delay-max 1234
```


#### System response and side effects

There is no system response if the command is successful.

## threshold delay-var-avg

---

This command sets the average variation in the delay threshold for the SLA measurement profile. The **no** form of this command removes the threshold.

 Authorization Required Superuser Provisioning Maintenance Surveillance

### Mode

SLA Measurement Profile Configuration Mode

### History

Release	Modification
8.2	The command is introduced.

### Input Syntax

**[no] threshold delay-var-avg** *<value>*

Parameter	Description	Range	Default Value
<i>value</i>	Threshold value	0 to 2147483647 microseconds	Not applicable

### Example

#### Command

```
threshold delay-var-avg 1234
```

#### System response and side effects

There is no system response if the command is successful.

## threshold delay-var-max

This command sets the maximum variation in the delay threshold for the SLA measurement profile. The **no** form of this command removes the threshold.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

SLA Measurement Profile Configuration Mode

### History

Release	Modification
8.2	The command is introduced.

### Input Syntax

**[no] threshold delay-var-max** *<value>*

Parameter	Description	Range	Default Value
<i>value</i>	Threshold value	0 to 2147483647 microseconds	Not applicable

### Example

#### Command

```
threshold delay-var-max 1234
```

#### System response and side effects

There is no system response if the command is successful.





## 8.0 Ethernet interface configuration mode commands

---

This section lists the Ethernet Interface Configuration mode commands. This mode is entered from the Global Configuration Mode by using the command `interface`.

- `admin-state`
- `ains-timer`
- `circuit-id`
- `description`
- `duplex`
- `error-correction <correction>`
- `fiber-type`
- `flowcontrol receive`
- `lacp mode`
- `lacp port-id`
- `lacp port-priority`
- `lacp timeout`
- `lacp wait-time`
- `lag`
- `line-mapping <mapping-mode>`
- `loopback facility`
- `mirror mirror-from-port`

- “mirror mirror-to-port”
- “mtu”
- “pec”
- “phyPmMon”
- “pm threshold”
- “remote-id”
- “reset”
- “shutdown”
- “signal-degrade”
- “speed”
- “vendor-pn-prov-1, vendor-pn-prov-2, vendor-pn-prov-3”
- “wavelength”

## admin-state

This command sets the administration state for the member to either enable or disable. The default state is enabled.



### Mode

Ethernet Interface Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

`admin-state {enable|disable}`

### Parameters

Not Applicable

### Example

#### Command

```
admin-state disable
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

None

## ains-timer

---

This command sets the value of the Automatic In-Service (AINS) timer. The **no** form of this command disables the AINS timer. The **default** form of the command resets the AINS timer back to its default value of 08-00.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Ethernet Interface Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

`[no|default] ains-timer <time>`

Parameter	Description	Range	Default Value
<i>time</i>	is the AINS time in the format: HH-MM. <sup>1</sup>	00-00 to 96-00	08-00

<sup>1</sup>This parameter is not required for the **no** and **default** forms of this command.

### Example

#### Command

```
ains-timer 10-00
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

None

## circuit-id

This command sets a circuit identification string. The **no** form of this command clears the string.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Ethernet Interface Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

**[no]** **circuit-id** *<string>*

Parameter	Description	Range	Default Value
<i>string</i>	is the circuit identification string. <sup>1</sup>	1 to 32 alphanumeric characters	not applicable

<sup>1</sup>This parameter is not required for the **no** form of this command.

### Example

#### Command

```
circuit-id "ABC lab"
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

None

## description

---

This command sets the custom string. The **no** form of this command clears the string.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Ethernet Interface Configuration Mode

### Input Syntax

**[no] description** <*string*>

Parameter	Description	Range	Default Value
<i>string</i>	The string value. <b>Note</b> This parameter is not required for the <b>no</b> form of this command.	1 to 256 alphanumeric characters <b>Note</b> The following characters cannot be used as part of the description: " * , / : ; < > ? \	not applicable

### Example

#### Command

```
description "ABC Ottawa"
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

None

# duplex

This command sets the duplex of the interface. The **no** and **default** forms of this command set duplex to auto.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

## Mode

Ethernet Interface Configuration Mode

## History

Release	Modification
7.1	The command is introduced.

## Input Syntax

`[no|default] duplex {full|half|auto}`

Command Option	Description
<b>full</b> <sup>1</sup>	is full duplex
<b>half</b>	is half duplex
<b>auto</b>	the duplex mode is auto-negotiated

<sup>1</sup>Full duplex is the only option supported on copper ports.

## Example

### Command

```
duplex half
```

### System response and side effects

The speed and duplex parameters are coupled together. Changing duplex to auto also changes speed to auto. Changing duplex from auto to a specific value changes speed to its maximum speed.

### Related Commands

None

## error-correction <correction>

---

This command is used to set the error correction for OTU2 line-mapping.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Ethernet Interface Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

**error-correction** <correction>

Parameter	Description	Range	Default Value
<i>correction</i>	is the error correction.	fec efec	fec

### Guideline

This command is not applicable when line-mapping is set to 10ge-wanphy. In this case, error-correction is automatically set to none.

### Example

#### Command

```
error-correction efec
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

```
show interface [<interface-type> [<interface-id>] ] [brief]
```



## flowcontrol receive

This command enables or disables the handling of pause frames received on the interface. The default for this command is **off**, which is provider bridge mode. On is customer bridge mode, which is not supported).

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Ethernet Interface Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

```
flowcontrol receive {on|off}
```

### Example

#### Command

```
flowcontrol receive off
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

None

## fiber-type

---

This command sets the fiber type. The **default** version of this command sets the default fiber type to none.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Ethernet Interface Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

```
[no|default] fiber-type {none|dsf|ndsf|nzdsf|multimode}
```

Command Option	Description
none	is no fiber type
dsf	is dispersion-shifted fiber
ndsf	is non dispersion-shifted fiber
nzdsf	is non-zero dispersion-shifted fiber
multimode	is multimode fiber

### Example

#### Command

```
fiber-type ndsf
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

None

## lacp mode

This command changes the LACP mode. The **no** and **default** forms of this command set the mode back to its default value of active.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Ethernet Interface Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

[**no**|default] lacp mode {active|passive|on}

### Example

#### Command

```
lacp mode passive
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

```
show interface
```

## lacp port-id

---

This command sets the port identifier for the Link Aggregation Control Protocol (LACP). The **default** and **no** forms of this command set the LACP port identifier back to the default value.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Ethernet Interface Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

```
[no|default] lacp port-id <port_id>
```

Parameter	Description	Range	Default Value
<i>port_id</i>	is the LACP port identifier. <sup>1</sup>	1 to 28	1

<sup>1</sup>This parameter is not required for the **default** and **no** forms of this command.

### Example

#### Command

```
lacp port-id 1
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

None

## lacp port-priority

This command sets the port's priority for Link Aggregation Control Protocol (LACP). LACP determines which ports to choose to be part of a Link Aggregation Group (LAG), if such a decision is required. Typically, LACP priority is useful when hot standby ports are provisioned beyond the maximum of eight simultaneously active LAG members. The **default** and **no** forms of this command set the LACP back to the default value of 32768.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Ethernet Interface Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

**[no|default] lacp port-priority <priority>**

Parameter	Description	Range	Default Value
<i>priority</i>	is the LACP port priority. Lower numbers indicate a higher priority. <sup>1</sup>	0 to 65535	32768

<sup>1</sup>This parameter is not required for the **default** and **no** forms of this command.

### Example

#### Command

```
lacp port-priority 1
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

None

## lacp timeout

---

This command sets the Link Aggregation Control Protocol (LACP) timeout before retransmission of the control frames. The **default** and **no** forms of this command set the LACP timeout back to the default value of short.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Ethernet Interface Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

`[no|default] lacp timeout {long|short}`

Command Option	Description
<b>long</b>	The LACP PDU is sent every 30 seconds and the LACP timeout value where no packets are received from the peer is 90 seconds.
<b>short</b>	The LACP PDU is sent every 1 second and the timeout value is 3 seconds.

### Example

#### Command

```
lacp timeout long
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

None

## lacp wait-time

This command sets the Link Aggregation Control Protocol (LACP) wait time before attaching to the Link Aggregation Group (LAG). The **no** form of this command causes the interface to attach immediately. The **default** form of this command sets the LACP wait time back to the default value of two (2).

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Ethernet Interface Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

`[no|default] lacp wait-time <time>`

Parameter	Description	Range	Default Value
<i>time</i>	is the LACP wait time in ticks/second. <sup>1</sup>	0 to 10	2

<sup>1</sup>This parameter is not required for the **default** and **no** forms of this command.

**Note** A TimeTick is a hundredth of a second (0.01).

### Example

#### Command

```
lacp wait-time 10
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

None

# lag

---

This command adds the interface to a Link Aggregation Group (LAG). The **no** form of this command removes the interface from the LAG.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

## Mode

Ethernet Interface Configuration Mode

## Input Syntax

```
[no] lag <lag_id> [mode {active|passive|on}]
```

Parameter	Description	Range	Default Value
<i>lag_id</i>	is the LAG identifier.	See <a href="#">1.12</a> , “Interfaces”	not applicable

## Example

### Command

```
lag 1 mode passive
```

### System response and side effects

There is no system response if the command is successful.

### Related Commands

None



## line-mapping <mapping-mode>

This command is used to set the line mapping for the interface.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Ethernet Interface Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

**line-mapping** <mapping-mode>

Parameter	Description	Range	Default Value
<i>mapping-mode</i>	is the line mapping.	10ge-lanphy otu2-gfp1 stacking-link 10ge-wanphy (packetVX 80 only)	10ge-lanphy

### Example

#### Command

```
line-mapping otu2-gfp
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

```
show interface [<interface-type> [<interface-id>] ] [brief]
```

## lldp

---

This command enables and disables the Link Layer Discovery Protocol (LLDP) on the interface. By default, LLDP is enabled on all NNI interfaces and disabled on UNI and mirror-to-port interfaces:

- Enabled: The interface transmits and receives LLDP packets.
- Disabled: The interface does not process LLDP packets.
- The same default LLDP roles are assigned to NNI and UNI stacking ports.



### Mode

Ethernet Interface Configuration Mode

### Input Syntax

```
lldp {enabled | disabled}
```

### Guidelines

Following are guidelines to consider when configuring LLDP:

- LLDP assumes that a physical port is connected to a switch as a point-to-point link.
- The TLV (type-length-value) format is used to support the following configurable properties: Chassis ID, Port ID, and Time-to-Live.
- A virtual switch is identified as a Bridge ID, within the Chass ID; however, the Bridge ID is not supported as a configurable LLDP property.
- If a UNI is carrying an EPLINE service, LLDP packets landing on that UNI are tunneled to the other end.
- If a UNI is carrying any eService other than EPLINE, LLDP packets arriving on the port are discarded.
- Tunneled LLDP packets are carried over the multicast MAC address: 01-00-0c-cd-cd-d5. To change the MAC address profile use the command **set profile tunnel-mac-address** <String>.
- LLDP is not intended to be a network configuration or signaling tool.
- When a change is made in a remote database, the system advertises this change event within ten seconds.

### Example

This example configures UNI interface 1/1/1 to participate in LLDP:

```
BTI7000:sw1(config-if TenGigE 1/1/1)# lldp enabled
BTI7000:sw1(config-if TenGigE 1/1/1)#
```

### **System response and side effects**

There is no system response if the command is successful.

### **Related Commands**

show interfaces

show lldp neighbors

show profile l2control

show profile tunnel-mac-address

show running configuration

## loopback facility

---

This command enables facility loopback for an interface. The **no** form of this command disables loopbacks.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Ethernet Interface Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

**[no] loopback facility**

### Example

#### Command

Loopback facility

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

show interface [<interface-type> [<interface-id>] ] [brief]

## mirror mirror-from-port

This command configures the interface to be a Mirror-From-Port. The **no** form of this command removes the mirror configuration from this interface.

**Note** The packetVX linecards do not support mirroring CPU generated packets from the packetVX modules.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Ethernet Interface Configuration Mode

### Input Syntax

```
[no] mirror mirror-from-port {ingress | egress | both}
```

Command Option	Description
<b>ingress</b>	Only ingress traffic is mirrored on this interface.
<b>egress</b>	Only egress traffic is mirrored on this interface.
<b>both</b>	Both ingress and egress traffic are mirrored on this interface.

### Guideline

Before you configure port mirroring, following is information for your consideration:

- This command overrides any previous mirror configuration on this interface. For example, if you previously configured this interface to be a Mirror-To-Port, this command, if successful, changes the interface to a Mirror-From-Port.
- There can be multiple Mirror-From-Ports on a switch.
- Egress frames mirrored from a UNI on a Private Eservice retain the S-VLAN tag of the Eservice.

### Example: Mirror Ingress

This example monitors ingress traffic to port 1/5/1:

```
BTI7000:sw1# configure terminal
BTI7000:sw1(config)# interface gigabitEthernet 1/5/1
BTI7000:sw1(config-if GigE 1/5/1)# mirror mirror-from-port ingress
BTI7000
```

### Example: Mirror Egress

This example monitors outgoing traffic from 1/6/1:

```
BTI7000:sw1# configure terminal  
BTI7000:sw1(config)# interface gigabitEthernet 1/6/1  
BTI7000:sw1(config-if GigE 1/6/1)# mirror mirror-from-port egress
```

### **Example: Mirror Both**

This example monitors all incoming and outgoing traffic on 1/7/1:

```
BTI7000:sw1# configure terminal  
BTI7000:sw1(config)# interface gigabitEthernet 1/7/1  
BTI7000:sw1(config-if GigE 1/7/1)# mirror mirror-from-port both
```

### **Related Commands**

mirror mirror-to-port

show mirror

## mirror mirror-to-port

This command configures the interface to be a Mirror-To-Port. The **no** form of this command removes the mirror configuration from this interface.

**Note** The packetVX linecards do not support mirroring CPU generated packets from the packetVX modules.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Ethernet Interface Configuration Mode

### Input Syntax

[no] **mirror mirror-to-port**

### Guideline

There is no system response if the command is successful.

This command overrides any previous mirror configuration on this interface. For example, if you previously configured this interface to be a Mirror-From-Port, this command, if successful, changes the interface to a Mirror-To-Port. There can only be one Mirror-To-Port on a switch. If another interface is already configured as a Mirror-To-Port, this command fails.

Ingress traffic on Mirror-From-Ports and ingress traffic on the CPU (if the CPU mirror is configured) are sent out the Mirror-To-Port.

The following ports cannot be configured as a Mirror-To-Port: stacking port, switch port, UNI or NNI ports, or LAG member port.

### Example

This example configures 1/3/1 to be a mirror-to-port:

```
BTI7000:sw1# configure terminal
BTI7000:sw1(config)# interface gigabitEthernet 1/3/1
BTI7000:sw1(config-if GigE 1/3/1)# mirror mirror-to-port
BTI7000
```

### Related Commands

**mirror mirror-from-port**

**mirror cpu ingress**

**show mirror**

## mtu

---

This command sets the Maximum Transmission Unit (MTU) size of the port. The **default** version of this command sets the MTU value back to the default value of 1526.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Ethernet Interface Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

**[default]** **mtu** *<size>*

Parameter	Description	Range	Default Value
<i>size</i>	is the MTU size. <sup>1</sup>	1518 to 9600 bytes	1526

<sup>1</sup>This parameter is not required for the **default** form of this command.

### Example

#### Command

```
mtu 2048
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

None



## pec

This command sets the value of the Product Equipment Code (PEC) of the packetVX module module. The **no** form of this command clears the PEC string.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Ethernet Interface Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

[no] **pec** <string>

Parameter	Description	Range	Default Value
<i>string</i>	is the PEC string. <sup>1</sup>	1 to 32 alphanumeric characters	Empty string

<sup>1</sup>This parameter is not required for the **no** form of this command.

### Example

#### Command

```
pec BT7A81CA
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

None

## phyPmMon

---

This command enables or disables the report of OPR OPT maximum and minimum (optical power alarms) on the interface. The **no** form of this command disables alarms. The default state is disabled.



### Mode

Ethernet Interface Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

**phyPmMon** {enable|disable}

### Example

#### Command

```
phyPmMon enable
```

### System response and side effects

There is no system response if the command is successful.

### Related Commands

None

## pm threshold

This command sets the threshold for the Threshold Crossing Alerts (TCA).

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Ethernet Interface Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

**pm** {15-min|24-hour} **threshold** <monitor-type> <value>

Parameter	Description	Range	Default Value
<i>monitor-type</i>	is the specific interval to show. Zero is the current interval.	cv invblk es ses uas cvs ess sess uass sefss cvl esl sesl uasl cvp esp sesp uasp eb-otu bbe-otu ofs-otu es-otu	not applicable

Parameter	Description	Range	Default Value
		ses-otu uas-otu uncrcdwr-d-otu discards fcs-errors undersized oversized fragments jabbers	
<i>value</i>	is the threshold value.	0 to TBD	not applicable

**Example****Command**

```
pm 15-min discards 1000
```

**System response and side effects**

There is no system response if the command is successful.

**Related Commands**

None

## remote-id

This command identifies the remote nodes and ports that are connected to local ports on the BTI 7000 Series. The ID can be up to 255 alpha-numeric characters. By default, an ID does not exist. The **no** version of the command resets the ID to the default.

**Note** The following characters cannot be used as part of the ID: " \* , / : ; < > ? \ |

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Ethernet Interface Configuration Mode

### History

Release	Modification
9.2	The command is introduced.

### Input Syntax

[no] **remote-id** <string>

### Example

#### Command

```
BTI7000:sw1(config-if TenGigE 1/1/2)# remote-id 172.26.1.72-1-3-1
```

```
BTI7000:sw1(config-if TenGigE 1/1/2)#
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

None

## reset

---

This command allows you to perform a cold reboot on XFPs, and is supported on only 10G ports on packetVX , transponder and muxponder modules.



### Mode

Ethernet Interface Configuration Mode

### Input Syntax

**reset**

### Parameters

Not Applicable

### Guideline

An XFP cold reboot may be performed provided one of the following conditions exist:

- The associated port is manually put out of service (OOS-MA).
- There is no provisioned port against it.

Following an XFP cold reboot, an XFP unplug followed by an XFP plug-in event is generated.

### System response and side effects

There is no system response if the command is successful.

### Related Commands

None

## shutdown

This command sets the administration state for the Ethernet interface to enable or disable. The **no** form of this command enables the interface. The default state is enabled.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Ethernet Interface Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

[no] shutdown

### Example

#### Command

```
shutdown
```

#### System response and side effects

There is no system response if the command is successful.


### Related Commands

None

## signal-degrade

---

This command sets the value of the Signal Degrade Bit Error Rate threshold. The **no** form of this command sets the BER threshold to its default value.



### Mode

Ethernet Interface Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

**[no] signal-degrade** *<bit-error-rate>*

Parameter	Description	Range	Default Value
<i>bit-error-rate</i>	is the BER format "10e-n". <sup>1</sup>	10e-3 to 10e-12 if line-mapping is set to otn-gfp1 10e-3 to 10e-9 if line-mapping is set to 10ge-wanphy	none

<sup>1</sup>This parameter is not required for the **no** form of the command.

### Example

#### Command

```
signal-degrade 10e-10
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

None



## speed

This command sets the speed of the interface. The **no** and **default** forms of the command reset the speed back to its default value of auto.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Ethernet Interface Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

[no|default] speed {10|100|1000|auto}

Command Option	Description
10	is for 10 Mbps
100	is for 100 Mbps
1000	is for 1000 Mbps
auto	is for auto negotiate

### Example

#### Command

```
speed 1000
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

None

## vendor-pn-prov-1, vendor-pn-prov-2, vendor-pn-prov-3

These commands set the provisionable string values. The **no** form of these commands clears the string.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Ethernet Interface Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

[no] **vendor-pn-prov-1** <string>

[no] **vendor-pn-prov-2** <string>

[no] **vendor-pn-prov-3** <string>

Parameter	Description	Range	Default Value
<i>string</i>	is the string value. <sup>1</sup>	1 to 20 alphanumeric characters	not applicable

<sup>1</sup>This parameter is not required for the **no** form of this command.

### Example

#### Command

```
vendor-pn-prov-1 "ABC Marlborough"
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

None

## wavelength

This command sets the wavelength of the interface. The **default** form of this command sets the wavelength back to the default value (that is, 1550 nm).

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Ethernet Interface Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

`[no|default] wavelength <wave_length>`

Parameter	Description	Range	Default Value
<i>wave_length</i>	is the wavelength in nm. <sup>1</sup>	800 to 1650	1550

<sup>1</sup>This parameter is not required for the **default** form of this command.

### Example

#### Command

```
wavelength 1350
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

None



## 9.0 GCC configuration mode commands

---

This section lists the GCC configuration mode commands. This mode is entered from the Global Configuration Mode by using the command “[interface gcc](#)”.

- “[admin-state {enable|disable}](#)”
- “[ospf](#)”
- “[rate](#)”
- “[show](#)”
- “[shutdown](#)”

## admin-state {enable|disable}

---

This command sets the administration state for GCC to enable (IS) or disable (OOS). The default state is enabled.



### Mode

GCC Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

`admin-state {enable|disable}`

### Example

#### Command

```
admin-state disable
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

show

## ospf

This command enters the Open Shortest-Path First (OSPF) Interface Configuration Mode for the GCC interface. The OSPF interface is created if it does not exist. The no form of the command deletes the OSPF interface.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

GCC Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

[no] ospf

### Example

#### Command

```
ospf
```

#### System response and side effects

OSPF Interface Configuration Mode.

### Related Commands

show

## rate

---

This command sets the rate for the GCC connection. Full rate uses the full available bandwidth of the General Communication Channel. Low rate limits the channel bandwidth to 192 Kb/s. The default value is full rate.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

GCC Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

[no] **rate** <rate>

Parameter	Description	Range	Default Value
rate	Specify either low rate (192Kb/s) or full rate	low   full	full

### Example

#### Command

```
rate low
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

```
show
```



# show

This command extends the “show interfaces” CLI command to display information about General Communication Channel (GCC) Section.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

## Mode

GCC Configuration Mode

## History

Release	Modification
7.2	The command is introduced.

## Input Syntax

**show**

## Example

### Command

```
BTI7000(config-gcc TenGigE 1/1/1)# show
```

if-name	State	Rate	IP	OSPF
gcc 1/1/1	OOS-AU,FLT	full	unnumbered	no

## shutdown

---

This command sets the administration state of GCC interface to disable (OOS). The no form enables (IS) GCC interface. The default state is enabled.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

GCC Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

[no] shutdown

### Example

#### Command

[no] shutdown

### System response and side effects

There is no system response if the command is successful.

### Related Commands

show

## 10.0 LAG interface configuration mode commands

---

This section lists the LAG Interface Configuration Mode Commands. This mode is entered from the Global Configuration Mode by using the command “[interface](#)”.

- “[admin-state {enable | disable}](#)”
- “[distribution](#)”
- “[max-links](#)”
- “[member interface <interface-type> <interface-id> \[mode <mode>\]](#)”
- “[min-links](#)”
- “[mtu](#)”
- “[shutdown](#)”

## admin-state {enable | disable}

---

This command sets the administrative state of the LAG service. The default state is enabled.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

LAG Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

**admin-state** {**enable** | **disable**}

### Example

#### Command

```
admin-state disable
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

show

## distribution

This command sets the distribution for the Link Aggregation Group (LAG). The **no** and **default** forms of this command reset the distribution back to its default value of mac.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

LAG Interface Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

[no|default] distribution {src-mac|dst-mac|src-dst-mac|src-ip|dst-ip|src-dst-ip}

Command Option	Description
src-mac	Distribution is by the source Media Access Control (MAC) address.
dst-mac	Distribution is by the destination Media Access Control (MAC) address.
src-dst-mac	Distribution is by the source and destination Media Access Control (MAC) address.
src-ip	Distribution is by the source Internet Protocol (IP) address.
dst-ip	Distribution is by the destination Internet Protocol (IP) address.
src-dst-ip	Distribution is by the source and destination Internet Protocol (IP) address.

### Example

#### Command

```
distribution src-dst-mac
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

None

## max-links

---

This command configures the maximum number of links that can be active in the Link Aggregation Group. By default, the value is set to eight.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

LAG Interface Configuration Mode

### Input Syntax

**[default] max-links** *<size>*

Parameter	Description	Range	Default Value
<i>size</i>	is the maximum number of links that can be active. <sup>1</sup>	1 to 8	8

<sup>1</sup>This parameter is not required for the **default** form of this command.

### Guidelines

Following are configuration considerations:

- The administrative state of the LAG must be disabled to configure the maximum number of links.
- The max-links value must not be less than the min-links value in the LAG.
- If the number of links in an aggregation exceeds the maximum value set, then the links with the lower LACP priority become active links.
- If this command is not issued on a LAG interface, the default is 8 links.
- The switch with the lowest LACP priority value decides the standby and active links in the aggregation.

### Example

#### Command

```
max-links 4
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

None

## member interface <interface-type> <interface-id> [mode <mode>]

This command adds interfaces to or removes them from a LAG. The **no** form of this command removes the interface.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

LAG Interface Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

[no] member <interface-type> <interface-id> [mode <mode>]

Parameter	Description	Range	Default Value
<i>interface-type</i>	is the interface type.	1.12, "Interfaces"	not applicable
<i>interface-id</i>	is the interface identifier.	1.12, "Interfaces"	not applicable
<i>mode</i>	is the mode of LACP protocol for the interface.	active passive on	"active" when the LAG has only active/passive members "on" when LAG has existing members with mode to ON

### Example

#### Command

```
member interface gigabitethernet 1/1/1 mode passive
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

```
show interfaces lag [<interface-id>] [brief]
```

## min-links

---

This command specifies the number of links in the LAG that must be active before the LAG can be declared up. If the number of active links is below this minimum, the LAG is declared down. The **no** or **default** form of this command sets the min-links parameter back to its default value.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

LAG Interface Configuration Mode

### Input Syntax

`[no|default] min-links <size>`

Parameter	Description	Range	Default Value
<i>size</i>	is the minimum number of links that must be active before the LAG can be declared up. <sup>1</sup>	1 to 8	1

<sup>1</sup>This parameter is not required for the **no** or **default** form of this command.

### Guidelines

Following are configuration considerations:

- The administrative state of the LAG must be disabled to configure the minimum number of links.
- The min-links value must not be greater than the max-links value in the LAG.

### Example

#### Command

```
min-links 2
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

None



## mtu

This command sets the Maximum Transmission Unit (MTU) size for the LAG. The **default** form of this command sets the MTU value back to the default value.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

LAG Interface Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

[no|default] **mtu** <size>

Parameter	Description	Range	Default Value
<i>size</i>	is the MTU size. <sup>1</sup>	1518 to 9600 bytes	1518

<sup>1</sup>This parameter is not required for the **default** form of this command.

### Example

#### Command

```
mtu 2048
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

None

## shutdown

---

This command sets the administration state for the LAG to enable or disable. The **no** form of this command enables the interface. The **default** state is enabled.



### Mode

LAG Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

[no] shutdown

### Example

#### Command

```
shutdown
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

None

## 11.0 Switchport configuration mode commands

---

This section lists the Switchport Configuration Mode commands. This mode is entered from the Global Configuration Mode by using the command “[switchport](#)”.

- “[acceptable-frame-type](#)”
- “[admin-state](#)”
- “[gvrp {enable | disable}](#)”
- “[port-type](#)”
- “[priority default <priority>](#)”
- “[pvid](#)”
- “[restrict-vlan-registration {enable | disable}](#)”
- “[set {ingress | egress} profile bandwidth <name>](#)”
- “[set profile dscp-phb <name>](#)”
- “[set profile l2control <profile-name>](#)”
- “[set profile pcp-encoding-decoding <name>](#)”
- “[set profile priority-tc-map <name>](#)”
- “[set profile scheduler <name>](#)”
- “[shutdown](#)”
- “[s-tag-ethertype](#)”
- “[spanning-tree <instance-id>](#)”
- “[trust-incoming-dscp {enable | disable}](#)”

- “trust-incoming-pcp {enable|disable}”
- “unset profile l2control”
- “usedei {enable|disable}”

## acceptable-frame-type

This command configures the acceptable frame type for the switchports used to restrict the type of frames that can ingress a port. This is based on either the absence or type of IEEE 802.1p/Q tag. The **default** and **no** forms of this command set the value back to the default all.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Switchport Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

`[no|default] acceptable-frame-type {all|tagged|untaggedAndPrioritytagged}`

Command Option	Description
<b>all</b>	accepts all frame types
<b>tagged</b>	accepts tagged frames only
<b>untaggedAndPrioritytagged</b>	accepts untagged and priority tagged frames

### Example

#### Command

```
acceptable-frame-type tagged
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

None

## admin-state

---

This command sets the 802.1 administration state for the switchport to enable or disable. When the switchport is enabled, it will forward traffic. When it is disabled, it will not forward traffic. The **default** state is enabled.



### Mode

Switchport Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

**admin-state** {enable|disable}

### Example

#### Command

```
admin-state disable
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

None

## gvrp {enable | disable}

This command sets the state of the GVRP operation for the port. When GVRP is enabled, the switch will run the GVRP protocol on this port. GVRP distributes VLAN forwarding information automatically. The default state is enabled.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Switchport Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

`gvrp {enable|disable}`

### Example

#### Command

```
gvrp disable
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

`show switchport`

## port-type

This command sets the switchport type. The default form of this command sets the value back to the default value. The following table shows the valid port types for the Provider bridge mode.

**Table 11-1 Port Types**

Bridge Mode	Port Type
Provider	customerEdgePort
	customerNetworkPort port-based
	providerNetworkPort (default)
	providerNetworkPortExternal

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Switchport Configuration Mode

### History

Release	Modification
7.1	The command is introduced.
13.2	The command was modified to add the switch port type for the E-NNI ( <b>providerNetworkPortExternal</b> ).

### Input Syntax

[no|default] **port-type** <type>

Parameter	Description	Range	Default Value
type	is the port type	See the Port Types table above.	See the Port Types table above.

**Note** When changing the port type of a switchport among PNP, CEP, and CNP, the system will reset parameter values back to their defaults.

### Example

#### Command

```
port-type customerNetworkPort port-based
```

#### System response and side effects

There is no system response if the command is successful.



### **Related Commands**

show virtual-switch

show switchport

## priority default <priority>

---

This command is used to provide a default priority when untagged traffic enters a tag-enabled port. The **no** form of this command resets the value to the default.

 Authorization Required Superuser Provisioning Maintenance Surveillance

### Mode

Switchport Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

**[no] priority default** <priority>

Parameter	Description	Range	Default Value
<i>priority</i>	is the priority. <sup>1</sup>	0 to 7	0

<sup>1</sup>This parameter is not required for the **no** form of this command.

### Example

#### Command

```
default priority 3
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

show switchport

## pvid

This command configures the Port VLAN Identifier (PVID) that is assigned to either untagged or priority-tagged frames. The **default** and **no** versions of this command set the PVID back to the default value (that is, 1).

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Switchport Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

`[no|default] pvid <vlan_id>`

Parameter	Description	Range	Default Value
<i>vlan_id</i>	is the VLAN identifier. <sup>1</sup>	0 (untagged), and 1 to 4094	1

<sup>1</sup>This parameter is not required for the **default** and **no** forms of this command.

### Example

#### Command

```
pvid 100
```

#### System response and side effects

There is no system response if the command is successful.

**Note** Setting the PVID will also put the port into the member set and untagged set for that VLAN.

### Related Commands

None

## restrict-vlan-registration {enable | disable}

---

This command enables or disables the port from being dynamically added to a VLAN. When enabled, the port can be dynamically added to the VLAN only if there is a static VLAN entry for that VLAN. The default state is disabled.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Switchport Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

`restrict-vlan-registration {enable|disable}`

### Example

#### Command

```
restrict-vlan-registration disable
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

`show switchport`

## set {ingress | egress} profile bandwidth <name>

This command sets the port to use the bandwidth profile specified by name for ingress or egress. The **unset** form of this command removes the bandwidth profile.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Switchport Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

[un]set {ingress|egress} profile bandwidth <name>

Parameter	Description	Range	Default Value
<i>name</i>	is the name of the profile.	1 to 32 alphanumeric characters. This name, and all other profile names, are case sensitive.	not applicable

### Example

#### Command

```
set ingress profile bandwidth goldService
set egress profile bandwidth goldService
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

“profile bandwidth <name>”

show switchport

show profile bandwidth [<profile-name>]

## set profile dscp-phb <name>

---

This command sets the port to use the DSCP PHB profile specified by name. The **unset** form of this command resets the DSCP PHB profile to the default profile.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Switchport Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

**[un]set profile dscp-phb** <name>

Parameter	Description	Range	Default Value
<i>name</i>	is the name of the profile.	1 to 32 alphanumeric characters	not applicable

### Example

#### Command

```
set profile dscp-phb Customer1
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

```
show profile dscp-phb
```

```
show switchport
```

## set profile l2control <profile-name>

This command sets the port to use the L2 Control profile specified. The **unset** form of this command removes the profile.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Switchport Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

**[un]set profile l2control** *<profile-name>*

Parameter	Description	Range	Default Value
<i>profile-name</i>	is the name of the profile.	1 to 32 alphanumeric characters	not applicable

### Example

#### Command

```
set profile l2control 1
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

```
show switchport
```

```
show profile l2control [<profile-name>]
```

## set profile pcp-encoding-decoding <name>

---

This command sets the port to use the PCP Encoding/Decoding profile specified by name. The **unset** form of this command sets the PCP Encoding/Decoding to the default profile.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Switchport Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

[un]set profile pcp-encoding-decoding <name>

Parameter	Description	Range	Default Value
<i>name</i>	is the name of the profile.	1 to 32 alphanumeric characters	not applicable

### Example

#### Command

```
set profile pcp-encoding-decoding Customer1
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

```
show profile pcp-encoding-decoding
```

```
show switchport
```



## set profile priority-tc-map <name>

This command sets the port to use the specified Priority Traffic Class Map profile. The **unset** form of this command resets the Priority Traffic Class Map to the default profile.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Switchport Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

`[un]set profile priority-tc-map <name>`

Parameter	Description	Range	Default Value
<i>name</i>	is the name of the profile.	1 to 32 alphanumeric characters	not applicable

### Example

#### Command

```
set profile priority-tc-map Customer1
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

```
show profile priority-tc-map
```

```
show switchport
```

## set profile scheduler <name>

---

This command sets the port to use the specified Scheduler profile.



### Mode

Switchport Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

**set profile scheduler** <name>

Parameter	Description	Range	Default Value
<i>name</i>	is the name of the profile.	1 to 32 alphanumeric characters	not applicable

### Example

#### Command

```
set profile schedule Customer1
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

show profile scheduler

show uni

## shutdown

This command sets the administration state for the 802.1 interface to either enable or disable. The **no** form of this command enables the switchport. The default state is enabled. This command is a synonym for the "admin-state" command. An admin-state of disabled is equivalent to the shutdown state.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Switchport Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

[no] shutdown

### Example

#### Command

```
shutdown
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

None

## s-tag-ethertype

---

This command sets the tag protocol identifier (TPID) for the service provider tag added to each frame on the switchport. The default and no versions of this command set the value back to its default value of 88A8.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Switchport Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

[no|default] **s-tag-ethertype** <tag-id>

Parameter	Description	Range	Default Value
<i>tag-id</i>	is the tag protocol identifier (TPID).	8100 9100 88A8	88A8

### Example

#### Command

```
s-tag-ethertype 9100
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

```
show switchport
```

## spanning-tree <instance-id>

This command enters the MSTP CIST and MSTI Port Configuration Mode to configure either the CIST for the port or an MST instance for the port. The CIST or MSTI port configuration is created if it does not already exist. Entering an instance identifier of zero (0) enters the CIST configuration for the port. Entering a valid instance identifier between 1 and 64 enters the MSTI configuration for the port.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Switchport Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

**spanning-tree** <instance-id>

Parameter	Description	Range	Default Value
<i>instance-id</i>	The spanning tree instance identifier number	<ul style="list-style-type: none"> <li>0: CIST</li> <li>1 to 64: MSTI</li> </ul>	Not applicable

### Example 1

#### Command

```
BTI7000:sw1(config-sp 1/1/1)# spanning-tree 0
```

#### System response and side effects

```
BTI7000:sw1(config-sp 1/1/1-cist)#
```

### Example 2

#### Command

```
BTI7000:sw1(config-sp 1/1/1)# spanning-tree 1
```

#### System response and side effects

```
BTI7000:sw1(config-sp 1/1/1-mtsi 1)#
```

### Related Commands

show spanning-tree mst

## trust-incoming-dscp {enable | disable}

---

This command sets the switchport to trust or not trust the incoming packet's DSCP field. If the value is set to disable, the incoming packet's field is ignored. The default value is enable.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Switchport Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

`trust-incoming-dscp {enable|disable}`

### Example

#### Command

```
trust-incoming-dscp disable
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

`show switchport`

## trust-incoming-pcp {enable|disable}

This command sets the switchport to trust or not trust the incoming packet's PCP field. If the value is set to disable, the incoming packet's field is ignored. The default value is enable.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Switchport Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

```
trust-incoming-pcp {enable|disable}
```

### Example

#### Command

```
trust-incoming-pcp disable
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

```
show switchport
```

## unset profile l2control

---

This command removes the L2 Control Profile from the switchport.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Switchport Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

```
unset profile l2control
```

### Example

#### Command

```
unset profile l2control
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

```
show profile l2control
```

```
show switchport
```



## usedei {enable|disable}

This command sets the switchport to use DEI bit on the S-TAG to lookup the PCP decoding table. The default is disable.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Switchport Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

`usedei {enable|disable}`

### Example

#### Command

```
usedei enable
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

`show profile pcp-encoding-decoding`

`show switchport`



## 12.0 VLAN configuration mode commands

---

This section lists the VLAN Configuration Mode commands. This mode is entered from the Global Configuration Mode by using the command “[vlan](#)”.

- “[admin-state](#)”
- “[forbid nni <interface-type> <interface-id>](#)”
- “[mac-learning](#)”
- “[member](#)”
- “[shutdown](#)”

## admin-state

---

This command sets the administration state of the VLAN to either enable or disable. The default state is enabled.



### Mode

VLAN Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

`admin-state {enable|disable}`

### Example

#### Command

```
admin-state disable
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

None

## forbid nni <interface-type> <interface-id>

This command adds an NNI to the forbidden port list. The **no** form of this command removes the NNI from the forbidden port list.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

VLAN Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

[no] forbid nni <interface-type><interface-id>

Parameter	Description	Range	Default Value
<i>interface-type</i>	is the interface type.	1.12, "Interfaces"	not applicable
<i>interface-id</i>	is the interface identifier.	1.12, "Interfaces"	not applicable

### Example

#### Command

```
forbid nni gigabitEthernet 1/2/1
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

```
show vlan
```

## mac-learning

---

This command enables or disables unicast MAC address learning for this VLAN. If MAC address learning is disabled, all packets received in this VLAN will be flooded to all the ports other than the receive port.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

VLAN Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

**mac-learning** {**enable**|**disable**}

### Example

#### Command

```
mac-learning enable
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

None

## member

This command adds tagged and untagged port members to or removes them from a VLAN. The **no** form of this command removes the port.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

VLAN Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

**[no] member switchport** <interface-type> <interface-id> {**tagged**|**untagged**}

Parameter	Description	Range	Default Value
<i>interface-type</i>	is the interface-type.	See <a href="#">1.12, "Interfaces"</a> .	not applicable
<i>interface-id</i>	is the interface identifier.	See <a href="#">1.12, "Interfaces"</a> .	not applicable
<b>tagged</b>	sets the member port to transmit VLAN tagged frames.	tagged	not applicable
<b>untagged</b>	Sets the member port to transmit untagged frames.	untagged	not applicable

### Example

#### Command

```
member switchport lag 2 untagged
      member switchport gigabit 1/1/1 tagged
```

#### System response and side effects

The user session enters the Switch Member Configuration mode if successful.

#### Related Commands

show vlan

## shutdown

---

This command shuts down the VLAN, and is equivalent to "admin-state disable".

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

VLAN Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

[no] shutdown

### Example

#### Command

```
shutdown
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

None



## 13.0 C-VLAN mapping mode commands

---

This section lists the C-VLAN Mapping Mode command. This mode is entered from the Global Configuration Mode by using the command “[c-vlan-map](#)”.

- “[map c-vlan](#)”

## map c-vlan

This command creates or modifies the mapping of a (customer private) C-VLAN to a (service) S-VLAN. The **no** form of this command removes the mapping.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

C-VLAN Mapping Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

```
[no] map c-vlan <vlan-range> s-vlan <service-vlan-id>
```

Parameter	Description	Range	Default Value
<i>vlan-range</i>	is a single VLAN or a single range of VLANs to map to the specified S-VLAN.  The range is specified as "x-y", where x is the start of the VLAN range and y is the last VLAN.	Each VLAN in the range must be between 1 and 4094. The end of the range must be greater than the beginning.	not applicable
<i>service-vlan-id</i>	is the service VLAN (S-VLAN) to map the C-VLANs to. The S-VLAN carries the packets from the specified C-VLAN through the network.		not applicable

## Example

### Command

```
BTI7000:sw1(config-c-vlan-if1/1/1)> map c-vlan 22 s-vlan 10
BTI7000:sw1(config-c-vlan-if1/1/1)> map c-vlan 40-100 s-vlan
20BTI7000:sw1(config-c-vlan-if1/1/1)>
```

### System response and side effects

The command does not have any additional output if it succeeds. The first command adds a mapping of C-VLAN 22 to S-VLAN 10. The second commands adds a mapping of all the C-VLANs from 40 to 100 (inclusive) to S-VLAN 20. The S-VLANs must already exist in the vlan Table for the commands to succeed.

### Related Commands

show c-vlan-map



## 14.0 UNI configuration mode commands

---

This section lists the UNI Configuration Mode commands. This mode is entered from the Global Configuration Mode by using the command “[uni <interface-type> <interface-id>](#)”.

- “[admin-state {enable|disable}](#)”
- “[c-pvid <c-vlan-id>](#)”
- “[eservice <service-name>](#)”
- “[frame-size <bytes>](#)”
- “[priority default <priority>](#)”
- “[service-type {private|virtual-multiple|virtual-single|virtual-untagged}](#)”
- “[set {ingress|egress} profile bandwidth <name>](#)”
- “[set profile dscp-phb <name>](#)”
- “[set profile l2control <profile-name>](#)”
- “[set profile pcp-encoding-decoding <name>](#)”
- “[set profile priority-tc-map <name>](#)”
- “[set profile scheduler <name>](#)”
- “[show](#)”
- “[shutdown](#)”
- “[trust-incoming-dscp {enable|disable}](#)”
- “[trust-incoming-pcp {enable|disable}](#)”
- “[usedei {enable|disable}](#)”

## admin-state {enable|disable}

---

This command sets the administrative state of the UNI switchport. The default state is enabled.



### Mode

UNI Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

`admin-state {enable|disable}`

### Example

#### Command

```
admin-state disable
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

show

## c-pvid <c-vlan-id>

This command sets the Port VLAN ID at the customer level for this UNI. This field is valid only if UNIServiceType is virtualUntagged. The **no** form of this command resets the value to the default.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

UNI Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

[no] c-pvid <c-vlan-id>

Parameter	Description	Range	Default Value
c-vlan-id	is the VLAN identifier. <sup>1</sup>	0 to 4094	1

<sup>1</sup>This parameter is not required for the **no** form of this command.

### Example

#### Command

```
c-pvid 100
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

```
show unis [<interface-type> [<interface-id>] ] [brief]
```

## eservice <service-name>

---

This command allows the administrator to associate a UNI to an Ethernet Service. The **no** form of this command removes the association.

The command is an alternative to the uni command in the eservice command mode. This command puts you into the uni-eservice mode.



### Mode

UNI Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

[no] **eservice** <service-name>

Parameter	Description	Range	Default Value
service-name	is the name of the Ethernet server.	1 to 32 alphanumeric characters	not applicable

### Example

#### Command

```
eservice starbucks
```

#### System response and side effects

The prompt is changed if the command is successful.

#### Related Commands

```
show eservice
```



## frame-size <bytes>

This command sets the maximum frame size of the UNI. The **no** form of this command sets the frame size back to the default value.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

UNI Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

[no] frame-size <bytes>

Parameter	Description	Range	Default Value
<i>bytes</i>	is the maximum frame size. 1	1518 to 9600	1522

<sup>1</sup>This parameter is not required for the **no** form of this command.

### Example

#### Command

```
frame-size 2048
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

```
show unis [<interface-type> [<interface-id>] ] [brief]
```

## priority default <priority>

This command provides a default priority when untagged and priority tagged traffic enters a tag-enabled port. The **no** form of this command resets the value to the default. This is the same command as “[priority default <priority>](#)” in the Switchport Configuration mode.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

UNI Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

```
[no] priority default <priority>
```

Parameter	Description	Range	Default Value
<i>priority</i>	is the priority. <sup>1</sup>	0 to 7	0

<sup>1</sup>This parameter is not required for the **no** form of this command.

### Example

#### Command

```
default priority 3
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

```
show
```

## **service-type {private|virtual-multiple|virtual-single|virtual-untagged}**

This command changes the mode of the UNI. The mode is a combination of the MEF variables for multiplexing, bundling and all-to-one-bundling.



### **Mode**

UNI Configuration Mode

### **History**

Release	Modification
7.2	The command is introduced.

### **Input Syntax**

```
service-type {private|virtual-multiple|virtual-single|virtual-untagged}
```

### **Example**

#### **Command**

```
service-type private
```

#### **System response and side effects**

There is no system response if the command is successful.

### **Related Commands**

```
show unis [<interface-type> [<interface-id>] ] [brief]
```

## set {ingress|egress} profile bandwidth <name>

---

This command sets the port to use the bandwidth profile specified by name for ingress or egress. The **unset** form of this command removes the bandwidth profile.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

UNI Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

[un]set {ingress|egress} profile bandwidth <name>

Parameter	Description	Range	Default Value
<i>name</i>	is the name of the profile.	1 to 32 alphanumeric characters	not applicable

### Example

#### Command

```
set ingress profile bandwidth goldService
```

```
set egress profile bandwidth goldService
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

```
show unis [<interface-type> [<interface-id>] ] [brief]
```

```
show profile bandwidth [<profile-name>]
```

## set profile dscp-phb <name>

This command sets the port to use the DSCP PHB profile specified by name. The **unset** form of this command resets the DSCP PHB profile to the default profile.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

UNI Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

**set profile dscp-phb** <name>

Parameter	Description	Range	Default Value
<i>name</i>	is the name of the profile.	1 to 32 alphanumeric characters	not applicable

### Example

#### Command

```
set profile dscp-phb DEFAULT_DSCP_PHB_PROFILE
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

```
show profile dscp-phb
```

```
show unis [<interface-type> [<interface-id>] ] [brief]
```

## set profile l2control <profile-name>

---

This command specifies the L2 Control frame profile to use on the UNI switchport. The **unset** form of this command removes the profile.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

UNI Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

**[un]set profile l2control** *<profile-name>*

Parameter	Description	Range	Default Value
<i>profile-name</i> <i>Enter parameter here</i>	is the name of the profile.	1 to 32 alphanumeric characters	not applicable

### Example

#### Command

```
set profile l2control 1
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

```
show unis [<interface-type> [<interface-id>] ] [brief]
```

```
show profile l2control [<profile-name>]
```

## set profile pcp-encoding-decoding <name>

This command sets the port to use the specified PCP Encoding/Decoding profile. There are four pre-defined profiles:

- DEFAULT\_5P3D\_PROFILE
- DEFAULT\_6P2D\_PROFILE
- DEFAULT\_7P1D\_PROFILE
- DEFAULT\_8P0D\_PROFILE

The **unset** form of this command sets the PCP Encoding/Decoding to the default profile.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

UNI Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

**[un]set profile pcp-encoding-decoding** <name>

Parameter	Description	Range	Default Value
<i>name</i>	is the name of the profile.	1 to 32 alphanumeric characters	not applicable

### Example

#### Command

```
set profile pcp-encoding-decoding DEFAULT_5P3D_PROFILE
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

```
show profile pcp-encoding-decoding
```

```
show unis [<interface-type> [<interface-id>] ] [brief]
```

## set profile priority-tc-map <name>

---

This command sets the port to use the specified Priority Traffic Class Map profile. The **unset** form of this command resets the Priority Traffic Class Map to the default profile.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

UNI Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

**[un]set profile priority-tc-map <name>**

Parameter	Description	Range	Default Value
<i>name</i>	is the name of the profile.	1 to 32 alphanumeric characters	not applicable

### Example

#### Command

```
set profile priority-tc-map Customer1
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

```
show profile priority-tc-map
```

```
show unis [<interface-type> [<interface-id>]] [brief]
```



## set profile scheduler <name>

This command sets the port to use the specified Scheduler profile. The **unset** form of this command removes the profile.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

UNI Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

**[un]set profile scheduler** <name>

Parameter	Description	Range	Default Value
<i>name</i>	is the name of the profile.	1 to 32 alphanumeric characters	not applicable

### Example

#### Command

```
set profile scheduler Customer1
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

```
show profile scheduler
```

```
show unis [<interface-type> [<interface-id>] ] [brief]
```

## show

---

This command displays the state of the UNI being configured. This is the same command as “[show unis brief](#)”.



### Mode

UNI Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

**show**

### Example

#### Command

```
BTI7000# show
```

#### System response and side effects

```
Uni GigE 1/1/8:
  Virtual Switch is 1
  Admin Status is enabled, Operational Status is up
  full duplex, 1000Mb/s
  Max frame size is 9600, Maximum service frame size is 1522
  Service type is virtual-multiple
  Number of Ethernet services is 111
  C-PVID is 0
  Port type is Multiple Ethernet Virtual Connection (UNI)
  Default Priority is 0
  useDEI is disabled
  Trust Incoming PCP is enabled
  Trust Incoming DSCP is enabled
  Profiles:
    Control Frame:          "DEFAULT_EVP_ALL_PROFILE"
    Scheduler:              "DEFAULT_SCHEDULER_PROFILE"
    Priority Traffic Class Map: "DEFAULT_PRIORITY_TC_MAP_PROFILE"
    PCP Encoding/Decoding:  "DEFAULT_8P0D_PROFILE"

  Associated Ethernet Services:
    EVPLAN_1
```

EVPLAN\_2

EVPLAN\_3

### **Related Commands**

None

## shutdown

---

This command sets the administration state for the Switchport to enable or disable. The **no** form of this command enables the switchport. The default state is enabled.

**Note** This is the same as the “admin-state” command in the Switchport Configuration Mode.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

UNI Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

[no] shutdown

### Example

#### Command

```
shutdown
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

None

## trust-incoming-dscp {enable|disable}

This command sets the UNI switchport to trust or not trust the incoming packet's DSCP field. If the value is set to disable, the incoming packet's field is ignored. The default value is enable. This is the same command as “[trust-incoming-dscp {enable | disable}](#)” in the Switchport Configuration Mode.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

UNI Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

```
trust-incoming-dscp {enable|disable}
```

### Example

#### Command

```
trust-incoming-dscp disable
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

```
show
```

## trust-incoming-pcp {enable|disable}

---

This command sets the UNI switchport to trust or not trust the incoming packet's PCP field. If the value is set to disable, the incoming packet's field is ignored. The default value is enable. This is the same command as “[trust-incoming-pcp {enable|disable}](#)” in the Switchport Configuration Mode.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

UNI Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

```
trust-incoming-pcp {enable|disable}
```

### Example

#### Command

```
trust-incoming-pcp disable
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

```
show
```

## usedei {enable|disable}

**Note** In Releases 7.3 and later, there is no effect when this command is used on a UNI switchport.

This command sets the UNI switchport to use DEI bit on the S-TAG to lookup the PCP decoding table. The default is disable. This is the same command as “[usedei {enable|disable}](#)” in the Switchport Configuration Mode.



### Mode

UNI Configuration Mode

### Input Syntax

```
usedei {enable|disable}
```

### Example

#### Command

```
usedei enable
```

### System response and side effects

There is no system response if the command is successful.

### Related Commands

```
show profile pcp-encoding-decoding
```

```
show unis
```





## 15.0 NNI configuration mode commands

---

This section lists the NNI Configuration Mode commands. This mode is entered from the Global Configuration Mode by using the command “`nni <interface-type> <interface-id>`”.

- “`admin-state {enable|disable}`”
- “`frame-size <bytes>`”
- “`gvrp {enable|disable}`”
- “`restrict-vlan-registration {enable|disable}`”
- “`set {ingress|egress} profile bandwidth <name>`”
- “`set profile dscp-phb <name>`”
- “`set profile pcp-encoding-decoding <name>`”
- “`set profile priority-tc-map <name>`”
- “`set profile scheduler <name>`”
- “`show`”
- “`shutdown`”
- “`spanning-tree <instance-id>`”
- “`s-tag-ethertype`”
- “`storm-control`”
- “`s-vlan-translate`”
- “`trust-incoming-dscp {enable|disable}`”
- “`trust-incoming-pcp {enable|disable}`”
- “`usedei {enable|disable}`”

## admin-state {enable|disable}

---

This command sets the administrative state of the NNI switchport. The default state is enable. This is the same command as “[admin-state](#)” in the Switchport Configuration Mode.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

NNI Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

**admin-state** {**enable**|**disable**}

### Example

#### Command

```
admin-state disable
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

show

## frame-size <bytes>

This command is used to set the maximum frame size of the NNI. The **no** form of this command sets the frame size back to the default value.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

NNI Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

[no] frame-size <bytes>

Parameter	Description	Range	Default Value
bytes	is the maximum frame size. 1	1518 to 9600 alphanumeric characters	1526

<sup>1</sup>This parameter is not required for the **no** form of this command.

### Example

#### Command

```
frame-size 2048
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

```
show nnis [<interface-type> [<interface-id>]] [brief]
```

## gvrp {enable|disable}

---

This command sets the state of the GVRP operation for the port. The default state is enable. This is the same command as “[gvrp {enable | disable}](#)” in the Switchport Configuration Mode.

A gray button with the text "Authorization Required".A blue button with the text "Superuser".A blue button with the text "Provisioning".A gray button with the text "Maintenance".A gray button with the text "Surveillance".

### Mode

NNI Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

**gvrp {enable|disable}**

### Example

#### Command

```
gvrp disable
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

**show nnis** [<interface-type> [<interface-id>]] [brief]

## restrict-vlan-registration {enable|disable}

This command enables or disables the port from being dynamically added to a VLAN. When enabled, the port can be dynamically added to the VLAN only if there is a static VLAN entry for that VLAN. The default state is disabled. This is the same command as “[restrict-vlan-registration {enable | disable}](#)” in the Switchport Configuration Mode.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

NNI Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

```
restrict-vlan-registration {enable|disable}
```

### Example

#### Command

```
restrict-vlan-registration disable
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

```
show nnis [<interface-type> [<interface-id>]] [brief]
```

## set {ingress|egress} profile bandwidth <name>

---

This command sets the NNI to use the specified bandwidth profile for ingress or egress. The **unset** form of this command removes the bandwidth profile. This is the same command as “**set {ingress | egress} profile bandwidth <name>**” in the Switchport Configuration Mode.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

NNI Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

[un]set {ingress|egress} profile bandwidth <name>

Parameter	Description	Range	Default Value
<i>name</i>	is the name of the profile.	1 to 32 alphanumeric characters	not applicable

### Example

#### Command

```
set ingress profile bandwidth goldService
```

```
set egress profile bandwidth goldService
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

```
show nnis [<interface-type> [<interface-id>]] [brief]
```

```
show profile bandwidth [<profile-name>]
```

## set profile dscp-phb <name>

This command sets the NNI to use the DSCP PHB profile specified by name. The **unset** form of this command resets the DSCP PHB profile to the default profile. This command is the same as “set profile dscp-phb <name>” in Switchport Configuration Mode.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

NNI Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

**set profile dscp-phb** <name>

Parameter	Description	Range	Default Value
<i>name</i>	is the name of the profile.	1 to 32 alphanumeric characters	not applicable

### Example

#### Command

```
set profile dscp-phb DEFAULT_DSCP_PHB_PROFILE
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

```
show profile dscp-phb
```

```
show nnis [<interface-type> [<interface-id>]] [brief]
```

## set profile pcp-encoding-decoding <name>

This command sets the NNI to use the specified PCP Encoding/Decoding profile. The **unset** form of this command sets the PCP Encoding/Decoding to the default profile. There are four pre-defined profiles:

- DEFAULT\_5P3D\_PROFILE
- DEFAULT\_6P2D\_PROFILE
- DEFAULT\_7P1D\_PROFILE
- DEFAULT\_8P0D\_PROFILE



### Mode

NNI Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

**[un]set profile pcp-encoding-decoding** <name>

Parameter	Description	Range	Default Value
<i>name</i>	is the name of the profile.	1 to 32 alphanumeric characters	not applicable

### Example

#### Command

```
set profile pcp-encoding-decoding DEFAULT_5P3D_PROFILE
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

```
show profile pcp-encoding-decoding
```

```
show nnis [<interface-type> [<interface-id>]] [brief]
```



## set profile priority-tc-map <name>

This command sets the port to use the specified Priority Traffic Class Map profile. The **unset** form of this command resets the Priority Traffic Class Map to the default profile. This is the same command as “**set profile priority-tc-map <name>**” in the Switchport Configuration Mode.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

NNI Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

[un]set profile priority-tc-map <name>

Parameter	Description	Range	Default Value
<i>name</i>	is the name of the profile.	1 to 32 alphanumeric characters	not applicable

### Example

#### Command

```
set profile priority-tc-map Customer1
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

```
show profile priority-tc-map
```

```
show nnis [<interface-type> [<interface-id>]] [brief]
```

## set profile scheduler <name>

---

This command sets the NNI to use the specified scheduler profile. The **unset** form of this command sets the Scheduler to the default profile. This command is the same as “[set profile scheduler <name>](#)” in Switchport Configuration Mode.



### Mode

NNI Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

`[un]set profile scheduler <name>`

Parameter	Description	Range	Default Value
<i>name</i>	is the name of the profile.	1 to 32 alphanumeric characters	not applicable

### Example

#### Command

```
set profile scheduler Customer1
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

```
show profile scheduler
```

```
show nnis [<interface-type> [<interface-id>]] [brief]
```

## show

This command displays the state of the NNI currently being configured. This is the same command as “`nni <interface-type> <interface-id>`” in the Global Configuration Mode.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

NNI Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

show

### Example

#### Command

```
BTI7000# show
```

#### System response and side effects

```
Nni TenGigE 1/1/2:
  Virtual Switch is 1
  Admin Status is enabled, Operational Status is up
  full duplex, 10000Mb/s
  Max frame size is 1522
  Port type is (NNI)
  Provider tag ethertype (TPID) is 88A8
  useDEI is disabled
  Trust Incoming PCP is enabled
  Trust Incoming DSCP is enabled
  Acceptable Frame Type is VLAN tagged
  Ingress Filtering is enabled
  GVRP is enabled
  Number of failed GVRP registrations is 0
  Last PDU Origin is 00-14-d0-00-1e-7d
  Restricted VLAN Registration is disabled
  Profiles:
    Scheduler: "DEFAULT_SCHEDULER_PROFILE"
    Priority Traffic Class Map: "DEFAULT_PRIORITY_TC_MAP_PROFILE"
    PCP Encoding/Decoding: "DEFAULT_8P0D_PROFILE"
```

Associated Ethernet Services:  
ERPS\_EService

### **Related Commands**

None

# shutdown

This command sets the administration state for the Switchport to enable or disable. The **no** form of this command enables the switchport. The default state is enabled.

**Note** This is the same as the “admin-state” command in the Switchport Configuration Mode.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

## Mode

NNI Configuration Mode

## History

Release	Modification
7.2	The command is introduced.

## Input Syntax

[no] shutdown

## Example

### Command

```
shutdown
```

### System response and side effects

There is no system response if the command is successful.

## Related Commands

None

## spanning-tree <instance-id>

---

This command enters the MSTP CIST Port & MSTI Port Configuration Mode to configure either the CIST for the port or an MST instance for the port. The CIST or MSTI port configuration is created if it does not already exist. Entering an instance identifier of zero (0) enters the CIST configuration for the port. Entering a valid instance identifier between 1 and 64 enters the MSTI configuration for the port. This is the same command as “[spanning-tree <instance-id>](#)” in the Switchport Configuration Mode.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

NNI Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

[no] **spanning-tree** <*instance-id*>

### Example 1

#### Command

```
BTI7000:sw1(config-sp 1/1/1)# spanning-tree 0
```

#### System response and side effects

```
BTI7000:sw1(config-sp 1/1/1 cist)#
```

### Example 2

#### Command

```
BTI7000:sw1(config-sp 1/1/1)# spanning-tree 1
```

#### System response and side effects

```
BTI7000:sw1(config-sp 1/1/1 msti)#
```

### Related Commands

show spanning-tree mst

## s-tag-ethertype

This command sets the tag protocol identifier (TPID) for the service provider tag added to each frame on the NNI switchport. The **default** and **no** versions of this command set the value back to its default value.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

NNI Configuration Mode

### History

### Input Syntax

[no|default] **s-tag-ethertype** <tag-id>

Parameter	Description	Range	Default Value
tag-id	is the tag protocol identifier (TPID).	8100 9100 88A8	88A8

### Guideline

Setting the tag protocol identifier (TPID) on an NNI port to 8100 causes Egress BW Profiles on UNI ports on that switch to not work correctly. This occurs only when the UNI is on a different packetVX from the NNI port, since traffic needs to cross the stacking port to get from the NNI to the UNI.

Do not provision NNI ports with a TPID value of 8100. To inter-operate with third-party equipment using 8100 TPID on NNI links, terminate that on a non-stacked packetVX.

### Example

#### Command

```
s-tag-ethertype 9100
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

```
show nnis [<interface-type> [<interface-id>]] [brief]
```

## s-vlan-translate

This command is used to perform S-VLAN translation. The **no** version of this command removes the S-VLAN translation.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

NNI Configuration Mode

### Input Syntax

**[no|default] s-vlan-translate** *<internal {s-vlan id} external {vlan id} >*

Parameter	Description	Range	Note
<i>internal &lt;s-vlan id&gt;</i>	internal S-VLAN ID	2 - 4090	The external and internal SVLAN value must not have the same ID  An external VLAN can be mapped to only one internal SVLAN
<i>external &lt;vlan id&gt;</i>	external VLAN ID	2 - 4094	

### Guideline

Before entering the s-vlan-translate command the user should create the internal VLAN and ensure the NNI port(s) are a member of the VLAN. MSTP and GVRP must be disabled on these ports. (MSTP is enabled in the default configuration. However if the switch is configured with ERPS, MSTP is automatically disabled.)

### Example of creating a VLAN and configuring the NNI ports as a member

```
BTI70000:sw1(config)# vlan11
```

```
BTI70000:sw1(config-vlan11)# member switchport gig 1/1/3 tag
```

```
BTI70000:sw1(config-vlan11)#
```

To change the external VLAN translation use **s-vlan-translate** *<internal {s-vlan id} external {vlan id} >*

To delete a S-VLAN translation on the NNI port, use **no s-vlan-translate** *<internal {s-vlan id} external {vlan id} >*. Then enable GVRP and MSTP, if required.

The following S-VLAN translation rules apply :

- Each internal VLAN is mapped to only one external VLAN across an NNI and vice versa
- Eservices cannot be set on ports with S-VLAN translation
- S-VLAN translation cannot be set on ports with Eservices



- S-VLAN translation is not supported on Management VLAN (M-VLAN)

### Example

These commands show how to disable GVRP and MSTP and then create a S-VLAN translation.

### Command

```
BTI70000:sw1(config-nni Gige 1/1/3)# gvrp disable
BTI70000:sw1(config-nni Gige 1/1/3)# spanning-tree 0
BTI70000:sw1(config-nni Gige 1/1/3 ~ )# port-state disable
BTI70000:sw1(config-nni Gige 1/1/3 ~ )# exit
BTI70000:sw1(config-nni Gige 1/1/3)# s-vlan-translate internal 11 external 111
```

To view the S-VLAN setting:

```
BTI70000:sw1(config-nni Gige 1/1/3)# show
```

### System response and side effects

There is no system response if the command is successful.

<b>Note</b>	An error message will be displayed if you try to map an external VLAN ID which has previously been assigned to an internal S-VLAN. (See the example below).  % The external Vlan already exists in svlan translation of this port
-------------	---

### Related Commands

- show (Shows the MSTP, GVRP and if configured, the S-VLAN translation)
- gvrp {enable | disable}. (Enables or disables GVRP)
- spanning-tree <instance id> port-state {disable | enable }. (Enables or disables MSTP)
- [no] member switchport <interface-type> <interface-id> {tagged|untagged} (Adds or removes port members to or from a VLAN).

## storm-control

---

This command configures line rate limits to manage egress traffic on NNI ports, caused by excessive ingress Broadcast, Multicast and Unicast DLF traffic. The line rate limits are pre-defined, as follows:

- 60%
- 40%
- 20%
- 100%

By default, the limits on the Broadcast, Multicast and Unicast DLF traffic are set to 100%, which means that Storm Control protection is not configured.

The **no** version of the command disables configured line rate limits.



### Mode

NNI Configuration Mode

### History

Release	Modification
9.2	The command is introduced.

### Input Syntax

```
[no] storm-control {broadcast|multicast|unicast}<rate>
```

### Example 1

This example configures storm-control for all traffic-types.

```
BTI7000:sw1(config-nni TenGigE 1/1~)# storm-control broadcast 60
BTI7000:sw1(config-nni TenGigE 1/1~)# storm-control multicast 20
BTI7000:sw1(config-nni TenGigE 1/1~)# storm-control unicast 40
BTI7000:sw1(config-nni TenGigE 1/1~)# $ 1/1~)#
```

### Example 2

This example displays the output of the storm control configuration.

```
BTI7000:sw1(config-nni TenGigE 1/1~)# show
```

### System response and side effects

```
BTI7000:sw1(config-nni TenGigE 1/1~)# show
Nni TenGigE 1/1/2:
```

```
Virtual Switch is 1
Admin Status is enabled, Operational Status is down
full duplex, 10000Mb/s
Max frame size is 9600
Port type is (NNI)
PVID is 1
Provider tag ethertype (TPID) is 88A8
useDEI is enabled
Trust Incoming PCP is enabled
Trust Incoming DSCP is enabled
Acceptable Frame Type is VLAN tagged
GVRP is enabled
Number of failed GVRP registrations is 0
Last PDU Origin is 00-00-00-00-00-00
Restricted VLAN Registration is disabled
Storm-control:
  broadcast: 60%
  multicast: 20%
  unicast-dlf: disabled
Profiles:
  Scheduler: "DEFAULT_SCHEDULER_PROFILE"
  Priority Traffic Class Map: "DEFAULT_PRIORITY_TC_MAP_PROFILE"
  PCP Encoding/Decoding: "DEFAULT_8P0D_PROFILE"
```

```
BTI7000:sw1(config-nni TenGigE 1/1~)#
```

### Example 3

This example disables storm control on unicast traffic, and displays the portion of the output that only includes the storm control configuration.

```
BTI7000:sw1(config-nni TenGigE 1/1~)# no storm-control unicast
BTI7000:sw1(config-nni TenGigE 1/1~)#
```

### System response and side effects

```
Storm-control:
  broadcast: 60%
  multicast: 20%
  unicast-dlf: disabled
```

### Related Commands

**show**

## trust-incoming-dscp {enable|disable}

---

This command sets the NNI switchport to trust or not trust the incoming packet's DSCP field. If the value is set to disable, the incoming packet's field is ignored. The default value is enable. This is the same command as “[trust-incoming-dscp {enable | disable}](#)” in the Switchport Configuration Mode.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

NNI Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

```
trust-incoming-dscp {enable|disable}
```

### Example

#### Command

```
trust-incoming-dscp disable
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

```
show
```

## trust-incoming-pcp {enable|disable}

This command sets the NNI switchport to trust or not trust the incoming packet's PCP field. If the value is set to disable, the incoming packet's field is ignored. The default value is enable. This is the same command as “trust-incoming-pcp {enable|disable}” in the Switchport Configuration Mode.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

NNI Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

```
trust-incoming-pcp {enable|disable}
```

### Example

#### Command

```
trust-incoming-pcp disable
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

```
show
```

## usedei {enable|disable}

---

This command sets the NNI switchport to use DEI bit on the S-TAG to lookup the PCP decoding table. The default is disable. This is the same command as “[usedei {enable|disable}](#)” in the Switchport Configuration Mode.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

NNI Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

```
usedei {enable|disable}
```

### Example

#### Command

```
usedei enable
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

```
show profile pcp-encoding-decoding
```

```
show
```

## 16.0 NNI Eservice configuration mode commands

---

This section lists the NNI Eservice Configuration Mode commands. This mode is entered from the Global Configuration Mode by using the command “[nni <interface-type> <interface-id>](#)”.

- “[cfm mip](#)”
- “[set service-policy](#)”

## cfm mip

---

This command creates or deletes a MIP for this Service-NNI.

The no form deletes the MIP for this Eservice-NNI.

**Note** This command is only valid if MIP Autocreate is disabled in the Virtual-Switch.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

NNI Eservice Configuration Mode

### History

Release	Modification
7.3	The command is introduced.

### Input Syntax

[no] **cfm mip**



### **Example**

#### **Command**

`cfm mip`

#### **System response and side effects**

Nothing if command is successful.

#### **Related Commands**

`show`

## set service-policy

---

This command sets the NNI Eservice to use the specified QoS policy. The policy is defined with the service-policy <name> command.

The no form of this command will remove the policy.



### Mode

NNI Eservice Configuration Mode

### History

Release	Modification
7.3	The command is introduced.

### Input Syntax

```
[no]set { ingress | egress } service-policy <name>
```

Parameter	Description	Range	Default Value
<i>name</i>	Name of the service-policy	1-32 alphanumeric characters	Not applicable

**Example****Command**

```
set ingress service-policy goldService
set egress service-policy goldService
```

**System response and side effects**

Nothing if command is successful.

**Related Commands**

```
show profile bandwidth
```



## 17.0 E-NNI configuration mode commands

---

This section lists the E-NNI Configuration Mode commands. This mode is entered from the Global Configuration Mode by using the command “[enni <interface-type> <interface-id>](#)”.

- “admin state”
- “default”
- “eservice”
- “frame-size”
- “s-tag-ethertype ”
- “show”
- “set {ingress |egress} profile bandwidth”
- “set profile dscp-phb”
- “set profile pcp-encoding-decoding <name>”
- “set profile priority-tc-map <name>”
- “set profile scheduler <name>”
- “shutdown”
- “storm-control”
- “trust-incoming-dscp {enable|disable}”
- “trust-incoming-pcp {enable|disable}”
- “usedei {enable|disable}”

## admin state

---

This command sets the administrative state of the E-NNI switch port. The default state is enable.



### Mode

E-NNI Configuration Mode

### History

Release	Modification
13.2	The command is introduced.

### Input Syntax

**admin-state** {**enable**|**disable**}

### Example

#### Command

```
admin-state disable
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

show

# default

This command resets the maximum frame size back to its default value and resets the Tag Protocol ID (TPID) for the service provider tag.



## Mode

E-NNI Configuration Mode

## History

Release	Modification
13.2	The command is introduced.

## Input Syntax

`default {frame-size | s-tag-ethertype }`

## Example

### Command

`default frame-size`

### System response and side effects

There is no system response if the command is successful.

## Related Commands

`show`

## eservice

---

This command associates the E- NNI to an access Ethernet Service. Before issuing this command you must have created the eservice and the OVC, using the access enable command and assigned an SVLAN to the access service.



### Mode

E-NNI Configuration Mode

### History

Release	Modification
13.2	The command is introduced.

### Input Syntax

**eservice** {string}

<b>Note</b>	Performing the command <b>eservice ?</b> will display a list of provisioned eservices.
-------------	--

### Example

#### Command

```
BTI7000:sw1# configure terminal
BTI7000:sw1(config)# eservice Cust2014 type EPLINE
BTI7000:sw1(config-eservice)# s-vlan 1024
BTI7000:sw1(config-eservice)# access enable

BTI7000:sw1(config-enni GigE 1/1/3)# eservice Cust2014
BTI7000:sw1(config-enni-eservice)#
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

show



## frame-size

This command sets the maximum frame size of the E-NNI. The **no** form of this command sets the frame size back to the default value.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

E-NNI Configuration Mode

### History

Release	Modification
13.2	The command is introduced.

### Input Syntax

**[no] frame-size** *<bytes>*

Parameter	Description	Range	Default Value
<i>bytes</i>	is the maximum frame size. 1	1526 - 9600 alphanumeric characters	1526

<sup>1</sup>This parameter is not required for the **no** form of this command.

### Example

#### Command

```
frame-size 2048
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

```
show ennis [<interface-type> [<interface-id>]] [brief]
```

## s-tag-ethertype

---

This command sets the tag protocol identifier (TPID) for the service provider tag added to each frame on the E-NNI switchport. The **default** and **no** versions of this command set the value back to its default value.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

E-NNI Configuration Mode

### History

Release	Modification
13.2	The command is introduced.

### Input Syntax

[no|default]s-tag-ethertype <tag-id>

Parameter	Description	Range	Default Value
tag-id	is the tag protocol identifier (TPID).	8100 9100 88A8	88A8

### Guideline

Setting the tag protocol identifier (TPID) on an E-NNI port to 8100 causes Egress BW Profiles on UNI ports on that switch to not work correctly. This occurs only when the UNI is on a different packetVX from the E-NNI port, since traffic needs to cross the stacking port to get from the E-NNI to the UNI.

Do not provision E-NNI ports with a TPID value of 8100. To inter-operate with third-party equipment using 8100 TPID on E-NNI links, terminate that on a non-stacked packetVX.

### Example

#### Command

```
s-tag-ethertype 9100
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

show enni [<interface-type> [<interface-id>]] [brief]

## show

---

This command displays the state of the E-NNI currently being configured.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

E-NNI Configuration Mode

### History

Release	Modification
13.2	The command is introduced.

### Input Syntax

show

### Example

#### Command

```
BTI7000# show
```

#### System response and side effects

```
BTI7000:sw1(config-enni GigE 1/1/14)# show
```

```
Enni GigE 1/1/14:
```

```
Virtual Switch is 1
```

```
Admin Status is enabled, Operational Status is down
```

```
full duplex, 1000Mb/s
```

```
Max frame size is 9600
```

```
Port type is (ENNI)
```

```
PVID is 1
```

```
Provider tag ethertype (TPID) is 88A8
```

```
useDEI is enabled
```

```
Trust Incoming PCP is enabled
```

```
Trust Incoming DSCP is enabled
```

```
Storm-control:
```

```
broadcast: disabled
```

```
multicast: disabled
```

```
unicast-dlf: disabled
```

```
Profiles:
```

```
Scheduler: "DEFAULT_SCHEDULER_PROFILE"
```

```
Priority Traffic Class Map: "DEFAULT_PRIORITY_TC_MAP_PROFILE"
```

```
PCP Encoding/Decoding: "DEFAULT_8P0D_PROFILE"
```

## set {ingress | egress} profile bandwidth

This command sets the ingress and egress bandwidth profile for an E-NNI. The bandwidth profile must be created before issuing this command.

The **unset** form of this command removes the bandwidth profile.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

E-NNI Configuration Mode

### History

Release	Modification
13.2	The command is introduced.

### Input Syntax

[un]set {ingress | egress} profile bandwidth <name>

Parameter	Description	Range	Default Value
<i>name</i>	is the name of the profile.	1 to 32 alphanumeric characters	not applicable

### Example

#### Command

The bandwidth profile must be created before issuing this command. For example this command shows how to create a bandwidth profile named Platinum and displays its provisionable attributes.

```
BTI7000:sw1(config)# profile bandwidth platinum
Profile "platinum" created.
BTI7000:sw1(config-profile-bw)# ?
conform-action      - Configure action for the bandwidth profile
exceed-action       - Configure action for packets exceeding CIR limits
internal-priority    - Configure the internal priority value
meter               - Configure the Meter engine
police              - Configure the Committed Information Rate
```

The meter mode must be set to two rated TCM mode in the ingress bandwidth profile and single rated TCM mode in the egress bandwidth. After the bandwidth profile has been created it will be displayed as an option when setting the ingress and egress as shown in the following example.

```
BTI7000:sw1(config-enni Gige 1/3/1)# set ingress profile bandwidth ?
```

- 100MEG
- OVCGOLD
- BRONZE
- SILVER
- PLATINUM

```
BTI7000:sw1(config)# enni gigabitEthernet 1/3/1
BTI7000:sw1(config-enni GigE 1/3/1)# set egress profile bandwidth PLATINUM
BTI7000:sw1(config-enni GigE 1/3/1)# set ingress profile bandwidth PLATINUM
```

### **System response and side effects**

There is no system response if the command is successful.

### **Related Commands**

show ennis [<interface-type> [<interface-id>]] [brief]

show profile bandwidth [<profile-name>]

## set profile dscp-phb

This command sets the E-NNI to use the DSCP PHB profile specified by name. The **unset** form of this command removes the DSCP PHB profile.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

E-NNI Configuration Mode

### History

Release	Modification
13.2	The command is introduced.

### Input Syntax

**set profile dscp-phb** <name>

Parameter	Description	Range	Default Value
<i>name</i>	is the name of the profile.	1 to 32 alphanumeric characters	not applicable

### Example

#### Command

```
set profile dscp-phb DEFAULT_DSCP_PHB_PROFILE
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

```
show profile dscp-phb
```

```
show ennis [<interface-type> [<interface-id>]] [brief]
```

## set profile pcp-encoding-decoding <name>

---

This command sets the E-NNI to use the specified PCP Encoding/Decoding profile. The **unset** form of this command sets the PCP Encoding/Decoding to the default profile. There are four pre-defined profiles:

- DEFAULT\_5P3D\_PROFILE
- DEFAULT\_6P2D\_PROFILE
- DEFAULT\_7P1D\_PROFILE
- DEFAULT\_8P0D\_PROFILE



### Mode

E-NNI Configuration Mode

### History

Release	Modification
13.2	The command is introduced.

### Input Syntax

**[un]set profile pcp-encoding-decoding** <name>

Parameter	Description	Range	Default Value
<i>name</i>	is the name of the profile.	1 to 32 alphanumeric characters	not applicable

### Example

#### Command

```
set profile pcp-encoding-decoding DEFAULT_5P3D_PROFILE
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

show profile pcp-encoding-decoding

show ennis [<interface-type> [<interface-id>]] [brief]



## set profile priority-tc-map <name>

This command sets the port to use the specified Priority Traffic Class Map profile. The **unset** form of this command resets the Priority Traffic Class Map to the default profile.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

E-NNI Configuration Mode

### History

Release	Modification
13.2	The command is introduced.

### Input Syntax

**[un]set profile priority-tc-map <name>**

Parameter	Description	Range	Default Value
<i>name</i>	is the name of the profile.	1 to 32 alphanumeric characters	not applicable

### Example

#### Command

```
set profile priority-tc-map Customer1
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

```
show profile priority-tc-map
```

```
show ennis [<interface-type> [<interface-id>]] [brief]
```

## set profile scheduler <name>

---

This command sets the E-NNI to use the specified scheduler profile. The profile scheduler cannot be unset. It can be set to the default profile or manually removed.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

E-NNI Configuration Mode

### History

Release	Modification
13.2	The command is introduced.

### Input Syntax

**set profile scheduler** <name>

Parameter	Description	Range	Default Value
name	is the name of the profile.	1 to 32 alphanumeric characters	not applicable

### Example

#### Command

```
set profile scheduler Customer1
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

```
show profile scheduler
```

```
show ennis [<interface-type> [<interface-id>]] [brief]
```

# shutdown

This command sets the administration state for the Switchport to enable or disable. The **no** form of this command enables the switchport. The default state is enabled.

**Note** This is the same as the “admin-state” command in the Switchport Configuration Mode.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

## Mode

E-NNI Configuration Mode

## History

Release	Modification
13.2	The command is introduced.

## Input Syntax

[no] shutdown

## Example

### Command

```
shutdown
```

### System response and side effects

There is no system response if the command is successful.

## Related Commands

None

## storm-control

---

This command configures line rate limits to manage egress traffic on E-NNI ports, caused by excessive ingress Broadcast, Multicast and Unicast DLF traffic. The line rate limits are pre-defined, as follows:

- 60%
- 40%
- 20%
- 100%

By default, the limits on the Broadcast, Multicast and Unicast DLF traffic are set to 100%, which means that Storm Control protection is not configured.

The **no** version of the command disables configured line rate limits.



### Mode

E-NNI Configuration Mode

### History

Release	Modification
13.2	The command is introduced.

### Input Syntax

```
[no] storm-control {broadcast|multicast|unicast}<rate>
```

### Example 1

This example configures storm-control for all traffic-types.

```
BTI7000:sw1(config-enni TenGigE 1/1~)# storm-control broadcast 60
BTI7000:sw1(config-enni TenGigE 1/1~)# storm-control multicast 20
BTI7000:sw1(config-enni TenGigE 1/1~)# storm-control unicast 40
BTI7000:sw1(config-enni TenGigE 1/1~)# $ 1/1~)#
```

### Example 2

This example displays the output of the storm control configuration.

```
BTI7000:sw1(config-enni TenGigE 1/1~)# show
```

### System response and side effects

```
BTI7000:sw1(config-enni TenGigE 1/1~)# show
ENni TenGigE 1/1/2:
  Virtual Switch is 1
```

```
Admin Status is enabled, Operational Status is down
full duplex, 10000Mb/s
Max frame size is 9600
Port type is (ENNI)
PVID is 1
Provider tag ethertype (TPID) is 88A8
useDEI is enabled
Trust Incoming PCP is enabled
Trust Incoming DSCP is enabled
Acceptable Frame Type is VLAN tagged
GVRP is Disabled
Number of failed GVRP registrations is 0
Last PDU Origin is 00-00-00-00-00-00
Restricted VLAN Registration is disabled
Storm-control:
  broadcast: 60%
  multicast: 20%
  unicast-dlf: disabled
Profiles:
  Scheduler: "DEFAULT_SCHEDULER_PROFILE"
  Priority Traffic Class Map: "DEFAULT_PRIORITY_TC_MAP_PROFILE"
  PCP Encoding/Decoding: "DEFAULT_8P0D_PROFILE"
```

```
BTI7000:sw1(config-enni TenGigE 1/1~)#
```

### Example 3

This example disables storm control on unicast traffic, and displays the portion of the output that only includes the storm control configuration.

```
BTI7000:sw1(config-enni TenGigE 1/1~)# no storm-control unicast
BTI7000:sw1(config-enni TenGigE 1/1~)#
```

### System response and side effects

```
Storm-control:
  broadcast: 60%
  multicast: 20%
  unicast-dlf: disabled
```

### Related Commands

**show**

## trust-incoming-dscp {enable|disable}

---

This command sets the E-NNI switchport to trust or not trust the incoming packet's DSCP field. If the value is set to disable, the incoming packet's field is ignored. The default value is enable.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

E-NNI Configuration Mode

### History

Release	Modification
13.2	The command is introduced.

### Input Syntax

```
trust-incoming-dscp {enable|disable}
```

### Example

#### Command

```
trust-incoming-dscp disable
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

```
show
```

# trust-incoming-pcp {enable|disable}

This command sets the E-NNI switchport to trust or not trust the incoming packet's PCP field. If the value is set to disable, the incoming packet's field is ignored. The default value is enable.



## Mode

E-NNI Configuration Mode

## History

Release	Modification
13.2	The command is introduced.

## Input Syntax

trust-incoming-pcp {enable|disable}

## Example

### Command

trust-incoming-pcp disable

### System response and side effects

There is no system response if the command is successful.

## Related Commands

show

## usedei {enable|disable}

---

This command sets the E-NNI switchport to use DEI bit on the S-TAG to lookup the PCP decoding table. The default is disable.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

E-NNI Configuration Mode

### History

Release	Modification
13.2	The command is introduced.

### Input Syntax

`usedei {enable|disable}`

### Example

#### Command

```
usedei enable
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

`show profile pcp-encoding-decoding`

`show`



## 18.0 E-NNI eservice configuration mode commands

---

This section lists the E-NNI Eservice Configuration Mode commands.

- “external-vlan”
- “set {ingress|egress} profile bandwidth <name>”
- “set {ingress|egress} service-policy <name>”

## external-vlan

This command will enable the S-VLAN translation to switch between one provider's SVLAN to another. Before performing this command the E-NNI's must be explicitly added to OVC's. They cannot be dynamically discovered as GVRP is disabled on the E-NNI. At the ingress, the S-VLAN ID in the outer tag, will be translated to and from the external VLAN ID.

For example if the OVC is running over S-VLAN 1024 and we provision the external S-VLAN TO 777. At the ingress and egress of th E-NNI , the S-VLAN ID in the outer tag will be translated to and from 777. At the other end of the E-NNI boundary , the partner service provider must also define an S-VLAN translation between its local S-VLAN and external VLAN 777. The translation S-VLAN [1024] must be the same on both ENNI interfaces for the service to work.



### Mode

E-NNI Eservice Configuration Mode

### History

Release	Modification
13.2	The command is introduced.

### Input Syntax

**external-vlan** {id}

Parameter	Description	Range	Default Value
<i>external-vlan {id}</i>	external vlan id	2-4094	n/a

### Example

#### Command

```
BTI7000:sw1# configure terminal
BTI7000:sw1(config)# eservice Cust2014 type EPLINE
BTI7000:sw1(config-eservice)# access enable [Note : This enables the creation
of the OVC]
BTI7000:sw1(config-eservice)# s-vlan 1024 [Note : this is the S-VLAN of the
OVC]
BTI7000:sw1(config-eservice)# enni 1/3/1
BTI7000:sw1(config-enni-eservice)#
BTI7000:sw1(config-enni-eservice)#external-vlan 777
```

### System response and side effects

There is no system response if the command is successful.

### **Related Commands**

show

(config-eservice)# access enable | disable

## set {ingress|egress} profile bandwidth <name>

This command sets ingress or egress bandwidth profile per OVC. The **unset** form of this command removes the bandwidth profile.

Ingress and egress bandwidth profile is applied to all ingress / egress service frames that are mapped to the OVC.

**Note** The ingress CIR for an OVC at the ENNI should be greater than the corresponding ingress CIR at the UNI due to the presence of the added SVLAN tag (4 bytes) at the ENNI. As an example, if the average frame size was 200 bytes, the CIR should be increased by 2%. MEF Bandwidth Profile traffic parameters such as CIR count only Service Frame bits, not interframe gap or preamble bits.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

E-NNI Eservice Configuration Mode

### History

Release	Modification
13.2	The command is introduced.

### Input Syntax

[un]set {ingress|egress} profile bandwidth <name>

Parameter	Description	Range	Default Value
<i>name</i>	is the name of the profile.	1 to 32 alphanumeric characters	not applicable

### Example

#### Command

```
set ingress profile bandwidth goldService
```

```
set egress profile bandwidth goldService
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

```
show ennis [<interface-type> [<interface-id>]] [brief]
```

show profile bandwidth [<profile-name>]

## set {ingress|egress} service-policy <name>

---

This command sets the E-NNI Eservice to use the specified QoS policy. The policy is defined with the service-policy <name> command.

The no form of this command will remove the policy.



### Mode

E-NNI Eservice Configuration Mode

### History

Release	Modification
13.2	The command is introduced.

### Input Syntax

```
[un]set { ingress | egress } service-policy <name>
```

Parameter	Description	Range	Default Value
<i>name</i>	Name of the service-policy	1-32 alphanumeric characters	Not applicable

**Example****Command**

```
set ingress service-policy goldService
set egress service-policy goldService
```

**System response and side effects**

Nothing if command is successful.

**Related Commands**

```
show profile bandwidth
```





## 19.0 Eservice configuration mode commands

---

This section lists the Eservice Configuration Mode commands. This mode is entered from the Global Configuration Mode by using the command “[eservice <service-name> \[type <service-type>\]](#)”.

- “[admin-state {enable|disable|testing}](#)”
- “[access](#)”
- “[c-vlan-translate {enable|disable}](#)”
- “[cfm crosscheck](#)”
- “[cfm interval](#)”
- “[cfm me](#)”
- “[cfm mep-id](#)”
- “[enni <interface-type> <interface-id>](#)”
- “[set {ingress|egress} service-policy <name>](#)”
- “[frame-size <bytes>](#)”
- “[lock-nni](#)”
- “[spanning-tree <instance-id>](#)”
- “[show](#)”
- “[s-vlan <vlan-id>](#)”
- “[uni <interface-type> <interface-id>](#)”

## admin-state {enable|disable|testing}

---

This command sets the administrative state of the Ethernet service. The default state is enable.



### Mode

Eservice Configuration Mode

### Input Syntax

**admin-state** {enable|disable|testing}

Option	Description
enable	This administratively enables the Ethernet service.
disable	This administratively disables the Ethernet service. If the operational state of the Ethernet service was previously up, it now changes to down.
testing	This places the Ethernet service in a special testing mode used for on-demand SLA throughput measurements. The operational state is unchanged.

### Example

#### Command

```
admin-state disable
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

## access

---

This command enables the creation of an OVC. You must also assign an SVLAN to the access service.



### Mode

Eservice Configuration Mode

### Input Syntax

**access** {**enable**|**disable**}

### Example

#### Command

```
sw1# configure terminal
sw1(config)# eservice Cust2014 type EPLINE
sw1(config-eservice)# access enable
sw1(config-eservice)# s-vlan 1024
```

### System response and side effects

There is no system response if the command is successful.

### Related Commands

s-vlan

external-vlan

## c-vlan-translate {enable|disable}

---

This command enables or disables CVLAN ID translation on the selected Eservice. Translation can be enabled only if all UNIs have a single C-VID mapped to the Service.



### Mode

Eservice Configuration Mode

### Input Syntax

```
c-vlan-translate {enable|disable}
```

### Example

#### Command

```
c-vlan-translate enable
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

```
show
```

## cfm crosscheck

This command enables CCM transmission and cross-checking.



### Mode

Eservice Configuration Mode

### Input Syntax

```
cfm crosscheck {enable|disable}
```

Parameter	Description	Range	Default value
enable	Enables CCM transmission and cross-checking		
disable	Disables CCM transmission and cross-checking		

### Guideline

After disabling CFM crosscheck on an Eservice, the remote MEP list is not deleted, so the Eservice goes into an Operational Down state. The workaround is to use the **cfm flush-rmep-db** command on a UNI assigned to the Eservice.

### Example

#### Command

```
cfm crosscheck enable
```

#### Related Commands

```
show eservice
```

## cfm interval

---

This command sets the interval between CCM transmissions. The no and default forms reset the interval back to its default values.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Eservice Configuration Mode

### History

Release	Modification
7.3	The command is introduced.

### Input Syntax

```
[no|default] cfm interval <interval>
```

Parameter	Description	Range	Default value
interval	Interval for the cross-check	10 seconds, or 1 minute	1 minute

### Example

#### Command

```
cfm interval 1min
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

```
show eservice
```

## cfm me

This command sets the CFM Maintenance Entity (ME) name. The ME name is used as the ITU Carrier Code (ICC) in service level CCMs. The no form of the command sets the name back to its default value.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Eservice Configuration Mode

### History

Release	Modification
7.3	The command is introduced.

### Input Syntax

[no] **cfm me** <name>

Parameter	Description	Range	Default value
<i>name</i>	ME name, one per Ethernet service, used as the ICC in service level CCMs.	1 to 6 alphanumeric characters in length	v followed by the S-VLAN ID, as a string For example: v2001, where 2001 is the S-VLAN ID

## Guidelines

- This command can only be used when there are no UNIs or NNIs associated with the Ethernet service. Once a UNI or NNI is associated with the service, the ME name cannot be changed.
- The ME name must uniquely identify the service within the network.
- The MEG ID, which is the concatenation of the Unique MEG Code (UMC) and the ITU Carrier Code (ICC), must not exceed 13 alphanumeric characters in length. If it does, then the ICC is truncated (from the end) in CCMs to reduce the MEG ID to 13 alphanumeric characters. The UMC is the MEG name, configured using the **cfm meg level** command in global configuration mode.
- If padding is enabled, the ME name or ICC is padded to 6 bytes in service level CCMs.

## Example

### Command

```
cfm me OTT
```

### System response and side effects

There is no system response if the command is successful.

### Related Commands

show eservice

cfm pad

cfm meg level



## cfm mep-id

This command adds the remote MEP ID. The no form removes the remote MEP ID.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Eservice Configuration Mode

### History

Release	Modification
7.3	The command is introduced.

### Input Syntax

[no] **cfm mep-list mep-id**<id>

Parameter	Description	Range	Default value
<i>id</i>	Value of the MEP ID	1 to 8191	none

### Example

#### Command

```
BTI7000:sw4(config-eservice)# cfm mep-list mep-id  
<MEP id> - MEP ID (1-8191)
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

show eservice

## enni <interface-type> <interface-id>

---

This command allows the administrator to associate a E-NNI to an access Ethernet Service. The **no** form of this command removes the association.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Eservice Configuration Mode

### History

Release	Modification
13.2	The command is introduced.

### Input Syntax

[no] **enni**<interface-type> <interface-id>

Parameter	Description	Range	Default Value
<i>interface-type</i>	is the interface type.	1.12, "Interfaces"	not applicable
<i>interface-id</i>	is the interface identifier.	1.12, "Interfaces"	not applicable

### Example

#### Command

```
(config-eservice)# enni gigabitEthernet 1/3/1
(config-enni-eservice)#
```

#### System response and side effects

Reports the creation of the new ENNI eservice, or nothing if the service is already created. The user session then enters the ENNI Eservice Configuration Mode.

#### Related Commands

show enni-service

## frame-size <bytes>

This command is used to set the maximum frame size of the Ethernet Service. The **no** form of this command resets the frame size to the default value.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Eservice Configuration Mode

### Input Syntax

[no] **frame-size**<bytes>

Parameter	Description	Range	Default Value
<bytes>	is the maximum frame size.	1518 to 9600 bytes	1522

### Guidelines

The frame-size is a fixed value—not configurable—for Eservices that do not carry user traffic.

### Example

#### Command

```
:sw1(config-eservice)# frame-size 2048
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

show

## lock-nni

---

This command enables or disables locking NNIs. If enabled, the switch does not let any dynamic VLAN protocols, such as GVRP, add NNIs to the service. The only NNIs are the ones explicitly added through the Service NNI table.



### Mode

Eservice Configuration Mode

### Input Syntax

```
lock-nni {enable | disable}
```

### Guidelines

Locking NNIs is not configurable for Eservices that do not carry user traffic.

### Example

#### Command

```
:sw1(config-eservice)# lock-nni enable
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

**show eservice**

## spanning-tree <instance-id>

This command configures the spanning tree instance for the Ethernet Service.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Eservices Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

**spanning-tree**<*instance-id*>

Parameter	Description	Range	Default Value
<i>instance-id</i>	Spanning Tree Instance identification number.	0, 1 to 64	0

### Example

#### Command

```
spanning-tree 1
```

#### System response and side effects

There is no system response if the command is successful.

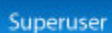
#### Related Commands

show

## show

---

This command displays the state of the Eservice being configured. This command is the same command as “`eservice <service-name> [type <service-type>]`” in the Global Configuration Mode.

A gray button with the text "Authorization Required".A blue button with the text "Superuser".A blue button with the text "Provisioning".A gray button with the text "Maintenance".A gray button with the text "Surveillance".

### Mode

Eservice configuration mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

**show**

### Example

#### Command

```
BTI7000# show
```

#### System response and side effects

```
BTI7000:sw1(config-eservice)# show
```

```
Ethernet Service "eservice1"
  Virtual Switch is 1
  Service type is EVPLINE
  Admin State is enable, Operational State is down
  S-VLAN is 4094
  MSTP instance is 0
  Number of UNIs is 0, Maximum number of UNIs is 2
  Number of NNIs is 0
  Lock NNIs is disable
  Topology is point-to-point
  Maximum frame size is 1522
  C-VID Translation is disable
  CFM Crosscheck is disable
  CFM Continuity Check Message Interval is 1min
  EthService UAS : 0 hours 0 minutes 0 seconds
```

### Related Commands

None

## s-vlan <vlan-id>

This command is used to set the S-VLAN associated with the selected Ethernet Service. The **no** form of this command sets the S-VLAN to its default value.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Eservices Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

[no] s-vlan<vlan-id>

Parameter	Description	Range	Default Value
vlan-id	is the VLAN identifier. <sup>1</sup>	0 to 4094	4094

<sup>1</sup>This parameter is not required for the **no** form of this command.

### Example

#### Command

```
s-vlan 100
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

show

## uni <interface-type> <interface-id>

---

This command allows the administrator to associate a UNI to an Ethernet Service. The **no** form of this command removes the association.

**Note** This is an alternative command for “[eservice <service-name>](#)” in the UNI command mode.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Eservice Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

[no] uni<interface-type> <interface-id>

Parameter	Description	Range	Default Value
<i>interface-type</i>	is the interface type.	1.12, “ <a href="#">Interfaces</a> ”	not applicable
<i>interface-id</i>	is the interface identifier.	1.12, “ <a href="#">Interfaces</a> ”	not applicable

### Example

#### Command

```
uni tenGigabitEthernet 1/2/1
```

#### System response and side effects

Reports the creation of the new UNI eservice, or nothing if the service is already created. The user session then enters the UNI Eservice Configuration Mode.

#### Related Commands

show uni-service



## 20.0 ERPS Eservice Type commands

---

This section lists the ERPS Eservice Type commands.

- “admin-state”
- “compatible-version”
- “guard-timer”
- “holdoff-timer”
- “meglevel-down”
- “meglevel-up”
- “multiple-failure”
- “nni”
- “periodic-timer”
- “property”
- “protection-switch-mode”
- “recovery”
- “s-vlan”
- “wait-to-block-timer”
- “wait-to-restore-timer”
- “virtual-channel”

## admin-state

---

This command sets the administrative state of the ERPS Ethernet service. The default state is disabled.



### Mode

ERPS Eservice Configuration Mode

### Input Syntax

**admin-state** {enable|disable}

### Example

Since the state is enabled by default, the following example displays setting the state to disable.

### Command

```
:sw1(config-eservice)# admin-state disable
```

### System response and side effects

There is no system response if the command is successful.

### Related Commands

**show**

## compatible-version

---

This command sets the current ERPS version that is running on the system. The ERPS service must be disabled to set the version. By default, the version is set to ERPS Version 2.



### Mode

ERPS Eservice Configuration Mode

### Input Syntax

**compatible-version** {v1|v2}

### Example

#### Command

```
:sw1(config-eservice)# compatible-version v2
```

### System response and side effects

There is no system response if the command is successful.

### Related Commands

**show eservice**

## guard-timer

---

This command sets the guard timer for the Eservice. The guard timer is used to flush out all the old R-APS messages in the network. When there is a change in fault condition, the node will stop transmitting a particular type of R-APS and kick off this guard timer to filter out any old information. During this time, the received R-APS messages are ignored.

The **no** form sets this attribute back to the default value.



### Mode

ERPS Eservice Configuration Mode

### Input Syntax

[no] **guard-timer** *<time>*

Parameter	Description	Range	Default Value
<i>&lt;time&gt;</i>	Timer value in milliseconds	10 - 2000 msec, increments of 10 msec	500 msec

### Example

#### Command

```
:swl(config-eservice)# guard-timer 1000
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

**show eservice**

## holdoff-timer

This command sets the duration of time that the Eservice waits before sending a fault report. When the time expires, the system checks the status of the fault. If the fault still exists the Eservice sends a report.

The **no** form sets this attribute back to the default value.



### Mode

ERPS Eservice Configuration Mode

### Input Syntax

`[no] holdoff-timer <time>`

Parameter	Description	Range	Default Value
<time>	Timer value in milliseconds	0 - 10000 msec, increments of 100 msec	0 msec

### Example

#### Command

```
:swl(config-eservice)# holdoff-timer 1000
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

**show eservice**

## meglevel-down

---

This command configures the MEG level for down MEPs (maintenance association end points) for the ERPS Eservice.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

ERPS Eservice Configuration Mode

### Input Syntax

**meglevel-down** *<value>*

Parameter	Description	Range	Default Value
<i>&lt;value&gt;</i>	Optional. The down MEG level assigned to the ERPS Eservice.	0 to 7 <b>Note</b> Refer to the following guidelines for value restrictions in pre-10.1 software releases.	zero

### Guidelines

Following are MEG level configuration considerations:

- The ERPS Eservice must be disabled before you configure MEG levels.
- For BTI software releases earlier than 10.1, the MEG level must be set to six to be compatible with ERPS V1.

### Example

#### Command

```
:sw1(config-eservice)# meglevel-down 6
:sw1(config-eservice)#
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

**show eservice**

## meglevel-up

This command configures the MEG level for up MEPs (maintenance association end points) for the ERPS Eservice.



### Mode

ERPS Eservice Configuration Mode

### Input Syntax

**meglevel-up** *<value>*

Parameter	Description	Range	Default Value
<i>&lt;value&gt;</i>	Optional. The up MEG level assigned to the ERPS Eservice.	Non virtual channel: 0 to 7 Virtual channel: 0 to 6	zero

### Guidelines

The ERPS Eservice must be disabled before you configure MEG levels.

### Example

#### Command

```
:swl(config-eservice)# meglevel-up 6
:swl(config-eservice)#
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

**show eservice**

## multiple-failure

This command configures the traffic rules, on interconnecting nodes, to reduce the risk of node isolation in a sub-ring, when multiple failures occur in the main ring. By default, multiple-failure is set to disabled.



### Mode

ERPS Eservice Configuration Mode

### Input Syntax

**multiple-failure** {disabled | enabled}

Parameter	Description	Range	Default Value
{disabled   enabled }	The protection switching rule for interconnected nodes on a sub-ring, when a multiple interconnected node failure occurs.	Disabled: Traffic rules for multiple failures is not set. Enabled: Traffic rules for multiple failures are set.	Disabled

### Guidelines

Following are configuration considerations:

- Support for multiple ring failure is included in ERPS Version 2.
- Multiple ring failure can only be set on interconnected nodes.
- Multiple ring failure is only supported on ladder rings with a virtual channel.
- If multiple failures occur in the main ring and cause the virtual channel to fail, a manual switch is issued in the sub-ring, from the node on which **multiple-failure** is set.

### Example

The following example shows that interconnecting nodes LinkA and LinkB are configured to be unblocked. If a multiple ring failure occurs, traffic is rerouted through these nodes.

### Command

```
(config)# virtual-switch 1
:sw1(config)# eservice ring1 type erps
:sw1(config-eservice)# s-vlan 100
:sw1(config-eservice)# multiple-failure enable
:sw1(config-eservice)# nni gigabitethernet 1/1/11
:sw1(config-eservice)# me-name LinkA
:sw1(config-eservice)# exit
:sw1(config-eservice)# admin-state enable
:sw1(config-eservice)# exit
```



### **System response and side effects**

There is no system response if the command is successful.

### **Related Commands**

**show eservice**

## nni

---

This command will allow the administrator to associate a NNI to an ERPS Ethernet Service. The no form of this command removes the association.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Eservice (ERPS) Configuration Mode

### History

Release	Modification
7.3	The command is introduced.

### Input Syntax

[no] **nni** <interface-type> <interface-id>

Parameter	Description	Range	Default Value
<i>interface-type</i>	Interface type	See <a href="#">1.12, "Interfaces"</a>	Not applicable
<i>interface-id</i>	Interface identifier	See <a href="#">1.12, "Interfaces"</a>	Not applicable

### Example

#### Command

```
nni tenGigabitEthernet 1/2/1
```

#### System response and side effects

Reports the creation of an NNI Eservice or nothing if a service is already created: then enters NNI Eservice Configuration Mode.

#### Related Commands

show eservice

## periodic-timer

This command configures the transmission interval of the periodic R-APS PDUs for the Eservice. The **no** form sets this attribute back to the default value.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Eservice (ERPS) Configuration Mode

### Input Syntax

**[no] periodic-timer** *<time>*

Parameter	Description	Range	Default Value
<i>time</i>	Time value in seconds	5 to 10 seconds	5 seconds

### Guidelines

We recommend that you do not change this value. Every node in the ring must have the same periodic timer.

### Example

#### Command

```
periodic-timer 10
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

```
show eservice
```

## property

---

This command sets the ring property of the service.



### Mode

ERPS Eservice Configuration Mode

### Input Syntax

**property** {**normal** | **interconnect**}

Parameter	Description	Range	Default Value
normal	The node supports the regular ring properties for the service.	Not applicable	Not applicable
interconnect	The node supports the sub-ring connectivity for this service.	Not applicable	Not applicable

### Guideline

An interconnected node is one of the nodes connecting a sub-ring to a main ring:

- You must set the property value before adding an NNI to the interconnected Eservice.
- You cannot change the property value after an NNI is provisioned.

### Example

#### Command

```
:sw1(config-eservice)# property normal
:sw1(config-eservice)#
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

**show eservice**

## protection-switch-mode

This command configures the traffic flow behavior during a ring failure condition.

The **no** form sets the protection switch mode to the default value.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

ERPS Eservice Configuration Mode

### Input Syntax

```
[no] protection-switch-mode { clear | normal | manual | forced }
```

Parameter	Description	Range	Default Value
clear	Clears the protection switch mode for ERPS V2 configurations. Refer to the following guidelines for more information about this parameter.	Not applicable	Not applicable
normal	Clears the protection switch mode for ERPS V1 configurations.	Not applicable	Not applicable
manual	Forces a block on the ring, if there is no failure or a Forced switch is not configured on the ring node.  If there is a failure, a manual switch is issued to the sub-ring, from the interconnected node on which multiple-failure is enabled.	Not applicable	Not applicable
forced	Forces a block on the NNI interface.	Not applicable	Not applicable

### Guidelines

Following are configuration considerations:

- To configure protection-switch-mode, the ERPS protection switch must first be enabled on one of the NNI ports.
- When Forced switching is enabled on a ring, the NNI interface is blocked, irrespective of the node status—failed or not failed.
- The protection switch mode cannot be set to Manual when a link failure exists on the ring.

- Forced switching is higher priority than Manual switching, and overwrites Manual switching configuration.
- Use the clear parameter on the RPS node to put the ring in idle mode, if a ring is in a pending state, and you do not want to wait for the wait-to-restore timer to expire.

### **Example**

#### **Command**

```
:sw1(config-eservice)# protection-switch-mode forced  
:sw1(config-eservice)#
```

#### **System response and side effects**

There is no system response if the command is successful.

#### **Related Commands**

**show eservice**

## recovery

Sets the failure recovery mode to revertive or non-revertive.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Eservice (ERPS) Configuration Mode

### Input Syntax

```
recovery { revertive | non-revertive }
```

Parameter	Description	Range	Default Value
revertive	The system returns to its normal state upon failure recovery.	Not applicable	Not applicable
non-revertive	The system stays in the current state even after the fault recovery, to prevent traffic disruption during the recovery.	Not applicable	Not applicable

### Guidelines

In non-revertive mode, the ring stays in a pending state after failure recovery. To bring the ring back to idle mode use the **protection-switch-mode clear** command on the RPL node.

### Example

#### Command

```
recovery revertive
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

```
show
```

## s-vlan

---

This command is used to set the S-VLAN associated with this EthService.

The no version of this command sets the value back to the default value.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Eservice (ERPS) Configuration Mode

### History

Release	Modification
7.3	The command is introduced.

### Input Syntax

[no] **s-vlan** <vlan-id>

Parameter	Description	Range	Default Value
<i>vlan-id</i>	VLAN identification  This is not required for the no forms of this command.	1 - 4094	4094

### Example

#### Command

```
s-vlan 100
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

show



---

## wait-to-block-timer

---

This command is used to configure the duration of time to wait before clearing the manual or forced switch. This command is supported as of ERPS Version 2.

The **no** form sets the time back to the default value.



### Mode

ERPS Eservice Configuration Mode

### Input Syntax

```
[no] wait-to-block-timer <time>
```

Parameter	Description	Range	Default Value
<time>	The duration of time in milliseconds.	5500 to 7000	5500 milliseconds

### Example

#### Command

```
:sw1(config-eservice)# wait-to-block-timer 6000
:sw1(config-eservice)#
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

**show eservice**

## wait-to-restore-timer

---

This command configures the amount of time the system waits after a signal fail has recovered, and the ring is in pending state before the RPL (Ring Protection Link) is reblocked and the ring goes back to idle. This timer is applicable only if this ring is operating in the revertive mode of operation.

The **no** form sets this attribute back to the default value.



### Mode

Eservice (ERPS) Configuration Mode

### Input Syntax

```
[no] wait-to-restore-timer [<time> | short]
```

Parameter	Description	Range	Default Value
<i>time</i>	Timer value in minutes.	5 to 15 minutes	5 minutes
short	Forces the ring to return to idle mode in 20 seconds.	Not applicable	Not applicable

### Example

#### Command

```
wait-to-restore-timer 10
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

show eservice

## virtual-channel

This command is used to configure a path for the sub-rings, using the main ring or another sub-ring.

The **no** form removes all ports associated with the Ethernet Service, for this channel.

**Note** As of BTI Release 10.1, this command replaces the command **virtual-link**, to support ERPS Versions 1 and 2.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Eservice Configuration Mode

### Input Syntax

[no] **virtual-channel**<*vlan-id*>

Parameter	Description	Range	Default Value
<i>vlan-id</i>	VLAN identification This is not required for the <b>no</b> form of this command.	0 - 4094	4094

### Guidelines

This command must be issued on all nodes in the main ring if a virtual channel is configured for the sub-ring. If the sub-ring is configured without a virtual channel, the **no virtual-channel** command must be issued on all nodes in the sub-ring, including the interconnected nodes.

### Example

#### Command

```
:sw1(config-eservice)# virtual-channel 200  
:sw1(config-eservice)#
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

**show eservice**



## 21.0 MGMT-VLAN Eservice Type commands

---

This section lists the MGMT-VLAN Eservice Type commands.

- “ip address”
- “c-vlan”

## ip address

---

This command assigns an IP address and optionally an IP subnet mask to the management VLAN.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Eservice (MGMT-VLAN) Configuration Mode

### History

Release	Modification
7.3	The command is introduced.

### Input Syntax

`ip <ip-addr>`

Parameter	Description	Range	Default Value
<i>ip-addr</i>	IPv4 address with an optional network prefix  IPv4 Format: xxx.xxx.xxx.xxx[/prefix]	IPv4 address.	not applicable

### Example 1

#### Command

```
ip 10.0.0.1
```

#### System response and side effects

There is no system response if the command is successful.

### Example 2

#### Command

```
ip 10.0.0.1/24
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

## c-vlan

This command is used to set the C-VLAN associated with this Eservice.

The no version of this command sets the value back to the default value.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Eservice (MGMT-VLAN) Configuration Mode

### Input Syntax

[no] c-vlan <vlan-id>

Parameter	Description	Range	Default Value
<i>vlan-id</i>	VLAN identification. This is not required for the <b>no</b> form of this command.	1 to 4094	1

### Example 1

#### Command

```
c-vlan 10
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

show





## 22.0 UNI Eservice configuration mode commands

---

This section lists the UNI Eservice Configuration mode commands. This mode is entered from the UNI Configuration Mode by using the command “[eservice <service-name>](#)”.

- “[cfm mep-id](#)”
- “[c-vlan <c-vlan-id>](#)”
- “[efpsd {enable | disable}](#)”
- “[forwarding {normal | etree-leaf}](#)”
- “[pm threshold](#)”
- “[set service-policy](#)”
- “[set profile sla-measurement](#)”
- “[sla-measure rmepid <id> loss-delay initiator](#)”
- “[sla-measure rmepid <id> loss-delay responder](#)”
- “[sla-measure rmepid <id> throughput initiator](#)”
- “[sla-measure rmepid <id> throughput responder](#)”
- “[tpid {aware | blind}](#)”
- “[Remote MEP loss-delay initiator configuration commands](#)”
- “[Remote MEP throughput initiator configuration commands](#)”
- “[Remote MEP throughput responder configuration commands](#)”
- “[unset profile sla-measurement](#)”

## cfm flush-rmep-db

This command forces a virtual switch for a Service UNI to learn its remote MEP ID.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

UNI Eservice Configuration Mode

### Input Syntax

**cfm flush-rmep-db**

### Example

This example learns and shows the remote MEP ID on interface tenGigabitEthernet 1/3/18:

```
# {CLI-TID;:sw1(config)# ese test1001
# {CLI-TID;:sw1(config-eservice)# uni ten 1/3/8
# {CLI-TID;:sw1(config-uni-eservice)# cfm flush-rmep-db
# {CLI-TID;:sw1(config-uni-eservice)# exit
BTI7000:sw1(config-eservice)# show
```

Ethernet Service "test1001"

Virtual Switch is 1

Service type is EVPLINE

Admin State is enable, Operational State is up

S-VLAN is 1001

MSTP instance is 0

Number of UNIs is 1, Maximum number of UNIs is 2

Number of NNIs is 0

Lock NNIs is disable

Topology is point-to-point

Maximum frame size is 1522

C-VID Translation is disable

CFM Maintenance Entity Name is "v1001"

CFM Crosscheck is disable

CFM Continuity Check Message Interval is 1min

EthService UAS : 0 hours 20 minutes 23 seconds

Associated UNIs:

TenGigE 1/3/8

Filter-sequence is 50

MEP Id	Type	Remote State	Remote Switch Name	Remote Port
1 (5376)	local	---	---	---

Forwarding type is normal

EFPSD is disable

```
BTI7000:sw1(config-eservice)#
```

### **Related Commands**

cfm mep-id

## cfm mep-id

---

This command over-rides the automatically assigned MEP ID. The **no** form of this command returns the MEP ID back to the automatically assigned ones.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

UNI Eservice Configuration Mode

### Input Syntax

[no] **cfm mep-id**<*id*>

Parameter	Description	Range	Default Value
<i>id</i>	Value of the MEP ID	1 to 8191	Automatically assigned

### Example

#### Command

```
cfm mep-id 100
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

show eservice

## c-vlan <c-vlan-id>

This command sets the Customer VLAN for this UNI Ethernet Service. The **no** form of this command removes the Customer VLAN.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

UNI Eservice Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

[no] c-vlan<c-vlan-id>

Parameter	Description	Range	Default Value
c-vlan-id	is the VLAN identifier. <sup>1</sup>	0 to 4094	not applicable

<sup>1</sup>This parameter is no required for the **no** form of this command.

### Example

#### Command

```
c-vlan 100
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

```
show uni-eservice [uni <interface-type> [<interface-id>]] [eservice <service-name>]
```

## efpsd {enable | disable}

---

This command enables EFPSD on a UNI.



### Mode

UNI Eservice Configuration Mode

### History

Release	Modification
8.2	The command is introduced.

### Input Syntax

**efpsd** {**enable**|**disable**}

### Example

#### Command

```
efpsd enable
```

#### System response and side effects

There is no system response if the command is successful.

## forwarding {normal | etree-leaf}

This command configures the forwarding mode of a UNI port. If this command is issued as **normal**, the interface is configured as a root UNI and traffic can be forwarded between all ports in the Eservice. If this command is issued as **etree-leaf**, the interface is configured as a leaf UNI, and traffic is only forwarded from this leaf interface to root interfaces in the same E-TREE service. If this command is not issued on a UNI the default is normal forwarding for all Eservice types except eptree and evptree. For evptree and eptree the default is leaf interface.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

UNI Eservice Configuration Mode

### History

Release	Modification
8.2	The command is introduced.

### Input Syntax

```
forwarding {normal | etree-leaf}
```

### Example

#### Command

```
forwarding normal
```

### System response and side effects

There is no system response if the command is successful. If the UNI is already a member of another Eservice and a user tries to change forwarding to etree-leaf an error message is displayed.

## pm threshold

---

This command sets the threshold for the Threshold Crossing Alerts.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

UNI Eservice Configuration Mode

### History

Release	Modification
7.3	The command is introduced.

### Input Syntax

**pm** {15-min | 24-hour} **threshold** {increst | egress} <monitor-type> <value>

Parameter	Description	Range	Default Value
<i>monitor -type</i>	Specific interval to show 0 is the current interval	cir   eir	Not applicable
<i>value</i>	Threshold value	0 to	Not applicable

### Example

#### Command

```
pm 15-min threshold cir 64
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands



## set service-policy

This command sets the UNI Eservice to use the specified QoS policy. The policy is defined with the service-policy <name> command.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

UNI Eservice Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

[no]set {ingress | egress} service-policy<name>

Parameter	Description	Range	Default Value
<i>name</i>	is the name of the service policy.	1 to 32 alphanumeric characters	not applicable

### Example

#### Command

```
set ingress service-policy goldService
```

```
set egress service-policy goldService
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

```
show profile bandwidth [<profile-name>]
```

```
show unis [<interface-type> [<interface-id>] ] [brief]
```

## set profile sla-measurement

---

This command sets the UNI Eservice to use the specified SLA-measurement profile.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

UNI Eservice Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

**set profile sla-measurement** *<profile-name>*

Parameter	Description	Range	Default Value
<i>profile-name</i>	is the profile identifier	1 to 11	not applicable

### Example

#### Command

```
set profile sla-measurement <profile-name>
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

unset profile sla-measurement

## sla-measure rmepid <id> loss-delay initiator

This command enables the measurement of lost and delayed packets. The **no** form of this command disables the measurement of lost and delayed packets.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

UNI Eservice Configuration Mode

### History

Release	Modification
8.2	The command is introduced.

### Input Syntax

[no] **sla-measure rmepid <id> loss-delay initiator**

Parameter	Description	Range	Default Value
<i>id</i>	Value of the remote MEP ID	1 to 8191	Automatically assigned

### Example

#### Command

```
sla-measure rmepid 100 loss-delay initiator
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

```
sla-measure rmepid <id> loss-delay responder
```

## sla-measure rmepid <id> loss-delay responder

---

This command enables the measurement of lost and delayed packets. The **no** form of this command disables the measurement of lost and delayed packets.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

UNI Eservice Configuration Mode

### History

Release	Modification
8.2	The command is introduced.

### Input Syntax

[no] **sla-measure rmepid <id> loss-delay responder**

Parameter	Description	Range	Default Value
<i>id</i>	Value of the remote MEP ID	1 to 8191	Automatically assigned

### Example

#### Command

```
sla-measure rmepid 100 loss-delay responder
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

sla-measure rmepid <id> loss-delay initiator

## sla-measure rmepid <id> throughput initiator

This command creates an entry in the throughput table and enters the throughput initiator mode. The **no** form of this command removes the entry from the throughput table.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

UNI Eservice Configuration Mode

### History

Release	Modification
8.2	The command is introduced.

Before starting the throughput test, the state of the responder and initiator must be "ready;" otherwise, the test fails.

### Input Syntax

[no] sla-measure rmepid <id> throughput initiator

Parameter	Description	Range	Default Value
<i>id</i>	Value of the remote MEP ID	1 to 8191	Automatically assigned

**Note** After creating the throughput initiator endpoint, it is in an initialization state until the responder end point is configured.

### Example

#### Command

```
sla-measure rmepid 100 throughput initiator
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

sla-measure rmepid <id> throughput responder

## sla-measure rmepid <id> throughput responder

---

This command creates an entry in the throughput table and enters the throughput responder mode. The **no** form of this command removes the entry from the throughput table.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

UNI Eservice Configuration Mode

### Input Syntax

[no] **sla-measure rmepid <id> throughput responder**

Parameter	Description	Range	Default Value
<i>id</i>	Value of the remote MEP ID	1 to 8191	Automatically assigned

<b>Note</b>	After creating the throughput responder endpoint, it is in an initialization state until the initiator end point is configured.
-------------	---

### Example

#### Command

```
sla-measure rmepid 100 throughput responder
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

sla-measure rmepid <id> throughput initiator

## tpid {aware | blind}

This command either discards incoming frames with TPID 0X88A8 and other Tag Protocol Identifiers (TPIDs) will be transmitted or configures all customer frames as un-tagged and transmits frames to peer UNIs. This command is configured on EPLAN and EPLINE services.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

UNI Eservice Configuration Mode

### Input Syntax

`tpid {aware | blind}`

Command Option	Description
<b>aware</b>	Discards incoming frames with TPID 0X88A8 and transmits other TPIDs. The default value is aware
<b>blind</b>	Configures all customer frames as un-tagged and transmits frames to peer UNIs

**Note** The command **show eservice** displays the TPID value.

### Example

#### Command

```
BTI7000:sw1(config-uni-eservice)# tpid blind
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

`show eservice` (Shows the current TPID value on a UNI port.)

## unset profile sla-measurement

---

This command removes the SLA-measurement profile from usage by the UNI Eservice.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

UNI Eservice Configuration Mode

### History

Release	Modification
8.2	The command is introduced.

### Input Syntax

```
unset profile sla-measurement
```

### Example

#### Command

```
unset profile sla-measurement
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

set profile sla-measurement



## Remote MEP loss-delay initiator configuration commands

This section lists the remote MEP loss-delay initiator configuration commands.

- “loss-measurement {enable | disable}”
- “delay-measurement {enable | disable}”
- “delay-measurement s-vlan-priority”

### loss-measurement {enable | disable}

This command enables loss measurement of the remote MEP loss-delay initiator.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

#### Mode

UNI Eservice Remote MEP loss-delay Initiator Configuration Mode

#### Input Syntax

```
loss-measurement {enable|disable}
```

#### Example

##### Command

```
loss-measurement enable
```

#### System response and side effects

There is no system response if the command is successful.

### delay-measurement {enable | disable}

This command enables delay measurement of the remote MEP loss-delay initiator.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

#### Mode

UNI Eservice Remote MEP loss-delay Initiator Configuration Mode

#### Input Syntax

```
delay-measurement {enable|disable}
```

#### Example

##### Command

```
delay-measurement enable
```

### System response and side effects

There is no system response if the command is successful.

## delay-measurement s-vlan-priority

This command sets the priority for the S-VLAN delay measurement. The **no** form of this command removes the delay measurement.



### Mode

UNI Eservice Remote MEP loss-delay Initiator Configuration Mode

### Input Syntax

[no] **delay-measurement s-vlan-priority** *<value>*

Parameter	Description	Range	Default Value
<i>value</i>	Threshold value	0 to 7	Not applicable

### Example

#### Command

```
delay-measurement s-vlan-priority 1
```

### System response and side effects

There is no system response if the command is successful.

## Remote MEP throughput initiator configuration commands

This section lists the remote MEP throughput initiator configuration commands.

- “`ingress bandwidth <name>`”
- “`ingress class-name <name>`”
- “`ingress service-policy <name>`”
- “`s-vlan-priority`”
- 22.16.5, “`frame-size-1 <size>`”
- 22.16.6, “`frame-size-2 <size>`”
- 22.16.7, “`frame-size-3 <size>`”
- 22.16.8, “`frame-size-4 <size>`”
- “`frame-size-5 <size>`”
- 22.16.10, “`frame-size-6 <size>`”
- 22.16.11, “`throughput { start | stop }`”

### ingress bandwidth <name>

This command sets the ingress port to use the specified bandwidth profile. The **no** form of this command removes the bandwidth profile.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

UNI Eservice Remote MEP Throughput Initiator Configuration Mode

### Input Syntax

**[no] ingress bandwidth <name>**

Parameter	Description	Range	Default Value
<i>name</i>	is the name of the profile.	1 to 32 alphanumeric characters	not applicable

### Example

#### Command

```
ingress bandwidth Service1
```

#### System response and side effects

There is no system response if the command is successful.

## ingress class-name <name>

This command sets the ingress port to use the specified class name. The class name is defined with the <name> command. The **no** form of this command removes the class name from use by the throughput test.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

UNI Eservice Remote MEP Throughput Initiator Configuration Mode

### Input Syntax

[no] ingress class-name <name>

Parameter	Description	Range	Default Value
<i>name</i>	is the class name.	1 to 32 alphanumeric characters	not applicable

### Example

#### Command

```
ingress class-name Class1
```

#### System response and side effects

There is no system response if the command is successful.

## ingress service-policy <name>

This command sets the throughput test to use the specified QoS policy. The policy is defined with the service-policy <name> command. The **no** form of this command removes the policy.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

UNI Eservice Remote MEP Throughput Initiator Configuration Mode

### History

Release	Modification
8.2	The command is introduced.

### Input Syntax

[no] ingress service-policy <name>

Parameter	Description	Range	Default Value
<i>name</i>	is the name of the service policy.	1 to 32 alphanumeric characters	not applicable

### Example

#### Command

```
ingress service-policy Policy1
```

#### System response and side effects

There is no system response if the command is successful.

## s-vlan-priority

This command sets the priority for the S-VLAN. The **no** form of this command removes the priority setting.



### Mode

UNI Eservice Remote MEP Throughput Initiator Configuration Mode

#### Input Syntax

```
[no] s-vlan-priority <value>
```

Parameter	Description	Range	Default Value
<i>value</i>	Threshold value	0 to 7	Not applicable

### Example

#### Command

```
s-vlan-priority 1
```

#### System response and side effects

There is no system response if the command is successful.

## 22.16.5 frame-size-1 <size>

This command sets the maximum frame size to the specified value. The **no** form of this command sets the frame size back to the default value.



**Mode**

UNI Eservice Remote MEP Throughput Initiator Configuration Mode

**Input Syntax**`[no] frame-size-1 <size>`

Parameter	Description	Range	Default Value
<i>size</i>	is the maximum frame size.	1518 to 9600	1522

**Example****Command**`frame-size-1 2048`**System response and side effects**

There is no system response if the command is successful.

**22.16.6 frame-size-2 <size>**

This command sets the maximum frame size to the specified value. The **no** form of this command sets the frame size back to the default value.

**Mode**

UNI Eservice Remote MEP Throughput Initiator Configuration Mode

**Input Syntax**`[no] frame-size-2 <size>`

Parameter	Description	Range	Default Value
<i>size</i>	is the maximum frame size.	1518 to 9600	1522

**Example****Command**`frame-size-2 2048`**System response and side effects**

There is no system response if the command is successful.

## 22.16.7 frame-size-3 <size>

This command sets the maximum frame size to the specified value. The **no** form of this command sets the frame size back to the default value.



### Mode

UNI Eservice Remote MEP Throughput Initiator Configuration Mode

### Input Syntax

**[no] frame-size-3** <size>

Parameter	Description	Range	Default Value
<i>size</i>	is the maximum frame size.	1518 to 9600	1522

### Example

#### Command

```
frame-size-3 2048
```

#### System response and side effects

There is no system response if the command is successful.

## 22.16.8 frame-size-4 <size>

This command sets the maximum frame size to the specified value. The **no** form of this command sets the frame size back to the default value.



### Mode

UNI Eservice Remote MEP Throughput Initiator Configuration Mode

### Input Syntax

**[no] frame-size-4** <size>

Parameter	Description	Range	Default Value
<i>size</i>	is the maximum frame size.	1518 to 9600	1522

### Example

#### Command

```
frame-size-4 2048
```

### System response and side effects

There is no system response if the command is successful.

## frame-size-5 <size>

This command sets the maximum frame size to the specified value. The **no** form of this command sets the frame size back to the default value.



### Mode

UNI Eservice Remote MEP Throughput Initiator Configuration Mode

### Input Syntax

**[no] frame-size-5** <size>

Parameter	Description	Range	Default Value
size	is the maximum frame size.	1518 to 9600	1522

### Example

#### Command

```
frame-size-5 2048
```

### System response and side effects

There is no system response if the command is successful.

## 22.16.10 frame-size-6 <size>

This command sets the maximum frame size to the specified value. The **no** form of this command sets the frame size back to the default value.



### Mode

UNI Eservice Remote MEP Throughput Initiator Configuration Mode

### Input Syntax

**[no] frame-size-6** <size>

Parameter	Description	Range	Default Value
size	is the maximum frame size.	1518 to 9600	1522



**Example****Command**

```
frame-size-6 2048
```

**System response and side effects**

There is no system response if the command is successful.

**22.16.11 throughput {start | stop}**

This command starts or stops UNI Eservice Remote MEP throughput measurement.

**Mode**

UNI Eservice Remote MEP Throughput Initiator Configuration Mode

**Input Syntax**

```
throughput {start|stop}
```

**Example****Command**

```
throughput start
```

**System response and side effects**

There is no system response if the command is successful.

## Remote MEP throughput responder configuration commands

---

This section lists the remote MEP throughput responder configuration commands.

- “`ingress bandwidth <name>`”
- “`ingress service-policy <name>`”
- “`ingress class-name <name>`”

### ingress bandwidth <name>

This command sets the ingress port to use the specified bandwidth profile. The **no** form of this command removes the bandwidth profile.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

#### Mode

UNI Eservice Remote MEP Throughput Responder Configuration Mode

#### Input Syntax

**[no] ingress bandwidth** *<name>*

Parameter	Description	Range	Default Value
<i>name</i>	is the name of the profile.	1 to 32 alphanumeric characters	not applicable

#### Example

##### Command

```
ingress bandwidth Service1
```

##### System response and side effects

There is no system response if the command is successful.

### ingress service-policy <name>

This command sets the UNI Eservice to use the specified QoS policy. The policy is defined with the service-policy <name> command. The **no** form of this command removes the policy.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

#### Mode

UNI Eservice Remote MEP Throughput Responder Configuration Mode

## History

Release	Modification
8.2	The command is introduced.

## Input Syntax

**[no] ingress service-policy** *<name>*

Parameter	Description	Range	Default Value
<i>name</i>	is the name of the service policy.	1 to 32 alphanumeric characters	not applicable

## Example

### Command

```
ingress service-policy Policy1
```

### System response and side effects

There is no system response if the command is successful.

## ingress class-name *<name>*

This command sets the ingress port to use the specified class name. The class name is defined with the *<name>* command. The **no** form of this command removes the class name.



## Mode

UNI Eservice Remote MEP Throughput Responder Configuration Mode

## History

Release	Modification
8.2	The command is introduced.

## Input Syntax

**[no] ingress class-name** *<name>*

Parameter	Description	Range	Default Value
<i>name</i>	is the class name.	1 to 32 alphanumeric characters	not applicable

### **Example**

#### **Command**

```
ingress class-name Class1
```

#### **System response and side effects**

There is no system response if the command is successful.

## 23.0 MST configuration mode commands

---

This section lists the Multiple Spanning Tree (MST) Interface Configuration Mode commands. This mode is entered from the Global Configuration Mode by using the command “[spanning-tree mst configuration](#)”.

- “instance”
- “name”
- “revision”

## instance

This command maps a VLAN or set of VLANs to a Multiple Spanning Tree (MST) instance. The **no** form of this command removes the VLANs from the MST instance.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

MST Configuration Mode

### Input Syntax

**[no] instance** <instance-id> **vlan** <vlan-range>

Parameter	Description	Range	Default Value
<i>instance-id</i>	is the spanning tree instance identification number.	1 to 16	not applicable
<i>vlan-range</i>	is the VLAN identifier(s), specified as a single VLAN, a comma-separated list, a range (<vlan-lo>-<vlan-hi>), or a combination.  All specified VLANs must exist.	1 to 4094	not applicable

### Example

#### Command

```
instance 3 vlan 1-50
no instance 3
no instance 4 vlan 4-20,45
```

#### System response and side effects

There is no system response if the command is successful.

This command creates the specified MST instance if the specified instance does not already exist.

This command associates the specified VLAN(s) with the specified MST instance. Any previous associations between the specified VLAN(s) and other MST instances are removed. If the removal of these past associations results in an MST instance with no VLAN associations, that MST instance is deleted.

When using the no form of the command to remove a VLAN from the MST instance, the VLAN is moved to the CIST. If this removal causes the specified MST instance to no longer have any VLAN associations, the specified MST instance is deleted.

### **Related Commands**

show spanning-tree mst configuration

## name

---

This command allows the user to name the Multiple Spanning Tree (MST) region. The **no** form of this command deletes the name.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

MST Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

[no] **name** <*string*>

Parameter	Description	Range	Default Value
<i>string</i>	is the name of the MST region. <sup>1</sup>	Up to 32 alphanumeric characters	empty

<sup>1</sup>This parameter is not required for the **no** form of this command.

### Example

#### Command

```
name myRegion
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

show spanning-tree mst configuration



## revision

This command sets the primary Multiple Spanning Tree (MST) configuration revision number. The **no** form of this command sets the revision number back to the default value of zero (0).

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

MST Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

**[no] revision** *<version>*

Parameter	Description	Range	Default Value
<i>version</i>	is the MST configuration revision number.	0 to 65535	0

### Example

#### Command

```
revision 3
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

show spanning-tree mst configuration



## 24.0 MSTP CIST & MSTI configuration modes commands

---

This section lists the Multiple Spanning Tree Protocol (MSTP) Common and Internal Spanning Tree (CIST) Configuration Mode commands and the MSTP Multiple Instances Spanning Tree (MSTI) Configuration Mode commands. These modes are entered from the Global Configuration Mode by using the command “[spanning-tree <instance-id>](#)”.

- “[max-hops](#)”
- “[priority](#)”
- “[show](#)”

## max-hops

---

This command configures the maximum number of possible hops in the region before a Bridge Protocol Data Unit (BPDU) is discarded. The **no** form of this command sets the number of possible hops back to the default value of 20.



### Mode

MSTP CIST Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

[no] **max-hops** <hopnumber>

Parameter	Description	Range	Default Value
<i>hopnumber</i>	is the number of possible hops in the region. <sup>1</sup>	6 to 40	20

<sup>1</sup>This parameter is not required for the **no** form of this command.

### Example

#### Command

```
max-hops 25
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

```
show
```

## priority

This command configures the priority parameter. The **no** form of this command sets the priority back to the default value of 32k.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

MSTP CIST Configuration Mode, MSTP MSTI Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

**[no]** **priority** <*prio*>

Parameter	Description	Range	Default Value
<i>prio</i>	is the Bridge priority	0 to 60k, in steps of 4k	32k

### Example

#### Command

```
priority 0
```

```
priority 16k
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

```
show
```

## show

---

This command displays the configured MSTP CIST or MSTI configuration depending on the current configuration mode.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

MSTP CIST Configuration Mode, MSTP MSTI Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

**show**

### Example 1

#### Command

```
BTI7000:sw1(config)# spanning-tree 0
```

```
BTI7000:sw1(config-cist)# show
```

#### System response and side effects

```
Switch: 1
Name                vijay
Revision            0
Maximum Hops        20
Supported Version    MSTP .1q
ID Format Select     0
ID Digest            655929deb757c313d24f51550d995cab
Regional Root       00:14:d0:00:0e:c0      : We are the root bridge for this region.
CIST Root            00:14:d0:00:0e:c0      : We are the root bridge for the CST.
CIST Root Priority    32768
CIST Root Cost       0
Extended Root Cost   0
Cist Priority         32768
Bridge ID            00:14:d0:00:0e:c0
```

### Example 2

#### Command

```
BTI7000:sw1(config)# spanning-tree 1
```

```
BTI7000:sw1(config-mist 1)# show
```

## System response and side effects

```
Switch: 1, MSTP instance 1
Bridge ID Priority: 32764
Bridge ID Address:
Designated Root : We are at the root bridge for this mst
instance.
Root Path Cost : 0
```

## Related Commands

None





## 25.0 MSTP CIST port & MSTP MSTI port configuration modes commands

---

This section lists the Multiple Spanning Tree Protocol (MSTP) Common and Internal Spanning Tree (CIST) Port Configuration Mode commands and the MSTP Multiple Instances Spanning Tree (MSTI) Port Configuration mode commands. These modes are entered from the Switchport Configuration Mode by using the command “[spanning-tree <instance-id>](#)”.

- “cost”
- “loop-guard”
- “port-priority”
- “port-state”
- “restricted-role”
- “restricted-tcn”
- “show”

## cost

---

This command configures the path cost parameter of a switchport. The **no** form of this command returns the default settings.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

MSTP CIST Port Configuration Mode, MSTP MSTI Port Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

**[no]** **cost** <cost>

Parameter	Description	Range	Default Value
cost	is the path cost for an instance. <sup>1</sup>	Integer (0-auto path cost, 1 to 200,000,000)	200,000

<sup>1</sup>This parameter is not required for the **no** form of this command.

### Example

#### Command

```
cost 19
no cost
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

show

## loop-guard

This command enables or disables loop guard protection on an NNI port. When Loop Guard is enabled on a port (non-designated), the port transitions to a loop-inconsistent state instead of moving to the listening/learning/forwarding states when two or three BPDUs are missed.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

MSTP CIST Port Configuration Mode, MSTP MSTI Port Configuration Mode

### History

Release	Modification
9.2	The command is introduced.

### Input Syntax

`loop-guard{enable|disable}`

### Example

These examples show how to enable and disable loop-guard on a port.

### Command

```
BTI7000:sw1(config-nni TenGigE 1/1~)# loop-guard enable
BTI7000:sw1(config-nni TenGigE 1/1~)#
BTI7000:sw1(config-nni TenGigE 1/1~)# loop-guard disable
BTI7000:sw1(config-nni TenGigE 1/1~)#
```

### System response and side effects

There is no system response if the command is successful.

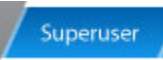
### Related Commands

`show`

## port-priority

---

This command configures the port priority parameter of a switchport. The **no** form of this command returns the default settings.

 Authorization Required Superuser Provisioning Maintenance Surveillance

### Mode

MSTP CIST Port Configuration Mode, MSTP MSTI Port Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

**[no]** **port-priority** *<prio>*

Parameter	Description	Range	Default Value
<i>prio</i>	is the port priority for an instance.	0 to 240 in steps of 16	128

### Example

#### Command

```
port-priority 64
no port-priority
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

show

## port-state

This command configures the mstp administrative state parameter of a switchport. The **no** form of this command returns the default settings.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

MSTP CIST Port Configuration Mode, MSTP MSTI Port Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

port-state {enable|disable}

### Example

#### Command

```
port-state enable
port-state disable
```

### System response and side effects

There is no system response if the command is successful.

### Related Commands

show

## restricted-role

---

This command enables the restricted role feature that prevents the specific switchport from becoming the root port. The **no** form of this command disables the restricted role feature for this switchport.



### Mode

MSTP CIST Port Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

`[no] restricted-role {enable | disable}`

### Example

#### Command

```
restricted-role enable
no restricted-role
```

### System response and side effects

There is no system response if the command is successful.

### Related Commands

show

## restricted-tcn

This command enables the restricted Topology Change Notification (TCN) feature that prevents the topology change caused by the specific switchport. The **no** form of this command disables the restricted TCN feature for this switchport.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

MSTP CIST Port Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

```
[no] restricted-tcn {enable | disable}
```

### Example

#### Command

```
restricted-tcn enable  
no restricted-tcn
```

### System response and side effects

There is no system response if the command is successful.

### Related Commands

show

## show

---

This command displays the configured MSTP CIST or MSTI port configuration depending on the current configuration mode.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

MSTP CIST Port Configuration Mode, MSTP MSTI Port Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

**show**

### Example 1

#### Command

```
BTI7000:sw1(config-sp 1/1/1)# spanning-tree 0
BTI7000:sw1(config-sp GigE 1/1/7-c~)# show
```

#### System response and side effects

```
Switch: 1, Shelf: 1, Slot: 1, Port Type: GigE, Port: 7
Designated Root is 00:14:d0:00:1e:ec
Designated Bridge is 00:14:d0:00:1e:ec
Designated Port is 4
Path Cost is 20000
Port Priority is 128
Port State is Forwarding
Port Role is Designated
Regional Root is 00:14:d0:00:1e:ec
Regional Root Cost 0
Restricted Role is Enabled
Restricted TCN is Enabled
Forced Port State is Enabled
```

### Example 2

#### Command

```
BTI7000:sw1(config-sp 1/1/1)# spanning-tree 1
BTI7000:sw1(config-sp 1/1/1-msti 1)# show
```

#### System response and side effects



Switch: 1, Shelf: 1, Slot: 1, Port Type: GigE, Port: 7, MSTP  
Instance: 1  
Port State is Forwarding  
Port Role is Designated  
Port Designated Root is 00:14:d0:00:1e:ec  
Port Designated Cost is 0  
Port Designated Bridge is 00:14:d0:00:1e:ec  
Port Designated Port is 4  
Port Priority is 128  
Port Path Cost is 20000  
Forced Port State is Enabled

### **Related Commands**

None



## 26.0 ERPS Service NNI type commands

---

This section lists the ERPS Service NNI type commands. These commands are entered from the Global Configuration Mode by using the command “nni <interface-type> <interface-id>”.

- “ccm”
- “flush-remote-mep”
- “local-mep-id”
- “me-name”
- “neighbor”
- “protection-switch”
- “remote-mep-id”
- “ring-protect-link”

## ccm

---

This command enables or disables the use of continuity check messages (CCMs) for this port, and only applies for an ERPS service. ERPS uses link-level CCMs as one method to verify connectivity between adjacent nodes.



### Mode

NNI ERPS Eservice Configuration Mode

### Input Syntax

`ccm [enable | disable]`

Command option	Description
enable	This enables the use of CCMs for this port.
disable	This disables the use of CCMs for this port. This is the default setting.

### Guidelines

Following are configuration considerations:

- You do not need to disable the Eservice before using this command.
- If you enable CCMs, you also need to set the ME-name. You can do this using the **me-name** command.
- If you enable CCMs, link up conditions are detected through CCMs, and link failure conditions are detected through CCMs and linkscan.
- If you disable CCMs, link up and link failure conditions are detected through linkscan only.

### Example

```
BTI7000:sw1(config-nni-eservice)# ccm enable
```

### System response and side effects

There is no system response if the command is successful.

### Related Commands

None

---

## flush-remote-mep

---

This command forces a virtual switch to learn its remote MEP IDs.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

NNI Eservice (ERPS) Configuration Mode

### Input Syntax

**flush-remote-mep**

### Guidelines

When you add, remove or replace a BTI 7000 Series packetVX (PVX) that is part of an ERPS network configuration, the remote MEP IDs of virtual switches associated with that PVX are not automatically learned. This command forces the virtual switch to learn the MEP IDs of the current PVX to which it is associated.

### Example

This example shows that the remote MEP ID on virtual switch 3 needs to be learned.

### Command

```
BTI7000(config)# virt 3
BTI7000:sw3(config)# eser ERPS_MainRing
BTI7000:sw3(config-eservice)# nni ten 1/9/2
BTI7000:sw3(config-enni-eservice)# flush-remote-mep
```

### System response and side effects

There is no system response if the command is successful.

### Related Commands

## local-mep-id

---

This command optionally sets the local maintenance endpoint for this ERPS NNI.



### Mode

NNI Eservice (ERPS) Configuration Mode

### Input Syntax

`local-mep <id>`

Parameter	Description	Range	Default value
<i>id</i>	Value of the local mep id	1 to 8191	Automatically assigned

### Example

#### Command

```
local-mep-id 100
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

## me-name

This command creates the maintenance entity name (ME-name) for this ERPS NNI.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

NNI ERPS Eservice Configuration Mode

### Input Syntax

[no] **me-name** <input>

Parameter	Description	Range	Default value
<i>name</i>	Name of the ME.	1 to 6 alphanumeric characters	Not applicable

### Guidelines

Following are configuration considerations:

- This is a mandatory field to activate the ERPS service if CCMs are enabled.
- The administrative state of the Eservice must be disabled.
- You can change the name by using the **me-name** command to create a new name. The new name overwrites the current name.

### Example

The following example shows how to create an ME-name "abcdef":

#### Command

```
:sw1(config-eservice)# admin-state disable
:sw1(config-eservice)# nni tenGigabitEthernet 1/1/2
:sw1(config-nni-eservice)# me-name abcdef
:sw1(config-nni-eservice)# show nni-eservice
NNI TenGigE 1/1/2, Ethernet Service "ring1"
  Virtual Switch is 1
.....
ME Name:                abcdef
Remote MEP Id:          0
Local MEP Id:           7778

MEG (Name/Index/Level): DMEG (BTI -L0/2/0)

:sw1(config-nni-eservice)# exit
:sw1(config-eservice)# admin-state enable
:sw1(config-eservice)#
```

**System response and side effects**

There is no system response if the command is successful.

**Related Commands**

None



---

# neighbor

---

This command sets the RPL Neighbor node of the ladder ring. By default, the RPL neighbor node is disabled.

**Note** This command is currently not supported.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

## Mode

NNI ERPS EserviceConfiguration Mode

## Input Syntax

**neighbor {enable | disable}**

## Guidelines

Following are configuration considerations:

- Neighbor is configurable as of ERPS Version 2.
- The Neighbor cannot be configured on the RPL node of the Next Neighbor node.

## Example

### Command

```
:sw1(config-nni-eservice)# neighbor enable  
:sw1(config-nni-eservice)#
```

### System response and side effects

There is no system response if the command is successful.

## Related Commands

**next-neighbor**

## protection-switch

---

This command enables/disables protection switch on the ERPS Service NNI. Enabling this port configures Protection Switch Mode, in the Eservice to operate on this port. The Protection Switch Mode in the Eservice must be set to NORMAL in order to enable or disable Protection Switch on this port.



### Mode

NNI Eservice (ERPS) Configuration Mode

### Input Syntax

```
protection-switch { enable | disable }
```

### Example

#### Command

```
protection-switch enable
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

**show nni-eservice**

## remote-mep-id

This command optionally sets the remote maintenance endpoint for this ERPS NNI.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

NNI Eservice (ERPS) Configuration Mode

### History

Release	Modification
7.3	The command is introduced.

### Input Syntax

`remote-mep-id <id>`

Parameter	Description	Range	Default value
<i>id</i>	Value of the MEP ID	1 to 8191	Automatically assigned

### Example

#### Command

```
remote-mep-id 100
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

## ring-protect-link

---

When a port is configured as the ring protection link, the software will block this port (thus breaking the ring's loop). If another system in the ring detects a link failure, the software will unblock this link until the failure clears. The administrator must ensure that only one NNI anywhere in the ring has "ring protection link" enabled.



### Mode

NNI Eservice (ERPS) Configuration Mode

### History

Release	Modification
7.3	The command is introduced.

### Input Syntax

```
ring-protect-link { enable | disable }
```

### Example

#### Command

```
protection-switch enable
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

```
show nni-eservice
```

## 27.0 Profile L2Control configuration mode commands

---

This section lists the Profile L2Control Configuration Mode commands. This mode is entered from the Global Configuration Mode by using the command `profile l2control`.

- `dot1x`
- `gmrp`
- `gvrp`
- `lacp`
- `lldp`
- `stp`

## dot1x

---

This command sets the behavior of the L2 Control packets for the dot1x protocol. The **no** form of this command resets the behavior back to its default value.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Profile L2Control Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

**[no] dot1x** [*<behavior>*]

Parameter	Description	Range	Default Value
<i>behavior</i>	is the parameter that sets the behavior of the control packet	tunnel peer discard	not applicable
		<b>Note</b> When applied to a LAG interface, the value of "dot1x" must be set to "peer".	

### Example

#### Command

```
dot1x peer
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

```
show profile l2control
```

## gmrp

This command sets the behavior of the L2Control packets for the gmrp protocol. The **no** form of this command resets the behavior back to its default value.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Profile L2Control Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

[no] **gmrp** [<behavior>]

Parameter	Description	Range	Default Value
<i>behavior</i>	is the behavior of the control packet.	tunnel peer discard	Depends on the port-type of the switchport.

### Example

#### Command

```
gmrp tunnel
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

```
show profile l2control
```

## gvrp

---

This command sets the behavior of the L2Control packets for the gvrp protocol. The **no** form of this command resets the behavior back to its default value.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Profile L2Control Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

[no] **gvrp** [*<behavior>*]

Parameter	Description	Range	Default Value
<i>behavior</i>	is the behavior of the control packet	tunnel peer discard	Depends on the port-type of the switchport.

### Example

#### Command

```
gvrp tunnel
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

```
show profile l2control
```



# lacp

This command sets the behavior of the L2Control packets for the lacp protocol. The **no** form of this command resets the behavior back to its default value.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

## Mode

Profile L2Control Configuration Mode

## History

Release	Modification
7.1	The command is introduced.

## Input Syntax

[no] lacp [<behavior>]

Parameter	Description	Range	Default Value
<i>behavior</i>	is the behavior of the control packet.	tunnel peer discard <b>Note</b> When applied to a LAG interface, the value of "lacp" must be set to "peer".	Depends on the port-type of the switchport.

## Example

### Command

```
lacp peer
```

### System response and side effects

There is no system response if the command is successful.

### Related Commands

```
show profile l2control
```

## lldp

---

This command sets the behavior of the L2Control packets for LLDP (Link Layer Discovery Protocol). The **no** form of this command resets the behavior back to its default value.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Profile L2Control Configuration Mode

### Input Syntax

[no] lldp [<behavior>]

Parameter	Description	Range	Default Value
<i>behavior</i>	The behavior of the control packet.	tunnel peer discard	Depends on the port-type of the switchport.

### Example

This example sets the LLDP as a tunnel:

```
BTI7000(config)# profile l2control tunnel
Profile "tunnel" created.
BTI7000(config-profile-l2c)#
```

### Related Commands

show profile l2control

## stp

This command sets the behavior of the L2Control packets for the stp protocol. The **no** form of this command resets the behavior back to its default value.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Profile L2Control Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

**[no] stp** [*<behavior>*]

Parameter	Description	Range	Default Value
<i>behavior</i>	is the behavior of the control packet.	tunnel peer discard	Depends on the port-type of the switchport.

### Example

#### Command

```
stp tunnel
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

```
show profile l2control
```



## 28.0 Profile Tunnel-MAC-Address configuration mode commands

---


This section lists the Profile Tunnel-MAC-Address configuration mode commands. This mode is entered from the Global Configuration mode by using the command “[profile tunnel-mac-address](#)”.

- “dot1x”
- “gmrp”
- “gvrp”
- “lacp”
- “lldp”
- “stp”

## dot1x

---

This command sets the destination MAC address for the dot1x tunneling protocol. The **no** form of this command sets the MAC address back to its default for the protocol.



### Mode

Profile Tunnel-MAC-Address Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

[no] dot1x [*<mac-addr>*]

Parameter	Description	Range	Default Value
<i>mac-addr</i>	is the MAC address in the following format: xx-xx-xx-xx-xx-xx	Valid MAC address	01-00-0c-cd-cd-d3

### Example

#### Command

```
dot1x 01-00-0c-ab-ab-01
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

show profile tunnel-mac-address

## gmrp

This command sets the destination MAC address for the gmrp tunneling protocol. The **no** form of this command sets the MAC address back to its default for the protocol.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Profile Tunnel-MAC-Address Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

[no] **gmrp** [*<mac-addr>*]

Parameter	Description	Range	Default Value
<i>mac-addr</i>	is the MAC address in the following format: xx-xx-xx-xx-xx-xx	Valid MAC address	01-00-0c-cd-cd-d2

### Example

#### Command

```
gmrp 01-00-0c-34-5f-ee
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

```
show profile tunnel-mac-address
```

## gvrp

---

This command sets the destination MAC address for the gvrp tunneling protocol. The **no** form of this command sets the MAC address back to its default for the protocol.



### Mode

Profile Tunnel-MAC-Address Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

[no] **gvrp** [*<mac-addr>*]

Parameter	Description	Range	Default Value
<i>mac-addr</i>	is the MAC address in the following format: xx-xx-xx-xx-xx-xx	Valid MAC address	01-00-0c-cd-cd-d1

### Example

#### Command

```
gvrp 01-00-0c-cf-ff-d2
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

show profile tunnel-mac-address



## larp

This command sets the destination MAC address for the larp tunneling protocol. The **no** form of this command sets the MAC address back to its default for the protocol.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Profile Tunnel-MAC-Address Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

[no] larp [<mac-addr>]

Parameter	Description	Range	Default Value
mac-addr	is the MAC address in the following format: xx-xx-xx-xx-xx-xx	Valid MAC address	01-00-0c-cd-cd-d4

### Example

#### Command

```
larp 01-00-0c-44-c5-d0
```

#### System response and side effects

There is no system response if the command is successful.


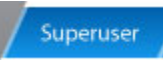
#### Related Commands

show profile tunnel-mac-address

## lldp

---

This command sets the destination MAC address for the lldp tunneling protocol. The **no** form of this command sets the MAC address back to the default MAC address.

 Authorization Required Superuser Provisioning Maintenance Surveillance

### Mode

Profile Tunnel-MAC-Address Configuration Mode

### Input Syntax

[no] lldp [*<mac-addr>*]

Parameter	Description	Range	Default Value
<i>mac-addr</i>	The MAC address for in the following format: xx-xx-xx-xx-xx-xx	Valid MAC address	01-00-de-ad-be-ef

### Example

```
lldp 01-00-de-ad-be-ef
```

### Related Commands

show profile tunnel-mac-address

## stp

This command sets the destination MAC address for the stp tunneling protocol. The **no** form of this command sets the MAC address back to its default for the protocol.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Profile Tunnel-MAC-Address Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

[no] stp [*<mac-addr>*]

Parameter	Description	Range	Default Value
<i>mac-addr</i>	is the MAC address in the following format: xx-xx-xx-xx-xx-xx	Valid MAC address	01-00-0c-cd-cd-d0

### Example

#### Command

```
stp 01-23-0c-ab-cd-44
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

```
show profile tunnel-mac-address
```



## 29.0 Profile Scheduler configuration mode commands

---

This section lists the Profile Scheduler Configuration Mode commands. This mode is entered from the Global Configuration Mode by using the command “[profile scheduler](#)”.

- “[cos-queue <cos-queue> max-bw <bw>](#)”
- “[cos-queue <cos-queue> min-bw <bw>](#)”
- “[cos-queue <cos-queue> weight <weight>](#)”
- “[mtu-quanta <quanta>](#)”

## cos-queue <cos-queue> max-bw <bw>

This command sets the maximum bandwidth for a CoS queue. The **no** form of this command resets the maximum bandwidth to the default value.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Profile Scheduler Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

[no] **cos-queue**<cos-queue>**max-bw**<bw>

Parameter	Description	Range	Default Value
<i>cos-queue</i>	is the CoS queue number.	0 to 7	not applicable
<i>max-bw</i>	is the CoS queue maximum bandwidth (in Kbps). <sup>1</sup>	0 to 10000000	0

<sup>1</sup>This parameter is not required for the **no** form of this command.

### Example

#### Command

```
cos-queue 2 max-bw 10000000
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

show profile scheduler

## cos-queue <cos-queue> min-bw <bw>

This command sets the minimum bandwidth for a CoS queue. When the bandwidth is set to its default value (0), no bandwidth is reserved for the CoS queue. The **no** form of this command resets the minimum bandwidth to the default value.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Profile Scheduler Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

[no] **cos-queue**<cos-queue>**min-bw**<bw>

Parameter	Description	Range	Default Value
<i>cos-queue</i>	is the CoS queue number.	0 to 7	not applicable
<i>bw</i>	is the CoS queue minimum bandwidth (in Kbps).	0 to 10000000	0

### Example

#### Command

```
cos-queue 2 min-bw 100
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

show profile scheduler

## cos-queue <cos-queue> weight <weight>

This command sets the weight of a (Class of Service) CoS queue. The **no** form of this command resets the weight to the default value.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Profile Scheduler Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

[no] **cos-queue**<cos-queue>**weight**<weight>

Parameter	Description	Range	Default Value
<i>cos-queue</i>	CoS queue number.	0 to 7	not applicable
<i>weight</i>	CoS queue weight.	0 to 255	1

### Guideline

To achieve the desired priority for traffic that passes through a packetVX 80 module, we recommend that you use a weight value that is divisible by two, when configuring the CoS queue on any packetVX. If you use a weight of one or use consecutive weight values, the packetVX 80 does not forward traffic as expected.

### Example

```
cos-queue 2 weight 100
```

### Related Commands

show profile scheduler



## mtu-quanta <quanta>

This command sets the MTU quanta of the profile. It is only used if the algorithm is DRR or SP +DRR. The **no** form of this command sets the MTU quanta back to its default value.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Profile Scheduler Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

[no] **mtu-quanta**<quanta>

Parameter	Description	Range	Default Value
[no] <i>mtu-quanta</i> <quanta>	is the mtu quanta (in Kbytes).	2, 16	2

### Example

#### Command

```
mtu-quanta 16
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

```
show profile scheduler
```



## 30.0 Profile Priority Traffic Class Map configuration mode commands

---

This section lists the Profile Priority Traffic Class Map Configuration Mode commands. This mode is entered from the Global Configuration Mode by using the command “[profile priority-tc-map <name>](#)”.

- “[priority <priority> cos-queue <cos-queue>](#)”

## priority <priority> cos-queue <cos-queue>

This command defines the mapping of a given priority of traffic to an egress queue. The **no** form of this command resets the weight of the CoS queue to the default value (see following table).

Priority	CoS queue
0	1
1	0
2	2
3	3
4	4
5	5
6	6
7	4

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Profile Priority Traffic Class Map Configuration Mode

### Input Syntax

[no] **priority**<priority>**cos-queue**<cos-queue>

Parameter	Description	Range	Default Value
<i>priority</i>	The priority level.	0 to 7	not applicable
<i>cos-queue</i>	is the CoS queue number.	0 to 7	See above table.

### Example

#### Command

```
priority 3 cos-queue 2
```

#### Related Commands

```
show profile priority-tc-map [<name>]
```

## 31.0 Class-map configuration mode commands

---

This section lists the Class-Map Configuration Mode commands. This mode is entered from the Global Configuration Mode by using the command “[class-map <name> \[type <type>\]](#)”.

- “[match c-vlan <vlan-id>](#)”
- “[match c-vlan-priority <priority>](#)”
- “[match ethertype <value>](#)”
- “[match ip dest \[<ip-addr>\]](#)”
- “[match ip dscp <value>](#)”
- “[match ip protocol \[<protocol>\]](#)”
- “[match ip src \[<ip-addr>\]](#)”
- “[match mac dest \[<mac-addr>\]](#)”
- “[match mac src \[<mac-addr>\]](#)”
- “[match tcp-control <value>](#)”
- “[match tcp-udp-port dest](#) ”
- “[match tcp-udp-port src](#) ”

## match c-vlan <vlan-id>

This command configures the C-VLAN / S-VLAN filtering. The **no** form of this command indicates that the C-VLAN is not used in matching.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Class-map Configuration Mode

### Input Syntax

[no] match c-vlan <c-vid>

Parameter	Description	Range	Default Value
<c-vid>	The VLAN ID to be mapped.	1 to 4094	Not applicable

### Guideline

This command supports two forms of input: One to match a single VLAN, and the other to match a range of VLANs; for example:

- Format for a single VLAN: **match c-vlan** <c-vid>
- Format for a range of VLANs: **match c-vlan** <c-vid start> - <c-vid end>

**Note** For matching a range of VLANs, the value must be a power of 2, and the start VLAN ID must be a multiple of the range.

### Example 1

The following example configures a single VLAN:

```
(config-c-map)# match c-vlan 100
(config-c-map)#
```

### Example 2

The following example configures a range of VLANs:

```
(config-c-map)# no match c-vlan
(config-c-map)#
```

### System response and side effects

There is no system response if the command is successful.

### Related Commands

show class-map [<name>]

## match c-vlan-priority <priority>

This command configures the C-VLAN priority filter. The **no** form of this command indicates that the C-VLAN is not used in matching.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Class-map Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

[no] match c-vlan-priority<priority>

Parameter	Description	Range	Default Value
<i>priority</i>	is the filter priority.	1 to 7	not applicable

### Example

#### Command

```
match c-vlan-priority 4
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

```
show class-map [<name>]
```

## match ethertype <value>

---

This command sets the Ethernet Type filter. The **no** form of this command indicates that Ethernet type filtering is not used in matching.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Class-map Configuration Mode

### Input Syntax

**[no] match ethertype**<value>

Parameter	Description	Range	Default Value
<i>value</i>	The Ethernet type filter value.	Decimal: 0 to 65535 Hexadecimal: 0x0-0xFFFF	Not applicable

### Example

```
match ethertype 256
```

### Related Commands

class-map [<name>]



## match ip dest [<ip-addr>]

This command sets the IP filter to match the IP destination address field in the IP header. The **no** form of this command indicates that the IP destination address is not used in matching.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Class-map Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

[no] match ip dest [<ip-addr>]

Parameter	Description	Range	Default Value
<i>ip-addr</i>	is the IPv4 address with an optional network mask.	valid IPv4 address <sup>1</sup>	not applicable

<sup>1</sup>format = xxx.xxx.xxx.xxx[/mask]

### Example

#### Command

```
match ip dest 10.10.10.10
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

```
show class-map [<name>]
```

## match ip dscp <value>

---

This command sets the DSCP filter to match the DSCP field in the IP header. The **no** form of this command indicates that the DSCP filter is not used in matching.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Class-map Configuration Mode

### Input Syntax

[no] match ip dscp<value>

Parameter	Description	Range	Default Value
<i>value</i>	is the DSCP filter value.	0-63 af11 af12 af13 af21 af22 af23 af31 af32 af33 af41 af42 af43 cs1 cs2 cs3 cs4 cs5 cs6 cs7 ef	0

### Example

#### Command

```
match ip dscp 20
```

#### System response and side effects

There is no system response if the command is successful.

**Related Commands**

show class-map [<name>]

## match ip protocol [<protocol>]

---

This command sets the IP filter to match the IP protocol field in the IP header. The **no** form of this command indicates that the IP protocol field is not used in matching.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Class-map Configuration Mode

### Input Syntax

```
[no] match ip protocol [<protocol>]
```

Parameter	Description	Range	Default Value
<i>protocol</i>	The IP filter value. This value must match the protocol in the IP header.	tcp udp icmp igmp 0 to 255	Not applicable

### Example

```
match ip protocol 64
```

### Related Commands

```
show class-map [<name>]
```

## match ip src [<ip-addr>]

This command sets the IP filter to match the IP source address field in the IP header. The **no** form of this command indicates that the IP source address field is not used in matching.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Class-map Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

[no] match ip src [<ip-addr>]

Parameter	Description	Range	Default Value
<i>ip-addr</i>	is the IPv4 address with an optional network prefix.	valid IPv4 address <sup>1</sup>	not applicable

<sup>1</sup>format = xxx.xxx.xxx.xxx[/prefix]

### Example

#### Command

```
match ip src 10.10.10.10
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

```
show class-map [<name>]
```

## match mac dest [<mac-addr>]

This command sets the MAC address filter to match the destination MAC address. The **no** form of this command indicates that the MAC address is not used in matching.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Class-map Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

[no] **match mac dest** [<mac-addr>]

Parameter	Description	Range	Default Value
<i>mac-addr</i>	is the MAC address.	Valid MAC Address <sup>1</sup>	not applicable

<sup>1</sup>format = aa-aa-aa-aa-aa-aa

### Example

#### Command

```
match mac dest 01-43-de-56-40-98
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

```
show class-map [<name>]
```

## match mac src [<mac-addr>]

This command sets the MAC address filter to match the source MAC address. The **no** form of this command indicates that the MAC address is not used in matching.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Class-map Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

[no] **match macsrc** [<mac-addr>]

Parameter	Description	Range	Default Value
<i>mac-addr</i>	is the MAC address.	Valid MAC Address <sup>1</sup>	not applicable

<sup>1</sup>format = aa-aa-aa-aa-aa-aa

### Example

#### Command

```
match mac src 0a-32-56-de-5e-64
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

```
show class-map [<name>]
```

## match tcp-control <value>

---

This command sets the TCP Control filter to match the TCP control bits. The **no** form of this command indicates that the TCP control filter is not used in matching.

A gray rectangular button with the text "Authorization Required" in white.A blue rectangular button with the text "Superuser" in white.A blue rectangular button with the text "Provisioning" in white.A gray rectangular button with the text "Maintenance" in white.A gray rectangular button with the text "Surveillance" in white.

### Mode

Class-map Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

**[no] match tcp-control**<value>

Parameter	Description	Range	Default Value
<i>value</i>	is the TCP Control value.	0 to 63	not applicable

### Example

#### Command

```
match tcp-control 30
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

```
show class-map [<name>]
```



## match tcp-udp-port dest

This command sets the TCP/UDP port filter to match the TCP or UDP destination port number. The **no** form of this command indicates that the TCP/UDP port filter is not used in matching.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Class-map Configuration Mode

### Input Syntax

[no] match tcp-udp-port dest [*port*] | *start port end port*]

Parameter	Description	Range	Default Value
<i>port</i>	The destination port value.	0 to 65535	not applicable
		<b>Note</b> Refer to "Guideline," following, for information about setting port range values.	

### Guideline

If a range is specified, the beginning value must be  $2^n$  and the ending value must be at  $2^m - 1$ , with m greater than n.

### Example

The following example sets a TCP/UDP port range:

#### Command

```
match tcp-udp-port dest 64 127
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

```
show class-map [<name>]
```

## match tcp-udp-port src

---

This command sets the TCP/UDP port filter to match the TCP or UDP source port number. The **no** form of this command indicates that the TCP/UDP port filter is not used in matching.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Class-map Configuration Mode

### Input Syntax

**[no] match tcp-udp-port src** [*<port>* | *<start port> <end port>*]

Parameter	Description	Range	Default Value
<i>port</i>	The source port value.	0 to 65535	not applicable
		<b>Note</b> Refer to "Guideline," following, for information about setting beginning and ending port range values.	

### Guideline

If a range is specified, the beginning value must be  $2^n$  and the ending value must be at  $2^m - 1$ , with m greater than n.

### Example

The following example sets a TCP/UDP port range:

#### Command

```
match tcp-udp-port src 64 127
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

```
show class-map [<name>]
```

## 32.0 Service-policy configuration mode commands

---

This section lists the Service Policy Configuration Mode commands. This mode is entered from the Global Configuration Mode by using the command “[service-policy <name>](#)”.

- “[class-map <name> profile bandwidth <bw-name>](#)”
- “[show](#)”

## class-map <name> profile bandwidth <bw-name>

---

This command associates a class map and bandwidth profile with a service policy. The **no** form of this command removes this association.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Service Policy Configuration Mode

### Input Syntax

[no] **class-map** <name> **profile bandwidth** <bw-name>

Parameter	Description	Range	Default Value
<i>name</i>	The name of the class map.	1 to 32 alphanumeric characters	Not applicable
<i>bw-name</i>	The name of the bandwidth profile.	1 to 32 alphanumeric characters	Not applicable

### Guideline

Associating a class map and bandwidth profile is required for defining a service policy.

The bandwidth profile is not required for the **no** form of this command.

### Example

```
class-map VideoCos profile bandwidth HighdefVideo
```

### Related Commands

None

---

## show

---

This command displays information on the service policy.



### Mode

Service Policy Configuration Mode

### Input Syntax

**show**

### Example

#### Command

```
BTI7000(config-p-map)# show
```

#### System response and side effects

```
BTI7000(config-p-map)# show
```

```
Service-Policy Name: spl
```

class-map Profile Name	Bandwidth Profile Name
-----	-----
VideoCos	HighdefVideo
HTTPCos	Data

### Related Commands

show service-policy



## 33.0 Profile Bandwidth configuration mode commands

---

This section lists the Profile Bandwidth Configuration Mode commands. This mode is entered from the Global Configuration Mode by using the command “[profile bandwidth <name>](#)”.

- “[conform-action set-dscp-transmit <value>](#)”
- “[conform-action set-tos-from-priority](#) ”
- “[exceed-action set-dei](#)”
- “[exceed-action set-dscp-transmit <value>](#)”
- “[internal-priority <value>](#)”
- “[meter mode <tcn-mode> \[color <awareness>\]](#)”
- “[police cbs <cbs>](#)”
- “[police cir <cir>](#)”
- “[police ebs <ebs>](#)”
- “[police eir <eir>](#)”

<b>Note</b>	The proNX 900 Node Controller uses the following parameter terms, in place of the command <b>police</b> to configure a bandwidth profile: <ul style="list-style-type: none"><li>• Meter CIR</li><li>• Meter CBS</li><li>• Meter EIR</li><li>• Meter EBS</li></ul>
-------------	---

## conform-action set-dscp-transmit <value>

This command configures the action to take on traffic that conforms to the bandwidth profile (traffic that is below the limits for the committed-rate and committed burst size). The **no** form of this command unsets the action.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Profile Bandwidth Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

[no] **exceed-action set-dscp-transmit** <value>

Parameter	Description	Range	Default Value
<i>value</i>	is the DSCP filter value.	0-63 af11 af12 af13 af21 af22 af23 af31 af32 af33 af41 af42 af43 cs1 cs2 cs3 cs4 cs5 cs6 cs7 ef	0



### **Example**

### **Command**

```
conform-action set-dscp-transmit 48
```

### **System response and side effects**

There is no system response if the command is successful.

### **Related Commands**

```
show profile bandwidth
```

## conform-action set-tos-from-priority

---

This command specifies whether or not to set the IP Type-of-Service field based on the internal priority for conformant packets. The **no** form of this command removes this attribute from the profile.



### Mode

Profile Bandwidth Configuration Mode

### Input Syntax

```
[no] conform-action set-tos-from-priority {enable | disable}
```

Command Option	Description
<b>enable</b>	The IP ToS precedence in the outgoing packet is set based on the internal priority of the conformant packet.
<b>disable</b>	The IP ToS precedence in the outgoing packet is unchanged from the IP ToS precedence in the incoming packet.

### Example

```
conform-action set-tos-from-priority enable
no conform-action set-tos-from-priority
```

### Related Commands

show profile bandwidth

## exceed-action set-dei

This command configures whether or not the dei bit is set on traffic that exceeds the Committed Information Rate (CIR) bandwidth limit. By default, the dei bit is set to enable. The **no** form of this command deletes the set-dei action.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Profile Bandwidth Configuration Mode

### Input Syntax

```
[no] exceed-action set-dei {enable | disable}
```

Option	Description
enable	Set the dei bit.
disable	The dei bit is not set.

### Example

```
exceed-action set-dei enable
```

### Related Commands

```
show profile bandwidth
```

## exceed-action set-dscp-transmit <value>

---

This command configures the DSCP value to set on packets that exceed the CIR value. The **no** form of this command deletes the set-DSCP action.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Profile Bandwidth Configuration Mode

### Input Syntax

[no] **exceed-action set-dscp-transmit** <value>

Parameter	Description	Range	Default Value
<i>value</i>	is the DSCP filter value.	0-63 af11 af12 af13 af21 af22 af23 af31 af32 af33 af41 af42 af43 cs1 cs2 cs3 cs4 cs5 cs6 cs7 ef	0

### Example

#### Command

```
exceed-action set-dscp-transmit 48
```

#### System response and side effects

There is no system response if the command is successful.

**Related Commands**

show profile bandwidth

## internal-priority <value>

---

This command configures the internal priority value for the profile. The **no** form of this command deletes the internal priority from the profile.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Profile Bandwidth Configuration Mode

### Input Syntax

**[no]** **internal-priority**<value>

Parameter	Description	Range	Default Value
<i>value</i>	The internal priority value.	0 to 7	Not applicable

### Example

```
internal-priority 3
```

### Related Commands

```
show bandwidth profile
```

## meter mode <tcn-mode> [color <awareness>]

This command configures the mode for the Meter engine. packetVX modules support two metering engine schemes: single-rate Three-Color Marker (srTCM - RFC 2697) and two-rate Three-Color Marker (trTCM - RFC 2698). Both srTCM and trTCM can operate in the color-blind or color-aware modes. In color-blind mode, the incoming packet color is ignored. In color-aware mode, the incoming packet color affects the final policing state.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Profile Bandwidth Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

**meter mode** <tcn-mode> [**color** <awareness>]

Parameter	Description	Range	Default Value
<i>tcn-mode</i>	is the Three-Color Marker mode.	sr-tcm (single-rate TCM) tr-tcm (two-rate TCM) not used	not used
<i>awareness</i>	is the color awareness.	aware blind	blind

### Example

#### Command

```
mode sr-tcm color aware
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

show profile bandwidth

## police cbs <cbs>

---

This command sets the Committed Burst Size (CBS) for single rate (srTCM) and two rate (trTCM) bandwidth meter modes. The **no** form of this command sets the burst size to zero.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Profile Bandwidth Configuration Mode

### Input Syntax

[no] **police cbs** <cbs>

Parameter	Description	Range	Default Value
<i>cbs</i>	The Committed Burst Size, in Kibytes (KiB)—units of 1024 bytes.	4 to 2048 KiB, rounded up to the next 4 KiB.	8 KiB (8192 bytes)

### Guideline

The CBS must be, at least, as large as the maximum frame size (MFS). For a 9600 byte MFS, CBS must be, at least, 12 KiB.

For example:

- A CBS of 8 KiB sets CBS to 8192 bytes
- A CBS of 10 KiB is rounded up to 12 (12288 bytes)

**Note** The proNX 900 Node Controller uses the parameter term **Meter CBS**, in place of the command **police cbs**, to configure the committed burst size.

### Related Commands

show profile bandwidth



## police cir <cir>

This command sets the Committed Information Rate (CIR) for the single rate (srTCM) and two rate (trTCM) bandwidth meter modes. The **no** form of this command sets the information rate to zero.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Profile Bandwidth Configuration Mode

### Input Syntax

```
[no] police cir <cir>
```

Parameter	Description	Range	Default Value
<i>cir</i>	The Committed Information Rate (in kbps, Mbps, or Gbps).	0, or 64 kbps to 10 Gbps  If no units are specified, "kbps" is assumed.  Fractional values are not allowed. For example, "0.64 mbps" is not allowed. Use "640 kbps" instead.  The entered value is automatically rounded up to the nearest 64 kbps boundary.  For trTCM, the sum of EIR and CIR must not exceed the line rate (1Gbps or 10Gbps).	1000 kbps

### Guideline

In a Two-Rate meter, CIR may be set to zero, which means that all traffic is yellow, or red. In this case EIR and EBS must be greater than zero.

### Example

#### Command

```
police cir 1 gbps
```

```
police cir 128
```

```
no police cir
```

### System response and side effects

There is no system response if the command is successful.

**Note** The proNX 900 Node Controller uses the parameter term **Meter CIR**, in place of the command **police cir**, to configure the committed information rate.

## **Related Commands**

show profile bandwidth

## police ebs <ebs>

This command sets the Excess Burst Size (EBS) for the single rate (srTCM) and two rate (trTCM) bandwidth meter modes. The **no** form of this command sets the burst size to zero.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Profile Bandwidth Configuration Mode

### Input Syntax

[no] **police ebs** <ebs>

Parameter	Description	Range	Default Value
<i>ebs</i>	The Excess Burst Size, in Kibytes (KiB)—units of 1024 bytes.	0 to 2048 KiB, rounded up to the next 4 KiB.	8 KiB (8192 bytes)

### Guideline

The EBS must be, at least, as large as the maximum frame size (MFS). For a 9600 byte MFS, EBS must be, at least, 12 KiB.

For example:

- An EBS of 8 sets EBS to 8192 bytes
- An EBS of 10 is rounded up to 12 (12288 bytes)

**Note** The proNX 900 Node Controller uses the parameter term **Meter EBS**, in place of the command **police ebs**, to configure the excess burst size.

### Related Commands

show profile bandwidth

## police eir <eir>

---

This command sets the Excess Information Rate (EIR) for the two rate ( trTCM) bandwidth meter mode. The **no** form of this command sets the rate to zero, which means that an EIR is not set.



### Mode

Profile Bandwidth Configuration Mode

### Input Syntax

[no] **police eir** <eir>

Parameter	Description	Range	Default Value
<i>eir</i>	The Excess Information Rate (in kbps, Mbps, or Gbps).	0, or 64 kbps to 32 Gbps Zero indicates not to set an EIR. If no units are specified, "kbps" is assumed. Fractional values are not allowed. For example, "0.64 mbps" is not allowed. Use "640 kbps" instead. The entered value is automatically rounded up to the nearest 64 kbps boundary.	1000 kbps

### Example

#### Command

```
police eir 10 gbps
```

```
police eir 640
```

```
no police eir
```

#### System response and side effects

There is no system response if the command is successful.

<b>Note</b>	The proNX 900 Node Controller uses the parameter term <b>Meter EIR</b> , in place of the command <b>police eir</b> , to configure the excess information rate.
-------------	--

### Related Commands

show profile bandwidth

## 34.0 System configuration mode commands

---


This section lists the System Configuration Mode commands. This mode can be entered from the Global Configuration Mode by using the command “[system](#)”.

- “ains-timer-default”
- “auto-provision”
- “contact <string>”
- “deprov-timer”
- “gateway”
- “ne-id”
- “ne-name”
- “secondary-gateway”
- “site-id”
- “site-name”
- “scp-stp”

## ains-timer-default

---

This command sets the default AINS timer. The default form of this command resets the timer back to its default value of 08:00. The **no** command sets the timer back to 00:00.



### Mode

System Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

[no|default] **ains-timer-default** *<time>*

Parameter	Description	Range	Default
<i>time</i>	is the time in the following format: HH:MM. <sup>1</sup>	00:00 to 96:00	08:00

<sup>1</sup>This parameter is not required for the **no** and **default** forms of this command.

### Example

#### Command

```
ains-timer-default 10:00
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

None

## auto-provision

This command configures the auto-provisioning for the system. The **no** and **default** forms of this command reset auto-provisioning back to its default value of ains.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

System Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

[no|default] auto-provision {ains|in-service|off|out-of-service}

Command Option	Description
ains	Both equipment and supporting facilities are provisioned with the state set to OOS-AU,AINS. The AINS system default timer is used.
in-service	The hardware component is auto provisioned, set to the in-service state, and all settable parameters are set to default values.
off	The auto provisioning feature is turned off; no auto provisioning occurs.
out-of-service	The hardware component is auto provisioned, set to the out-of-service state, and all settable parameters are set to default values.

### Example

#### Command

```
auto-provision in-service
```

#### System response and side effects

There is no system response if the command is successful.

## **Related Commands**

None



## contact <string>

This command allows the user to set the contact information.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

System Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

**contact** <*string*>

Parameter	Description	Range	Default Value
<i>string</i>	is the string that describes the contact.	0 to 256 alphanumeric characters	empty string

### Example

#### Command

```
contact "Company Inc Ottawa CA"
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

show

## deprov-timer

---

This command sets the auto deprovisioning timer. The **no** and **default** forms of this command reset the timer back to its default value of 00:00.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

System Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

`[no|default] deprov-timer <time>`

Parameter	Description	Range	Default Value
<i>time</i>	is the time in the format: HH:MM. <sup>1</sup>	00:00 to 96:00	00:00

<sup>1</sup>This parameter is not required for the **no** and **default** forms of this command.

### Example

#### Command

```
deprov-timer 10:00
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

None

## gateway

This command sets the gateway IP address of the system.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

System Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

**gateway** <*ip-addr*>

Parameter	Description	Range	Default Value
<i>ip-addr</i>	is the IP address of the gateway in dotted notation.	0.0.0.0 to 255.255.255.255	none

### Example

#### Command

```
gateway 10.0.0.100
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

None

## ne-id

---

This command sets the identifier of the Network Element. There is no **no** form of this command.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

System Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

**ne-id** <*id*>

Parameter	Description	Range	Default Value
<i>id</i>	is the identifier of the Network Element	0 to 65535	0

### Example

#### Command

```
ne-id 5
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

None

## ne-name

This command sets the name of the Network Element.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

System Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

**ne-name** <*string*>

Parameter	Description	Range	Default Value
<i>string</i>	is the string value of the Network Element name.	0 to 20 alphanumeric characters	BTI7000

### Example

#### Command

```
ne-name "Ottawa lab"
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

None

## secondary-gateway

---

This command sets the secondary gateway IP address for the system.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

System Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

**secondary-gateway** <*ip-addr*>

Parameter	Description	Range	Default Value
<i>ip-addr</i>	is the IP address in dotted notation.	0.0.0.0 to 255.255.255.255	none

### Example

#### Command

```
secondary-gateway 10.0.0.101
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

None

# show

This command shows details about system configuration.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

## Mode

System Configuration Mode

## History

Release	Modification
7.3	The command is introduced.

## Input Syntax

show

## Example

### Command

show

### System response and side effects

```
BTI7000(config-sys)# show
```

```
Vendor      : BTI.           Model      : BTI 7060
NE Type     : WDM           SW Version : 7.3.0 MAIN 179
NE Name     : BTI7000       NE Id      : 0
Site Name   : ABC          Site Id    : 0
Gateway     : 0.0.0.0       Active Gateway :
Sec Gateway : UNASSIGNED    Spanning Tree : enabled
Auto Provision : OOS        Deprov Timer  : 00:00
Time        : 16:27:14 2010-02-23 Time Zone   : USAEASTERN
Uptime      : 0:6:48        Daylight Savings: enabled
AINS Timer  : 00:00         Contact      : UNKNOWN
```

## Related Commands

None

## site-id

---

This command sets the site identifier of the Network Element.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

System Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

**site-id** <*id*>

Parameter	Description	Range	Default Value
<i>id</i>	is the site identifier for the Network Element	0 to 65535	0

### Example

#### Command

```
site-id 5
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

None



## site-name

This command sets the site name of the Network Element.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

System Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

**site-name** <*string*>

Parameter	Description	Range	Default Value
<i>string</i>	is the string value of the site name.	0 to 20 alphanumeric characters	BTI

### Example

#### Command

```
site-name "Ottawa lab"
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

None

## scp-stp

---

This command configures Spanning Tree Protocol on the SCP management ports (NMS, OSC1 and OSC2). The **no** form of this command disables the spanning tree protocol.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

System Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

**scp-stp** {enable|disable}

### Example

#### Command

```
scp-stp disable
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

None

## 35.0 Management and craft Ethernet configuration mode commands

---

This section lists the Management and Craft Ethernet Configuration Mode commands. This mode is entered from the Global Configuration Mode by using the command “[interface mgmteth](#)” or “[interface crafteth](#)”.

- “description”
- “ip”
- “ospf”
- “shutdown”
- “speed”

## description

---

This command assigns a customer description to the interface. The **no** form of this command removes the description.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Management and Craft Ethernet Interface Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

**[no] description** *<string>*

Parameter	Description	Range	Default Value
<i>string</i>	is the string that identifies the interface. <sup>1</sup>	1 to 20 alphanumeric characters	not applicable

<sup>1</sup>This parameter is not required for the **no** form of this command.

### Example

#### Command

```
description "local management console"
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

None

# ip

This command assigns an IP address and optionally an IP subnet mask to the interface.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

## Mode

Management and Craft Ethernet Configuration Mode

## History

Release	Modification
7.1	The command is introduced.

## Input Syntax

**ip** <*ip-addr*>

Parameter	Description	Range	Default Value
<i>ip-addr</i>	is the IPv4 address with an optional network prefix. IPv4 Format: xxx.xxx.xxx.xxx[/prefix]	IPv4 address	not applicable

## Example

### Command

```
IP 10.0.0.1
```

```
IP 10.0.0.1/24
```

### System response and side effects

There is no system response if the command is successful.

### Related Commands

None

## ospf

---

This command enters the Open Shortest-Path First (OSPF) Interface Configuration Mode for the Management Ethernet interface. The OSPF interface is created if it does not exist. The no form of the command deletes the OSPF interface.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Management Ethernet Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

[no] **ospf**

Parameter	Description	Range	Default Value
-----------	-------------	-------	---------------

### Example

#### Command

```
ospf
```

#### System response and side effects

OSPF Interface Configuration Mode.

#### Related Commands

**show interface mgmteth**

# shutdown

---

This command disables the management interface. The **no** form of this command enables the management interface.



## Mode

Management and Craft Ethernet Configuration Mode

## History

Release	Modification
7.1	The command is introduced.

## Input Syntax

[no] shutdown

## Example

### Command

```
shutdown
```

### System response and side effects

There is no system response if the command is successful.

## Related Commands

None

## speed

---

This command configures the media speed for the management or craft ports.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Management and Craft Ethernet Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

**speed** {10fd|10hd|100fd|100hd|auto}

Command Option	Description
<b>10fd</b>	is for 10 Mbps full duplex
<b>10hd</b>	is for 10 Mbps half duplex
<b>100fd</b>	is for 100 Mbps full duplex
<b>100hd</b>	is for 100 Mbps half duplex
<b>auto</b>	is for auto negotiate

### Example

#### Command

```
speed 10fd
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

None



## 36.0 OSPF configuration mode commands

---

This section lists the OSPF Configuration Mode commands. This mode is entered from the Global Configuration Mode with the “[ospf](#)” command.

- “admin-state {enable|disable}”
- “area-type <type>”
- “redistribution <type>”
- “router-id <ip-addr>”
- “show”
- “shutdown”

## admin-state {enable|disable}

---

This command sets the administration state for OSPF to enable (IS) or disable (OOS). The default state is enabled.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

OSPF Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

**admin-state** <enable/disable>

### Example

#### Command

```
admin-state disable
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

**show**

## area-type <type>

This command configures the area type for the OSPF network. The default value is **default**.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

OSPF Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

**area-type** <type>

Parameter	Description	Range	Default Value
<i>type</i>	Area type	default   stub	default

### Example

#### Command

```
area-type stub
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

**show**

## redistribution <type>

---

This command sets the OSPF route redistribution. The route redistribution indicator shows the type of routes redistributed from one routing domain into another routing domain. The routes are redistributed as external to the autonomous systems. The no form sets the type back to its default value. The default value is **NONE**.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

OSPF Configuration Mode

### Input Syntax

[no] redistribution <type>

Parameter	Description	Option	Description	Default Value
type	Redistribution type	all		none
		conn	Redistributes connected routes - IP addresses on local interfaces	
		orig	Redistributes default routes	
		orig_conn	Redistributes connected and default routes	
		orig_stat	Redistributes static and default routes	
		stat	Redistributes static routes	
		stat_conn	Redistributes static and connected routes	

### Example

#### Command

```
redistribution orig
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

**show**

## router-id <ip-addr>

This command sets the OSPF router identifier.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

OSPF Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

**router-id** <*ip-addr*>

Parameter	Description	Range	Default Value
<i>ip-addr</i>	IPv4 address IPv4 Format: xxx.xxx.xxx.xxx	valid IPv4 address.	Not available

### Example

#### Command

```
router-id 192.168.100.100
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

**show**

## show

---

This command displays the OSPF configuration.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

OSPF Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

**show**

### Example

#### Command

```
BTI7000:sw1(config-ospf)# show
OSPF Information:
Admin State: IS-NR
Area Id: 0.0.20.208
Router ID: 10.1.100.51
Redistribute: none
Area Type: default
```

# shutdown

This command sets the administration state of OSPF process OOS. The no form enables (IS) OSPF process. The default state is enabled.



**Mode**

OSPF Configuration Mode

**History**

Release	Modification
7.2	The command is introduced.

**Input Syntax**

[no] shutdown

**Example**

**Command**

shutdown

**System response and side effects**

There is no system response if the command is successful.

**Related Commands**

show





## 37.0 OSPF interface configuration mode commands

---

This mode is entered from the Management Ethernet Configuration Mode, the GCC Configuration Mode or Management VLAN Mode with the “ospf” command.

- “admin-state {enable|disable}”
- “cost <cost>”
- “dead-interval <interval>”
- “hello-interval <interval>”
- “retransmit-interval <interval>”
- “priority <prio>”
- “shutdown”
- “transmit-delay <delay>”
- “show”

## admin-state {enable|disable}

---

This command sets the administration state for the OSPF interface to enable (IS) or disable (OOS). The default state is enabled.

A horizontal banner with five segments. The first segment is dark gray with the text 'Authorization Required' in white. The second segment is blue with 'Superuser' in white. The third segment is blue with 'Provisioning' in white. The fourth segment is blue with 'Maintenance' in white. The fifth segment is light gray with 'Surveillance' in dark gray.

### Mode

OSPF Interface Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

**admin-state** {enable|disable}

### Example

#### Command

```
admin-state disable
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

**show**

## cost <cost>

This command sets the cost of the OSPF interface. The no form sets the value back to its default value. The default value is 10.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

OSPF Interface Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

[no] cost <cost>

Parameter	Description	Range	Default Value
cost	The path cost	1 to 65535	10

### Example

#### Command

```
cost 100
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

show

## dead-interval <interval>

---

This command sets the interval after which a neighbor is declared dead when no hello packets are observed for the OSPF interface. The no form sets the value back to its default value. The default value is 40 seconds.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

OSPF Interface Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

[no] **dead-interval** <interval>

Parameter	Description	Range	Default Value
interval	The dead interval in seconds	1 to 65535	40

### Example

#### Command

```
dead-interval 100
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

**show**

## hello-interval <interval>

This command specifies the time in seconds between hello packets sent on the OSPF interface. The no form sets the value back to its default value. The default value is 10 seconds.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

OSPF Interface Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

[no] hello-interval <interval>

Parameter	Description	Range	Default Value
interval	The hello interval in seconds	1 to 65535	10

### Example

#### Command

```
hello-interval 100
```

#### System response and side effects

There is no system response if the command is successful.


### Related Commands

**show**

## retransmit-interval <interval>

---

This command specifies the time in seconds between retransmit intervals for the OSPF interface. The no form sets the value back to its default value. The default value is 5 seconds.



### Mode

OSPF Interface Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

[no] **retransmit-interval** <interval>

Parameter	Description	Range	Default Value
interval	The retransmit interval in seconds	1 to 3600	5

### Example

#### Command

```
retransmit-interval 10
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

**show**

## priority <prio>

This command sets the priority of the OSPF interface. The no form sets the value back to its default value. The default value is 1.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

OSPF Interface Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

[no] priority <prio>

Parameter	Description	Range	Default Value
prio	Interface priority	1 to 255	1

### Example

#### Command

```
priority 25
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

show

## shutdown

---

This command sets the administration state of OSPF interface to OOS. The no form enables (IS) OSPF interface. The default state is enabled.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

OSPF Interface Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

[no] shutdown

### Example

#### Command

```
shutdown
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

**show**



## transmit-delay <delay>

This command sets the transmit delay for the OSPF interface. The no form sets the value back to its default value. The default value is 1 second.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

OSPF Interface Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

[no] **transmit-delay** <delay>

Parameter	Description	Range	Default Value
<i>delay</i>	Transmit delay in seconds	0 to 3600	1

### Example

#### Command

```
transmit-delay 5
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

**show**

## show

---

This command displays the OSPF Interface configuration.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

OSPF Interface Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

**show**

### Example

#### Command

```
BTI7000# show
```

```
OSPF Interface Information:
```

```
Admin State: IS, AINS&UEQ&SGEO
Priority: 1
Transmit Delay: 1
Retransmit Interval: 5
Hello Interval: 10
Dead Interval: 40
Cost: 100
```

## 38.0 Amplifier configuration mode commands

---

This section lists the Amplifier Configuration Mode commands. The Amplifier Configuration Mode is entered from the Global Configuration Mode with the “[amplifier](#)” command.

- “[interface](#)”

## interface

---

This command causes the user session to enter the Amplifier Interface Configuration Mode for the specified interface. If the specified interface does not yet exist, one is created. The **no** form of this command deletes the interface.



### Mode

Amplifier Configuration Mode

### Input Syntax

**[no] interface** *<amp-interface-id>*

Parameter	Description	Range	Default Value
<i>amp-interface-id</i>	The interface identifier <i>&lt;shelf/slot/port&gt;</i> .	A valid amplifier interface.	Not applicable.

### Example

#### Command

```
interface 1/2/1
no interface 1/2/1
```

#### System response and side effects

There is no system response if the command is successful.

The user session enters the Amplifier Interface Configuration Mode for the specified interface.

#### Related Commands

None

## 39.0 Amplifier interface configuration mode commands

---

This section lists the Amplifier Interface Configuration Mode commands. The Amplifier Interface Configuration Mode is entered from the Amplifier Configuration Mode with the “[interface](#)” command.

- “[admin-state](#)”
- “[channel-wavelength](#)”
- “[custom](#)”
- “[dwdm-channels](#)”
- “[fiber-type](#)”
- “[gain-level](#)”
- “[in-service-timer](#)”
- “[itu-t-grid](#)”
- “[obr-htso](#)”
- “[optical-mode](#)”
- “[port-id](#)”
- “[power-level](#)”
- “[remote-id](#)”
- “[threshold](#)”
- “[tilt-compensation](#)”

## admin-state

---

This command sets the administration state for the amplifier interface. The default state is enable.



### Mode

Amplifier Interface Configuration Mode

### Input Syntax

```
admin-state { enable / disable }
```

### Example

#### Command

```
admin-state disable
```

### System response and side effects

There is no system response if the command is successful.

### Related Commands

None

## channel-wavelength

This command configures the channel wavelength for the Sub-band Pre-Amplifier (SPA) and Sub-band Booster Amplifier (SBA) modules. The **no** form of the command sets the wavelength back to its default value.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Amplifier Interface Configuration Mode

### Input Syntax

[no] **channel-wavelength** <wavelength>

Parameter	Description	Range	Default Value
<i>wavelength</i>	The wavelength (nm) to be amplified by the SPA or SBA.	1530.33 to 1561.42 (according to the ITU-T grid)	1550.12

### Example

#### Command

```
channel-wavelength 1530.33
```

```
no channel-wavelength
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

None

## custom

---

This command sets the custom fields. The **no** form of these commands clears the custom fields.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Amplifier Interface Configuration Mode

### Input Syntax

```
[no] custom { 1 | 2 | 3 } <string>
```

Command Option	Description
1	Sets the custom 1 field.
2	Sets the custom 2 field.
3	Sets the custom 3 field.

Parameter	Description	Range	Default
<i>string</i>	The custom field string.	String of up to 256 alphanumeric characters.	An empty string.

### Example

#### Command

```
custom 1 "spare port"  
no custom 1
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

None



## dwdm-channels

This command configures the number of DWDM channels carried.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Amplifier Interface Configuration Mode

### Input Syntax

**dwdm-channels** *<value>*

Parameter	Description	Range	Default Value
<i>value</i>	The number of channels.	0 to 40 (depends on the module)	0

### Example

#### Command

```
dwdm-channels 4
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

None

## fiber-type

---

This command configures the fiber type.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Amplifier Interface Configuration Mode

### Input Syntax

```
fiber-type { dsf | ndsf | none | nzdsf }
```

Command Option	Description
<b>dsf</b>	Sets the fiber type to DSF.
<b>ndsf</b>	Sets the fiber type to NDSF (SMF-28).
<b>none</b>	Sets the fiber type to none. This is the default option.
<b>nzdsf</b>	Sets the fiber type to NZDSF.

### Example

#### Command

```
fiber-type nzdsf
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

None

## gain-level

This command configures the target gain level for the amplifier. The **no** form of the command sets the gain level back to its default value.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Amplifier Interface Configuration Mode

### Input Syntax

**gain-level** *<value>*

Parameter	Description	Range	Default Value
<i>value</i>	The gain in dB.	10.0 to 29.0. Range varies with the type of amplifier.	Default varies with the type of amplifier.

### Example

#### Command

```
gain-level 20
```

```
no gain-level
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

None

## in-service-timer

---

This command sets the value of the automatic in-service timer. The **no** form of this command sets the timer value back to its default.



### Mode

Amplifier Interface Configuration Mode

### Input Syntax

**[no] in-service-timer** *<time>*

Parameter	Description	Range	Default Value
<i>time</i>	The in-service time in the format: HH:MM. The value of 00:00 disables the timer.	00:00 to 96:00	08:00

### Example

#### Command

```
in-service-timer 10:00
no in-service-timer
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

None

## itu-t-grid

This command specifies the ITU-T wavelength grid for CWDM and the ITU-T frequency grid for DWDM.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Amplifier Interface Configuration Mode

### Input Syntax

```
itu-t-grid { 0 | 20 | 50 | 100 | 200 }
```

Option	Description
0	Sets the grid to none. This is the default setting.
20	Sets the grid to 20 nm.
50	Sets the grid to 50 GHz.
100	Sets the grid to 100 GHz.
200	Sets the grid to 200 GHz.

### Example

#### Command

```
itu-t-grid 50
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

None

## obr-htso

---

This command overrides the Automatic Power Reduction feature of the amplifier, and activates the lasers for the specified duration to allow the operator to troubleshoot the Optical Back Reflection - High Threshold Safety condition.



### Mode

Amplifier Interface Configuration Mode

### Input Syntax

**obr-htso** *<duration>*

Parameter	Description	Range	Default Value
<i>duration</i>	The duration of the override in seconds.	20 to 600	Not applicable.

### Example

#### Command

```
obr-htso 20
```

#### System response and side effects

There is no system response if the command is successful.

<b>Note</b>	After this command is issued, the amplifier is no longer in eye-safe mode, and appropriate precautions must be taken when working with the specified amplifier.
-------------	---

### Related Commands

None

## optical-mode

This command sets the optical amplifier mode.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Amplifier Interface Configuration Mode

### Input Syntax

```
optical-mode { cogain | copower } [force]
```

Command Option	Description
<b>cogain</b>	Constant gain. This is the default setting.
<b>copower</b>	Constant power.
<b>force</b>	Forces the optical mode to be set.

### Example

#### Command

```
optical-mode cogain
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

None

## port-id

---

This command configures the port identifier fields. The **no** form of these commands clears the port identifier fields.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Amplifier Interface Configuration Mode

### Input Syntax

```
[no] port-id { 1 | 2 } <string>
```

Command Option	Description
1	Sets the port identifier 1 field.
2	Sets the port identifier 2 field.

Option	Description	Range	Default
<i>string</i>	The port identifier.	A string of up to 32 alphanumeric characters.	An empty string.

### Example

#### Command

```
port-id 1 ottawa-west-1
```

```
no port-id 1
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

None



## power-level

This command configures the target output power for the amplifier.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Amplifier Interface Configuration Mode

### Input Syntax

**power-level** *<value>*

Parameter	Description	Range	Default Value
<i>value</i>	The power in dBm.	-8.0 to 20 (varies with the type of amplifier)	Varies with the type of amplifier.

### Example

#### Command

```
power-level 10
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

None

## remote-id

---

This command sets the remote ID. The **no** form of this command deletes the remote ID.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Amplifier Interface Configuration Mode

### Input Syntax

**[no] remote-id** <*string*>

Parameter	Description	Range	Default Value
<i>string</i>	The string for the Remote ID.	Up to 256 alphanumeric characters long. <b>Note</b> The following characters cannot be used as part of the remote ID: " * , / : ; < > ? \	An empty string.

### Example

#### Command

```
remote-id 10.1.121.4-OLA-1-6-1
```

```
no remote-id
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

None

# threshold

This command sets the PM crossing alert thresholds.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

## Mode

Amplifier Interface Configuration Mode

## Input Syntax

```
threshold { ctemp | opr-high | opr-low | opt-high | opt-low | msloss-high |
ssi-opr-high | ssi-opr-low | fso-opt-high | fso-opt-low } <value>
```

Option	Description
<b>ctemp</b>	Case temperature high alarm threshold.
<b>opr-high</b>	Optical power received high threshold.
<b>opr-low</b>	Optical power received low threshold.
<b>opt-high</b>	Optical power transmit high threshold.
<b>opt-low</b>	Optical power transmit low threshold.
<b>msloss-high</b>	Mid-stage loss high threshold.
<b>ssi-opr-high</b>	Second stage optical power receive high threshold.
<b>ssi-opr-low</b>	Second stage optical power receive low threshold.
<b>fso-opt-high</b>	First stage optical power transmitted high threshold.
<b>fso-opt-low</b>	First stage optical power transmitted low threshold.

Parameter	Description	Range	Default Value
<i>value</i>	The threshold value.	Depends on command option and module.	Depends on command option and module.

## Guidelines

Different threshold parameters apply to different amplifiers. For information on which amplifiers support which thresholds, see the *BTI 7000 Series Optical Amplifier and DCM Solutions Guide*.

## Example

### Command

```
threshold ctemp 60
```

### System response and side effects

There is no system response if the command is successful.

## **Related Commands**

None

## tilt-compensation

This command configures the tilt compensation.



### Mode

Amplifier Interface Configuration Mode

### Input Syntax

**tilt-compensation** *<value>*

Parameter	Description	Range	Default Value
<i>value</i>	The tilt compensation.	-3.0 to 3.0	0.0

### Example

#### Command

```
tilt-compensation 1
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

None



## 40.0 Transponder configuration mode commands

---

This section lists the Transponder Configuration Mode commands for the Dual 10G Multiprotocol Transponder and the Dual 10G Multiprotocol Transponder Lite. The Transponder Configuration Mode is entered from the Global Configuration Mode with the “[transponder](#)” command.

- “[cross-connect](#)”
- “[interface](#)”

## cross-connect

This command creates a transponder cross-connect. The **no** form of this command removes the cross-connect.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Transponder Configuration Mode

### Input Syntax

**[no] cross-connect source** <tpi-interface-id>

**destination** <tpi-interface-id> { **one-way** | **two-way** }

Parameter	Description	Range	Default Value
<i>tpi-interface-id</i>	The source or the destination transponder interface <shelf/slot/port>.	A valid transponder interface for cross-connecting.	Not applicable.

Command Option	Description
<b>one-way</b>	Creates a one-way cross-connect.
<b>two-way</b>	Creates a two-way cross-connect.

### Example

#### Command

```
cross-connect source 1/2/1 destination 1/2/2 two-way
```

```
no cross-connect source 1/2/1 destination 1/2/2
```

#### System response and side effects

```
BTI7000(config-tpi 1/2)# cross-connect source 1/2/1 destination 1/2/2 two-way
TransponderXC (SRC: 1/2/1, DST: 1/2/2) created.
```

```
BTI7000(config-tpi 1/2)# no cross-connect source 1/2/1 destination 1/2/2
TransponderXC (SRC: 1/2/1, DST: 1/2/2) deleted.
```

### Related Commands

None



## interface

This command causes the user session to enter the Transponder Interface Configuration Mode for the specified interface. If the specified interface does not yet exist, one is created. The **no** form of this command deletes the interface.



### Mode

Transponder Configuration Mode

### Input Syntax

**[no] interface** *<tpi-interface-id>*

Parameter	Description	Range	Default Value
<i>tpi-interface-id</i>	The interface identifier <shelf/slot/port>.	A valid transponder interface.	Not applicable.

### Example

#### Command

```
interface 1/2/1
no interface 1/2/1
```

#### System response and side effects

There is no system response if the command is successful.

The user session enters the Transponder Interface Configuration Mode for the specified interface.

#### Related Commands

None



## 41.0 Transponder interface configuration mode commands

---

This section lists the Transponder Interface Configuration Mode commands for the Dual 10G Multiprotocol Transponder and the Dual 10G Multiprotocol Transponder Lite. The Transponder Interface Configuration Mode is entered from the Transponder Configuration Mode with the “[interface](#)” command.

- “[admin-state](#)”
- “[ber-threshold](#)”
- “[custom](#)”
- “[fault-propagation](#)”
- “[fiber-type](#)”
- “[in-service-timer](#)”
- “[itu-t-grid](#)”
- “[laser-ctrl](#)”
- “[loopback](#)”
- “[part-vendor](#)”
- “[pec](#)”
- “[pm-monitor](#)”
- “[port-id](#)”
- “[protection command](#)”
- “[protection group-id](#)”

- “protection interface”
- “protection psdirn”
- “protocol”
- “remote-id”
- “restart-xfp”
- “threshold”
- “trace”
- “wavelength”

## admin-state

---

This command sets the administration state for the transponder interface. The default state is enable.



### Mode

Transponder Interface Configuration Mode

### Input Syntax

```
admin-state { enable | disable }
```

### Example

#### Command

```
admin-state disable
```

### System response and side effects

There is no system response if the command is successful.

### Related Commands

None

## ber-threshold

---

This command configures the BER threshold for the interface.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Transponder Interface Configuration Mode

### Input Syntax

**ber-threshold** *<value>*

Parameter	Description	Range	Default Value
<i>value</i>	A negative exponent of 10. For example, a value of 4 represents 10 <sup>-4</sup> .	4 to 10 (depends on the protocol) 0 (disabled)	0

### Example

#### Command

```
ber-threshold 4
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

None

## custom

This command sets the custom fields. The **no** form of these commands clears the custom fields.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Transponder Interface Configuration Mode

### Input Syntax

```
[no] custom { 1 | 2 | 3 } <string>
```

Command Option	Description
1	Sets the custom 1 field.
2	Sets the custom 2 field.
3	Sets the custom 3 field.

Parameter	Description	Range	Default
<i>string</i>	The custom field string.	String of up to 256 alphanumeric characters.	An empty string.

### Example

#### Command

```
custom 1 "spare port"  
no custom 1
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

None

## fault-propagation

---

This command enables fault propagation shutdown. The **no** form of this command disables fault propagation shutdown.



### Mode

Transponder Interface Configuration Mode

### Input Syntax

`[no] fault-propagation`

### Example

#### Command

```
fault-propagation
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

None



## fiber-type

This command configures the fiber type. The **no** form of the command sets the fiber type to none (default).

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Transponder Interface Configuration Mode

### Input Syntax

```
[no] fiber-type { dsf | multimode | ndsf | nzdsf }
```

Command Option	Description
<b>dsf</b>	Sets the fiber type to DSF.
<b>multimode</b>	Sets the fiber type to multimode.
<b>ndsf</b>	Sets the fiber type to NDSF (SMF-28).
<b>nzdsf</b>	Sets the fiber type to NZDSF.

### Example

#### Command

```
fiber-type nzdsf
```

```
no fiber-type
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

None

## in-service-timer

---

This command sets the value of the automatic in-service timer. The **no** form of this command sets the timer back to its default value.



### Mode

Transponder Interface Configuration Mode

### Input Syntax

**[no] in-service-timer** *<time>*

Parameter	Description	Range	Default Value
<i>time</i>	The in-service time in the format: HH:MM. The value of 00:00 disables the timer.	00:00 to 96:00	08:00

### Example

#### Command

```
in-service-timer 10:00
no in-service-timer
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

None

## itu-t-grid

This command specifies the ITU-T wavelength grid for CWDM and the ITU-T frequency grid for DWDM.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Transponder Interface Configuration Mode

### Input Syntax

```
itu-t-grid { 0 | 20 | 50 | 100 | 200 }
```

Command Option	Description
0	Sets the grid to none. This is the default setting.
20	Sets the grid to 20 nm.
50	Sets the grid to 50 GHz.
100	Sets the grid to 100 GHz.
200	Sets the grid to 200 GHz.

### Example

#### Command

```
itu-t-grid 50
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

None

## laser-ctrl

---

This command configures the laser control setting.



### Mode

Transponder Interface Configuration Mode

### Input Syntax

```
laser-ctrl { auto | manual-on | manual-off } [ force ]
```

Command Option	Description
<b>auto</b>	Lets the system automatically decide whether the laser should be turned on or off. This is the default option.
<b>manual-on</b>	Turns on the laser.
<b>manual-off</b>	Turns off the laser.
<b>force</b>	Forces the configuration to change to the specified option regardless of the state of the interface.

### Example

#### Command

```
laser-ctrl manual-on
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

None

# loopback

This command enables loopback on the interface. The **no** form of this command disables loopback.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

## Mode

Transponder Interface Configuration Mode

## Input Syntax

```
[no] loopback { facility | terminal } [force]
```

Command Option	Description
<b>facility</b>	Sets the loopback to facility.
<b>terminal</b>	Sets the loopback to terminal.
<b>force</b>	Forces the loopback to be enabled.

## Example

### Command

```
loopback facility
```

```
no loopback
```

### System response and side effects

There is no system response if the command is successful.

### Related Commands

None

## part-vendor

---

This command sets the vendor part number fields. The **no** form of these commands clears the vendor part number fields.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Transponder Interface Configuration Mode

### Input Syntax

[no] **part-vendor** { 1 | 2 | 3 } <string>

Command Option	Description
1	Sets the vendor part number 1 field.
2	Sets the vendor part number 2 field.
3	Sets the vendor part number 3 field.

Parameter	Description	Range	Default
<i>string</i>	The vendor part number or name.	A string of up to 20 alphanumeric characters.	An empty string.

### Example

#### Command

```
part-vendor 1 11AA22BB
```

```
no part-vendor 1
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

None

## pec

This command configures the PEC for the transceiver.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Transponder Interface Configuration Mode

### Input Syntax

**pec** *<value>*

Parameter	Description	Range	Default Value
<i>value</i>	The PEC of the transceiver.	String of up to 32 characters.	An empty string.

### Example

#### Command

```
pec BP3AM4TL
```

```
pec " "
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

None

## pm-monitor

---

This command enables the PM threshold crossing alerts. The **no** form of the command disables the PM threshold crossing alerts.



### Mode

Transponder Interface Configuration Mode

### Input Syntax

[no] **pm-monitor**

### Example

#### Command

```
pm-monitor
```

### System response and side effects

There is no system response if the command is successful.

### Related Commands

None



## port-id

This command configures the port identifier fields. The **no** form of these commands clears the port identifier fields.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Transponder Interface Configuration Mode

### Input Syntax

```
[no] port-id { 1 | 2 } <string>
```

Command Option	Description
1	Sets the port identifier 1 field.
2	Sets the port identifier 2 field.

Option	Description	Range	Default
<i>string</i>	The port identifier.	A string of up to 32 alphanumeric characters.	An empty string.

### Example

#### Command

```
port-id 1 ottawa-west-1
```

```
no port-id 1
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

None

## protection command

---

These are the protection switch commands.



### Mode

Transponder Interface Configuration Mode

### Input Syntax

```
protection command { clear | forced | lock | manual }
```

Command Option	Description
<b>clear</b>	Clears a previous lock command.
<b>forced</b>	Forces the working and protecting ports to switch even if the protecting port is in a signal degrade state.
<b>lock</b>	Locks out the port, making it unavailable for protection.
<b>manual</b>	Causes the working and protecting ports to switch when both ports are free of faults.

### Example

#### Command

```
protection command lock
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

protection interface

## protection group-id

This command sets the protection group identifier. The no form of this command deletes the protection group identifier.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Transponder Interface Configuration Mode

### Input Syntax

**[no] protection group-id** *<group-id>*

Parameter	Description	Range	Default Value
<i>group-id</i>	The protection group identifier.	Up to 32 characters long.	An empty string.

### Guidelines

The following are configuration considerations:

- This command can be issued within the Transponder Interface Configuration Mode of either the working or the protection port.
- This command can only be issued after the protection group has been created.

### Example

#### Command

```
protection group-id group1  
no protection group-id
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

protection interface

## protection interface

---

This command creates a protection group consisting of the interface in which this command is issued and the interface specified in the command. The **no** form of this command removes the protection group.



### Mode

Transponder Interface Configuration Mode

### Input Syntax

```
[no] protection interface <tpi-interface-id>
```

Parameter	Description	Range	Default Value
<i>tpi-interface-id</i>	Specifies the other port <shelf/slot/port> that is to be part of the group.	A valid transponder protection port number.	Not applicable.

### Guidelines

The following are configuration considerations:

- This command can be issued within the Transponder Interface Configuration Mode of either of the two ports that are to be part of the protection group.

### Example

#### Command

```
protection interface 1/2/2  
no protection interface
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

None

## protection psdirn

This command sets the protection switch direction.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Transponder Interface Configuration Mode

### Input Syntax

```
protection psdirn { bidirect | unidirect }
```

Command Option	Description
<b>bidirect</b>	<p>Sets protection switch direction to bidirectional. A qualifying failure in one direction causes both directions to switch.</p> <p>This is an option for line protection groups on BT7A49AA-IO2 modules. This option is not available for line protection groups on other transponder modules.</p> <p>This is the default and only option for client protection groups.</p>
<b>unidirect</b>	<p>Sets protection direction to unidirectional. A qualifying failure in one direction causes only that direction to switch. The other direction remains on its current working path.</p> <p>This is an option for line protection groups on BT7A49AA-IO2 modules. This is the only option for line protection groups on all other transponders.</p> <p>This the default option for line protection groups.</p> <p>This option is not available for client protection groups.</p>

### Example

#### Command

```
protection psdirn bidirect
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

protection command

## protocol

This command sets the protocol for the interface.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Transponder Interface Configuration Mode

### Input Syntax

```
protocol { 10GELAN|10GELANFEC|OC192|OC192FEC|STM64|STM64FEC|10GELANEFEC|
OC192EFEC|STM64EFEC|10GFC|10GFCFEC|10GFCEFEC|10GELANFECEPV3|10GELANFECEPV3|
10GELANFECEPCMF|10GELANFECEPCMF|OTU2eFEC|OTU2eEFEC }[[force]
```

Option	Description
<b>10GELAN</b>	10 Gbps Ethernet LAN
<b>10GELANFEC</b>	10 Gbps Ethernet LAN with Forward Error Correction
<b>OC192</b>	SONET OC192
<b>OC192FEC</b>	SONET OC192 with Forward Error Correction
<b>STM64</b>	Synchronous Transfer Mode 64
<b>STM64FEC</b>	Synchronous Transfer Mode 64 with Forward Error Correction
<b>10GELANEFEC</b>	10 Gbps Ethernet LAN with Enhanced Forward Error Correction
<b>OC192EFEC</b>	SONET OC192 with Enhanced Forward Error Correction
<b>STM64EFEC</b>	Synchronous Transfer Mode 64 with Enhanced Forward Error Correction
<b>10GFC</b>	10 Gbps
<b>10GFCFEC</b>	10 Gbps with Forward Error Correction
<b>10GFCEFEC</b>	10 Gbps with Enhanced Forward Error Correction
<b>10GELANFECEPV3</b>	10 GE LAN FEC Extended Payload Mapped to GFP-F
<b>10GELANFECEPV3</b>	10 GE LAN EFEC Extended Payload Mapped to GFP-F
<b>10GELANFECEPCMF</b>	10 GE LAN FEC Extended Payload with Client Management Frame Fault Forwarding
<b>10GELANFECEPCMF</b>	10 GE LAN EFEC Extended Payload with Client Management Frame Fault Forwarding
<b>OTU2eFEC</b>	OTU2 11.1 G with Forward Error Correction
<b>OTU2eEFEC</b>	OTU2 11.1 G with Extended Forward Error Correction
<b>force</b>	Forces the protocol to be set.

### **Example**

#### **Command**

```
protocol 10GELANEFEC
```

#### **System response and side effects**

There is no system response if the command is successful.

#### **Related Commands**

None

## remote-id

---

This command sets the remote ID. The **no** form of this command deletes the remote ID.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Transponder Interface Configuration Mode

### Input Syntax

**[no] remote-id** <*string*>

Parameter	Description	Range	Default Value
<i>string</i>	The string for the Remote ID.	Up to 256 alphanumeric characters long. <b>Note</b> The following characters cannot be used as part of the remote ID: " * , / : ; < > ? \	An empty string.

### Example

#### Command

```
remote-id 10.1.121.4-TPR-1-3-3
```

```
no remote-id
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

None



## restart-xfp

---

This command restarts the XFP.



### Mode

Transponder Interface Configuration Mode

### Input Syntax

`restart-xfp`

### Example

#### Command

`restart-xfp`

### System response and side effects

There is no system response if the command is successful.

### Related Commands

None

## threshold

---

This command sets the PM crossing alert thresholds.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Transponder Interface Configuration Mode

### Input Syntax

```
threshold { bkblkerr | errblk | es | otuofs | ses | uas |  
uncrctword } <value> [ period { 15-min | 1-day } ]
```

Command Option	Description
<b>bkblkerr</b>	OTU Background Block Errors.
<b>errblk</b>	OTU Errored Blocks
<b>es</b>	OTU Errored Seconds
<b>otuofs</b>	OTU Out-of-frame Seconds
<b>ses</b>	OTU Severely Errored Seconds
<b>uas</b>	OTU Unavailable Seconds
<b>uncrctword</b>	Uncorrected words
<b>period</b>	Specify the period for which the value applies. If period is absent, then the value applies to the 15-min bin.
<b>15-min</b>	15-min bin
<b>1-day</b>	24-hour bin

Parameter	Description	Range	Default Value
<i>value</i>	The threshold value.	Depends on command option and protocol.	Depends on command option and protocol.

### Example

#### Command

```
threshold bkblkerr 4000 period 1-day
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

None

## trace

This command sets the trace string. The **no** form of this command deletes the trace string.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Transponder Interface Configuration Mode

### Input Syntax

```
trace { expected | transmit } <string>
```

Command Option	Description
<b>expected</b>	The string that is expected to be received.
<b>transmit</b>	The string that is transmitted.

Parameter	Description	Range	Default Value
<i>string</i>	The trace string.	Up to 15 alphanumeric characters long.	An empty string.

### Example

#### Command

```
trace expected B102_1-2-1
```

```
no trace expected
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

None

## wavelength

---

This command configures the wavelength being carried.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Transponder Interface Configuration Mode

### Input Syntax

**wavelength** *<float>*

Parameter	Description	Range	Default Value
<i>float</i>	The wavelength (nm) in m.nr format.	800 to 1650	1310.00

### Guidelines

The admin-state must be set to disable before issuing this command.

### Example

#### Command

```
wavelength 1558.17
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

None

## 42.0 NTP configuration mode commands

---

This section lists the NTP Configuration Mode commands. The NTP Configuration Mode is entered from the Global Configuration Mode with the “[ntp](#)” command.

- “[ip](#)”
- “[poll-period](#)”

## ip

---

This command adds the IP address of an NTP server to the NTP server association list. The **no** form of this command deletes the IP address.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

NTP Configuration Mode

### Input Syntax

[no] **ip** <*ipaddr*>

Parameter	Description	Range	Default Value
<i>ipaddr</i>	The IP address of an NTP server to use.	A valid IP address.	Not applicable.

### Guidelines

- To use NTP servers, add one or more IP addresses to the association list.
- To use the local date and time, remove all IP addresses from the association list.

### Example

#### Command

```
ip 216.194.70.2
no ip 216.194.70.2
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

None

## poll-period

This command configures the polling period for all NTP servers in the association list. The **no** form of this command sets the polling period back to the default value.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

NTP Configuration Mode

### Input Syntax

[no] **poll-period** *<period>*

Parameter	Description	Range	Default Value
<i>period</i>	The polling period in HH:MM format.	00:00 to 99:99	01:00

### Example

#### Command

```
poll-period 02:00
```

```
no poll-period
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

None





## 43.0 OSCEth configuration mode commands

---

This section contains the OSCEth Configuration Mode commands. The OSCEth Configuration Mode is entered from the Global Configuration Mode with the “[interface osceth](#)” command.

- “[description](#)”
- “[ip](#)”
- “[shutdown](#)”

## description

---

This command sets the description for the OSC interface. The **no** form of the command deletes the description.



### Mode

OSC Configuration Mode

### Input Syntax

[no] **description** *<string>*

Parameter	Description	Range	Default Value
<i>string</i>	A freeform string describing the OSC interface.	String of up to 256 characters.	An empty string.

### Example

#### Command

```
description osc1  
no description
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

None

# ip

This command sets the IP address and netmask for the OSC interface.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

## Mode

OSC Configuration Mode

## Input Syntax

**ip** <*ipaddr*>

Parameter	Description	Range	Default Value
<i>ipaddr</i>	The IP address of the OSC interface.	A valid IP address in CIDR notation.	There is no default value for the IP address. The default subnet setting is /24, which represents a 255 . 255 . 255 . 0 netmask.

## Guidelines

- If you do not specify the subnet, the subnet remains unchanged from its previous value.

## Example

### Command

```
ip 10.1.1.33/24
```

```
ip 10.10.1.2
```

### System response and side effects

There is no system response if the command is successful.

### Related Commands

None

## shutdown

---

This command disables the OSC interface. The **no** form of this command enables the interface. The default state is enabled.



### Mode

OSC Configuration Mode

### Input Syntax

[no] **shutdown**

### Example

#### Command

```
shutdown
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

None

## 44.0 User configuration mode commands

---

This section lists the User Configuration mode command. This mode is entered from the Global Configuration Mode by using the command “[user](#)”.

- “[admin-state {enable|disable}](#)”
- “[password](#)”
- “[privilege](#)”
- “[timeout](#)”

## admin-state {enable|disable}

---

This command sets the administrative state of the user. The default state is enabled.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

User Configuration Mode

### History

Release	Modification
7.2	The command is introduced.

### Input Syntax

`admin-state {enable|disable}`

### Example

#### Command

```
admin-state disable
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

show

---

## password

---

This command allows the operator to change the password of a user account.



### Mode

User Configuration Mode

### Input Syntax

`password`

### Guideline

Password restrictions are based on the standards for CLI (command-line interface), and differ than password restrictions based on the standards for TL1 (Transaction Language 1).

### Example

#### Command

```
password
```

#### System response and side effects

New Password:

Retype Password:

#### Related Commands

None

# privilege

---

This command allows the operator to change the privilege of a user account.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

## Mode

User Configuration Mode

## History

Release	Modification
7.1	The command is introduced.

## Input Syntax

```
privilege {superuser|provisioning|maintenance|surveillance}
```

Command Option	Description
<b>superuser</b>	is the highest privilege level with access to all CLI commands
<b>provisioning</b>	is the second highest privilege level with access to provisioning commands
<b>maintenance</b>	is the third highest privilege level with access to basic maintenance commands
<b>surveillance</b>	is the lowest privilege level with limited access to commands that retrieve or show system information only.

## Example

### Command

```
privilege provisioning
```

### System response and side effects

There is no system response if the command is successful.

### Related Commands

None



## timeout

This command configures the time period of CLI session inactivity, before the session automatically times outs.

The **no** form of this command disables session time outs.



### Mode

User Configuration Mode

### Input Syntax

**[no] timeout** *<timeout>*

Parameter	Description	Range	Default Value
<i>&lt;timeout&gt;</i>	The amount of time, in minutes, to set for session inactivity timeout.	5 to 60	15

### Example

#### Command

```
:(config-user)# no timeout
```

```
:(config-user)#
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

None



## 45.0 Log commands

---

This section lists the log commands. The CLI logs certain events in the system. Events are categorized into the category defined in the following table.

Log Category	Description
Security	The following events can be recorded: user logins, logouts, and authentication failures.

Each log category can contain up to 1000 entries. New entries overwrite older entries.

- “log init <category>”
- “log start <category>”
- “log stop <category>”
- “show log ”

## log init <category>

---

This command reinitializes the log files. The contents of the current log files are cleared and the log index is reset back to zero (0).

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Global Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

`log init <category>`

Parameter	Description	Range	Default Value
<i>category</i>	is the log category.	all or security <sup>1</sup>	not applicable

<sup>1</sup>The security log category includes user logins, logouts, and authentication failures.

### Example

#### Command

```
log init security
```

#### System response and side effects

There is no system response if the command is successful.

#### Related Commands

show log

log start

log stop

## log start <category>

This command enables the logging of messages to the log files. By default the logging is enabled on all the log files at the start-up time.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Global Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

`log start <category>`

Parameter	Description	Range	Default Value
<i>category</i>	is the log category.	all or security <sup>1</sup>	not applicable

<sup>1</sup>The security log category includes user logins, logouts, and authentication failures.

### Example

#### Command

```
log start
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

show log

log init

log stop

## log stop <category>

---

This command disables the logging of messages to the log files.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Global Configuration Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

`log stop <category>`

Parameter	Description	Range	Default Value
<i>category</i>	is the log category.	all or security <sup>1</sup>	not applicable

<sup>1</sup>The security log category includes user logins, logouts, and authentication failures.

### Example

#### Command

```
log stop security
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

show log

log init

log start

## 46.0 Software upgrade commands

---

This section lists the Software Upgrade commands.

- “sw-upgrade cancel”
- “sw-upgrade check”
- “sw-upgrade commit”
- “sw-upgrade invoke”
- “sw-upgrade load”

## sw-upgrade cancel

---

This command cancels a system upgrade that is currently in progress. This command is issued only after a sw-upgrade invoke command has been entered and processed. If this command is entered after a sw-upgrade invoke command has been entered and processed completely, the system rolls back to the previous version of the software.



### Mode

Privileged EXEC Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

**sw-upgrade cancel**

### Example

#### Command

```
sw-upgrade cancel
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

show version

sw-upgrade check

sw-upgrade commit

sw-upgrade invoke

sw-upgrade load



## sw-upgrade check

This command checks for the system upgrade file on the FTP or SFTP server.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Privileged EXEC Mode

### History

Release	Modification
7.1	The command is introduced.
9.3	Added the ftp and sftp syntax options.

### Input Syntax

**sw-upgrade check** [**ftp** | **sftp**]*<ip-addr>* **path** *<path-name>* **username** *<username>*

Parameter	Description	Range	Default Value
<i>ip-addr</i>	is the IP address in dotted notation.	0.0.0.0 to 255.255.255.255	none
<i>path-name</i>	<p>is the name of the system upgrade file.</p> <p><b>Note</b></p> <p>The maximum path length is 63 characters.</p> <p><b>Note</b></p> <p>Some UNIX systems may require that the entire directory path and backup filename be entered for the path-name field.</p>	System upgrade file name or the relative path name in alphanumeric characters.	none
<i>username</i>	<p>The userid is a unique name that identifies each authorized system user.</p> <p>If a user id is specified, then the user will be prompted for a password.</p>	1 to 10 case-sensitive alphanumeric characters.	none

### Example

#### Command

```
sw-upgrade check 10.0.0.20 path ppcload/2u/load username mike
```

## **System response and side effects**

Password: \*\*\*\*

..

Check Upgrade completed successfully

## **Related Commands**

show version

sw-upgrade cancel

sw-upgrade commit

sw-upgrade invoke

sw-upgrade load

## sw-upgrade commit

This command is issued after the sw-upgrade invoke command has completed and the operator logs back into the system. It removes all trace of the previous software version by copying the now active memory bank into the inactive memory bank.

**Important** Once this command is issued, the system cannot be rolled back to the previous software version.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Privileged EXEC Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

```
sw-upgrade commit
```

### Example

#### Command

```
sw-upgrade commit
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

show version

sw-upgrade cancel

sw-upgrade check

sw-upgrade invoke

sw-upgrade load

## sw-upgrade invoke

---

This command takes a previously loaded software version file, using the sw-upgrade load command, and propagates the software to the modules. The new software version is copied to all of the modules, and the modules then reboot to the new software version. To view the currently active and inactive software versions, use the show version command. After the software is upgraded, the system reboots and the operator must log in to the system again.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Privileged EXEC Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

**sw-upgrade invoke** *<rel-string>* [checkalarm|nocheckalarm]

Parameter	Description	Range	Default Value
<i>rel-string</i>	is the string indicating the release to invoke.	1 to 32 alphanumeric characters	not applicable

<b>Note</b>	Before using this command, ensure that you perform a local database backup. For added protection, a remote database backup can also be performed.
-------------	---

### Example

#### Command

```
sw-upgrade invoke "7.1.1 MAIN 10" nocheckalarm
```

#### System response and side effects

There is no system response if the command is successful.

### Related Commands

show version

sw-upgrade cancel

sw-upgrade check

sw-upgrade commit

sw-upgrade load

## sw-upgrade load

This command takes the specified software version file from a specified FTP or SFTP server and puts the software file in the inactive memory bank of the SCP. To see the active and inactive software in the memory banks, use the show version command.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Privileged EXEC Mode

### History

Release	Modification
7.1	The command is introduced.
9.3	Added the ftp and sftp syntax options.

### Input Syntax

**sw-upgrade load** [**ftp** | **sftp**]*<ip-addr>* path *<path-name>* username *<username>*

Parameter	Description	Range	Default Value
<i>ip-addr</i>	is the IP address in dotted notation.	0.0.0.0 to 255.255.255.255	none
<i>path-name</i>	is the name of the system upgrade file. <b>Note</b> The maximum path length is 63 characters.  <b>Note</b> Some UNIX systems may require that the entire directory path and backup file name be entered for the path field.	System upgrade file name or the relative path name in alphanumeric characters.	none
<i>username</i>	is the username that is a unique name that identifies each authorized user.  If username is specified, the user is prompted for a password.	1 to 10 case-sensitive alphanumeric characters.	none

### Example

#### Command

```
sw-upgrade load 10.10.10.10 path/2u/load user mike
```

### **System response and side effects**

```
Password: ****
```

```
.....
```

```
Load Upgrade completed successfully
```

### **Related Commands**

```
show version
```

```
sw-upgrade cancel
```

```
sw-upgrade check
```

```
sw-upgrade commit
```

```
sw-upgrade invoke
```





## 47.0 Database commands

---

This section lists the database commands, which allow you to manage the configuration database on the Network Element.

The following commands are available for database backup and retrieval:

- “db-backup cancel”
- “db-backup commit”
- “db-backup create”
- “db-backup invoke”
- “db-backup load”
- “db-backup retrieve”

The following commands allow you to remove the currently running database and restore it to the factory defaults:

- “db-delete cancel”
- “db-delete commit”
- “db-delete invoke”

## db-backup cancel

---

This command cancels a database restore that is currently in progress. This command is issued only after a db-backup invoke or db-backup accept command has been entered. If the db-backup cancel command is entered, the database rolls back to the previous database as if the database restore action has not taken place. The command outputs a '.' each second while waiting for the remote FTP system.



### Mode

Privileged EXEC Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

**db-backup cancel**

### Example

#### Command

```
db-backup cancel
```

#### System response and side effects

..

```
DB Cancel completed successfully
```

### Related Commands

db-backup create

db-backup load

db-backup retrieve

db-backup invoke

db-backup commit

## db-backup commit

This command commits a database restore to the network element. The command is entered after the db-backup accept command has completed. The command outputs a '.' each second while waiting for the remote FTP system.

**Important** Once this command is issued, the system cannot be rolled back to the previous database image.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Privileged EXEC Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

`db-backup commit`

### Example

#### Command

```
db-backup commit
```

#### System response and side effects

....

```
DB Commit completed successfully
```

### Related Commands

db-backup create

db-backup load

db-backup retrieve

db-backup invoke

db-backup cancel

## db-backup create

This command creates a new backup of the current provisioning database. The backup can be saved in local SCP storage or at a remote FTP or SFTP system. The command outputs a '.' each second while waiting for the remote system.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Privileged EXEC Mode

### History

Release	Modification
7.1	The command is introduced.
9.3	Added sftp syntax option.

### Input Syntax

```
db-backup create scp [path <path>][checkalarm|nocheckalarm]
```

```
db-backup create ftp <ip-addr> [path <path>] user <username> [checkalarm|nocheckalarm]
```

```
db-backup create sftp<ip-addr>[path <path>]user<username>[checkalarm|nocheckalarm]
```

Parameter	Description	Range	Default Value
<i>ip-addr</i>	The IP address of the remote server, in dotted notation.	0.0.0.0 to 255.255.255.255	none
<i>path</i>	The full pathname of the new database backup.	not applicable	for the SCP variant, the default path is <i>basepath/dbbkp/</i> .  for the remote system variant, the default path is the user's root on the remote system.  The filename is automatically generated in both cases.
<i>username</i>	A unique user name of the remote server.	not applicable	none
<i>checkalarm</i>	Checks the state of alarms prior to executing this command. The command fails if any alarms exist.	not applicable	none

Parameter	Description	Range	Default Value
	<b>Note</b> Only non-optical packet module alarms are displayed.		
<i>nocheckalarm</i>	To verify that the system is alarm-free prior to executing this command. <b>Note</b> Only non-optical packet module alarms are displayed.	not applicable	none

## Example

### Command

```
db-backup create scp nocheckalarm
```

### System response and side effects

```
DB backup create completed successfully
```

### Related Commands

db-backup load

db-backup retrieve

db-backup invoke

db-backup commit

db-backup cancel

## db-backup invoke

This command takes a database previously loaded with the `db-backup load` command and sets up the provisioning information on the SCP without propagating the new provisioning information to the module. This means that the `show` commands return information from the newly invoked database, but the modules are still running on the old provisioning information.

To determine the file name to use for this command, see the command [“db-backup retrieve”](#).

The command outputs a '.' each second while waiting for the remote FTP system. If the `db-backup invoke` command fails, it is necessary to enter the `db-backup cancel` command to regain full access to the system.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Privileged EXEC Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

**db-backup invoke** *<database file name>* [**checkalarm**|**nocheckalarm**]

Parameter	Description	Range	Default Value
<i>database file name</i>	is the database file name returned by the <b>db-backup retrieve</b> command	not applicable	none
checkalarm	is the parameter that checks the state of alarms prior to executing this command. The command fails if any alarms exist.  <b>Note</b> Only non-optical packet module alarms are displayed.	not applicable	none
nocheckalarm	is the parameter that does not check the state of alarms prior to executing this command. You must ensure that the system is alarm-free prior to executing this command.	not applicable	none

Parameter	Description	Range	Default Value
	<b>Note</b> Only non-optical packet module alarms are displayed.		

## Example

### Command

```
db-backup invoke database.backup
```

### System response and side effects

....

DB invoke completed successfully - config may be viewed on SCP

### Related Commands

db-backup create

db-backup load

db-backup retrieve

db-backup commit

db-backup cancel

## db-backup load

This command takes the specified database file from the specified FTP or SFTP server and puts the database file on the SCP storage disk.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Privileged EXEC Mode

### History

Release	Modification
7.1	The command is introduced.
9.3	Added the sftp command syntax option.

### Input Syntax

**db-backup load scp** [*path* <*path*>][**checktid**|**nochecktid**]

**db-backup load ftp** <*ip-addr*> [**path** <*path*>] **user** <*username*> [**checktid**|**nochecktid**]

**db-backup load sftp** <*ip-addr*> [**path**<*path*>]**user** <*username*> [**checktid**|**nochecktid**]

Parameter	Description	Range	Default Value
<i>ip-addr</i>	The IP address of the FTP or SFTP server in dotted notation.	0.0.0.0 to 255.255.255.255	none
<i>path</i>	The full pathname of the new database backup.	not applicable	none
<i>username</i>	A unique user name of the FTP or SFTP server.	not applicable	none
<i>checktid</i>	A parameter to check the target identifier of the database file.	not applicable	none
<i>nochecktid</i>	Verifies the target identifier of the database file.	not applicable	none



**Example****Command**

```
db-backup load database.backup
```

**System response and side effects**

```
....
```

```
DB invoke completed successfully - config may be viewed on SCP
```

**Related Commands**

```
db-backup create
```

```
db-backup load
```

```
db-backup retrieve
```

```
db-backup commit
```

```
db-backup cancel
```

## db-backup retrieve

---

This command retrieves the database restore file name from the SCP that has been previously loaded using the db-backup load command.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Privileged EXEC Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

**db-backup retrieve**

### Example

#### Command

```
db-backup retrieve
```

#### System response and side effects

```
Retrieved file: database-backup
```

### Related Commands

db-backup create

db-backup load

db-backup invoke

db-backup commit

db-backup cancel

## db-delete cancel

This command restores the original provisioning database from the modules to the SCP. This command outputs a '.' each second while waiting for the system to process the command.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Privileged EXEC Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

**db-delete cancel**

### Example

#### Command

```
db-delete cancel
```

#### System response and side effects

```
.....
```

```
DB-delete cancel completed successfully
```

### Related Commands

db-delete invoke

db-delete commit

## db-delete commit

---

This command copies the new, empty database to the service packs. Once the db-delete commit command has been executed, the prior database cannot be recovered. The db-delete invoke command outputs a '.' each second while waiting for the system to process the command.

**Caution** Deleting the database has severe consequences. All traffic on the NE is dropped, and management connectivity with the NE is lost. To re-establish management connectivity with the NE you must have physical access to the craft serial port to reconfigure the IP address of the NE so that it can be reached by the management network. Before invoking this command ensure that you have identified the correct NE on which to perform the command, and that you fully understand and are prepared to deal with the consequences.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Privileged EXEC Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

`db-delete commit`

### Example

#### Command

```
db-delete commit
```

#### System response and side effects

....

```
DB-delete commit completed successfully
```

### Related Commands

db-delete invoke

db-delete cancel

## db-delete invoke

This command deletes the provisioning database from the SCP storage. The modules continue to use the old database until the db-delete commit command is executed. The database deletion can be undone with the db-delete cancel command. The db-delete invoke command outputs a '.' each second while waiting for the system to process the command.

**Caution** Deleting the database has severe consequences. All traffic on the NE is dropped, and management connectivity with the NE is lost. To re-establish management connectivity with the NE you must have physical access to the craft serial port to reconfigure the IP address of the NE so that it can be reached by the management network. Before invoking this command ensure that you have identified the correct NE on which to perform the command, and that you fully understand and are prepared to deal with the consequences.

Authorization Required

Superuser

Provisioning

Maintenance

Surveillance

### Mode

Privileged EXEC Mode

### History

Release	Modification
7.1	The command is introduced.

### Input Syntax

**db-delete invoke** [**checkalarm**|**nocheckalarm**]

Parameter	Description	Range	Default Value
checkalarm	is the parameter that checks the state of alarms prior to executing this command. The command fails if any alarms exist. <b>Note</b> Only non-optical packet module alarms are displayed.	not applicable	checkalarm
nocheckalarm	is the parameter that does not check the state of alarms prior to executing this command. You must ensure that the system is alarm-free prior to executing this command.	not applicable	nocheckalarm

Parameter	Description	Range	Default Value
	<b>Note</b> Only non-optical packet module alarms are displayed.		

---

## Example

### Command

```
db-delete invoke
```

### System response and side effects

```
.....
```

```
DB-delete invoke completed successfully
```

### Related Commands

```
db-delete commit
```

```
db-delete cancel
```

# Appendix A: Time zones

The following table lists the time zone values that are available.

## Time Zones

Time Zone	Time Zone
AFGHANISTAN	ALBANIA
ALGERIA	AMERICASAMOA
ANDORRA	ARGENTINA
ARGENTINAWESTERNPROV	ANGUILLA
ANTARCTICA	ANTIGUA
ARMENIA	ARUBA
ASCENSION	AUSTRALIAAUSTRALIANCAPITALTERRITORY
AUSTRALIALORDHOWEISLAND	AUSTRALIANEWSOUTHWALES
AUSTRALIANORTHERNTERRITORY	AUSTRALIAQUEENSLAND
AUSTRALIASOUTH	AUSTRALIATASMANIA
AUSTRALIAVICTORIA	AUSTRALIAWESTERN
AUSTRIA	AZERBAJIAN
AZORES	BAHAMAS
BAHRAIN	BALEARICISLANDS
BANGLADESH	BARBADOS
BELARUS	BELGIUM
BELIZE	BENIN
BERMUDA	BHUTAN
BOLIVIA	BONAIRE
BOSNIAHERCEGOVINA	BOTSWANA

**Time Zones (Continued)**

<b>Time Zone</b>	<b>Time Zone</b>
BRAZILACRE	BRAZILATLANTICISLANDS
BRAZILEAST	BRAZILWEST
BRITISHVIRGINISLANDS	BRUNEI
BULGARIA	BURKINAFASO
BURUNDI	CAMBODIA
CAMEROON	CANADAATLANTIC
CANADACENTRAL	CANADAEASTERN
CANADAMOUNTAIN	CANADANEWFOUNDLAND
CANADAPACIFICYUKON	CANADASASKATCHEWAN
CANARYISLANDS	CANTONENDERBURYISLANDS
CAPEVERPE	CAROLINEISLANDS
CAYMANISLAND	CENTRALAMERICANREPUBLIC
CHAD	CHANNELISLANDS
CHATHAMISLAND	CHILE
CHINAPEOPLESREPUBLIC	CHRISTMASISLANDS
COLOMBIA	CONGO
COOKISLANDS	COSTARICA
COTEDIVOIRE	CROATIA
CUBA	CURACO
CYPRUS	CZECHREPUBLIC
DENMARK	DJIBOUTI
DOMINICA	DOMINICANREPUBLIC
EASTERISLAND	EQUADOR
EGYPT	ELSALVADOR
ENGLAND	EQUATORIALGUINEA
ERITREA	ESTONIA
ETHIOPIA	FALKLANDISLAND
FAROEISLAND	FIJI
FINLAND	FRANCE
FRENCHGUIANA	FRENCHPOLYNESIA
GABON	GAMBIERAILAND
GEORGIA	GERMANY
GHANA	GIBRALTAR
GREECE	GREENLAND
GREENLANDSCORESBYSUN	GREENLANDANDTHULE
GREENWICHMEANTIMEUTC	GRENADA
GRENADINES	GUADELOUPE
GUAM	GUATEMALA



**Time Zones (Continued)**

<b>Time Zone</b>	<b>Time Zone</b>
GUINEA	GUYANA
HAITI	HONDURAS
HONGKONG	HUNGARY
ICELAND	INDIA
INDONESIACENTRAL	INDONESIAEAST
INDONESIAWEST	IRAQ
IRAN	IRELANDREPUBLICOF
ISRAEL	ITALY
JAMAICA	JAPAN
JOHNSTONISLAND	JORDAN
KAZAKHSTAN	KENYA
KIRIBATI	KOREADEMREPUBLICOF
KOREAREPUBLICOF	KUSAIE
KUWAIT	KWAJALEIN
KYRGYZSTAN	LAOS
LATVIA	LEBANON
LEEWARDISLANDS	LESOTHO
LIBERIA	LIBYA
LITHUNIA	LUXEMBOURGE
MACEDONIA	MADAGASCAR
MADEIRA	MALAWI
MALAYSIA	MALDIVES
MALI	MALLORCAISLAND
MALTA	MARIANAISLAND
MARQUESASISLANDS	MARSHALLISLAND
MARTINIQUE	MAUROTIVS
MAYOTTE	MELILLA
MEXICO	MEXICOBACALIFNORTR
MEXICONAYARIT	MEXICOSINALDO
MEXICOSONORA	MIDWAYISLAND
MOLDOVA	MOLDOVIANREPRIDNESTROVYE
MONACO	MONGOLIA
MOROCCO	MOZAMBIQUE
MYANMAR	NAMIBIA
NAURUREPUBLICOF	NEPAL
NETHERLANDS	NETHERLANDSANTILLES
NEVISMONTERRAT	NEWCALEDONIA
NEWHEBRIDES	NEWZEALAND

**Time Zones (Continued)**

<b>Time Zone</b>	<b>Time Zone</b>
NICARAGUA	NIGER
NIGERIA	NIUEISLAND
NORFOLKISLAND	NORTHERNIRELAND
NORTHERNMARIANAISLANDS	NORWAY
OMAN	PAKISTAN
PALAU	PANAMA
PAPUANEWGUINEA	PARAGUAY
PERU	PHILIPPINES
PINGELAP	POLAND
PONAPEISLAND	PORTUGAL
PRINCIPEISLAND	PUERTORICO
QATAR	REUNION
ROMANIA	RUSSIANFEDERATIONCHITAYAKUTSK
RUSSIANFEDERATIONIRKUTSKULANUDE	RUSSIANFEDERATIONKALINGRAD
RUSSIANFEDERATIONKAMCHATKAANADY	RUSSIANFEDERATIONKRASNOYARSKTOMSK
RUSSIANFEDERATIONMAGADANKOLYMA	RUSSIANFEDERATIONMOSCOWSTPETERSBURG
RUSSIANFEDERATIONNOVOSIBIRSKOMSK	RUSSIANFEDERATIONSAMARAIZMEVSK
RUSSIANFEDERATIONVLADIVOSTOKKHABAROVSK	RUSSIANFEDERATIONYEKATERINBURGPERM
RAWANADA	SABA
SAMOA	SANMARINO
SAOTOMEPRINCIPE	SAUDIAARABIA
SCOTLAND	SENEGAL
SEYCHELLES	SIERRALEONE
SINGAPORE	SLOVAKIA
SLOVENIA	SOCIETYISLAND
SOLOMONISLANDS	SOMALIA
SOUTHAFRICA	SPAIN
SRILANKA	STCHRISTOPHER
STCROIX	STHELENA
STJOHN	STKITTSNEVIS
STLUCIA	STMAARTEN
STPIERREMIQUELON	STTHOMAS
STVINCENT	SUDAN
SURINAME	SWAZILAND
SWEDEN	SWITZERLAND
SYRIA	TAHITI
TAIWAN	TAJIKISTAN

**Time Zones (Continued)**

<b>Time Zone</b>	<b>Time Zone</b>
TANZANIA	THAILAND
TOGO	TONGA
TRINIDADANDTOBAGO	TUAMOTUISLAND
TUBUAIISLAND	TUNISIA
TURKEY	TURKMENISTAN
TURKS ANDCACOSISLANDS	TUVALU
UGANDA	UKRAINE
UNITEDARABEMERATES	UNITEDKINGDOM
URUGUAY	USAALASKA
USAALUTIAN	USAARIZONA
USACENTRAL	USAEASTERN
USAHAWAII	USAINDIANAEAST
USAMOUNTAIN	USAPACIFIC
UZBEKISTAN	VANUATU
VATICANCITY	VENEZUELA
VIETNAM	VIRGINISLANDS
WAKEISLAND	WALES
WALLISANDFUTUNAIISLANDS	WINDWARDISLANDS
YEMEN	YUGOSLAVIA
ZAIREHAUTZAIRE	ZAIREKASAI
ZAIREKINSHASAMBANDAKA	ZAIREKIVU
ZAIRESHABA	ZAMBIA
ZIMBABWE	



## Appendix B: Glossary

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This appendix provides a listing of glossary terms and acronyms that are common to the packetVX™ and the BTI 700 Series of Ethernet Access Devices.

### **10 GE LAN PHY**

The 10 GE LAN PHY protocol encodes the 10.0 Gb/s data stream from the media access control (MAC) layer to a 10.3125 Gb/s signal using the 64B/66B Physical Coding Sublayer (PCS).

### **10 Gigabit Small Form Factor Pluggable (XFP)**

The 10 Gigabit Small Form Factor Pluggable (XFP) module is a hot pluggable, small footprint, serial-to-serial data-agnostic multirate optical transceiver, intended to support Telecom (SONET OC-192 and G.709 “OTU2”) and Datacom applications (10 Gb/s Ethernet and 10 Gb/s Fibre Channel). Nominal data rates range from 9.95 Gb/s, 10.31 Gb/s, 10.52 Gb/s, 10.70 Gb/s, and the emerging 11.09 Gb/s. The modules support all data encodings for these technologies. The modules may be used to implement single mode or multi-mode serial optical interfaces at 850 nm, 1310 nm, or 1550 nm. The XFP module design can use one of several different optical connectors. An adaptable heat sink option allows a single module design to be compatible with a variety of hosts.

### **AINS**

See Automatic In Service (AINS).

### **Automatic In Service (AINS)**

When provisioned hardware has a secondary state of Automatic In Service (AINS), the hardware is in a delay transition (to the IS) state. Alarms and threshold crossing alerts (TCA) are not generated for the hardware if AINS is present. Once the fault conditions clear, the timer starts counting down and the hardware transitions to In Service when the timer expires.

The system-wide default timer setting for AINS is 08-00 hours. The timer can be configured up to 96-00 (96 hours). If the system-wide default timer for AINS is reset, it will not affect the active timer currently set on a piece of equipment. However, the timer on a specific piece of equipment is reset if the timer for that equipment is changed.

### **Bandwidth profile**

Bandwidth profiles allow an Ethernet service provider to bill for bandwidth usage and engineer their network resources to provide performance assurances for in-profile Service Frames. Bandwidth profiles enable a service provider to offer bandwidth to subscribers in increments less than the UNI (physical port) speed. Such granularity allows subscribers to purchase the bandwidth they need and allow service providers to price services more incrementally than TDM-based services. See CIR, CBR, EIR, and EBR.

### **Bridge**

Bridge connects multiple network segments at the data link layer (layer 2) of the OSI model, and the term layer 2 switch is often used interchangeably with bridge. Bridges are similar to repeaters or network hubs, devices that connect network segments at the physical layer. However, a bridge works by using bridging where traffic from one network is managed rather than simply rebroadcast to adjacent network segments.

### **CBS**

See Committed Burst Size (CBS).

### **CIR**

See Committed Information Rate (CIR).

### **Class of Service (CoS)**

Class of Service (CoS) is a three-bit field within a layer two Ethernet frame header when using IEEE 802.1Q. It specifies a priority value of between 0 (signifying best-effort) and 7 (signifying priority real-time data) that can be used by Quality of Service disciplines to differentiate traffic.

Class of Service (CoS) is a way of managing traffic in a network by grouping similar types of traffic (for example, e-mail, streaming video, voice, large document file transfer) together and treating each type as a class with its own level of service priority. Unlike Quality of Service (QoS) traffic management, Class of Service technologies do not guarantee a level of service in terms of bandwidth and delivery time. They offer a "best-effort" because CoS technology is simpler to manage and more scalable as a network grows in structure and traffic volume. One can think of CoS as "coarsely-grained" traffic control and QoS as "finely-grained" traffic control.

### **Client**

Client is used to distinguish interfaces that connect to subscribers from interfaces that connect to a provider (often called line or network interfaces).

**Committed Burst Size (CBS)**

The Committed Burst Size (CBS) is the maximum number of bytes allowed for incoming Ethernet Service Frames to still be CIR-conforming. CIR-conforming Service Frames are colored green.

**Committed Information Rate (CIR)**

The Committed Information Rate (CIR) is the average rate up to which Ethernet Service Frames are delivered per the service performance objectives. Such frames are referred to as being ‘CIR-compliant’. The CIR is an average rate because all Service Frames are always sent at the UNI speed, for example, 10Mbps, and not at the CIR, for example, 2Mbps. Service Frames whose average rate is greater than the CIR are not CIR-compliant and are either colored yellow (if EIR is non-zero) or are discarded (if EIR=0). A non-zero CIR may be specified to be less than or equal to the UNI speed. If multiple bandwidth profiles are applied at the UNI, the sum of all CIRs in each bandwidth profile must be less than or equal to the UNI speed.

**Control Plane**

Control plane is a set of protocols, techniques, and algorithms which enable the appropriate and correct switching of the data.

**CoS**

See Class of Service (CoS).

**Customer Bridge**

Customer bridge assumes all ports are in the customer domain so there is no distinction between User Network Interface (UNI) ports and Network-to-Network Interface (NNI) ports. This mode is not supported.

**Customer VLAN (C-VLAN) tag**

Customer VLAN (C-VLAN) tag is the original VLAN tag defined in IEEE 802.1Q. The VLAN field is a 4 byte addition to the Ethernet frame. The 12-bit VLAN tag provides 4096 values of which 0 and 4095 are reserved resulting in 4094 usable VLAN or broadcast domains.

**C-VLAN**

See Customer VLAN (C-VLAN) tag.

**Data Plane**

Data plane is the path through the system for the data that is being switched through the networks.

**Digital Subscriber Line (DSL)**

Digital subscriber lines carry data at high speeds over standard telephone wires. With DSL, data can be delivered at a rate of up to 1.5 Mbps. Also, DSL users can receive voice and data simultaneously so there is no need for a separate phone line.

## **DSL**

See Digital Subscriber Line (DSL).

## **Dynamic Entry**

Dynamic entry to the filtering database is created automatically by the system, for example learned addresses from packets or Virtual LAN (VLAN) registrations from GVRP.

## **EBS**

See Excessive Burst Size (EBS).

## **EIR**

See Excessive Information Rate (EIR).

## **E-LAN**

See Ethernet LAN (E-LAN).

## **EPL**

See Ethernet Private Line (EPL).

## **Ethernet Bridge**

An Ethernet Bridge is an internetworking device that operates at layer 2 (also referred to as the data link or MAC layer) in the OSI network model.

## **Ethernet LAN (E-LAN)**

Any Ethernet service that is based upon a multipoint-to-multipoint Ethernet Virtual Connection is designated as an Ethernet LAN (E-LAN) Service type.

## **Ethernet Private Line (EPL)**

An Ethernet Private Line (EPL) service is specified using an E-Line Service type. EPL uses a point-to-point EVC between two UNIs and provides a high degree of transparency for service frames between the UNIs it interconnects such that the service frame's header and payload are identical at both the source and destination UNI.

The service also has an expectation of low frame delay, frame delay variation and frame loss ratio. It does not allow for service multiplexing, that is, a dedicated UNI (physical interface) is used for the service.

## **Ethernet Virtual Connection (EVC)**

Ethernet Virtual Connection (EVC) is an association of two or more UNIs that limits the exchange of service frames through UNIs in the Ethernet Virtual Connection.

An important thing to note from this definition is that an EVC can be point-to-point (two UNIs) or multipoint (more than two UNIs). EVCs are used to carry services. Point-to-point EVCs carry



a class of services called Ethernet Line or E-Line services. Multipoint EVCs carry a class of services called Ethernet LAN or E-LAN services.

**EVC**

See Ethernet Virtual Connection (EVC).

**Excessive Burst Size (EBS)**

EBS is the maximum number of bytes allowed for incoming Ethernet Service Frames to be EIR-compliant. EIR-compliant Service Frames are colored yellow.

**Excess Information Rate (EIR)**

The Excess Information Rate (EIR) specifies the average rate, greater than or equal to the CIR, up to which Service Frames are admitted into the provider's network. Note that these Service Frames are not CIR-compliant and are hence delivered without any performance objectives. The EIR is an average rate because all Service Frames are sent at the UNI speed, for example, 10Mbps, and not at the EIR, for example, 8Mbps.

**FEC**

See Forward Error Correction (FEC).

**Forward Error Correction (FEC)**

Forward Error Correction (FEC) is a system of error control for data transmission, whereby the sender adds redundant data to its messages, also known as an error correction code. This allows the receiver to detect and correct errors (within some bound) without the need to ask the sender for additional data. The advantage of forward error correction is that a back-channel is not required, or that retransmission of data can often be avoided, at the cost of higher bandwidth requirements on average. FEC is therefore applied in situations where retransmissions are relatively costly or impossible.

**Filtering Database**

The IEEE 802 standards are written from the point-of-view that all received packets should be forwarded everywhere (that is, flooded) unless forwarding is restricted by entries in the filtering database. This is often called the *forwarding database* or *address database*. In 802.1Q the filtering database can contain both address entries and VLAN entries, either or both of which can be used to limit the forwarding of a packet to fewer than "all ports" — usually none or one for a unicast packet.

**Frame**

Frame is a data packet of fixed or variable length which has been encoded by a data link layer communications protocol for digital transmission over a node-to-node link. Each frame consists of a header frame synchronization and perhaps bit synchronization, payload (useful information, or a packet at higher protocol layer) and trailer. Examples are Ethernet frames and Point-to-point protocol (PPP) frames.

### **GARP VLAN Registration Protocol (GVRP)**

GARP VLAN Registration Protocol (GVRP) is a standards-based Layer 2 network protocol, for automatic configuration of VLAN information on switches.

Within a layer 2 network, GVRP provides a method to dynamically share VLAN information and configure the needed VLANs. For example, to add a switch port to a VLAN, only the end port need be reconfigured, and all necessary VLAN trunks are dynamically created on the other GVRP-enabled switches. Without GVRP, manual configuration of VLAN trunks is necessary.

It is through GVRP that Dynamic VLAN entries are updated in the Filtering Database. In short, GVRP helps to maintain VLAN configuration dynamically based on current network configurations.

### **GE**

See Gigabit Ethernet (GE).

### **Gigabit Ethernet (GE)**

Gigabit Ethernet (GE) is a version of Ethernet that supports data transfer rates of 1 Gigabit per second.

### **GVRP**

See GARP VLAN Registration Protocol (GVRP).

### **Ingress Filtering**

If a packet is received with a tag for VLAN “x”, ingress filtering discards the packet if the port is not in the member set of VLAN “x”. Disabling ingress filtering does not apply this check and a packet is subject to other forwarding and filtering functions.

### **Interface**

Interface refers to the physical input/output channels and various aggregates and abstractions that fill the same architectural slot (such as, a Link Aggregation Group (LAG)).

### **Internet Protocol (IP)**

The Internet Protocol (IP) is a data-oriented protocol used for communicating data across a packet-switched internetwork. IP is a network layer protocol in the Internet protocol suite and is encapsulated in a data link layer protocol (for example, Ethernet). As a lower layer protocol, IP provides the service of communicable unique global addressing amongst computers.

### **Internet Protocol Television (IPTV)**

Internet Protocol Television (IPTV) is a system where a digital television service is delivered by using Internet Protocol over a network infrastructure, which may include delivery by a broadband connection. A general definition of IPTV is television content that, instead of being delivered through traditional broadcast and cable formats, is received by the viewer through the technologies used for computer networks.

**IP**

See Internet Protocol (IP).

**IPTV**

See Internet Protocol Television (IPTV).

**LAG**

See Link Aggregation Group (LAG).

**LAN**

See Local Area Network (LAN).

**Line**

Line is used to distinguish between interfaces that connect to a service provider line.

**Link Aggregation Group (LAG)**

A Link Aggregation Group (LAG) is a group of two or more network links bundled together to appear as a single link. For instance, bundling two 100 Mbps network interfaces into a single link creates one 200 Mbps link. A LAG can include two or more network ports and two or more fibers, but the software sees the link as one logical link.

**Local Area Network (LAN)**

A Local Area Network (LAN) is a computer network that spans a relatively small area. Most LANs are confined to a single building or group of buildings. However, one LAN can be connected to other LANs over any distance. A system of LANs connected in this way is called a wide-area network (WAN).

**Logical Interfaces**

Logical interfaces provide the ability to do one-to-many multiplexing on the physical interfaces (for example, Link Aggregation) and many-to-one multiplexing in some systems (for example, virtual concatenation groups on top of a SONET interface).

**MAC**

See Media Access Control (MAC).

**Media Access Control (MAC)**

The Media Access Control (MAC) data communication protocol sub-layer is a sub layer of the Data Link Layer specified in the seven-layer OSI model (layer 2). It provides addressing and channel access control mechanisms that make it possible for several terminals or network nodes to communicate within a multipoint network.

### **MAC address**

The Media Access Control (MAC) address is a hardware address that uniquely identifies each node of a network. In IEEE 802 networks, the Data Link Control (DLC) layer of the OSI Reference Model is divided into two sub layers: the Logical Link Control (LLC) layer and the Media Access Control (MAC) layer. The MAC layer interfaces directly with the network medium. Consequently, each different type of network medium requires a different MAC layer.

On networks that do not conform to the IEEE 802 standards but do conform to the OSI Reference Model, the node address is called the Data Link Control (DLC) address.

### **Management Plane**

Management plane is a set of protocols, techniques, and algorithms for monitoring, configuring, and controlling the system and the operation of the control and data planes.

### **MSAN**

See Multiservice Access Node (MSAN).

### **Multiservice Access Node (MSAN)**

A multiservice access node (MSAN) is a device typically installed in a telephone exchange (although sometimes in a roadside serving area interface cabinet) which connects customers' telephone lines to the core network, to provide telephony, ISDN, and broadband such as DSL all from a single platform.

### **Network**

Network is used to distinguish between interfaces that connect to a service provider line.

### **Network-to-Network Interface (NNI)**

Network-to-Network Interface (NNI) is an interface that specifies signaling and management functions between two networks.

### **OSI Model**

Open Systems Interconnection Basic Reference Model (OSI Reference Model or OSI Model) is an abstract description for layered communications and computer network protocol design. It was developed as part of the Open Systems Interconnection (OSI) initiative. In its most basic form, it divides network architecture into seven layers which, from top to bottom, are the Application, Presentation, Session, Transport, Network, Data-Link, and Physical Layers. It is therefore often referred to as the OSI Seven Layer Model.

### **Optical Transport Network (OTN)**

Optical Transport Network (OTN) is composed of a set of Optical Network Elements (3R) that are connected by optical fiber links, able to provide functionality of transport, multiplexing, switching, management, supervision and survivability of optical channels carrying client signals.

**OTN**

See Optical Transport Network (OTN).

**OTU2**

The OTU2 protocol operating over the Optical Transport Network (OTN) has a line rate of approximately 10.7 Gbit/s and is designed to transport an OC-192, STM-64 or 10Gbit/s WAN. OTU2 can be over clocked (non standard) to carry signals faster than STM-64/OC-192 (9.953Gbit/s) like 10 gigabit Ethernet LAN PHY coming from IP/Ethernet switches and routers at full line rate (10.3 Gbit/s).

**packetVX™**

packetVX™ refers to the family of Internet protocol (IP) packet and layer 2 Ethernet services on a microWDM platform.

**Packet**

Packet is a formatted block of data carried by a packet mode computer network.

**PB**

See Provider Bridge (PB).

**PCS**

See Physical Coding Sublayer (PCS).

**Permanent Database**

Permanent database is a non-volatile group of static entries that is used as the boot image for the filtering database.

**Physical Coding Sublayer (PCS)**

The Physical Coding Sublayer (PCS) helps to define physical layer specifications for Fast Ethernet, Gigabit Ethernet and 10 Gigabit Ethernet. The Ethernet PCS sublayer is part of the Ethernet PHY layer.

**Physical Interfaces**

Physical interfaces are the lowest layer of the system that consists of wires and fibers.

**Port**

Port is the logical bridging channel that sits on top of an interface and provides support for the layer 2 services required by the bridge and the MAC service user.

**Provider Bridge (PB)**

Provider Bridge (PB) contains either one S-VLAN component or an S-VLAN component and one or more C-VLAN components.

## **PVX**

See packetVX.

## **Q-in-Q**

Q-in-Q, as defined in the IEEE 802.ad amendment to 802.1Q, is a provider bridge extension in the 802.1Q VLAN tag, also known as stackable VLANs. It enables service providers to use a single VLAN to support customers who have multiple VLANs.

## **QoS**

See Quality of Service (QoS).

## **Quality of Service (QoS)**

Quality of Service (QoS) is a networking term that specifies a guaranteed throughput level. One of the biggest advantages of ATM over competing technologies, such as Frame Relay and Fast Ethernet, is that it supports QoS levels. This allows ATM providers to guarantee to their customers that end-to-end latency will not exceed a specified level.

## **Services**

Services are provided on each port, such as Ethernet Private Line (EPL) or Ethernet Private LAN services.

## **Service provider VLAN (S-VLAN) tag**

The service provider VLAN tag is a new outer VLAN tag. The S-VLAN tag has roughly the same 32 bit structure as the original VLAN tag (C-VLAN) except that the TPID is different, 0x88A811 and the CFI bit is a discard eligibility indicator (DEI).

## **SONET**

Synchronous optical networking (SONET).

## **Spanning-Tree Protocol (STP)**

Spanning-Tree Protocol (STP) is a link management protocol that provides path redundancy while preventing undesirable loops in the network. For an Ethernet network to function properly, only one active path can exist between two stations.

## **Static Entry**

Static entry to the filtering database is created through a network management (that is, human) action.

## **STP**

See Spanning-Tree Protocol.

**S-VLAN**

See Service provider VLAN (S-VLAN) tag.

**TDM**

See Time Division Multiplexing (TDM).

**Time Division Multiplexing (TDM)**

Time Division Multiplexing transmits multiple signals simultaneously over a single transmission path. Each lower-speed signal is time sliced into one high-speed transmission. In the simplest example, three incoming 1,000 bps signals (A, B and C) can be interleaved into one outgoing 3,000 bps signal as ABCABCABCABC. The receiving end divides the single stream back into its original signals.

**UNI**

See User Network Interface (UNI).

**User Network Interface (UNI)**

The User Network Interface (UNI) is the physical interface or port that is the demarcation between the customer and the service provider (such as, a cable operator, carrier, or multiple system operators).

**Virtual LAN (VLAN)**

VLAN is a virtual LAN that is a broadcast domain created by switches. Normally, it is a router creating that broadcast domain. With VLANs, a switch can create the broadcast domain. This works by putting some switch ports in a VLAN other than one (1), the default VLAN. All ports in a single VLAN are in a single broadcast domain.

**Virtual Switch**

A Virtual Switch is a set of two or more packetVX modules that are connected together into a stack. One packetVX module controls the operation of the stack and is called the stack master. The stack master and the other packetVX modules in the stack are stack members.

**VLAN**

See Virtual LAN (VLAN).

**XFP**

See 10 Gigabit Small Form Factor Pluggable (XFP).







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